

This document created by the Florida Department of Business and Professional Regulation -

850-487-1824

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

1

F10578		/ADM2-22			
Date Submitted	03/01/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal coordinates changes made with ADM5-19, Part 2. Modifies definition of "Townhouse"

Rationale

See attached

F10578Text Modification

See attached

Page: 1

Mod10578_TextOfModification.pdf

F10578Text Modification

ADM2-22

Original Proposal

IBC: SECTION 202, SECTION 202 (New); IFC: SECTION 202, SECTION 202 (New)

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Building Code

Revise as follows:

[A] TOWNHOUSE.

A building that contains three or more attached townhouse units.~~A single-family *dwelling unit* constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides.~~

Add new definition as follows:

TOWNHOUSE UNIT

.

A single-family dwelling unit in a townhouse that extends from foundation to roof and that has a yard or public way on not less than two sides.

Reason: This proposal coordinates with changes made by ADM5-19, Part 2, which was approved by the ICC membership last cycle. Part 2 included IRC changes to implement dividing the term "townhouse" into "townhouse" and "townhouse unit." Most occurrences of the term "townhouse" (which is a building containing 3 or more townhouse units) follow a phrase "one- and two-family dwellings," and it should be noted that a "townhouse unit" is defined as a single-family dwelling. Therefore, a phrase "one- and two-family dwelling and townhouse" conveys buildings with one-, two-, and three- or more dwelling units. There is no need to mention "townhouse unit" in these cases because a townhouse unit is a one-family dwelling located in a townhouse (which is a building containing 3 or more such units).
With this in mind, I reviewed the occurrences of the terms "townhouse" and "townhouses" in the IBC and IFC and determined that no additional changes are needed to correlate with the new definitions. There is no impact of the term "townhouse unit" in either code, beyond being needed to support the updated definition of "townhouse."

The IFC uses the term "townhouse" in Sections 903.3.1.3 and 1001.1, in addition to Appendix B. The townhouse unit definition must also be added because that term is used in the definition of townhouse. Last cycle, ICC members voted on ADM5-19 to support these updated definitions at the public comment hearing in response to a comment submitted by the Washington Association of Building Officials. That vote was affirmed in the OGCV by a substantial margin (84% support). To finish what was started last cycle in the IRC, the IFC and IBC need to be updated to correlate with the 2021 IRC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is intended to be editorial. It is simply updating terminology to match the IRC. There are no changes to how buildings are constructed.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was based on the proponent's reason statement and that it eliminates potential confusion by providing alignment between codes. (Vote: 13-0)

Page: 1

Mod_10578_Text_ADM2-22.pdf

F10578Text Modification

Final Hearing Results

ADM2-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

2

F10701 | **/F1-21**

Date Submitted	03/04/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Recommendation to replace the definition for automatic sprinkler system with a definition consistent with the current edition of NFPA 13 (2019).

Rationale

See attached

F10701Text Modification

See attached

Page: 1

Mod10701_TextOfModification.pdf

F10701Text Modification

F1-21

Original Proposal

IFC: SECTION 202; IBC: SECTION 202

Proponents: Mark Hopkins, TERPconsulting, TERPconsulting (mhopkins@terpconsulting.com)

2021 International Building Code

Revise as follows:

[F] AUTOMATIC SPRINKLER SYSTEM. ~~An *automatic sprinkler system*, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply. The portion of the system above the ground is a network of specially sized or hydraulically designed piping installed in a structure or area, generally overhead, and to which *automatic* sprinklers are connected in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the *fire area*.~~An automatic sprinkler system is an integrated network of piping designed in accordance with fire protection engineering standards, commonly activated by heat from a fire and discharges water over the fire area, that consists of sprinklers, a water supply source, a water control valve, a waterflow alarm, and a drain. The portion of the sprinkler system above ground is a network of specifically sized or hydraulically designed piping installed in a building, structure, or area, generally overhead, and to which sprinklers are attached in a systematic pattern.

Reason: The definition of *automatic sprinkler system* is no longer consistent with the definition in the referenced standard. The definition in Section 202 aligns with the definition found in NFPA 13 (2010) which has been modified several times over past several revision cycles, e.g. 2013, 2016 and 2019 editions of NFPA 13. It is recommended to replace the definition for *automatic sprinkler system* with a definition consistent with the current edition of NFPA 13 (2019).

The importance of this change is to clarify that in a multiple story building, or a building having a footprint exceeding the area limitations of NFPA 13 for a single sprinkler system (52,000 sf or 40,000 sf), would be considered to have one system based on the definition included in Section 202; however, the building would be considered to have multiple systems based upon the definition in NFPA 13 (2019). For example, a 32-story high-rise building having a footprint area of 50,000 sf per floor would be considered as having a single sprinkler system based on the current definition included in Section of 202 while it would be considered as having 32 or more systems based on the definition included of NFPA 13 (2019). Similarly, in a single-story building having an area of 80,000 sf would be considered as having a single sprinkler system based on the definition in Section of 202 while it would be considered as having 2 or more systems based on the definition of NFPA 13 (2019).

The definition could also have an impact on the application of inspection, testing and maintenance requirements since NFPA 25 (2020 and prior eds.) provides system related requirements. Using the example above with respect to internal examination of sprinkler piping per system based on the 5 yr. requirement of NFPA 25. A 32-story high-rise building having a single sprinkler system could be interpreted as requiring four (4) internal examination points for the entire building while NFPA 25 would require four (4) internal examination points in sprinkler systems on alternating floors (e.g. 16 systems) resulting in 64 examination points.

It is recommended to replace the definition to allow for consistency between the *International Building Code* and its referenced standards to ensure consistency in application in all jurisdictions.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Changing the definition does not affect the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_10701_Text_F1-21.pdf

Committee Reason: The committee stated that the reason for the approval was that the proposal aligns the code definition with the referenced standard definition which the designers are currently using and it improves the code and makes it consistent with the standards. (Vote: 12-2)

Public Comments

Public Comment 1

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Replace as follows:

2021 International Fire Code

AUTOMATIC SPRINKLER SYSTEM .

An automatic sprinkler system is an integrated network of piping and fire sprinklers designed in accordance with fire protection standards.

~~An *automatic sprinkler system*, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply. The portion of the system above the ground is a network of specially sized or hydraulically designed piping installed in a structure or area, generally overhead, and to which automatic sprinklers are connected in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area.~~

2021 International Building Code

[F] AUTOMATIC SPRINKLER SYSTEM .

An automatic sprinkler system is an integrated network of piping and fire sprinklers designed in accordance with fire protection standards.

~~An *automatic sprinkler system*, for fire protection purposes, is an integrated system of underground and overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply. The portion of the system above the ground is a network of specially sized or hydraulically designed piping installed in a structure or area, generally overhead, and to which *automatic* sprinklers are connected in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the *fire area*.~~

Commenter's Reason: The current and proposed definitions contain extraneous and incomplete text and are unnecessarily complicated. The alternative in this public comment eliminates "commonly..." "generally..." and other unnecessary text. It also clarifies that sprinkler standards may or may not be viewed as "engineering" standards. Whether they are or aren't isn't necessary to a definition and avoids legal questions regarding who may or may not be qualified to use such a standard.
I am a consultant to NFSA but this proposal is my own and is not submitted on NFSA's behalf

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
No technical change to code application.

Final Hearing Results

F1-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10702	/F3-21		3

Date Submitted	03/04/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The definition is revised to be consistent with Global Harmonization System of Classification and Labelling of Chemicals (GHS) concerning flammable gas.

Rationale

See attached

F10702Text Modification

See attached

Page: 1

Mod10702_TextOfModification.pdf

F10702Text Modification

F3-21

Original Proposal

IFC: SECTION 202; IBC: SECTION 202

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] FLAMMABLE GAS.

A material that is a gas at 68°F (20°C) or less at 14.7 pounds per square inch atmosphere (psia) (101 kPa) of pressure [a material that has a *boiling point* of 68°F (20°C) or less at 14.7 psia (101 kPa)],~~which also meets one of the following~~ subdivided as follows:

1. ~~Is~~ Category 1A.
   1. A gas which is ignitable at 14.7 psia (101 kPa) when in a mixture of 13 percent or less by volume with airh.~~as~~
   2. A gas with a flammable range at 14.7 psia (101 kPa) with air of at least 12 percent, regardless of the lower limitunless data shows compliance with Category 1B.
2. Category 1B.

   A gas which meets the flammability criteria for Category 1A, is not pyrophoric or chemically unstable, and meets one or more of the following:
   1. A lower flammability limit of more than 6% by volume in air; or
   2. A fundamental burning velocity of less than 3.9 in/s (10 cm/s).

The limits specified shall be determined at 14.7 psi (101 kPa) of pressure and a temperature of 68°F (20°C) in accordance with ASTM E681.

Where not otherwise specified, the term "flammable gas" includes both Category 1A and 1B.

Reason: In the 7th edition of the Global Harmonization System of Classification and Labelling of Chemicals (GHS) the classification of flammable gas was expanded. Flammable gases have three categories, Category 1A, Category 1B, and Category 2. The definition is revised to be consistent with the GHS. However, some of the subgroups of Category 1A are not identified since all of the subclass still fall within Category 1A. Not included in the definition are pyrophoric (flammable) gas and chemically unstable (flammable) gas. Within these two additional terms is a requirement that the gas must first meet the Category 1A definition. Hence, including these terms becomes unnecessary in the Fire Code. GHS also defines a Category 2 flammable gas. The definition of a Category 2 flammable gas is: Category 2 - A gas not meeting the criteria of Category 1A or 1B, which, at 68°F (20 °C) and a pressure of 14.7 psia (101 kPa), has a flammable range while mixed in air. It is recommended that ICC consider adding a note in the commentary that Category 2 flammable gases are not regulated as flammable gases in the Fire Code, however, GHS has a classification for such flammable gases.

The GHS table on flammable gases is as follows:

Page: 1

Mod_10702_Text_F3-21.pdf

F10702Text Modification

Table 2.2.1: Criteria for categorisation of flammable gases

Category			Criteria
1A	**Flammable gas**		Gases, which at 20 °C and a standard pressure of 101.3 kPa: (a) are ignitable when in a mixture of 13% or less by volume in air; or (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammability limit unless data show they meet the criteria for Category 1B
	Pyrophoric gas		Flammable gases that ignite spontaneously in air at a temperature of 54 °C or below
	Chemically unstable gas	**A**	Flammable gases which are chemically unstable at 20°C and a standard pressure of 101.3 kPa
		B	Flammable gases which are chemically unstable at a temperature greater than 20°C and/or a pressure greater than 101.3 kPa
1B	**Flammable gas**		Gases which meet the flammability criteria for Category 1A, but which are not pyrophoric, nor chemically unstable, and which have at least either: (a) a lower flammability limit of more than 6% by volume in air; or (b) a fundamental burning velocity of less than 10 cm/s;
2	**Flammable gas**		Gases, other than those of Category 1A or 1B, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air

NOTE 1: *Ammonia and methyl bromide may be regarded as special cases for some regulatory purposes.*

NOTE 2: *Aerosols should not be classified as flammable gases. See Chapter 2.3.*

NOTE 3: *In the absence of data allowing classification into Category 1B, a flammable gas that meets the criteria for Category 1A is classified per default in Category 1A.*

NOTE 4: *Spontaneous ignition for pyrophoric gases is not always immediate, and there may be a delay.*

NOTE 5: *In the absence of data on its pyrophoricity, a flammable gas mixture should be classified as a pyrophoric gas if it contains more than 1% (by volume) of pyrophoric component(s).*

Category 1A flammable gases have a higher flammability and become explosive. These are the flammable gases typically understood such as propane, acetylene, and butane. Category 1B flammable gases have a lower flammability and are not inherently explosive, although all flammable gases can have a deflagration under the right conditions. A typical Category 1B flammable gas would be difluoromethane. The gas has a lower flammable limit of 13.8 percent and an upper flammable limit of 29.9 percent. The burning velocity is 6.7 cm/s or 2.6 in/s. Other Category 1B flammable gases would include: 1,1,1-trifluoroethane; and 2,3,3,3-tetrafluoro-1-propene. Trans-1,3,3,3-tetrafluoro-1-propene and ammonia are a Category 2 flammable gas.The last statement in the definition is to clarify that when not indicated, the term flammable gas applies to both Category 1A and Category 1B. When appropriate, the section in the code will state, “Category 1A flammable gas” or “Category 1B flammable gas.”

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change neither increases or decreases the cost of construction. The change only impacts the classification of flammable gases, thus there are no other technical changes to the code through this revision of the definition.

Page: 2

Mod_10702_Text_F3-21.pdf

F10702Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it appropriately breaks down the classification of flammable gases in two categories. This will assist in safely addressing the new types of refrigerants and provides a better framework as to how they need to be regulated. (Vote: 14-0)

Final Hearing Results

F3-21 AS

Page: 3

Mod_10702_Text_F3-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10925	/G3-21 Part I				4
Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 1026.4.1 "Capacity". Related to definition of "AMBULATORY CARE FACILITY".

Rationale

See attached

F10925Text Modification

See attached

Page: 1

Mod10925_TextOfModification.pdf

F10925Text Modification

G3-21 Part I

Original Proposal

PART I - IBC: 1026.4.1 (IFC: 1026.4.1)
PART II - IFC: 805.2, 808.1
PART III - IPC: SECTION 202(New), 609.1
PART IV - IMC: SECTION 202(New)

Proponents: John Williams, Chair, Healthcare Committee (ahc@iccsafe.org)

THIS IS A 4 PART CODE CHANGE. PART I WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. PART III WILL BE HEARD BY THE PLUMBING CODE COMMITTEE. PART IV WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

[BG] AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than *24-hour basis* to persons who are rendered *incapable of self-preservation* by the services provided or staff has accepted responsibility for care recipients already incapable.

Revise as follows:

1026.4.1 Capacity. The capacity of the refuge area shall be computed based on a *net floor area* allowance of 3 square feet (0.2787 m^2) for each occupant to be accommodated therein. Where the *horizontal exit* also forms a *smoke compartment*, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and ~~Group B~~ ambulatory care facilities shall comply with Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 as applicable.

Reason: The term “ambulatory care facility” is currently defined in the IBC and IFC. It should be defined in the other codes where the term is used. When this item was first introduced to the codes, it was believed that it was needed to add ‘Group B’ in front of the term. This proposal removes it as no longer necessary, and will make this consistent with the numerous other locations throughout the codes where ‘Group B’ in not included. The intent is to not appear to have two different types of ‘ambulatory care facilities’.
There will also be a Group B proposal to IEBC to add the definition and correct the terms in 302.2.1, 503.15 and 805.11.

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This an editorial clarification for consistent terminology

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as a good clarification. "Group B" in front of ambulatory care could be read to have two

Page: 1

Mod_10925_Text_G3-21 Part I.pdf

F10925Text Modification

different types of ambulatory care facilities. It is clear that ambulatory care is included in Group B in Chapter 3. This provides consistency throughout the code. (Vote: 14-0)

Final Hearing Results

G3-21 Part I AS

Mod_10925_Text_G3-21 Part I.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10940	/G5-21		5

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this code change is to provide a new definition for Limited Verbal or Physical Assistance to correlate with the text of the existing document (Section 308.2.2 and 310.5.2) and provide needed clarity.

Rationale

See attached

F10940Text Modification

See attached

Page: 1

Mod10940_TextOfModification.pdf

F10940Text Modification

G5-21

Original Proposal

IBC: SECTION 202, SECTION 202 (New)

Proponents: John Williams, Healthcare Committee (ahc@iccsafe.org)

2021 International Building Code

Revise as follows:

[BG] CUSTODIAL CARE. Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living.
Custodial care includes persons receiving care who have the ability to respond to emergency situations and may receive limited verbal or physical assistance. These care recipients may evacuate at a slower rate and/or who have mental and psychiatric complications.

[BG] INCAPABLE OF SELF-PRESERVATION. Persons who, because of age, physical limitations, mental limitations, chemical dependency or medical treatment, cannot respond as an individual to an emergency situation.

Add new definition as follows:

LIMITED VERBAL OR PHYSICAL ASSISTANCE

.
Persons who, because of age, physical limitations, cognitive limitations, treatment or chemical dependency, and may not independently recognize, respond or evacuate without limited verbal or physical assistance during an emergency situation. Verbal assistance includes prompting, giving and repeating instructions. Physical assistance includes assistance with transfers to walking aids or mobility devices and assistance with egress.

Reason: The intent of this code change is to provide a new definition for Limited Verbal or Physical Assistance to correlate with the text of the existing document (Section 308.2.2 and 310.5.2) and provide needed clarity. This new definition describes a middle ground between able to evacuate independently and incapable of self-preservation. The I-1/R-4, Condition 2 occupancy group classification was added into the code, providing safeguards for care-recipients who, because of frailness, cognitive impairment or other conditions, need limited verbal or physical assistance with exiting the building. The intent, which was described in more detail in the Commentary, was to allow staff to assist care-recipients during evacuation, who may use mobility devices (walker or cane) or can self-propel in a wheelchair, with transferring out of bed, assist with balance while assistance with walking down stairs, or allow staff to physically assist care-recipients who do not use mobility devices to hold hands or arms, assist with balance, or provide other similar limited physical assistance. It also recognizes that people with dementia may need extra prompting or repeated instructions to complete the evacuation process. This definition is being added in response to some requests for clarity on what limited assistance means.
The Custodial Care definition is also being modified to better clarify and link that I-1/R-4 Occupancies, who receive Custodial Care, are able to receive Limited Verbal and Physical Assistance. The new “limited assistance” definition is also written to differentiate it from the current definition for Incapable of Self-Preservation. The Incapable of Self Preservation definition applies to occupants who “cannot respond as an individual to an emergency situation.” This means they are not able to act independently or as an individual at all, during an emergency situation. Being unable to “respond as an individual” includes persons who may be mostly or completely incapacitated, semiconscious or unconscious, or who may be on life support. The new “limited assistance” definition purposely does not include these incapacitated persons. It instead limits helping individuals who can respond but may need , limited assistance with mobility and prompting.

The term 'limited verbal or physical assistance' is currently used in Group I-1, condition 2 (Section 308.2.2) and Group R-4, Condition 2 (Section 310.5.2).

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting

Page: 1

Mod_10940_Text_G5-21.pdf

F10940Text Modification

agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is clarifying a term currently used in the code. There are no technical changes for construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
[BG] CUSTODIAL CARE. Describes persons who receive assistance ~~Assistance~~ with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. *Custodial care* includes persons receiving care who have the ability to respond to emergency situations and may receive *limited verbal or physical assistance*. These care recipients may evacuate at a slower rate and/or who have mental and psychiatric complications.

[BG] INCAPABLE OF SELF-PRESERVATION. Describes persons ~~Persons~~who, because of age, physical limitations, mental limitations, chemical dependency or medical treatment, cannot respond as an individual to an emergency situation.
LIMITED VERBAL OR PHYSICAL ASSISTANCE. Describes persons ~~Persons~~who, because of age, physical limitations, cognitive limitations, treatment or chemical dependency, and may not independently recognize, respond or evacuate without limited verbal or physical assistance during an emergency situation. Limited verbal ~~Verbal~~assistance includes prompting, giving and repeating instructions. Limited physical ~~Physical~~assistance includes assistance with transfers to walking aids or mobility devices and assistance with egress.

Committee Reason: The modification was approved as the three terms are describing a person's abilities. In the last two sentences of 'limited verbal or physical assistance', adding 'limited' uses specific terms throughout the definition. The proposal was approved as this definition is important to appropriately separate Condition 1 and 2 for Group I-1 in Section 308. (Vote: 11-3)

Final Hearing Results

G5-21 AM

Page: 2

Mod_10940_Text_G5-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

6

F10942 | **/G5-22 Part I**

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This clarifies the term already used in the code and harmonizes the terms and definitions to what is being used by ASTM and the industry. "Type X"

Rationale

See attached

F10942Text Modification

See attached

Page: 1

Mod10942_TextOfModification.pdf

F10942Text Modification

G5-22 Part I

Original Proposal

PART 1 - IBC: SECTION 202 (New); IFC: SECTION 202 (New)

PART 2 - IRC: SECTION 202 (New)

Proponents: Tim Earl, GBH International, The Gypsum Association (tearl@gbhinternational.com)

THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL BUILDING CODE-STRUCTURAL COMMITTEE, PART 2 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new definition as follows:

TYPE X

. A type of gypsum panel product with special core additives to increase the fire resistance as specified by the applicable standards listed in Table 2506.2. (see the definition of 'Gypsum panel product')

Reason: This clarifies the term already used in the code and harmonizes the terms and definitions to what is being used by ASTM and the industry.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simply adding a definition for a term already used in the code.

Public Hearing Results

Committee Action **As Submitted**

THIS CODE CHANGE WAS HEARD BY THE IBC-STRUCTURAL COMMITTEE.

Committee Reason: Approved as submitted consistent with actions on G5-22 Part II. (Vote: 13-0)

Final Hearing Results

G5-22 Part I AS

Page: 1

Mod_10942_Text_G5-22 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10946	/G8-21		7

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposed language is intended to clarify the performance of an assembly that has a fire protection rating.

Rationale

See attached

F10946Text Modification

See attached

Page: 1

Mod10946_TextOfModification.pdf

F10946Text Modification

G8-21

Original Proposal

IBC: SECTION 202

Proponents: William Koffel, Koffel Associates, Inc., Fire Safe North America (wkoffel@koffel.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BF] FIRE PROTECTION RATING. The period of time that an opening protective<u>prevents or retards the passage of excessive flames</u>~~will maintain the ability~~ to confine a fire as determined by tests specified in Section 716. Ratings are stated in hours or minutes.

[BF] FIRE RESISTANCE. That property of materials or their assemblies that prevents or retards the passage of excessive heat, hot gases or flames under conditions of use.

Reason: The term “fire resistance” is used in the IBC to generically refer to certain fire properties of assemblies. The definition of “fire protection rating” does not specifically identify the properties associated with the ratings. The proposed language is intended to clarify the performance of an assembly that has a fire protection rating.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal simply clarifies an existing definition in the IBC and is not intended to result in any technical change to the requirements of the IBC.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal is specific and improves the current definition. The proposal clarifies how the fire protection rating will be measured. The proposal makes the definition consistent with the testing standard terminology used in opening protective without changing the acceptance criteria. (Vote: 8-5)

Final Hearing Results

G8-21 AS

Page: 1

Mod_10946_Text_G8-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

8

F10957 | **/G15-21**

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies definition of "[BG] HIGH-RISE BUILDING". Concerning occupied roof.

Rationale

See attached

F10957Text Modification

See attached

Page: 1

Mod10957_TextOfModification.pdf

F10957Text Modification

G15-21

Original Proposal

IBC: SECTION 202

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, City and County of Broomfield, Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

[BG] HIGH-RISE BUILDING. A building with an occupied floor<u>or occupied roof</u> located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Reason: The existing language refers to a floor that is more than 75 feet above the lowest level of fire department vehicle access. It is our opinion that an occupied roof is also a floor. A floor is something you walk on and people walk on an occupied floor. Therefore, we are proposing to provide clarifying language to include occupied roofs above 75 feet to classify the building as a high-rise building. The presence of occupants and combustible furnishings add to the difficulty of performing ground-based fire fighting. It also limits the ability of the firefighters to perform rescue operations from the ground. By classifying an occupied roof over 57 feet, additional safety provisions are required in the building.
This proposal will have an impact on the application of the Existing Building Code. If someone wants to convert an existing roof to an occupied roof and the roof is more than 75 feet above the lowest level of fire department vehicle access, the building will need to be upgraded to comply with the high rise building provisions in IBC Section 403. The addition of floor area would make the building less code complying that it was prior to constructing the occupied roof.

Cost Impact: The code change proposal will increase the cost of construction
If a jurisdiction did not previously classify an occupied roof as a floor, the increased safety requirements for high-rise buildings will increase the cost of construction. However, if they are already looking at the occupied roof as an occupied floor, the cost of construction would not increase.

Staff note: G12-21, G14-21, G15-21, G16-21 addresses requirements in a different or contradicting manner. G14-21, G15-21 and G16-21 addresses similar requirements in a different manner to those found in current IBC Section 503.1.4. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal to add 'occupied roofs' to the definition of 'highrise' was approved due to the concern that occupants on the occupied roof need to be protected with elements other than just being open to the outside air. Fire department access to the roof is important for life safety. Concerns were raised that protection for occupied roofs were already addressed in other portions of the code, so having an occupied roof above the 75 foot height should not add the entire 'highrise' package of requirements - especially if the occupied roof was only a small portion of the overall roof. The proposal did not address the issue if a 'floor' is the floor of the story below the roof, a mezzanine in the top story, or what would be required for an occupied roof with elevated platforms on portions of the occupied roof. There was also a concern about the impact on existing building that wanted to add amenities on the roof. See also the Committee Action to G12, G14 and G16. (Vote: 10-4)

Page: 1

Mod_10957_Text_G15-21.pdf

F10957Text Modification

Final Hearing Results

G15-21 AS

Page: 2

Mod_10957_Text_G15-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10959	/G17-21		9

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

The purpose of this code proposal is consolidate two definitions for the same material into one term. Concerning Intumescent fire resistive materials.

Rationale

See attached

F10959Text Modification

See attached

Page: 1

Mod10959_TextOfModification.pdf

F10959Text Modification

G17-21

Original Proposal

IBC: SECTION 202, 603.1, 722.5.1.3, 722.5.2.2, 722.5.2.3, [BF] 1705.16

Proponents: Bill McHugh, The McHugh Company, National Fireproofing Contractors Association (bill@mc-hugh.us)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BF]
INTUMESCENT FIRE-RESISTIVE ~~RESISTANT~~ MATERIALS ~~COATINGS~~

.

~~Thin film l~~Liquid mixture applied to substrates by brush, roller, spray or trowel which expands into a protective foamed layer to provide fire-resistive ~~resistant~~ protection of the substrates when exposed to flame or intense heat.

Delete without substitution:

~~[BF] MASTIC FIRE-RESISTANT COATINGS.~~ ~~Liquid mixture applied to a substrate by brush, roller, spray or trowel that provides fire-resistant protection of a substrate when exposed to flame or intense heat.~~

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:
   1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.

Page: 1

Mod_10959_Text_G17-21.pdf

F10959Text Modification

2. Thermal and acoustical insulation, other than foam plastics, having a*flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a*corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of*fire-retardant-treated* wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of*exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistant materials and intumescent fire-resistive materials ~~and mastic resistant coatings~~, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

722.5.1.3 Sprayed fire-resistant materials. The *fire resistance* of wide-flange structural steel columns protected with sprayed fire-resistant

Page: 2

Mod_10959_Text_G17-21.pdf

F10959Text Modification

materials, as illustrated in Figure 722.5.1(5), shall be permitted to be determined from the following expression:

$$R = [C_1(W/D) + C_2]h \quad \textbf{(Equation 7-13)}$$

where:

R = *Fire resistance* (minutes).

h = Thickness of sprayed fire-resistant material (inches).

D = Heated perimeter of the structural steel column (inches).

C_1 and C_2 = Material-dependent constants.

W = Weight of structural steel columns (pounds per linear foot).

The *fire resistance* of structural steel columns protected with intumescentfire-resistive materials ~~or mastic fire-resistant coatings~~ shall be determined on the basis of *fire-resistance* tests in accordance with Section 703.2.

722.5.2.2 Sprayed fire-resistant materials. The provisions in this section apply to structural steel beams and girders protected with sprayed fire-resistant materials. Larger or smaller beam and girder shapes shall be permitted to be substituted for beams specified in *approved* unrestrained or restrained fire-resistance-rated assemblies, provided that the thickness of the fire-resistant material is adjusted in accordance with the following expression:

$$h_2 = h_1 [(W_1 / D_1) + 0.60] / [(W_2 / D_2) + 0.60] \quad \textbf{(Equation 7-17)}$$

where:

h = Thickness of sprayed fire-resistant material in inches.

W = Weight of the structural steel beam or girder in pounds per linear foot.

D = Heated perimeter of the structural steel beam in inches.

Subscript 1 refers to the beam and fire-resistant material thickness in the *approved* assembly.
Subscript 2 refers to the substitute beam or girder and the required thickness of fire-resistant material.

The *fire resistance* of structural steel beams and girders protected with intumescentfire-resistive materials ~~or mastic fire-resistant coatings~~ shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

722.5.2.3 Structural steel trusses. The *fire resistance* of structural steel trusses protected with fire-resistant materials sprayed to each of the individual truss elements shall be permitted to be determined in accordance with this section. The thickness of the fire-resistant material shall be determined in accordance with Section 722.5.1.3. The weight-to-heated-perimeter ratio (*W/D*) of truss elements that can be simultaneously exposed to fire on all sides shall be determined on the same basis as columns, as specified in Section 722.5.1.1. The weight-to-heated-perimeter ratio (*W/D*) of truss elements that directly support floor or roof assembly shall be determined on the same basis as beams and girders, as specified in Section 722.5.2.1.
The *fire resistance* of structural steel trusses protected with intumescentfire-resistive materials ~~or mastic fire-resistant coatings~~ shall be determined on the basis of *fire resistance* tests in accordance with Section 703.2.

[BF] 1705.16 ~~Mastic and intumescent~~ Intumescent fire-~~resistant coatings~~ resistive materials. *Special inspections* and tests for ~~mastic and~~ *intumescent fire-resistant coatings*resistive materials applied to structural elements and decks shall be performed in accordance with AWCI 12-B. *Special inspections* and tests shall be based on the fire-resistance design as designated in the *approved construction documents*. *Special inspections* and tests shall be performed during construction. Additional visual inspection shall be performed after the rough installation and, where applicable, prior to the concealment of electrical, automatic sprinkler, mechanical and plumbing systems.

Reason: The purpose of this code proposal is consolidate two definitions for the same material into one term.
In researching for this code proposal, the IBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. That's why we are proposing the change to the definition. These materials purpose and usage is to provide fire-resistive protection. This new combined name and definition incorporates both the mastics and coatings, providing a place in the code for these products so it can be referred to as one name, and found in one definition. Finally, the Webster's Dictionary definition for 'resistive' is .... "marked by resistance - often used in combination // fire-*resistive* material." The term "Intumescent Fire-Resistive Materials" (IFRM) is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and UL has changed their fire-resistance directory (UL Product iQ).

Page: 3

Mod_10959_Text_G17-21.pdf

F10959Text Modification

One note, we have deleted the words 'Thin Film'. While it is nice to have this in marketing literature, it is difficult to define thin and thick materials. The remaining 'liquid mixture', and 'applied by brush, roller, spray or trowel', do not limit thickness to thick or thin materials. The materials are Intumescent Fire-Resistive Materials meant for fireproofing, and the reason for this code change proposal.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Since this is a definition change without technical requirements, it will not increase or decrease the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: [BF] INTUMESCENT FIRE-RESISTIVE MATERIALS. Liquid mixture applied to substrates by brush, roller, spray or trowel which expands into a protective insulating ~~foamed~~ layer to provide fire-resistive protection of the substrates when exposed to flame or intense heat.

722.5.1.3 Sprayed fire-resistive ~~fire-resistant~~ materials. The *fire resistance* of wide-flange structural steel columns protected with sprayed fire-resistive ~~fire-resistant~~ materials, as illustrated in Figure 722.5.1(5), shall be permitted to be determined from the following expression:

$R = [C_1 (W / D) + C_2] h$ **(Equation 7-13)**

where:

R = *Fire resistance* (minutes).

h = Thickness of sprayed fire-resistive ~~fire-resistant~~ material (inches).

D = Heated perimeter of the structural steel column (inches).

C_1 and C_2 = Material-dependent constants.

W = Weight of structural steel columns (pounds per linear foot).

The *fire resistance* of structural steel columns protected with intumescent fire-resistive materials shall be determined on the basis o*fire-resistance* tests in accordance with Section 703.2.

722.5.2.2 Sprayed fire-resistive ~~fire-resistant~~ materials. The provisions in this section apply to structural steel beams and girders protected with sprayed fire-resistive ~~fire-resistant~~ materials. Larger or smaller beam and girder shapes shall be permitted to be substituted for beams specified in *approved* unrestrained or restrained fire-resistance-rated assemblies, provided that the thickness of thefire-resistive ~~fire-resistant~~ material is adjusted in accordance with the following expression:

$h_2 = h_1 [(W_1 / D_1) + 0.60] / [(W_2 / D_2) + 0.60]$ **(Equation 7-17)**

where:

h = Thickness of sprayed fire-resistive ~~fire-resistant~~ material in inches.

W = Weight of the structural steel beam or girder in pounds per linear foot.

D = Heated perimeter of the structural steel beam in inches.

Subscript 1 refers to the beam and fire-resistive ~~fire-resistant~~ material thickness in the *approved* assembly.

Subscript 2 refers to the substitute beam or girder and the required thickness offire-resistive ~~fire-resistant~~ material.

The *fire resistance* of structural steel beams and girders protected with intumescent fire-resistive materials shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

Committee Reason: The committee determined the modification uses "insulating" instead of "foamed", which is the proper word. The

Page: 4

Mod_10959_Text_G17-21.pdf

F10959Text Modification

modification also clarifies the code and consistent with the latest code change using "fire-resistive" instead of "fire-resistant". The proposal is a good clarification and updates the code language with the proper industry terms. (Vote: 12-1)

Final Hearing Results

G17-21 AM

Page: 5

Mod_10959_Text_G17-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10960	/G20-21 Part I				10
Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This code proposal both adds a definition for “occupiable roof”and. changes terminology throughout the code to be consistent with use of “occupiable roof” rather than “occupied roof”. The definition is intended to parallel the existing code definition for occupiable space

Rationale

See attached

F10960Text Modification

See attached

Mod10960_TextOfModification.pdf

Page: 1

F10960Text Modification

G20-21 Part I

Original Proposal

PART I - IBC: SECTION 202 (New), 302.1, 503.1.4, 503.1.4.1, 1004.7, 1006.1, 1006.3, 1006.3.1, 1006.3.2, 1006.3.3, 1006.3.4, 1009.2.1, 1011.12, 1011.12.2, 1011.14, 1011.15, 1011.16, 1019.3, 1104.4; (IFC[BE]1004.7, 1006.1, 1006.3, 1006.3.1, 1006.3.2, 1006.3.4, 1006.3.3, 1009.2.1, 1011.12, 1011.12.2, 1011.14, 1011.15, 1011.16, 1019.3, 1104.4)

PART II - IFC: SECTION 202 (New), 903.2.1.6 (IBC[F] 903.2.1.6)

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new definition as follows:

OCCUPIABLE ROOF

.

An exterior space on a roof that is designed for human occupancy, other than maintenance, and which is equipped with a means of egress system meeting the requirements of this code.

New Subdefinition.
New Subdefinition.

Revise as follows:

[BG] PENTHOUSE.
An enclosed, unoccupiable ~~unoccupied~~ rooftop structure used for sheltering mechanical and electrical equipment, tanks, elevators and related machinery, *stairways,* and vertical *shaft* openings.

302.1 Occupancy classification. Occupancy classification is the formal designation of the primary purpose of the building, structure or portion thereof. Structures shall be classified into one or more of the occupancy groups specified in this section based on the nature of the hazards and risks to building occupants generally associated with the intended purpose of the building or structure. An area, room or space that is intended to be occupied at different times for different purposes shall comply with all applicable requirements associated with such potential multipurpose. Structures containing multiple occupancy groups shall comply with Section 508 . Where a structure is proposed for a purpose that is not specified in this section, such structure shall be classified in the occupancy it most nearly resembles based on the fire safety and relative hazard. Occupiable ~~Occupied~~ roofs shall be classified in the group that the occupancy most nearly resembles, according to the fire safety and relative hazard, and shall comply with Section 503.1.4 .

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4.
7. Mercantile (see Section 309): Group M.

Page: 1

Mod_10960_Text_G20-21 Part I.pdf

F10960Text Modification

8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4.
9. Storage (see Section 311): Groups S-1 and S-2.
10. Utility and Miscellaneous (see Section 312): Group U.

503.1.4 Occupiable~~Occupied~~ roofs. A roof level or portion thereof shall be permitted to be used as an occupiable ~~occupied~~ roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the *story* immediately below the roof. The area of the occupiable ~~occupied~~ roofs shall not be included in the *building area* as regulated by Section 506. An occupiable ~~occupied~~ roof shall not be included in the *building height* or number of *stories* as regulated by Section 504, provided that the *penthouses* and other enclosed *rooftop structures* comply with Section 1511.

Exceptions:

1. The occupancy located on an occupiable ~~occupied~~ roof shall not be limited to the occupancies allowed on the *story* immediately below the roof where the building is equipped throughout with an *automatic sprinker system* in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Sections 907.5.2.1 and 907.5.2.3 is provided in the area of the occupiable ~~occupied~~ roof. *Emergency voice/alarm communication* system notification per Section 907.5.2.2 shall also be provided in the area of the occupiable ~~occupied~~ roof where such system is required elsewhere in the building.
2. Assembly occupancies shall be permitted on roofs of open parking spaces of Type I or Type II construction, in accordance with the exception to Section 903.2.1.6.

503.1.4.1 Enclosures over occupiable ~~occupied~~ roof areas. Elements or structures enclosing the occupiable ~~occupied~~ roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupiable ~~occupied~~ roof.

Exception: *Penthouses* constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.

1004.7 Outdoor areas. *Yards*, patios, occupiable ~~occupied~~ roofs, *courts* and similar outdoor areas accessible to and usable by the building occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, *means of egress* requirements for the building shall be based on the sum of the *occupant loads* of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

1006.1 General. The number of *exits* or *exit access doorways* required within the *means of egress* system shall comply with the provisions of Section 1006.2 for spaces, including *mezzanines*, and Section 1006.3 for *stories* or occupiable ~~occupied~~ roofs.

1006.3 Egress from stories or occupiable ~~occupied~~ roofs. The *means of egress* system serving any *story* or occupiable ~~occupied~~ roof shall be provided with the number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section.

1006.3.1 Occupant load. Where *stairways* serve more than one *story*, or more than one *story* and an occupiable ~~occupied~~ roof, only the *occupant load* of each *story* or occupiable ~~occupied~~ roof, considered individually, shall be used when calculating the required number of *exits* or access to *exits* serving that *story*.

1006.3.2 Path of egress travel. The path of egress travel to an *exit* shall not pass through more than one adjacent *story*.

Exception: The path of egress travel to an *exit* shall be permitted to pass through more than one adjacent *story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility.

Page: 2

Mod_10960_Text_G20-21 Part I.pdf

F10960Text Modification

3. *Exit access stairways* and *ramps* within an *atrium* complying with Section 404.
4. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
5. *Exit access stairways* and *ramps* serving *open-air assembly seating* complying with the exit access travel distance requirements of Section 1030.7.
6. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
7. Exterior *exit access stairways* and *ramps* between occupiable ~~occupied~~ roofs.

1006.3.3 Egress based on occupant load. Each *story* and occupiable ~~occupied~~ roof shall have the minimum number of separate and distinct *exits*, or access to *exits*, as specified in Table 1006.3.3. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.4. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any *story* or occupiable ~~occupied~~ roof shall be maintained until arrival at the *exit discharge* or a *public way*.

1006.3.4 Single exits. A single *exit* or access to a single *exit* shall be permitted from any *story* or occupiable ~~occupied~~ roof where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

1009.2.1 Elevators required. In buildings where a required accessible floor or occupiable ~~occupied~~ roof is four or more stories above or below a *level of exit discharge*, not less than one required *accessible means of egress* shall be an elevator complying with Section 1009.4.

Exceptions:

1. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *horizontal exit* and located at or above the *levels of exit discharge*.
2. In buildings equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2, the elevator shall not be required on floors provided with a *ramp* conforming to the provisions of Section 1012.

1011.12 Stairway to roof. In buildings four or more stories above grade plane, one *stairway* shall extend to the roof surface unless the roof has a slope steeper than four units vertical in 12 units horizontal (33-percent slope).

Exception: Other than where required by Section 1011.12.1, in buildings without an occupiable ~~occupied~~ roof access to the roof from the top *story* shall be permitted to be by an *alternating tread device*, a ships ladder or a permanent ladder.

1011.12.2 Roof access. Where a *stairway* is provided to a roof, access to the roof shall be provided through a *penthouse* complying with Section 1511.2.

Exception: In buildings without an occupiable ~~occupied~~ roof, access to the roof shall be permitted to be a roof hatch or trap door not less than 16 square feet (1.5 m^2) in area and having a minimum dimension of 2 feet (610 mm).

1011.14 Alternating tread devices. *Alternating tread devices* are limited to an element of a *means of egress* in buildings of Groups F, H

Page: 3

Mod_10960_Text_G20-21 Part I.pdf

F10960Text Modification

and S from a *mezzanine* not more than 250 square feet (23 m^2) in area and that serves not more than five occupants; in buildings of Group I-3 from a guard tower, observation station or control room not more than 250 square feet (23 m^2) in area and for access to unoccupiable ~~unoccupied~~ roofs. *Alternating tread devices* used as a *means of egress* shall not have a rise greater than 20 feet (6096 mm) between floor levels or landings.

1011.15 Ship's ladders. Ship's ladders are permitted to be used in Group I-3 as a component of a *means of egress* to and from control rooms or elevated facility observation stations not more than 250 square feet (23 m^2) with not more than three occupants and for access to unoccupiable ~~unoccupied~~ roofs. The minimum clear width at and below the *handrails* shall be 20 inches (508 mm). Ship's ladders shall be designed for the live loads indicated in Section 1607.17.

1011.16 Ladders. Permanent ladders shall not serve as a part of the *means of egress* from occupied spaces within a building. Permanent ladders shall be constructed in accordance with Section 306.5 of the International Mechanical Code and designed for the live loads indicated in Section 1607.17. Permanent ladders shall be permitted to provide access to the following areas:

1. Spaces frequented only by personnel for maintenance, repair or monitoring of equipment.
2. Nonoccupiable spaces accessed only by catwalks, crawl spaces, freight elevators or very narrow passageways.
3. Raised areas used primarily for purposes of security, life safety or fire safety including, but not limited to, observation galleries, prison guard towers, fire towers or lifeguard stands.
4. Elevated levels in Group U not open to the general public.
5. Nonoccupiable ~~Nonoccupied~~ roofs that are not required to have *stairway* access in accordance with Section 1011.12.1.
6. Where permitted to access equipment and appliances in accordance with Section 306.5 of the International Mechanical Code.

1019.3 Occupancies other than Groups I-2 and I-3. In other than Group I-2 and I-3 occupancies, floor openings containing *exit access stairways* or *ramps* shall be enclosed with a shaft enclosure constructed in accordance with Section 713.

Exceptions:

1. *Exit access stairways* and *ramps* that serve or atmospherically communicate between only two adjacent stories. Such interconnected stories shall not be open to other stories.
2. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving smoke-protected or *open-air assembly seating* complying with the exit access travel distance requirements of Section 1030.7.
8. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
9. Exterior *exit access stairways* or *ramps* between occupiable ~~occupied~~ roofs.

1104.4 Multistory buildings and facilities. At least one *accessible* route shall connect each accessible *story, mezzanine* and occupiable ~~occupied~~ roofs in multilevel buildings and *facilities*.

Exceptions:

Page: 4

Mod_10960_Text_G20-21 Part I.pdf

F10960Text Modification

1. An *accessible* route is not required to *stories, mezzanines* and occupiable ~~occupied~~ roofs that have an aggregate area of not more than 3,000 square feet (278.7 m^2) and are located above and below accessible levels. This exception shall not apply to:
   1.1. Multiple tenant facilities of Group M occupancies containing five or more tenant spaces used for the sales or rental of goods and where at least one such tenant space is located on a floor level above or below the accessible levels.
   1.2. *Stories* or *mezzanines* containing offices of health care providers (Group B or I).
   1.3. Passenger transportation facilities and airports (Group A-3 or B).
   1.4. Government buildings.
   1.5. Structures with four or more dwelling units.
2. *Stories*, *mezzanines* or occupiable ~~occupied~~ roofs that do not contain accessible elements or other spaces as determined by Section 1108 or 1109 are not required to be served by an accessible route from an *accessible* level.
3. In air traffic control towers, an *accessible route* is not required to serve the cab and the floor immediately below the cab.
4. Where a two-story building or facility has one *story* or *mezzanine* with an *occupant load* of five or fewer persons that does not contain *public use* space, that *story* or *mezzanine* shall not be required to be connected by an *accessible route* to the *story* above or below.

Reason: Over the last several cycles, code provisions have been added to address issues related to occupied/occupiable, vegetative and landscaped roofs. In some cases, the terms have been used interchangeably, in others applying to specific types of roof systems. With the increasing number of provisions, a definition is needed. A proposal last cycle (G7-19) attempted to add a definition for occupiable roof but was disapproved for several reasons including the fact it did not correlate with the fact the code uses “occupied roof” in some sections and “occupiable roof” in others.
This code proposal both adds a definition for “occupiable roof”and. changes terminology throughout the code to be consistent with use of “occupiable roof” rather than “occupied roof”. The definition is intended to parallel the existing code definition for occupiable space:

[BG] OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

The proposed definition is different in a few key ways: The laundry list of uses is left out, and the one clarification made that access for maintenance of rooftop mechanical equipment or other maintenance does not trigger assembly live load requirements or other provisions related to occupiable roofs. The references to light and ventilation are left out as occupiable roofs are exterior spaces. No mechanical ventilation is necessary, and the code does not require lighting for exterior spaces other than portions of the means of egress.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change is purely editorial and does not affect how occupiable roofs are designed or constructed.

Staff Note: G20-21, G21-21 and G22-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Page: 5

Mod_10960_Text_G20-21 Part I.pdf

F10960Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification: OCCUPIABLE ROOF. An exterior space on a roof that is designed for human occupancy, other than maintenance or repair, and which is equipped with a means of egress system meeting the requirements of this code.

Committee Reason: The modification added 'repair' to the definition, which is consistent with other sections in the codes related to roof requirements. The definition was approved because it clarifies a 'occupiable roof' is for roofs for human occupancy on a regular basis. The term was also coordinated throughout the code. (Vote: 12-2)

Final Hearing Results

G20-21 Part I AM

Page: 6

Mod_10960_Text_G20-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

11

F11002 **/G57-21**

Date Submitted	03/13/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds definition "SPRINKLE EXPRESS RISER", "VERTICAL WATER SUPPLY ZONE". Also change is needed to clarify that there are differences in requirements for buildings having abuilding height greater than 420 feet (128 m).

Rationale

See attached

F11002Text Modification

See attached

Page: 1

Mod11002_TextOfModification.pdf

F11002Text Modification

G57-21

Original Proposal

IBC: SECTION 202 (New), [F] 403.3.1, [F]403.3.1.1, 403.3.1.2 (New); IFC: SECTION 202 (New), 914.3.1.1, 914.3.1.1.1, 914.3.1.1.2 (New)

Proponents: Mark Hopkins, TERPconsulting, TERPconsulting (mhopkins@terpconsulting.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Add new definition as follows:

SPRINKLER EXPRESS RISER

.

A vertical pipe used to supply water to sprinkler systems in a multiple story building.

VERTICAL WATER SUPPLY ZONE

.

A vertical fire protection zone within the standpipe system or group of floors supplied by a single sprinkler express riser in a high-rise building established by pressure limitations based on the design.

SECTION 403
HIGH-RISE BUILDINGS

Revise as follows:

[F] 403.3.1 Number of sprinkler risers and system design. ~~Each sprinkler system zone in buildings that are more than 420 feet (128 m) in *building height* shall be supplied by not fewer than two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.~~ The number of sprinkler risers and design shall comply with Section 403.3.1.1 or 403.3.1.2 based on building height.

403.3.1.1 Buildings 420 feet (36.5 m) or less in height. In buildings 420 feet (36.5 m) or less in height, sprinkler systems shall be supplied by a single standpipe or *sprinkler express riser* within each *vertical water supply zone*.

403.3.1.2 Buildings over 420 feet (128 m) in height. In buildings over 420 feet (128 m) in height, aminimum of two standpipes or *sprinkler express risers* shall supply *automatic sprinkler systems* within each *vertical water supply zone*. Each standpipe or *sprinkler express riser* shall supply *automatic sprinkler systems* on alternating floors within the *vertical water supply* zone such that two adjacent floors are not supplied from the same riser.

[F] ~~403.3.1.1~~ 403.3.1.3 Riser location. Standpipes or ~~Sprinkler~~ *sprinkler express risers* shall be placed in *interior exit stairways* and *ramps* that are remotely located in accordance with Section 1007.1.

Reason: The context and application of Sections 403.3.1 is not clear. This section contains multiple requirements which are somewhat convoluted as currently written. Use of the terminology “sprinkler system zone” can be interpreted in multiple ways. The most common application is that a sprinkler system zone relates to all sprinklers and piping downstream of a floor control valve assembly. This is the context used in the NIST World Trade Center Investigation Report NCSTAR 1-4. However, based on the context of Section 403.3.1 and after reviewing the text of G46-0708 which was based on the NIST recommendations, the terminology sprinkler system zone is referring to

Page: 1

Mod_11002_Text_G57-21.pdf

F11002Text Modification

a vertical sub-section of the overall building wide sprinkler system. Sprinkler system zone refers to all sprinklers and piping on floors supplied within a single *vertical water supply zone* based on design pressure limitations.
The inclusion of the term *standpipe* identifies that combined sprinkler and standpipe risers as used commonly used in the industry and permitted to be used by NFPA 14 to supply sprinkler systems within a *vertical water supply zone*. The diagrams included in Annex A of NFPA 14 have demonstrated this for many years. NFPA 14 Annex A uses the term "zone" which refers to the vertical loops limited by maximum pressure of pumps, gravity tanks, and equipment working pressure but does not explicitly define *vertical water supply zone*. NFPA 20 uses the term *vertical fire protection zone* which has similar if not identical meaning. Adding the terms *standpipe* and *vertical water supply zones* in this section will provide the needed clarification necessary for harmony between the requirements of the codes and referenced standards.

This change is also needed to clarify that there are differences in requirements for buildings having a *building height* greater than 420 feet (128 m). and buildings having a *building height* less than 420 feet (128 m). The change clarifies that a single *standpipe* or *sprinkler express risers* can be used to supply all sprinkler systems within a *vertical water supply zone*. The change also clarifies that there are a minimum of two risers required in buildings having a *building height* greater than 420 feet (128 m). The inclusion of the requirement for sprinkler systems to be supplied from two risers is to limit the impact of a single point failure of a standpipe or *sprinkler express riser.*

Figure 1 shows the configuration for a single *vertical water supply zone* in a building having a *building height less than 420 feet (128 m).*

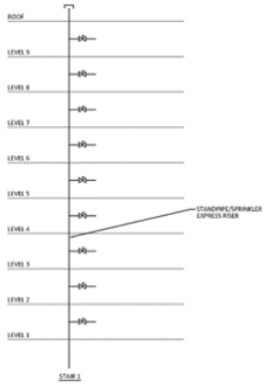


Figure 1. *Sprinkler express risers or standpipes* in high-rise buildings having a *building height* less than 420 ft.

The change also clarifies that two *standpipes* or *sprinkler express risers* are needed to supply sprinkler systems in buildings having a *building height* greater than 420 ft. Figure 2 shows the configuration for a building having a *building height greater than 420 ft.*

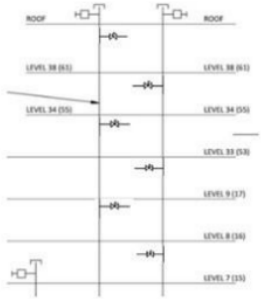


Figure 2. *Sprinkler express risers or standpipes* in high-rise buildings having a *building height greater than* 420 ft.

The change to the relocated 403.3.1.3 is needed to clarify that a standpipe is permitted to be used to supply sprinkler systems. The change is also needed to identify that a *sprinkler express riser(s)* is required to be located within an *interior exit stairway(s) or ramp(s)*.

Cost Impact: The code change proposal will decrease the cost of construction

Page: 2
Mod_11002_Text_G57-21.pdf

F11002Text Modification

Clarifying this section reduces construction cost and design time.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that adding the definitions along with the new requirements adds clarity to the code. (Vote: 13-1)

Final Hearing Results

G57-21 AS

Mod_11002_Text_G57-21.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

12

F11023 | **/G99-21 Part I**

Date Submitted	03/13/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is several proposals across multiple codes and standards to propose requirements appropriate to the unique characteristics of facilities housing computer rooms and data centers or Information technology equipment (ITE).

Rationale

See attached

F11023Text Modification

See attached

Page: 1

Mod11023_TextOfModification.pdf

F11023Text Modification

G99-21 Part I

Original Proposal

PART I - IBC: SECTION 202 (New)
PART II - IBC: SECTION 429 (New), NFPA Chapter 35 (New)
PART III - IBC:306.3
PART IV - IBC:311.3
PART V - IBC:TABLE 509.1
PART VI - IBC:TABLE 1004.5, 1004.8 (IFC[BE] TABLE 1004.5, 1004.8)
PART VII - IBC:1010.2.9.1(IFC[BE] 1010.2.9.1)
PART VIII - IFC: SECTION 202 (New)
PART IX- IFC: SETION 608.9.1
PART X - IMC: SECTION 202 (New)
PART XI - IMC: 1103.2
PART XII - IMC: 1104.2.3 (New)

Proponents: Greg Johnson, Johnson & Associates Consulting Services, Codes & Standards International (gjohnsonconsulting@gmail.com); Jay Peters, Codes and Standards International, Vertiv (peters.jay@me.com); Andrew Klein, A S Klein Engineering, Building Owners and Managers Association International (andrew@asklein.com); Barry Greive, Target Corporation, Target Corporation (barry.greive@target.com); David Collins, The Preview Group, Inc., The Preview Group, Inc. (dcollins@preview-group.com); Lee Kaiser, ORR Protection, NFPA 75 Technical Committee (ELT-AAA) (lkaiser@orrprotection.com)

THIS IS A 12 PART CODE CHANGE. PART I THROUGH V WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART VI AND VII WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. PART VIII AND IX WILL BE HEARD BY THE FIRE CODE COMMITTEE.PART X AND XII WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE.SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new definition as follows:

COMPUTER ROOM

.

A room or portions of a *building* used primarily to house *information technology equipment* (ITE) and serving an ITE load less than or equal to10 kW or 20 W/ft^2 (215 W/m^2) or less of conditioned floor area.

DATA CENTER

.

A room or *building*, or portions thereof, used primarily to house *information technology equipment* (ITE) and serving a total ITE load greater than 10 kW and 20 W/ft^2 (215 W/m^2) of conditioned floor area.

INFORMATION TECHNOLOGY EQUIPMENT (ITE)

.

Computers, data storage, servers, and network communication equipment.

INFORMATION TECHNOLOGY EQUIPMENT FACILITIES (ITEF)

.

Data centers and *computer rooms* used primarily to house *information technology equipment*.

Reason: General information -

Page: 1

Mod_11023_Text_G99-21 Part I.pdf

F11023Text Modification

This is several proposals across multiple codes and standards to propose requirements appropriate to the unique characteristics of facilities housing computer rooms and data centers or *Information technology equipment* (ITE).Computer rooms and data centers are mission critical applications. All aspects of our public infrastructure, transportation, our education system, our healthcare system, our national defense, our banking, our public safety systems, our process for writing codes - our lives - are wholly dependent on the efficient real-time processing of data. The ITE used to perform this function must be 100% reliable.
For these reasons ITE facilities are secured spaces, atmospherically and physically, with tightly controlled access.

Because access to ITE facilities is restricted, and because ITE facilities are only accessed by technicians performing periodic process maintenance, the occupant load of these spaces is intermittent or sparse.

Like many process industries, ITE facilities have specific environmental process constraints if they are to function properly:

- ITE needs to be continuously cooled to protect the data and sometimes the best way to cool the equipment is to cool the room.
- ITE is extremely sensitive to humidity and atmospheric contaminants; it can ruin equipment and thereby data. Ideally, ITE facilities bring in no outside air or moisture into ITE spaces; ventilation for refrigerants within ITE facilities is solely to reduce refrigerant concentration by fully mixing refrigerant into the atmosphere of the space.
- Alternative methods of fire suppression may be most suitable.

Until recently ITE facilities used nonflammable A1 refrigerants, but separate rule makings by the California Air Resources Board and the US Environmental Protection Agency now require refrigerants to meet Global Warming Potential (GWP) values that are much lower than currently possible with commercially available A1 refrigerants.

For this reason the ITE facilities cooling industry is adopting the use of A2L refrigerants which perform well, which are environmentally friendlier and which have much lower GWP values, but which are mildly flammable.

Adoption of A2L refrigerant necessitates ITE facility code requirements that provide the right protection for the unique industrial process being protected.

Requirements addressing ITE facilities must be flexible and performance oriented to address the many potential configurations of these spaces, from small computer rooms within much larger uses, or as one use in multiple occupancies, to unlimited area data centers that occupy millions of square feet of land, (https://www.analyticsvidhya.com/blog/2020/09/8-largest-data-centers-world-2020/).

PART I - IBC DEFINITIONS

Using common definitions for information technology equipment, data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*. They are consistent with definitions used in the ASHRAE 90.4*Energy Standard for Data Centers* as well as NFPA 75 *Standard for the Fire Protection of Information Technology Equipment*. It is likely that the definitions of data centers and computer rooms will be added to future editions of the IECC.The definitions for computer rooms and data centers are based ASHRAE Standard 90.4-2019 *Energy Standard for Data Centers* except that the definition of computer rooms was modified to clarify that computer rooms are not primarily used for any other purpose than to house *information technology equipment*. This modification is necessary to distinguish computer rooms (data processing) from rooms where occupants use computers (data entry).

PART II -IBC Section 429 (New)

See the general reason.

NFPA 75, *The Standard for the Protection of Information Technology Equipment* is proposed as the appropriate reference to assure:

- The need for appropriate fire protection is met regardless of the configuration of the ITE facility.
- The fire protection package appropriately considers the unique environmental needs of the ITE facility.

NFPA 75 benefits from the involvement of subject matter experts in the design, operation and fire protection of these unique industrial processes.

NFPA 75 is realistic and flexible; it requires a documented risk assessment of the ITE facility to serve as the basis for a fire protection approach that is "*permitted to be determined based on an evaluation of fire risks and hazards associated with the* ITE *and services provided and the business continuity planning and disaster restoration capabilities of the* ITE *specific to the* ITE."

NFPA 75 also anticipates that alternative methods of fire suppression may be most suitable to protect data processing capacity and provides references to those NFPA standards that address such systems. It sets forth *"the minimum requirements for the protection of* ITE *equipment and* ITE *areas from damage by fire or its associated effects — namely, smoke, corrosion, heat, and wate.r*"

Page: 2

Mod_11023_Text_G99-21 Part I.pdf

F11023Text Modification

In addition to the reference to NFPA 75 for performance design provisions, this proposal provides simple prescriptive requirements consistent with the treatment of locations classified as controlled access, industrial occupancies by ASHRAE 15 *Safety Standard for Refrigeration Systems* and the International Mechanical and Fire Codes.

By section, this proposal does the following:

· **Sec. 429.1 General** classifies ITE facilities as industrial occupancies to align with Sec. 1103 of the IMC. Per the IMC, which is consistent with ASHRAE 15, an industrial occupancy is "*that portion of premises that is not open to the public, where access by authorized persons is controlled, and that is used to manufacture, process or store goods such as chemicals, food, ice, meat or petroleum.*" A change has been proposed for the IMC and to ASHRAE 15 to specifically include ITE facilities in this classification.

· **Sec. 429.2 Refrigerants** limits refrigerants to nonflammable or mildly flammable refrigerants, but also provides clarification that the AHJ can approve other refrigerants on an individual basis.

· **Sec. 429.3 Fire Protection** references NFPA 75.

· **Sec. 429.4 Design and construction** requires a minimum of a one-hour fire separation between the ITE facility and adjacent occupancies, but reasonably provides flexibility for small spaces in fully sprinklered buildings. It also requires materials in concealed spaces, such as below a raised floor or above a suspended ceiling to be those permissible for use in a plenum.

· **Sec. 429.5 Electrical** requires compliance for non-IT equipment with Class 1, Division 2, of NFPA 70 (Class I - Flammable gases or vapors may be present; Division 2 - Ignitable concentrations of hazards exist under abnormal operation conditions) requirements where the code official has approved a refrigerant other than a Group A1 or A2L.

· **Sec. 429.6 Ventilation** requires mechanical ventilation of the ITE space to be triggered by refrigerant detection in accordance with the IMC and its secondary reference to the IFC Sec. 608.9. It also permits required ventilation to mix leaked refrigerant in the ITE space without exhausting the space or bringing in make-up air, thereby protecting the ITE from airborne contaminants and undesirable humidity.

· **Sec. 429.7 Refrigerant detection** references the IFC for refrigerant detection provisions and assures the appropriate initiation of measures to address an unintended leak of refrigerant or failure of the detection system.

· **Sec. 429.8 Standby power** ensures that active detection and protection measures are always available.

· **Sec. 429.9 Common path of egress travel** requires ITEF to comply with the same means of egress requirements as those specified in Section 1006.2.2.3 for refrigerated rooms or spaces. All portions of an ITEF must be within 150 feet of an exit or exit access doorway where such facilities are not protected by an approved automatic sprinkler system.

PART III - IBC Section 306.3 Group F-2

It is proposed to add Information Technology Equipment Facilities (data centers and computer rooms) to the F-2 occupancy group as they are industrial applications not currently addressed by the code with any specificity.

A separate code change proposes to add a section in Chapter 4 to address Information Technology Equipment Facilities (ITEF), but the correct occupancy group should be established.

ITEFs are buildings and spaces that are not open to the public, where access by authorized persons is controlled, and that are used to store and process electronic information or data. They are accessed only by IT maintenance technicians and have low or only intermittent occupant loads

USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new A2L (mildly flammable) refrigerants.

PART IV - IBC Section 311.3 Group S-2

Information technology equipment facilities are unique low hazard and low occupancy uses where data is stored and processed in racked equipment. While there are some moderate hazards specific to ITE facilities under abnormal operational conditions, those hazards are anticipated and mitigated by the codes:

- ITE facilities must be cooled for ITE performance. Potential hazards from flammable refrigerants are managed by compliance with the refrigerant safety provisions of the IMC, the IFC and ASHRAE 15 thereby assuring that leaked flammable refrigerants are detected and managed appropriately.
- IMC Section 1104.2.2 requires that the electrical equipment and appliances in ITE facilities must conform to the Class I, Division 2, hazardous location classification requirements of NFPA 70 where the quantity of any Group A2, B2, A3 or B3 refrigerant in a single

Page: 3

Mod_11023_Text_G99-21 Part I.pdf

F11023Text Modification

independent circuit would exceed 25 percent of the lower flammability limit (LFL) upon release to the space.

- Cabling in underfloor and above ceiling plenum areas of ITE facilities is required to comply with IMC Section 602.2.1.1 and electrical equipment exposed in plenums must comply with IMC Sec. 602.2.1.4.

PART V - IBC Table 509.1 Incidental Uses

Information technology equipment (ITE) facilities -data centers and computer rooms - are cooled for industrial process reasons so that the ITE can operate as needed. This means these facilities can have a significant refrigerant load, just like a refrigerant machinery room, without necessarily having a machinery room. Refrigerant machinery rooms already are identified in Table 509.1 as needing either a one-hour separation or automatic sprinkler system protection. ITE facilities should meet the same standard, except that ITE facilities may need alternative fire protection methods for ITE.

PART VI - IBC Table 1004.5 Occupant Load Factor

The original proponent of Section 1004.8 (Group A, 2015: E9-15) included the section as part of a successful effort to increase the Table 1004.5 occupant load factor (OLF) for the typical business use from 100 to 150 SF gross per occupant. Section 1004.8 was added to ensure that the newly less stringent OLF was not applied inappropriately to business use areas known to have a higher density of occupants.

Data centers and computer rooms do not have a higher density of occupants, but typically have very low or intermittent occupancy loads, being occupied by only IT staff who periodically perform equipment maintenance functions. For this proposal, 300 SF gross OLF was selected as a conservative and appropriate OLF because the footprint of racks of *information technology equipment* are comparable to footprint of the racks of shelving in storage and stock areas of mercantile uses, even though such mercantile areas would be far more frequently occupied.

Data centers and computer rooms have significant cooling needs for process purposes; keeping ITE cool enough is mission critical. USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new refrigerants. Using common definitions for data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*.

PART VII - IBC Section 1010.2.9.2 ITEF exits

Information technology equipment (ITE) facilities (computer rooms and data centers) are cooling intensive spaces because of equipment process needs and have similar exiting concerns to refrigeration machinery rooms because of hazards related to refrigerants.

A separate code change proposal will add ITE facilities (computer rooms and data centers) to the IMC's industrial occupancy classification in recognition of the process cooling needs unique to ITE facilities. This change will permit computer rooms and data centers that comply with new IMC Section 1104.2.3 to have space cooling without requiring a refrigeration machine room per Section 1104.2.2.

PART VIII - IFC Definitions

See the commentary to IBC Definitions above.

PART IX - IFC Section 609.8.1

See the general reason above.

Separate proposals for Chapter 11 of the IMC and Chapter 4 of the IBC apply occupancy specific requirements to ITE facilities. Those proposals:

- limit refrigerants to nonflammable Group A1 and mildly flammable Group A2L refrigerants
- require electrical equipment conformance with the Class I, Division 2, hazardous location classification requirements of NFPA 70, and
- reference NFPA 75, *The Standard for the Protection of Information Technology Equipment* to assure appropriate fire protection is provided regardless of the configuration of the ITE facility and the fire protection package appropriately considers the unique environmental needs of the ITE facility.
- require ITE facilities to be separated from adjacent uses by fire barriers and horizontal assemblies.

Given the other fire safety provisions proposed to apply to ITE facilities, and in recognition that stopping the cooling of an ITE space could jeopardize the data and data processes, automatic stopping of cooling is inadvisable.

Page: 4

Mod_11023_Text_G99-21 Part I.pdf

F11023Text Modification

Required detection and alarms will inform the facility manager and fire officials of the potential hazard, thereby providing an opportunity for data backup and potential purging of the ITE facility atmosphere.

PART X - IMC Definitions

See the commentary to IBC Definitions above.

PART XI - IMC Occupancy classification.

This proposed change clarifies that data centers and computer rooms, which are cooled solely for the process loads associated with *information technology equipment*, are industrial occupancies.

Per Sec. 1103.2 (6), key features of an industrial occupancy are that it is that portion of a premises that is not open to the public and where access by authorized persons is controlled, both of which are characteristic of data centers and computer rooms.

Industrial occupancies also are defined by the processing of "goods." For data centers and computer rooms the 'goods' being processed is data or electronic information.

It is worth noting that no other occupancy classification specifically addresses any of the characteristics of data centers and computer rooms. The catchall provision in the Commercial occupancy classification for "*work or storage areas that do not qualify as industrial occupancies*," is not appropriate as space cooling in commercial occupancies is intended for comfort cooling, not for process cooling and occupant loads for industrial applications are very low, with restricted access, compared to commercial occupancies that may have no restrictions on access.

Data centers and computer rooms have significant cooling needs for process purposes; keeping ITE cool enough is mission critical.

USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new refrigerants. Using common definitions for data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*.

The definitions for computer rooms and data centers are based upon ASHRAE Standard 90.4-2019*Energy Standard for Data Centers.*

Appropriately classifying data centers and computer rooms will facilitate the drafting of requirements for the IMC that address the unique circumstances of these occupancies.

PART XII - IMC 1104.2.3 ITEF

See the general reason above.

Currently Sec 1106.3 requires that machinery rooms for Group A2L refrigerants must either conform to Class I, Division 2, hazardous location classification requirements of NFPA 70 **OR** provide provide emergency exhaust ventilation (Sec 1106.4). This proposal allows Group A2L to be used without NFPA 70 compliance and without exhaust ventilation in deference to the ITE environmental needs. A separate proposal to add requirements for ITE facilities in Chapter 4 of the building code clarifies that emergency ventilation for ITE facilities is only required to mix the atmosphere within the ITE space so that leaked refrigerant is fully dispersed.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
PART I, VIII and X - The definitions are to information only and will not add any additional construction requirements.
P ART II- In some facilities there may be an additional cost; in others there may be less cost. It will be very building specific.
PART III - This is a clarification.
PART IV- This is a clarification.
PART V - There may additional costs to provide 1 hour separation for the space where the building does not have a fire sprinkler or fire extinguishing system.
PART VI - Means of egress systems will be 'right sized' for data centers and computer rooms.
PART VII - There may be a minimal increase for exit access doors in certain circumstances.

PART IX- Manual controls for refrigeration equipment shut-off should be less expensive than automatic controls.
PART XI -This proposal will match the space use with the correct requirements which will tend to lower construction costs.

PART XII - Having use specific requirements for ITE facilities should minimize costs by avoiding requirements that do not fit the condition.

Page: 5

Mod_11023_Text_G99-21 Part I.pdf

F11023Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because these definitions are an important part of the package for these types of facilities. There was concerned raised about the differences between the four definitions and that there were requirements in the definitions - this could be simplified. (Vote: 8-5)

Final Hearing Results

G99-21 Part I AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

13

F11030		/G99-21 Part VIII			
Date Submitted	03/13/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

The propose code change is specific to the IFC. This code is not part of the FBC.

Summary of Modification

International Fire Code. This is several proposals across multiple codes and standards to propose requirements appropriate to the unique characteristics of facilities housing computer rooms and data centers or Information technology equipment (ITE).

Rationale

See attached

F11030Text Modification

See attached

Page: 1

Mod11030_TextOfModification.pdf

F11030Text Modification

G99-21 Part VIII

Original Proposal

PART VIII - IFC: SECTION 202 (New)

Proponents: Greg Johnson, Johnson & Associates Consulting Services, Codes & Standards International (gjohnsonconsulting@gmail.com); Jay Peters, Codes and Standards International, Vertiv (peters.jay@me.com); Andrew Klein, A S Klein Engineering, Building Owners and Managers Association International (andrew@asklein.com); Barry Greive, Target Corporation, Target Corporation (barry.greive@target.com); David Collins, The Preview Group, Inc., The Preview Group, Inc. (dcollins@preview-group.com); Lee Kaiser, ORR Protection, NFPA 75 Technical Committee (ELT-AAA) (lkaiser@orrprotection.com)

2021 International Fire Code

Add new definition as follows:

COMPUTER ROOM

.

A room or portions of a *building* used primarily to house *information technology equipment (ITE)* and serving an *ITE* load less than or equal to10 kW or 20 W/ft2 (215 W/m2) or less of conditioned floor area.

DATA CENTER

.

A room or *building*, or portions thereof, used primarily to house *information technology equipment (ITE)* and serving a total *ITE* load greater than 10 kW and 20 W/ft^2 (215 W/m^2) of conditioned floor area.

INFORMATION TECHNOLOGY EQUIPMENT (ITE)

.

Computers, data storage, servers, and network communication equipment.

INFORMATION TECHNOLOGY EQUIPMENT FACILITIES (ITEF)

.

Data centers and *computer rooms* used primarily to house *information technology equipment.*

Reason: General information -

This is several proposals across multiple codes and standards to propose requirements appropriate to the unique characteristics of facilities housing computer rooms and data centers or *Information technology equipment* (ITE).Computer rooms and data centers are mission critical applications. All aspects of our public infrastructure, transportation, our education system, our healthcare system, our national defense, our banking, our public safety systems, our process for writing codes - our lives - are wholly dependent on the efficient real-time processing of data. The ITE used to perform this function must be 100% reliable.
For these reasons ITE facilities are secured spaces, atmospherically and physically, with tightly controlled access.

Because access to ITE facilities is restricted, and because ITE facilities are only accessed by technicians performing periodic process maintenance, the occupant load of these spaces is intermittent or sparse.

Like many process industries, ITE facilities have specific environmental process constraints if they are to function properly:

Page: 1

Mod_11030_Text_G99-21 Part VIII.pdf

F11030Text Modification

- ITE needs to be continuously cooled to protect the data and sometimes the best way to cool the equipment is to cool the room.
- ITE is extremely sensitive to humidity and atmospheric contaminants; it can ruin equipment and thereby data. Ideally, ITE facilities bring in no outside air or moisture into ITE spaces; ventilation for refrigerants within ITE facilities is solely to reduce refrigerant concentration by fully mixing refrigerant into the atmosphere of the space.
- Alternative methods of fire suppression may be most suitable.

Until recently ITE facilities used nonflammable A1 refrigerants, but separate rule makings by the California Air Resources Board and the US Environmental Protection Agency now require refrigerants to meet Global Warming Potential (GWP) values that are much lower than currently possible with commercially available A1 refrigerants.

For this reason the ITE facilities cooling industry is adopting the use of A2L refrigerants which perform well, which are environmentally friendlier and which have much lower GWP values, but which are mildly flammable.

Adoption of A2L refrigerant necessitates ITE facility code requirements that provide the right protection for the unique industrial process being protected.

Requirements addressing ITE facilities must be flexible and performance oriented to address the many potential configurations of these spaces, from small computer rooms within much larger uses, or as one use in multiple occupancies, to unlimited area data centers that occupy millions of square feet of land, (https://www.analyticsvidhya.com/blog/2020/09/8-largest-data-centers-world-2020/).

PART I - IBC DEFINITIONS

Using common definitions for information technology equipment, data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*. They are consistent with definitions used in the ASHRAE 90.4*Energy*

Page: 2

Mod_11030_Text_G99-21 Part VIII.pdf

Standard for Data Centers as well as NFPA 75 *Standard for the Fire Protection of Information Technology Equipment*. It is likely that the definitions of data centers and computer rooms will be added to future editions of the IECC.The definitions for computer rooms and data centers are based ASHRAE Standard 90.4-2019 *Energy Standard for Data Centers* except that the definition of computer rooms was modified to clarify that computer rooms are not primarily used for any other purpose than to house *information technology equipment*. This modification is necessary to distinguish computer rooms (data processing) from rooms where occupants use computers (data entry).

PART II -IBC Section 429 (New)

See the general reason.

NFPA 75, *The Standard for the Protection of Information Technology Equipment* is proposed as the appropriate reference to assure:

- The need for appropriate fire protection is met regardless of the configuration of the ITE facility.
- The fire protection package appropriately considers the unique environmental needs of the ITE facility.

NFPA 75 benefits from the involvement of subject matter experts in the design, operation and fire protection of these unique industrial processes.

NFPA 75 is realistic and flexible; it requires a documented risk assessment of the ITE facility to serve as the basis for a fire protection approach that is "*permitted to be determined based on an evaluation of fire risks and hazards associated with the* ITE *and services provided and the business continuity planning and disaster restoration capabilities of the* ITE *specific to the* ITE."

NFPA 75 also anticipates that alternative methods of fire suppression may be most suitable to protect data processing capacity and provides references to those NFPA standards that address such systems. It sets forth *"the minimum requirements for the protection of* ITE *equipment and* ITE *areas from damage by fire or its associated effects — namely, smoke, corrosion, heat, and wate.r*"

In addition to the reference to NFPA 75 for performance design provisions, this proposal provides simple prescriptive requirements consistent with the treatment of locations classified as controlled access, industrial occupancies by ASHRAE 15 *Safety Standard for Refrigeration Systems* and the International Mechanical and Fire Codes.

By section, this proposal does the following:

· **Sec. 429.1 General** classifies ITE facilities as industrial occupancies to align with Sec. 1103 of the IMC. Per the IMC, which is consistent with ASHRAE 15, an industrial occupancy is "*that portion of premises that is not open to the public, where access by authorized persons is controlled, and that is used to manufacture, process or store goods such as chemicals, food, ice, meat or petroleum.*" A change has been proposed for the IMC and to ASHRAE 15 to specifically include ITE facilities in this classification.

· **Sec. 429.2 Refrigerants** limits refrigerants to nonflammable or mildly flammable refrigerants, but also provides clarification that the AHJ can approve other refrigerants on an individual basis.

· **Sec. 429.3 Fire Protection** references NFPA 75.

· **Sec. 429.4 Design and construction** requires a minimum of a one-hour fire separation between the ITE facility and adjacent occupancies, but reasonably provides flexibility for small spaces in fully sprinklered buildings. It also requires materials in concealed spaces, such as below a raised floor or above a suspended ceiling to be those permissible for use in a plenum.

· **Sec. 429.5 Electrical** requires compliance for non-IT equipment with Class 1, Division 2, of NFPA 70 (Class I - Flammable gases or vapors may be present; Division 2 - Ignitable concentrations of hazards exist under abnormal operation conditions) requirements where the code official has approved a refrigerant other than a Group A1 or A2L.

· **Sec. 429.6 Ventilation** requires mechanical ventilation of the ITE space to be triggered by refrigerant detection in accordance with the IMC and its secondary reference to the IFC Sec. 608.9. It also permits required ventilation to mix leaked refrigerant in the ITE space without exhausting the space or bringing in make-up air, thereby protecting the ITE from airborne contaminants and undesirable humidity.

· **Sec. 429.7 Refrigerant detection** references the IFC for refrigerant detection provisions and assures the appropriate initiation of measures to address an unintended leak of refrigerant or failure of the detection system.

· **Sec. 429.8 Standby power** ensures that active detection and protection measures are always available.

· **Sec. 429.9 Common path of egress travel** requires ITEF to comply with the same means of egress requirements as those specified in Section 1006.2.2.3 for refrigerated rooms or spaces. All portions of an ITEF must be within 150 feet of an exit or exit access doorway where such facilities are not protected by an approved automatic sprinkler system.

PART III - IBC Section 306.3 Group F-2

F11030Text Modification

It is proposed to add Information Technology Equipment Facilities (data centers and computer rooms) to the F-2 occupancy group as they are industrial applications not currently addressed by the code with any specificity.

A separate code change proposes to add a section in Chapter 4 to address Information Technology Equipment Facilities (ITEF), but the correct occupancy group should be established.

ITEFs are buildings and spaces that are not open to the public, where access by authorized persons is controlled, and that are used to store and process electronic information or data. They are accessed only by IT maintenance technicians and have low or only intermittent occupant loads

USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new A2L (mildly flammable) refrigerants.

PART IV - IBC Section 311.3 Group S-2

Information technology equipment facilities are unique low hazard and low occupancy uses where data is stored and processed in racked equipment. While there are some moderate hazards specific to ITE facilities under abnormal operational conditions, those hazards are anticipated and mitigated by the codes:

- ITE facilities must be cooled for ITE performance. Potential hazards from flammable refrigerants are managed by compliance with the refrigerant safety provisions of the IMC, the IFC and ASHRAE 15 thereby assuring that leaked flammable refrigerants are detected and managed appropriately.
- IMC Section 1104.2.2 requires that the electrical equipment and appliances in ITE facilities must conform to the Class I, Division 2, hazardous location classification requirements of NFPA 70 where the quantity of any Group A2, B2, A3 or B3 refrigerant in a single independent circuit would exceed 25 percent of the lower flammability limit (LFL) upon release to the space.

F11030Text Modification

- Cabling in underfloor and above ceiling plenum areas of ITE facilities is required to comply with IMC Section 602.2.1.1 and electrical equipment exposed in plenums must comply with IMC Sec. 602.2.1.4.

PART V - IBC Table 509.1 Incidental Uses

Information technology equipment (ITE) facilities -data centers and computer rooms - are cooled for industrial process reasons so that the ITE can operate as needed. This means these facilities can have a significant refrigerant load, just like a refrigerant machinery room, without necessarily having a machinery room. Refrigerant machinery rooms already are identified in Table 509.1 as needing either a one-hour separation or automatic sprinkler system protection. ITE facilities should meet the same standard, except that ITE facilities may need alternative fire protection methods for ITE.

PART VI - IBC Table 1004.5 Occupant Load Factor

The original proponent of Section 1004.8 (Group A, 2015: E9-15) included the section as part of a successful effort to increase the Table 1004.5 occupant load factor (OLF) for the typical business use from 100 to 150 SF gross per occupant. Section 1004.8 was added to ensure that the newly less stringent OLF was not applied inappropriately to business use areas known to have a higher density of occupants.

Data centers and computer rooms do not have a higher density of occupants, but typically have very low or intermittent occupancy loads, being occupied by only IT staff who periodically perform equipment maintenance functions. For this proposal, 300 SF gross OLF was selected as a conservative and appropriate OLF because the footprint of racks of *information technology equipment* are comparable to footprint of the racks of shelving in storage and stock areas of mercantile uses, even though such mercantile areas would be far more frequently occupied.

Data centers and computer rooms have significant cooling needs for process purposes; keeping ITE cool enough is mission critical. USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new refrigerants. Using common definitions for data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*.

PART VII - IBC Section 1010.2.9.2 ITEF exits

Information technology equipment (ITE) facilities (computer rooms and data centers) are cooling intensive spaces because of equipment process needs and have similar exiting concerns to refrigeration machinery rooms because of hazards related to refrigerants.

A separate code change proposal will add ITE facilities (computer rooms and data centers) to the IMC's industrial occupancy classification in recognition of the process cooling needs unique to ITE facilities. This change will permit computer rooms and data centers that comply with new IMC Section 1104.2.3 to have space cooling without requiring a refrigeration machine room per Section 1104.2.2.

PART VIII - IFC Definitions

See the commentary to IBC Definitions above.

PART IX - IFC Section 609.8.1

See the general reason above.

Separate proposals for Chapter 11 of the IMC and Chapter 4 of the IBC apply occupancy specific requirements to ITE facilities. Those proposals:

- limit refrigerants to nonflammable Group A1 and mildly flammable Group A2L refrigerants
- require electrical equipment conformance with the Class I, Division 2, hazardous location classification requirements of NFPA 70, and
- reference NFPA 75, *The Standard for the Protection of Information Technology Equipment* to assure appropriate fire protection is

Page: 5

Mod_11030_Text_G99-21 Part VIII.pdf

F11030Text Modification

provided regardless of the configuration of the ITE facility and the fire protection package appropriately considers the unique environmental needs of the ITE facility.

- require ITE facilities to be separated from adjacent uses by fire barriers and horizontal assemblies.

Given the other fire safety provisions proposed to apply to ITE facilities, and in recognition that stopping the cooling of an ITE space could jeopardize the data and data processes, automatic stopping of cooling is inadvisable.

Required detection and alarms will inform the facility manager and fire officials of the potential hazard, thereby providing an opportunity for data backup and potential purging of the ITE facility atmosphere.

PART X - IMC Definitions

See the commentary to IBC Definitions above.

PART XI - IMC Occupancy classification.

This proposed change clarifies that data centers and computer rooms, which are cooled solely for the process loads associated with *information technology equipment*, are industrial occupancies.

Per Sec. 1103.2 (6), key features of an industrial occupancy are that it is that portion of a premises that is not open to the public and where access by authorized persons is controlled, both of which are characteristic of data centers and computer rooms.

Industrial occupancies also are defined by the processing of "goods." For data centers and computer rooms the 'goods' being processed is data or electronic information.

It is worth noting that no other occupancy classification specifically addresses any of the characteristics of data centers and computer rooms. The catchall provision in the Commercial occupancy classification for "*work or storage areas that do not qualify as industrial occupancies*," is not appropriate as space cooling in commercial occupancies is intended for comfort cooling, not for process cooling and occupant loads for industrial applications are very low, with restricted access, compared to commercial occupancies that may have no restrictions on access.

Data centers and computer rooms have significant cooling needs for process purposes; keeping ITE cool enough is mission critical.

USEPA and California regulations require transition to lower global warming potential refrigerants, which in turn requires changes in provisions in model codes and standards related to the safe use of new refrigerants. Using common definitions for data centers and computer rooms will foster uniformity of application between codes and related standards. These definitions have been proposed for use by the building, fire, and mechanical codes as well as ASHRAE 15, the *Safety Standard for Refrigeration Systems*.

The definitions for computer rooms and data centers are based upon ASHRAE Standard 90.4-2019*Energy Standard for Data Centers*.

Appropriately classifying data centers and computer rooms will facilitate the drafting of requirements for the IMC that address the unique circumstances of these occupancies.

PART XII - IMC 1104.2.3 ITEF

See the general reason above.

Currently Sec 1106.3 requires that machinery rooms for Group A2L refrigerants must either conform to Class I, Division 2, hazardous location classification requirements of NFPA 70 **OR** provide provide emergency exhaust ventilation (Sec 1106.4). This proposal allows Group A2L to be used without NFPA 70 compliance and without exhaust ventilation in deference to the ITE environmental needs. A separate proposal to add requirements for ITE facilities in Chapter 4 of the building code clarifies that emergency ventilation for ITE facilities is only required to mix the atmosphere within the ITE space so that leaked refrigerant is fully dispersed.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
PART I, VIII and X - The definitions are to information only and will not add any additional construction requirements.
P ART II- In some facilities there may be an additional cost; in others there may be less cost. It will be very building specific. PART III - This is a clarification.
PART IV- This is a clarification.
PART V - There may additional costs to provide 1 hour separation for the space where the building does not have a fire sprinkler or fire extinguishing system.
PART VI - Means of egress systems will be 'right sized' for data centers and computer rooms.
PART VII - There may be a minimal increase for exit access doors in certain circumstances.

Page: 6
Mod_11030_Text_G99-21 Part VIII.pdf

F11030Text Modification

PART IX- Manual controls for refrigeration equipment shut-off should be less expensive than automatic controls.
PART XI -This proposal will match the space use with the correct requirements which will tend to lower construction costs.

PART XII - Having use specific requirements for ITE facilities should minimize costs by avoiding requirements that do not fit the condition.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved to be consistent with Part I. Additionally if the other portions are placed within the code these definitions will be critical. It was noted that NFPA 75 does not appear to be consistent with these definitions. (Vote: 10-4)

Final Hearing Results

G99-21 Part VIII AS

Mod_11030_Text_G99-21 Part VIII.pdf Page: 7

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

14

F10789		/F186-21 Part II			
Date Submitted	03/06/2024	**Section**	306.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Section 311.2 - Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal provides guidance for storage and associated fire protection of alcoholic beverages both in warehouse and in small distillery facilities.

Rationale

See attached

F10789Text Modification

See attached

Page: 1

Mod10789_TextOfModification.pdf

F10789Text Modification

F186-21 Part II

Original Proposal

IBC: 306.2, 306.3, 311.2, 311.3

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org); Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

SECTION 306
FACTORY GROUP F

Revise as follows:

306.2 Moderate-hazard factory industrial, Group F-1. Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

- Aircraft (manufacturing, not to include repair)
- Appliances
- Athletic equipment
- Automobiles and other motor vehicles
- Bakeries
- Beverages: over ~~16 percent~~ 20 percent alcohol content
- Bicycles
- Boats
- Brooms or brushes
- Business machines
- Cameras and photo equipment
- Canvas or similar fabric
- Carpets and rugs (includes cleaning)
- Clothing
- Construction and agricultural machinery
- Disinfectants
- Dry cleaning and dyeing
- Electric generation plants
- Electronics
- Energy storage systems (ESS) in dedicated use buildings
- Engines (including rebuilding)
- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area
- Furniture
- Hemp products
- Jute products
- Laundries
- Leather products
- Machinery
- Metals
- Millwork (sash and door)
- Motion pictures and television filming (without spectators)

Page: 1

Mod_10789_Text_F186-21 Part II.pdf

F10789Text Modification

- Musical instruments
- Optical goods
- Paper mills or products
- Photographic film
- Plastic products
- Printing or publishing
- Recreational vehicles
- Refuse incineration
- Shoes
- Soaps and detergents
- Textiles
- Tobacco
- Trailers
- Upholstering
- Water/sewer treatment facilities
- Wood; distillation
- Woodworking (cabinet)

306.3 Low-hazard factory industrial, Group F-2. Factory industrial uses that involve the fabrication or manufacturing of noncombustible materials that during finishing, packing or processing do not involve a significant fire hazard shall be classified as F-2 occupancies and shall include, but not be limited to, the following:

- Beverages: up to and including ~~16 percent~~ 20 percent alcohol content
- *Brick* and masonry
- Ceramic products
- Foundries
- Glass products
- Gypsum
- Ice
- Metal products (fabrication and assembly)

SECTION 311
STORAGE GROUP S

Revise as follows:

311.2 Moderate-hazard storage, Group S-1. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- *Aerosol products*, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Beverages over ~~16 percent~~ 20 percent alcohol content
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)

Page: 2

Mod_10789_Text_F186-21 Part II.pdf

F10789Text Modification

- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle *repair garages* complying with the maximum allowable quantities of*hazardous materials* specified in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- *Self-service storage facility* (mini-storage)
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wax candles

311.3 Low-hazard storage, Group S-2. Storage Group S-2 occupancies include, among others, buildings used for the storage of noncombustible materials such as products on wood pallets or in paper cartons with or without single thickness divisions; or in paper wrappings. Such products are permitted to have a negligible amount of plastic *trim*, such as knobs, handles or film wrapping. Group S-2 storage uses shall include, but not be limited to, storage of the following:

- Asbestos
- Beverages up to and including~~16 percent~~ 20 percent alcohol
- Cement in bags
- Chalk and crayons
- Dairy products in nonwaxed coated paper containers
- Dry cell batteries
- Electrical coils
- Electrical motors
- Empty cans
- Food products
- Foods in noncombustible containers
- Fresh fruits and vegetables in nonplastic trays or containers
- Frozen foods
- Glass
- Glass bottles, empty or filled with noncombustible liquids
- *Gypsum board*
- Inert pigments
- Ivory
- Meats
- Metal cabinets
- Metal desks with plastic tops and*trim*
- Metal parts
- Metals
- Mirrors
- Oil-filled and other types of distribution transformers
- Public parking garages, open or enclosed
- Porcelain and pottery

Page: 3

Mod_10789_Text_F186-21 Part II.pdf

F10789Text Modification

- Stoves
- Talc and soapstones
- Washers and dryers

Reason: This proposal provides guidance for storage and associated fire protection of alcoholic beverages both in warehouse and in small distillery facilities.

One of the conceptual changes is the threshold at which the percentage of alcohol results in a higher classification of hazard. Traditionally, beverages with an alcohol content greater than 16% were considered to present a higher level of hazard and were therefore placed into Group F-1 for manufacturing and packaging and Group S-1 for storage. Recent testing by FM Global demonstrates that the 16% threshold was too conservative and the threshold is being revised to 20%. Even recent revisions to Ch 32 list beverages in glass or ceramic containers with up to 20% alcohol content as a Class I commodity. The alcohol content does not raise the flammability of the liquid to an extent where additional levels of protection are necessary, and for the most part can be considered nonflammable or noncombustible. As a result, the manufacturing, packaging and storage of beverages with an alcohol content up to 20% will be classified as Group F-2 or S-2 as appropriate. This results in revisions to IBC Chapter 3 and the IFC occupancy definitions in Chapter 2.

The fire protection section provides specific sprinkler system design criteria. The requirements are based on the storage configuration:

- Palletized storage in Section 4005.1
- Rack storage in Section 4005.2

Palletized storage is then provided with design options in Section 4005.1.3:

- Provide draft curtains along the loading aisles
- Provide trench drains along each side of the loading aisles
- Provide straps to secure the barrels to the pallet
- There is a 4th option, which is to not provide a loading aisle at all. As stated in the charging sentence “palletized storage provided with a defined loading aisle...” In other words, the building or room is solid storage; it will have walkways to access the barrels but will not have a forklift loading aisle.

Each of these three designs provides a method of mitigating the spread of liquid or fire during a fire incident. These three protection features are again reference in Table 4005.1.4, and have an impact on the fire sprinkler system design.

The fire sprinkler design criteria is core of this code change. Table 4005.1.4 provides criteria for sprinkler system densities, storage heights and sprinkler selection. This design criteria is based on full-scale fire testing conducted by FM Global and presented in FM Data Sheet 7-29.

Section 4005.1.4 provides for a reduced level of sprinkler protection. Because of reduced level of protection, this section is limited to facilities no greater than 7,500 square feet and with a ceiling height of no more than 24 feet. The intent of this reduction is to allow the small distilleries with a reasonable level of protection based on the reduced fire load per square foot and limited size.

Rack storage is covered in Section 4005.2. This section contains specific requirements again based on storage method:

- Barrels stored on their side
- Barrels stored on-end

The difference in configuration results in different sprinkler design criteria in Table 4005.2.3.6. Rack storage is allowed up to 33 feet in height. Figures have been included to depict the in-rack sprinkler locations.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Page: 4

Mod_10789_Text_F186-21 Part II.pdf

F10789Text Modification

Bibliography: FM Global Property Loss Prevention Data Sheet 7-29, Ignitable Liquid Storage in Portable Containers, October 2020 Factory Mutual Insurance Company, Johnson, RI

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Chapter 40 of the Fire Code already requires an approved fire sprinkler system for new distilleries and storage facilities for distilled spirits. This code change does not increase that requirement but will provide guidance and consistency in how jurisdictions apply the fire sprinkler requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved for S-1 and F-1 occupancies and the alcohol content of beverages as providing consistency with other provisions in the IBC and IFC, including IFC Table 3203.8. (Vote: 14-0)

Final Hearing Results

F186-21 Part II AS

Page: 5

Mod_10789_Text_F186-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

15

F10790 | **/F191-21**

Date Submitted	03/06/2024	**Section**	307.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Table 307.1

Summary of Modification

The purpose of this clarification is to reduce confusion when applying the footnotes of the maximum allowable quantity (MAQ) per Public Hearing Results Final Hearing Results control area tables of the IBC and IFC.

Rationale

See attached

F10790Text Modification

See attached

Page: 1

Mod10790_TextOfModification.pdf

F10790Text Modification

F191-21

Original Proposal

IFC: TABLE 5003.1.1(1), TABLE 5003.1.1(2), TABLE 5003.1.1(3), TABLE 5003.1.1(4); IBC: TABLE 307.1(1), TABLE 307.1(2)

Proponents: Tanner Fairrington, Medford Fire-Rescue, Medford Fire-Rescue

2021 International Building Code

Revise as follows:

TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, j, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
Combustible dust	NA	H-2	SeeNote q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber[H]	Loose	H-3	(100)	NA	NA	(100)	NA	NA	(20)	NA
	Baled[D]		(1,000)			(1,000)			(200)	
Combustible liquid[C, I]	II	H-2 or H-3	NA	120[d, e]	NA	NA	120[d]	NA	NA	30[d]
	IIIA	H-2 or H-3		330[d, e]			330[d]			80[d]
	IIIB	NA		13,200[e, f]			13,200[f]			3,300[f]
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL	NA	NA
Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Explosives	Division 1.1	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	Division 1.2	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25)[g]		0.25[g]	(0.25)[g]
	Division 1.3	H-1 or H-2	5[e, g]	(5)[e, g]		1[g]	(1)[g]		1[g]	(1)[g]
	Division 1.4	H-3	50[e, g]	(50)[e, g]		50[g]	(50)[g]		NA	NA
	Division 1.4G	H-3	125[e, f]	NA		NA	NA		NA	NA
	Division 1.5	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25)[g]		0.25[g]	(0.25)[g]
	Division 1.6	H-1	1[e, g]	NA		NA	NA		NA	NA
Flammable gas	Gaseous	H-2	NA	NA	1,000[d,e]	NA	NA	1,000[d,e]	NA	NA
	Liquefied			(150)[d,e]	NA		(150)[d,e]	NA		
Flammable liquid[C]	IA	H-2 or H-3	NA	30[d, e]	NA	NA	30[d]	NA	NA	10[d]
	IB and IC			120[d, e]			120[d]			30[d]
Flammable liquid, combination (IA, IB, IC)	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA	NA	30[d, h]
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA	25[d]	NA
Inert gas	Gaseous	NA	NA	NA	NL	NA	NA	NL	NA	NA
	Liquefied	NA	NA	NA	NL	NA	NA	NL	NA	NA
Organic peroxide	UD	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	I	H-2	5[d, e]	(5)[d, e]		1[d]	(1)[d]		1[d]	(1)[d]
	II	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]		10[d]	(10)[d]
	III	H-3	125[d, e]	(125)[d, e]		125[d]	(125)[d]		25[d]	(25)[d]
	IV	NA	NL	NL		NL	NL		NL	NL
	V	NA	NL	NL		NL	NL		NL	NL
Oxidizer	4	H-1	1[g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	3[k]	H-2 or H-3	10[d, e]	(10)[d, e]		2[d]	(2)[d]		2[d]	(2)[d]
	2	H-3	250[d, e]	(250)[d, e]		250[d]	(250)[d]		50[d]	(50)[d]
	1	NA	4,000[e, f]	(4,000)[e, f]		4,000[f]	(4,000)[f]		1,000[f]	(1,000)[f]
Oxidizing gas	Gaseous	H-3	NA	NA	1,500[d,e]	NA	NA	1,500[d,e]	NA	NA
	Liquefied			(150)[d, e]	NA		(150)[d,e]	NA		
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4	H-1	1[e, g]	(1)[e, g]	10[e, g]	0.25[g]	(0.25)[g]	2[e, g]	0.25[g]	(0.25)[g]
	3	H-1 or H-2	5[d, e]	(5)[d, e]	50[d, e]	1[d]	(1)[d]	10[d, e]	1[d]	(1)[d]

Page: 1

Mod_10790_Text_F191-21.pdf

F10790Text Modification

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE			USE-CLOSED SYSTEMS			USE-OPEN SYSTEMS	
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
	2	H-3	50[d, e]	(50)[d, e]	750[d, e]	50[d]	(50)[d]	750[d, e]	10[d]	(10)[d]
	1	NA	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5[d, e]	(5)[d, e]	NA	5[d]	(5)[d]	NA	1[d]	(1)[d]
	2	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]		10[d]	(10)[d]
	1	NA	NL	NL		NL	NL		NL	NL

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the<u>maximum allowable</u> quantity ~~specified~~ for storage.<u>-, including applicable increases.</u>

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 605.4.2 of the International Fire Code.

j. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

k. A maximum quantity of 220 pounds of solid or 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.

l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code.

n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).

o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.

F10790Text Modification

p. The following shall not be included in determining the maximum allowable quantities:

1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the *International Fire Code*.
3. Gaseous fuels in piping systems and fixed appliances regulated by the *International Fuel Gas Code*.
4. Liquid fuels in piping systems and fixed appliances regulated by the *International Mechanical Code*.
5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.

q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

TABLE 307.1(2) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD[a, c, f, h, i]

MATERIAL	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
	Solid pounds[c, e]	Liquid gallons (pounds)[c, e]	Gas cubic feet at NTP (pounds)[d]	Solid pounds[d]	Liquid gallons (pounds)[d]	Gas cubic feet at NTP (pounds)[d]	Solid pounds[d]	Liquid gallons (pounds)[d]
Corrosives	5,000	500	Gaseous 810[e]	5,000	500	Gaseous 810[e]	1,000	100
			Liquefied (150)			Liquefied (150)		
Highly Toxic	10	(10)	Gaseous 20[g]	10	(10)	Gaseous 20[g]	3	(3)
			Liquefied (4)[g]			Liquefied (4)[g]		
Toxic	500	(500)	Gaseous 810[e]	500	(500)	Gaseous 810[e]	125	(125)
			Liquefied (150)[e]			Liquefied (150)[e]		

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the maximum allowable quantity ~~specified~~ for storage.~~.~~, including applicable increases.

c. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *International Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).

g. Allowed only where stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *International Fire Code*.

h. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code.

Reason: The purpose of this clarification is to reduce confusion when applying the footnotes of the maximum allowable quantity (MAQ) per

Page: 3

Mod_10790_Text_F191-21.pdf

F10790Text Modification

control area tables of the IBC and IFC. This proposal provides consistency between the the IBC and IFC versions, and to clarifies that the intent of footnote b is for the aggregate MAQ for storage and use combined to be based on the tabular value for storage with applicable increases applied. The current language for footnote "b" of IFC Tables 5003.1.1(1) to (4) indicates the, "...quantity **listed** for storage." while footnote "b" of IBC Tables 307.1(1) & (2) indicates the, "...quantity **specified** for storage." The proposed language removes the terms "listed" and "specified" and adds clarifying language to indicate that the aggregate MAQ for storage and use includes applicable increases. The current language may be misinterpreted to indicate that the aggregate MAQ for storage and use within a control area should be based on the tabular value for storage, without increases applied, which conflicts the allowed increases. For example, the MAQ for a Class IIB Flammable liquid increases from 120 gal to 240 gal in a sprinklered building. For this allowance to occur, the total MAQ's in use in storage must exceed the tabular value for storage. Providing clarity and consistency in the language will help users apply the code correctly.

Bibliography: 2021 International Fire Code
2021 International Building Code

2018 International Fire Code and Commentary

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The cost of construction should not increase, and may decrease as a benefit of the clarification.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal clarifies the application of the maximum allowable quantity increases and allowable aggregate quantities. These revisions also provides more consistency in requirements between the IBC and IFC. (Vote: 14-0)

Final Hearing Results

F191-21 AS

Page: 4

Mod_10790_Text_F191-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

16

F10791 /F192-21

Date Submitted	03/06/2024	**Section**	307.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Table 307.1(1), Table 414.2.5(3). Original text of mod is not consistent with that of the 2023 - FBC - B.

Summary of Modification

This change coordinates the requirements for flammable gas with the change in definition to “flammable gas.” The change in definition results in two categories of flammable gas, Category 1A and Category 1B.

Rationale

See attached

F10791Text Modification

See attached

Page: 1

Mod10791_TextOfModification.pdf

F10791Text Modification

F192-21

Original Proposal

IFC: TABLE 5003.1.1(1), TABLE 5003.1.1(3), 5003.8.3.5, 5003.8.3.5.4 (New), 5003.11, 5003.11.1, 5003.11.2, 5003.11.3, 5003.11.3.1, 5003.11.3.2, 5003.11.3.3, 5003.11.3.4, 5003.11.3.5, 5003.11.3.7, 5003.11.3.6, 5003.11.3.8, 5003.11.3.9, 5003.11.3.10, 5003.11.3.11, 5003.11.2 (New), TABLE 5003.11.2 (New), 5003.11.2.1 (New); IBC: TABLE 307.1(1), [F] 414.2.5, TABLE 414.2.5(3) (New), 414.2.5.4 (New)

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, j, m, n, p]

Portions of table not shown remain unchanged.

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
Flammable gas	Gaseous	H-2	NA	NA		NA	NA		NA	NA
	1A and 1B(High BV)[f]				1,000[d,e]			1,000[d,e]		
	1B (Low BV)[f]				162,500[d,e]			162,500[d,e]		
	Liquefied				NA			NA		
	1A and 1B(High BV)[f]			(150)[d,e]			(150)[d,e]			
	1B (Low BV)[f]			(10,000)[d,e]			(10,000)[d,e]			

a. For use of control areas, see Section 414.2.

b The aggregate quantity in use and storage shall not exceed the quantity specified for storage.

c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

Page: 1

Mod_10791_Text_F192-21.pdf

F10791Text Modification

i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 605.4.2 of the International Fire Code.

j. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

k. A maximum quantity of 220 pounds of solid or 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.

l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code.

n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(

o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.

p. The following shall not be included in determining the maximum allowable quantities:
   1. Liquid or gaseous fuel in fuel tanks on vehicles.
   2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the International Fire Code.
   3. Gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code.
   4. Liquid fuels in piping systems and fixed appliances regulated by the International Mechanical Code.
   5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction

q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

r. "High BV" Category 1B flammable gas has a burning velocity greater than 3.9 in/s (10 cm/s). "Low BV" Category 1B flammable gas has a burning velocity of 3.9 in/s (10 cm/s) or less.

[F] 414.2.5 Hazardous material in Group M display and storage areas and in Group S storage areas. *Hazardous materials* located in Group M and Group S occupancies shall be in accordance with Sections 414.2.5.1 through ~~414.2.5.3~~ 414.2.5.4.

Add new text as follows:

TABLE 414.2.5(3) MAXIMUM ALLOWABLE QUANTITY OF LOW BURNING VELOCITY CATEGORY 1B FLAMMABLE GAS IN GROUP M AND S OCCUPANCIES PER CONTROL AREA [a]

FLAMMABLE GAS CATEGORY	MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA	
	Sprinklered in Accordance with Note b	Nonsprinklered
Category 1B (Low BV)[d]		
Gaseous	390,000 cu. ft.	195,000 cu. ft.
Liquefied	40,000 lbs.[c]	20,000 lbs.

Page: 2

Mod_10791_Text_F192-21.pdf

F10791Text Modification

For SI: 1 pound = 0.454 kg, 1 cu. ft. = 0.028 m3

a. Control areas shall be separated from each other by not less than a 1-hour fire barrier.

b. The building shall be equipped throughout with an approved automatic sprinkler system with minimum sprinkler design density of Ordinary Hazard Group 2 in the area where flammable gases are stored or displayed.

c. Where storage areas exceed 50,000 square feet in area, the maximum allowable quantities area allowed to be increased by 2 percent for each 1,000 square feet of area in excess of 50,000 square feet, up to not more than 100 percent of the table amounts. Separation of control areas is not required. The aggregate amount shall not exceed 80,000 pounds.

d. "Low BV" Category 1B flammable gas has a burning velocity of 3.9 in/s (10 cm/s) or less.

414.2.5.4 Flammable gas. The aggregate quantity of Category 1B flammable gas having a burning velocity of 3.9 in/s (10 cm/s) or less stored and displayed within a single *control area* of a Group M occupancy or stored in a single *control area* of a Group S occupancy is allowed to exceed the *maximum allowable quantities per control area* specified in Table 307.1(1) without classifying the building or use as a Group H occupancy, provided the materials are stored and displayed in accordance with the *International Fire Code* and quantities do not exceed the amounts specified in Table 414.2.5(3).

Reason: This change coordinates the requirements for flammable gas with the change in definition to “flammable gas.” The change in definition results in two categories of flammable gas, Category 1A and Category 1B. The existing requirements in the code are based on Category 1A flammable gases. As a result, new requirements had to be developed to regulate Category 1B flammable gases. It should be noted that there is a distinction between Category 1B flammable gas based on the burning velocity. The research on this code change is based on a burning velocity of 3.9 in/s (10 cm/s) or less. Higher burning velocity Category 1B flammable gases are not commercially available, hence there is no means of evaluating their performance. The changes to the table for the higher allowable quantities are for the Category 1B low burning velocity flammable gases. There is no change to the Category 1B high burning velocity flammable gases.

A change is necessary to Tables 5003.1.1(1) and 5003.1.1(3) regarding the maximum allowable quantities for control area. The approach that was taken is similar to the approach used in the code for other hazardous materials that have different classes or categories based on the hazard level of the material. The current requirements in the tables will continue to apply to Category 1A flammable gases. This requires the addition of the words “Category 1A and Category 1B (High BV)” to be added in front of the term “flammable gas.” The new requirements for "Category 1B (Low BV)" flammable gases are based on a comparative analysis of the hazard of these flammable gases. The approach was to added limitations in the maximum allowable quantity table with a new section added that specifically regulates the requirements for storage in Use Group M and S. It should be noted that other than Use Group H, the predominant storage location of flammable gases is in Use Group M and S buildings. Section 5803.1.1 of the Fire Code will continue to have restrictions on the storage and use of flammable gases in other Use Groups. A new Section 5003.11.2 and Table 5003.11.2 in the Fire Code will add specific requirements for Use Group M and S. A similar Section 414.2.5.3 will be added to the Building Code. In developing these limitations, a comparison of existing requirements was evaluated for other hazardous materials.

The following table provides a comparison between various flammable gases and flammable liquids:

F10791Text Modification

Item	Liquid or Gas	Gas Cat.	Liquid Class	LFL (LEL)	UFL (UEL)	lb per 10,000 cu ft to LFL	Burning Velocity (in/sec)	Heat of Combustion (Btu/lb)	Min. Ignition Energy (mJ)	Deflagration Index K_G (or K_{ST})[c] (100kPa/s)	Auto Ignition Temp.	Flash Point	Basic MAQ
Propane	Gas	1A		2.1	9.6	5.6	17.9	21,638	0.25	100	920°F		150 lb
Acetylene	Gas	1A		2.5	81		50.4	21,500	0.017	1415	581°F		150 lb
Hydrogen	Gas	1A		4	75	2.1	116.5	60,870	0.019	550	932°F		150 lb
Difluoromethane	Gas	1B		14.4	29.9	192	2.6	4,041	65	11	1,198°F		?
2,3,3,3-tetrafluoro-1-propene	Gas	1B		6.2	12.3	188	0.6	4,601	>1000	8	761°F		?
R454B	Gas	1B		11.8	21.5	880	2.5	4,319	100-300		928°F		?
Trans-1,3,3,3-tetrafluoro-1-propene	Gas	2		Note a	Note a	188	0.5	4,601	62,500	9	694°F		Unlimited
Ammonia	Gas	2		16.7	28	292[b]	2.8	8,020	100-300	10	1,204°F		Unlimited
Gasoline	Liquid		IB	1.4	7.6	NG[d]	15	20,400	0.8		536°F	-45°F	120 gallons (756 lb)
Propyl Alcohol	Liquid		IC	2.1	13.5	NG[d]	19.6	13,192	0.65		700°F	77°F	120 gallons (809 lb)
Kerosene	Liquid		II	0.7	5.0	NG[d]	15.7	19,862	20		428°F	110-150°F	120 gallons (816 lb)
Diesel (2-D)	Liquid		II	0.6	7.5	NG[d]		18,900			410°F	126-205°F	120 gallons (816 lb)
Linseed Oil	Liquid		IIIA	-	-	NG[d]		16,800			650°F	200°F	330 gallons (2,558 lb)
Ethylene Glycol	Liquid		IIIB	3.2	15.2	NG[d]	15.7	7,297	1.2		770°F	232°F	13,200 gallons (122,232 lb)
Olive Oil	Liquid		IIIB	-	-	NG[d]	7.8	16,663			815°F	437°F	13,200 gallons (100,452 lb)

Note a. No LFL and UFL at 20°C, flame begins at 28°C, classified as flammable refrigerant A2L when used as a refrigerant.
Note b. Ammonia is toxic at 0.56 pounds per 10,000 cubic feet.
Note c. Deflagration index based on NFPA 68. K_G (K_{ST}) is the maximum rate of pressure increase normalized to the volume in which the rate was measured.
Note d. NG is not germane. Any spill can result in ignition. The grouping is not appropriate for comparison purposes.

A survey was conduct by HARDI to determine the amount of refrigerant gas that is stored in facilities today. That information helped to ascertain the quantity of Category 1B Low BV flammable gas that will be stored as Group A2L refrigerant in the near future.

A study from Japan by Tei Saburi, National Institute of Advanced Industrial Science and Technology, indicates that Category 1B (Low BV) flammable gases are most closely aligned with Category 2 flammable gases. As the chart indicates, Category 2 flammable gas has never been regulated in the MAQ table. While Category 2 flammable gas is identified as unlimited, this value could not be justified for Category 1B (Low BV) flammable gas. However, when comparing Category 1A to both Category 1B (Low BV) and Category 2 flammable gas, a much higher MAQ can be established for Category 1B (low BV) than Category 1A since the fire hazard from storage is much lower.

An evaluation of various fire tests on Category 1B (Low BV)flammable gas also helped to establish the MAQ. A conservative value of 10,000 pounds of Category 1B (Low BV) flammable gas was established as the maximum for a nonsprinklered control area. Comparing the deflagration index, Category 1B (Low BV) range from 0.5 to 11 percent of the deflagration index of Category 1A flammable gases. The minimum ignition energy varies by as much at 58,000 times. The heat of combustion is between 6 and 19 percent of Category 1B (Low BV). Thus, the value selected is conservative but agreeable to industry.

With the established base maximum, the value for a control area is double for a sprinklered control area. The special requirements for Use Group M and S are also doubled for a nonsprinklered control area. The maximum allowable quantity is double to 40,000 for a sprinklered control area in a Use Group M or S. The sprinklered control area storage maximum can double again when additional floor area is provided in the control area.

The appendices have been updated to correlate with the revisions to the MAQ table.**If the proposal reclassifying 1B Flammable Gases to association with the Group H-3 occupancy classification is successful, Tables 5003.1.1(1) and 307.1(1) will need to be revised so that the "GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED" row says "H-2 or H-3."

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted

F10791Text Modification

on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will decrease the cost of construction
This code change reduces the cost of construction. By modifying the maximum allowable quantities for Category 1B flammable gas, the construction costs are lowered. The construction costs for Category 1A flammable gas remain unchanged, neither increased nor decreased in the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement and the thorough collaboration between code officials and industry. (Vote: 14-0)

Final Hearing Results

F192-21 AS

Page: 5

Mod_10791_Text_F192-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

17

F10793 /F197-21

Date Submitted	03/06/2024	**Section**	307.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

A minor change is proposed for IBC 307.1 to change the fire code reference from outdoor storage to rooftop storage for proper coordination.

Rationale

See attached

F10793Text Modification

See attached

Page: 1

Mod10793_TextOfModification.pdf

F10793Text Modification

F197-21

Original Proposal

IFC: 5003.13 (New), 5003.13.1 (New), 5003.13.2 (New), 5003.13.3 (New), 5003.13.4 (New), 5003.13.5 (New); IBC: [F] 307.1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others, the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or *health hazard* in quantities in excess of those allowed in *control areas* complying with Section 414, based on the maximum allowable quantity limits for *control areas* set forth in Tables 307.1(1) and 307.1(2). Hazardous occupancies are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*. *Hazardous materials* stored, or used on top of roofs or canopies, shall be classified as ~~outdoor~~ rooftop storage or use and shall comply with the *International Fire Code*.

Reason: In the 2009 IBC a change was made indicating that storage of hazardous materials on top of roofs or canopies shall be classified as outdoor storage. However, the outdoor control area provisions in IFC Chapter 50 were never intended to be applied to rooftops and do not provide any guidance for rooftop storage. Additionally, there is nothing that would limit storage to maximum allowable quantities for outdoor control areas provided the storage meets the outdoor storage provisions of material-specific chapters. In many cases, this allows unlimited storage of hazardous materials on top of roofs or canopies. Furthermore, some outdoor storage provisions require distance set-backs to buildings, and it is unclear how that would be applied if the storage is actually on top of a building.
To resolve these conflicts, this proposal creates a new IFC section which immediately follows the outdoor control area section to provide simple, reasonable and safe limitations for rooftop storage consistent with hazardous materials storage concepts in the IFC. In general, roof or canopy top storage is limited to indoor control area MAQs and further adjusted by the number of stories. However, there are a number of important exceptions to allow for certain limited types of hazardous materials use on roofs or canopies such as refrigeration systems, energy systems, pollution control equipment, closed piping systems, and equipment on unoccupied exterior equipment platforms. A minor change is proposed for IBC 307.1 to change the fire code reference from outdoor storage to rooftop storage for proper coordination.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is primarily clarifying how to address hazardous materials storage on rooftops and will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal provides a method of addressing rooftop storage which is not currently addressed. There was some concern raised as to how a helipad may be addressed with these new requirements. (Vote: 13-1)

Page: 1

Mod_10793_Text_F197-21.pdf

F10793Text Modification

Final Hearing Results

F197-21 AS

Mod_10793_Text_F197-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

18

F10964 **/G32-21**

Date Submitted	03/08/2024	**Section**	304.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal places various activities involving lithium-ion or lithium metal batteries in the correct Group classification lists.

Rationale

See attached

F10964Text Modification

See attached

Page: 1

Mod10964_TextOfModification.pdf

F10964Text Modification

G32-21

Original Proposal

IBC: 304.1, 306.2, 311.2

Proponents: Robert Davidson, Davidson Code Concepts, LLC, Tesla, USA (rjd@davidsoncodeconcepts.com)

2021 International Building Code

Revise as follows:

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- *Ambulatory care facilities*
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- *Clinic, outpatient*
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade including *higher education laboratories*
- Electronic data processing
- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m^2) in area
- Laboratories: testing and research
- Lithium-ion or lithium metal battery testing, research and development
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations
- Telephone exchanges
- Training and skill development not in a school or academic program (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy)

306.2 Moderate-hazard factory industrial, Group F-1. Factory industrial uses that are not classified as Factory Industrial F-2 Low Hazard shall be classified as F-1 Moderate Hazard and shall include, but not be limited to, the following:

- Aircraft (manufacturing, not to include repair)
- Appliances
- Athletic equipment
- Automobiles and other motor vehicles
- Bakeries
- Beverages: over 16-percent alcohol content
- Bicycles
- Boats
- Brooms or brushes
- Business machines

Page: 1

Mod_10964_Text_G32-21.pdf

F10964Text Modification

- Cameras and photo equipment
- Canvas or similar fabric
- Carpets and rugs (includes cleaning)
- Clothing
- Construction and agricultural machinery
- Disinfectants
- Dry cleaning and dyeing
- Electric generation plants
- Electronics
- Energy storage systems (ESS) in dedicated use buildings
- Energy storage systems (ESS) and equipment containing lithium-ion or lithium metal batteries
- Engines (including rebuilding)
- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities more than 2,500 square feet (232 m^2) in area
- Furniture
- Hemp products
- Jute products
- Laundries
- Leather products
- Lithium-ion batteries
- Machinery
- Metals
- Millwork (sash and door)
- Motion pictures and television filming (without spectators)
- Musical instruments
- Optical goods
- Paper mills or products
- Photographic film
- Plastic products
- Printing or publishing
- Recreational vehicles
- Refuse incineration
- Shoes
- Soaps and detergents
- Textiles
- Tobacco
- Trailers
- Upholstering
- Vehicles powered by lithium-ion or lithium metal batteries
- Water/sewer treatment facilities
- Wood; distillation
- Woodworking (cabinet)

311.2 Moderate-hazard storage, Group S-1. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- *Aerosol products*, Levels 2 and 3
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Beverages over 16-percent alcohol content

Page: 2

Mod_10964_Text_G32-21.pdf

F10964Text Modification

- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lithium-ion or lithium Metal batteries
- Lumber
- Motor vehicle *repair garages* complying with the maximum allowable quantities of*hazardous materials* specified in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- *Self-service storage facility* (mini-storage)
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Vehicle repair garages for vehicles powered by lithium-ion or lithium metal batteries
- Wax candles

Reason: Over the last few cycles there have been a series of proposals dealing with energy storage systems that have highlighted the fire potential presented by lithium-ion and lithium metal batteries. Energy storage systems typically are installed in an occupancy with the proper protection and the occupancy of the building does not change. This is because the fire code provides for the appropriate safety levels for the installations. As part of the work done last cycle Energy Storage Systems in dedicated use buildings where there can be gigawatts of energy present was added to the F-1 Group. There are many other activities involving lithium-ion or lithium metal batteries that also belong in the appropriate Group but because they are not listed there is a problem in cases where the local code officials default to an unnecessary H Group designation.

This cycle, in addition to updating the ESS requirements there are proposals to address battery storage safety and to specify requirements for emergency action plans, suppression and detection for the B, F M and S Group activities. The activities are no different than others as far as Group designation when the appropriate level of protection exists. This proposal complements those activities by putting various activities involving lithium-ion or lithium metal batteries in the correct Group classification list. It should be noted that the largest lithium-ion battery, car manufacturing and ESS manufacturing facility currently in operation is designed with A, B, F-1 and S-1spaces by employing emergency action plans, suppression and detection.

The added activities are:

B Group: Lithium-ion or lithium metal battery testing, research and development

F-1 Group: Lithium-ion batteries; Vehicles powered by lithium-ion or lithium metal batteries

S-1 Group: Lithium-ion or lithium Metal batteries; Vehicle repair garages for vehicles powered by lithium-ion or lithium metal batteries

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The purpose is to place these occupancies in the proper groups, to that effect there is no impact on cost of construction. However, the reason for doing this is a tendency of local officials to default to an H Group designation creating significant increases in construction costs,

Page: 3

Mod_10964_Text_G32-21.pdf

F10964 Text Modification

so this proposal would in many cases provide for a reduction in costs.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as this clarifies where to classify what Group energy storage systems shall be classified. This is consistent with similar systems with new technologies. (Vote: 8-6)

Final Hearing Results

G32-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

19

F10967 /G33-21

Date Submitted	03/08/2024	**Section**	304.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Changes Group B business "Electronic data processing" to "Electronic data entry".

Rationale

See attached

F10967Text Modification

See attached

Page: 1

Mod10967_TextOfModification.pdf

F10967Text Modification

G33-21

Original Proposal

IBC: 304.1, 1004.8 (IFC[BE] 1004.8)

Proponents: Greg Johnson, Johnson & Associates Consulting Services, Codes & Standards International (gjohnsonconsulting@gmail.com); Jay Peters, Codes and Standards International, Vertiv (peters.jay@me.com); Andrew Klein, A S Klein Engineering, Building Owners and Managers Association International (andrew@asklein.com); Barry Greive, Target Corporation, Target Corporation (barry.greive@target.com); David Collins, The Preview Group, Inc., The Preview Group, Inc. (dcollins@preview-group.com)

2021 International Building Code

Revise as follows:

304.1 Business Group B. Business Group B occupancy includes, among others, the use of a building or structure, or a portion thereof, for office, professional or service-type transactions, including storage of records and accounts. Business occupancies shall include, but not be limited to, the following:

- Airport traffic control towers
- *Ambulatory care facilities*
- Animal hospitals, kennels and pounds
- Banks
- Barber and beauty shops
- Car wash
- Civic administration
- *Clinic, outpatient*
- Dry cleaning and laundries: pick-up and delivery stations and self-service
- Educational occupancies for students above the 12th grade including *higher education laboratories*
- Electronic data ~~processing~~ entry
- Food processing establishments and commercial kitchens not associated with restaurants, cafeterias and similar dining facilities not more than 2,500 square feet (232 m^2) in area
- Laboratories: testing and research
- Motor vehicle showrooms
- Post offices
- Print shops
- Professional services (architects, attorneys, dentists, physicians, engineers, etc.)
- Radio and television stations
- Telephone exchanges
- Training and skill development not in a school or academic program (this shall include, but not be limited to, tutoring centers, martial arts studios, gymnastics and similar uses regardless of the ages served, and where not classified as a Group A occupancy)

1004.8 Concentrated business use areas. The *occupant load* factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data entry ~~processing~~ centers and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. Where approved by the *building official*, the *occupant load* for concentrated business use areas shall be the actual *occupant load*, but not less than one occupant per 50 square feet (4.65 m^2) of gross occupiable floor space.

Reason: Electronic data processing is proposed to be changed to electronic data entry to better align occupancy classifications with actual uses of space. Data entry is work performed in an office, potentially with dense occupant loads (See IBC Sec 1004.8 Concentrated Business Use). Data processing is an essentially automated work occurring in spaces with no occupant load other than information

Page: 1

Mod_10967_Text_G33-21.pdf

F10967Text Modification

technology maintenance personnel.
In other words, data entry is a business office function; data processing is an industrial process function.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The change is a clarification with no additional costs.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because it adds clarification to the requirements between data processing and data entry use. (Vote: 12-1)

Final Hearing Results

G33-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

20

F10968 **/G36-21**

Date Submitted	03/08/2024	**Section**	307.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Table 307.1. This proposal attempts to clean up special exceptions to hazardous materials regulations and Group H occupancy classification and clarify that the special exceptions generally fall into two categories

Rationale

See attached

F10968Text Modification

See attached

Page: 1

Mod10968_TextOfModification.pdf

F10968Text Modification

G36-21

Original Proposal

IBC: [F]TABLE 307.1(1), [F]TABLE 307.1(2), [F]307.1.1, [F]TABLE 307.1.1 (New), [F]414.1, [F]415.1; IFC: 5001.1, TABLE 5001.1 (New), TABLE 5003.1.1(1), TABLE 5003.1.1(2)

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[F] TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, c, j, m, n, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[b]			USE-CLOSED SYSTEMS[b]			USE-OPEN SYSTEMS[b]	
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
Combustible dust	NA	H-2	See Note q	NA	NA	See Note q	NA	NA	See Note q	NA
Combustible fiber[q]	Loose	H-3	(100)	NA	NA	(100)	NA	NA	(20)	NA
	Baled[e]		(1,000)			(1,000)			(200)	
Combustible liquid[e, i]	II	H-2 or H-3	NA	120[d, e]	NA	NA	120[d]	NA	NA	30[d]
	IIIA	H-2 or H-3		330[d, e]			330[d]			80[d]
	IIIB	NA		13,200[e, i]			13,200[i]			3,300[i]
Cryogenic flammable	NA	H-2	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Cryogenic inert	NA	NA	NA	NA	NL	NA	NA	NL	NA	NA
Cryogenic oxidizing	NA	H-3	NA	45[d]	NA	NA	45[d]	NA	NA	10[d]
Explosives	Division 1.1	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	Division 1.2	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25)[g]		0.25[g]	(0.25)[g]
	Division 1.3	H-1 or H-2	5[e, g]	(5)[e, g]		1[g]	(1)[g]		1[g]	(1)[g]
	Division 1.4	H-3	50[e, g]	(50)[e, g]		50[g]	(50)[g]		NA	NA
	Division 1.4G	H-3	125[e, l]	NA		NA	NA		NA	NA
	Division 1.5	H-1	1[e, g]	(1)[e, g]		0.25[g]	(0.25)[g]		0.25[g]	(0.25)[g]
	Division 1.6	H-1	1[e, g]	NA		NA	NA		NA	NA
Flammable gas	Gaseous	H-2	NA	NA	1,000[d,e]	NA	NA	1,000[d,e]	NA	NA
	Liquefied			(150)[d,e]	NA		(150)[d,e]	NA		
Flammable liquid[e,o]	IA	H-2 or H-3	NA	30[d, e]	NA	NA	30[d]	NA	NA	10[d]
	IB and IC			120[d, e]			120[d]			30[d]
Flammable liquid, combination (IA, IB, IC)[e,o]	NA	H-2 or H-3	NA	120[d, e, h]	NA	NA	120[d, h]	NA	NA	30[d, h]
Flammable solid	NA	H-3	125[d, e]	NA	NA	125[d]	NA	NA	25[d]	NA
Inert gas	Gaseous	NA	NA	NA	NL	NA	NA	NL	NA	NA
	Liquefied	NA	NA	NA	NL	NA	NA	NL	NA	NA
Organic peroxide	UD	H-1	1[e, g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	I	H-2	5[d, e]	(5)[d, e]		1[d]	(1)[d]		1[d]	(1)[d]
	II	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]		10[d]	(10)[d]
	III	H-3	125[d, e]	(125)[d, e]		125[d]	(125)[d]		25[d]	(25)[d]
	IV	NA	NL	NL		NL	NL		NL	NL
	V	NA	NL	NL		NL	NL		NL	NL
Oxidizer	4	H-1	1[g]	(1)[e, g]	NA	0.25[g]	(0.25)[g]	NA	0.25[g]	(0.25)[g]
	3[k]	H-2 or H-3	10[d, e]	(10)[d, e]		2[d]	(2)[d]		2[d]	(2)[d]

Mod_10968_Text_G36-21.pdf Page: 1

F10968Text Modification

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE			USE-CLOSED SYSTEMS			USE-OPEN SYSTEMS	
			Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
	2	H-3	250[d, e]	(250)[d, e]		250[d]	(250)[d]		50[d]	(50)[d]
	1	NA	4,000[e, f]	(4,000)[e, f]		4,000[f]	(4,000)[f]		1,000[f]	(1,000)[f]
Oxidizing gas	Gaseous	H-3	NA	NA	1,500[d,e]	NA	NA	1,500[d,e]	NA	NA
	Liquefied			(150)[d, e]	NA		(150)[d,e]	NA		
Pyrophoric	NA	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4	H-1	1[e, g]	(1)[e, g]	10[e, g]	0.25[g]	(0.25)[g]	2[e, g]	0.25[g]	(0.25)[g]
	3	H-1 or H-2	5[d, e]	(5)[d, e]	50[d, e]	1[d]	(1)[d]	10[d, e]	1[d]	(1)[d]
	2	H-3	50[d, e]	(50)[d, e]	750[d, e]	50[d]	(50)[d]	750[d, e]	10[d]	(10)[d]
	1	NA	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5[d, e]	(5)[d, e]	NA	5[d]	(5)[d]	NA	1[d]	(1)[d]
	2	H-3	50[d, e]	(50)[d, e]		50[d]	(50)[d]		10[d]	(10)[d]
	1	NA	NL	NL		NL	NL		NL	NL

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

NL = Not Limited; NA = Not Applicable; UD = Unclassified Detonable.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity specified for storage.

c. For hazardous materials in Group B higher education laboratory occupancies, See Section 428 and Chapter 38 of the International Fire Code.
~~The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.~~

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, day boxes, gas cabinets, gas rooms or exhausted enclosures or in listed safety cans in accordance with Section 5003.9.10 of the International Fire Code. Where Note d also applies, the increase for both notes shall be applied accumulatively.

f. Quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

g. Allowed only in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

h. Containing not more than the maximum allowable quantity per control area of Class IA, IB or IC flammable liquids.

~~i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 605.4.2 of the International Fire Code~~.

j. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

k. A maximum quantity of 220 pounds of solid or 22 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment when the storage containers and the manner of storage are approved.

l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.

m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code.

Page: 2

Mod_10968_Text_G36-21.pdf

F10968Text Modification

n. For ~~storage and display quantities~~ oxidizers, unstable (reactive) materials, and water reactive materials stored or displayed in Group M occupancies ~~and storage quantities~~ or stored in Group S occupancies, see section 414.2.5.1 ~~complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2)~~.

o. For flammable and combustible liquid storage in Group M occupancy wholesale and retail sales uses, see Section 414.2.5.2. ~~Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.~~

p. ~~The following shall not be included in determining the maximum allowable quantities~~:

~~1. Liquid or gaseous fuel in fuel tanks on vehicles~~.

~~2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with the *International Fire Code*.~~

~~3. Gaseous fuels in piping systems and fixed appliances regulated by the *International Fuel Gas Code*.~~

~~4. Liquid fuels in piping systems and fixed appliances regulated by the *International Mechanical Code*.~~

~~5. Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents.~~

q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

[F] TABLE 307.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD[a, c, f, h, i]

MATERIAL	STORAGE[D]			USE-CLOSED SYSTEMS[D]			USE-OPEN SYSTEMS[D]	
	Solid pounds[d, e, f]	Liquid gallons (pounds)[d, e, f]	Gas cubic feet at NTP (pounds)[d]	Solid pounds[d]	Liquid gallons (pounds)[d]	Gas cubic feet at NTP (pounds)[d]	Solid pounds[d]	Liquid gallons (pounds)[d]
Corrosives	5,000	500	Gaseous 810[e]	5,000	500	Gaseous 810[e]	1,000	100
			Liquefied (150)			Liquefied (150)		
Highly Toxic	10	(10)	Gaseous 20[g]	10	(10)	Gaseous 20[g]	3	(3)
			Liquefied (4)[g]			Liquefied (4)[g]		
Toxic	500	(500)	Gaseous 810[e]	500	(500)	Gaseous 810[e]	125	(125)
			Liquefied (150)[e]			Liquefied (150)[e]		

For SI: 1 cubic foot = 0.028 m^3, 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. For use of control areas, see Section 414.2.

b. The aggregate quantity in use and storage shall not exceed the quantity specified for storage.

c. For hazardous materials in Group B higher education laboratory occupancies, See Section 428 and Chapter 38 of the International Fire Code.
~~In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.~~

d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.

e. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *International Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.

Page: 3

Mod_10968_Text_G36-21.pdf

F10968Text Modification

f. For corrosive, highly toxic and toxic materials, stored or displayed in Group M occupancies or stored in Group S occupancies, see Section 414.2.5.1.
~~For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).~~

g. Allowed only where stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *International Fire Code*.

h. Quantities in parentheses indicate quantity units in parentheses at the head of each column.

i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the International Fire Code.

[F] 307.1.1 Occupancy Exemptions~~Uses other than Group H.~~ Storage, use and handling of hazardous materials in accordance with Table 307.1.1 shall not be counted as contributing to Maximum Allowable Quantities and shall not cause classification of an occupancy to be Group H. Such storage, use and handling shall comply with applicable provisions of the International Fire Code.~~An occupancy that stores, uses or handles *hazardous materials* as described in one or more of the following items shall not be classified as Group H, but shall be classified as the occupancy that it most nearly resembles.~~

~~1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.~~

~~2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.~~

~~3. Closed piping system containing *flammable or combustible liquids* or gases utilized for the operation of machinery or equipment.~~

~~4. Cleaning establishments that utilize *combustible liquid* solvents having a *flash point* of 140°F (60°C) or higher in closed systems employing equipment *listed* by an *approved* testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour *fire barriers* constructed in accordance with Section 707 or 1-hour *horizontal assemblies* constructed in accordance with Section 711, or both.~~

~~5. Cleaning establishments that utilize a liquid solvent having a *flash point* at or above 200°F (93°C).~~

~~6. Liquor stores and distributors without bulk storage.~~

~~7. Refrigeration systems.~~

~~8. The storage or utilization of materials for agricultural purposes on the premises.~~

~~9. Stationary storage battery systems installed in accordance with the *International Fire Code*.~~

~~10. *Corrosive* personal or household products in their original packaging used in retail display.~~

~~11. Commonly used *corrosive* building materials.~~

~~12. Buildings and structures occupied for *aerosol product* storage, aerosol cooking spray products or plastic aerosol 3 products shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.~~

~~13. Display and storage of nonflammable solid and nonflammable or noncombustible liquid *hazardous materials* in quantities not exceeding the maximum allowable quantity per *control area* in Group M or S occupancies complying with Section 414.2.5.~~

~~14. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial *explosive* devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.~~

~~15. Stationary fuel cell power systems installed in accordance with the *International Fire Code*.~~

~~16. Capacitor energy storage systems in accordance with the *International Fire Code*.~~

~~17. Group B *higher education laboratory* occupancies complying with Section 428 and Chapter 38 of the International Fire Code.~~

~~18. Distilling or brewing of beverages conforming to the requirements of the *International Fire Code*.~~

~~19. The storage of beer, distilled spirits and wines in barrels and casks conforming to the requirements of the *International Fire Code*.~~

Page: 4

Mod_10968_Text_G36-21.pdf

F10968Text Modification

Add new text as follows:

TABLE 307.1.1 HAZARDOUS MATERIAL EXEMPTIONS[a]

Material Classification	Occupancy or Application	Exemption
Combustible fiber	Baled Cotton	Densely packed baled cotton shall not be classified as combustible fiber, provided that the bales comply with the packing requirements of ISO 8115
Corrosive	Building materials	The quantity of commonly used building materials that are classified as corrosive materials is not limited
	Personal and household products	The quantity of personal and household products that are classified as corrosive materials is not limited in retail displays, provided that the products are in original packaging
	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Explosives	Groups B, F, M and S	Storage of special industrial explosive devices are not limited
	Groups M and R-3	Storage of black powder, smokeless propellant, and small arms primers are not limited
Flammable and combustible liquids and gases	Aerosols	Buildings and structures occupied for aerosol product storage, aerosol cooking spray products or plastic aerosol 3 products shall be classified as Group S-1
	Alcoholic beverages	The quantity of alcoholic beverages in liquor stores and distributors without bulk storage is not limited
		The quantity of alcoholic beverages in distilling or brewing of beverages is not limited
		The storage quantity of beer, distilled spirits and wines in barrels and casks is not limited
		The quantity of alcoholic beverages in retail and wholesale sales occupancies is not limited. To qualify for this allowance, beverages shall be packaged in individual containers not exceeding 1.3 gallons
	Cleaning establishments with combustible liquid solvents	The quantity of combustible liquid solvents used in closed systems and having a flash point at or above 140°F (60°C) is not limited. To qualify for this allowance, equipment shall be listed by an approved testing agency and the occupancy shall be separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both
		The quantity of combustible liquid solvents having a flash point at or above 200°F (93°C) is not limited
	Closed piping systems	The quantity of flammable and combustible liquids and gases utilized for the operation of machinery or equipment is not limited
	Fuel	The quantity of liquid or gaseous fuel in fuel tanks on vehicles or motorized equipment is not limited
		The quantity of gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code is not limited
		The quantity of liquid fuels in piping systems and fixed appliances regulated by the International Mechanical Code is not limited
	Fuel oil	The quantity of fuel oil storage complying with Section 603.3.2 of the International Fire Code is not limited
	Flammable finishing operations using flammable and combustible liquids	Buildings and structures occupied for the application of flammable finishes. Such buildings and areas shall comply with Section 416
	Hand sanitizer	The quantity of alcohol-based hand rubs classified as Class I or II liquids in dispensers installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code is not limited. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents
	Retail and wholesale sales occupancies with flammable and combustible liquids	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Highly toxic and toxic materials	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.
Any	Agricultural materials	The quantity of agricultural materials stored or utilizated for agricultural purposes on the premises is not limited
	Energy storage	The quantity of hazardous materials in stationary storage battery systems is not limited
		The quantity of hazardous materials in stationary fuel cell power systems is not limited
		The quantity of hazardous materials in capacitor energy storage systems is not limited
	Refrigeration systems	The quantity of refrigerants in refrigeration systems is not limited. To qualify for this allowance, such systems shall comply with Section 608 of the International Fire Code and Chapter 11 of the International Mechanical Code

a. Exempted materials and conditions listed in this table are required to comply with applicable provisions of the *International Fire Code*.

Revise as follows:

[F] 414.1 General. ~~The provisions of Sections 414.1 through 414.6 shall apply to buildings~~ Buildings and structures occupied for the manufacturing, processing, dispensing, use or storage of *hazardous materials* shall comply with Sections 414.1 through 414.6.

Exception: Exemptions listed in Table 307.1.1 shall not be required to comply with Section 414.

[F] 415.1 General. Occupancies classified as Group H-1, H-2, H-3, H-4 and H-5 in accordance with Section 307shall comply with ~~The~~

Page: 5

Mod_10968_Text_G36-21.pdf

F10968Text Modification

~~provisions of~~ Sections 415.1 through 415.11~~ shall apply to the storage and use of hazardous materials in excess of the maximum allowable quantities per *control area* listed in Section 307.1~~.

Reason: This proposal attempts to clean up what has become a colossal mess of special exceptions to hazardous materials regulations and Group H occupancy classification and clarify that the special exceptions generally fall into two categories: 1) Outright exclusions to Group H with no quantity limit, or 2) Major increases of MAQ amounts beyond what is provided in the general application MAQ tables. The first group has appeared in a list of exceptions to Group H in IBC Section 307.1.1, and these materials/conditions were generally considered to be exempt from ever being Group H or having to comply with any of the general hazardous materials regulations in the IBC or IFC. The second group clearly gets its own MAQ allowances, but were not specifically exempted from having to follow general hazardous materials safety requirements that are otherwise applicable to quantities that do not exceed MAQ amounts.
Even in the original Group H requirements, and particularly footnotes to the MAQ tables, the "special conditions" were somewhat haphazardly organized, and the situation has only gotten worse over the past three-plus decades.

Trying to pull all of this information together into a more organized presentation was a massive undertaking and in some cases involved interpreting intent of provisions for which application wasn't 100-percent clearly conveyed by existing text. Being involved in this topic for more than 30 years, I feel reasonably confident that my understanding of how the provisions apply is accurate, and certainly, there was no intent to deliberately gore someone's ox. My advice to anyone who is impacted by these portions of the codes is to read the rewrite closely to make sure that there were no unintended consequences from the work that was done. Given the scope of this project and less 3rd party review of the proposal prior to submittal than I would have preferred, it is certainly possible that mistakes may have been made, and in such cases, I will be happy to work on a floor modification for committee consideration to fix these. Note that, for the new Table 307.1.1 and the companion IFC table, I included an extra column showing the original source location for each row/exemption to assist reviewers. It is intended that this information will not be carried into the final version that appears in the code, but may be useful for staff to retain for inclusion in the commentary books

Page: 6

Mod_10968_Text_G36-21.pdf

F10968Text Modification

TABLE 307.1.1

HAZARDOUS MATERIAL EXEMPTIONS[a]

Material Classification	Occupancy or Application	Exemption	2021 Source (column to be deleted prior to publication)
Combustible fiber	Baled Cotton	Densely packed baled cotton shall not be classified as combustible fiber, provided that the bales comply with the packing requirements of ISO 8115	Table 307.1(1) note "o"
Corrosive	Building materials	The quantity of commonly used building materials that are classified as corrosive materials is not limited	Section 307.1.1 Item 11
	Personal and household products	The quantity of personal and household products that are classified as corrosive materials is not limited in retail displays, provided that the products are in original packaging	Section 307.1.1 Item 10
	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.	Table 307.1(2) note "c"
Explosives	Groups B, F, M and S	Storage of special industrial explosive devices are not limited	Section 307.1.1 Item 14
	Groups M and R-3	Storage of black powder, smokeless propellant, and small arms primers are not limited	Section 307.1.1 Item 14
Flammable and combustible liquids and gases	Aerosols	Buildings and structures occupied for aerosol product storage, aerosol cooking spray products or plastic aerosol 3 products shall be classified as Group S-1	Section 307.1.1 Item 12
	Alcoholic beverages	The quantity of alcoholic beverages in liquor stores and distributors without bulk storage is not limited	Section 307.1.1 Item 6
		The quantity of alcoholic beverages in distilling or brewing of beverages is not limited	Section 307.1.1 Item 18
		The storage quantity of beer, distilled spirits and wines in barrels and casks is not limited	Section 307.1.1 Item 19
		The quantity of alcoholic beverages in retail and wholesale sales occupancies is not limited. To qualify for this allowance, beverages shall be packaged in individual containers not exceeding 1.3 gallons	Table 307.1(1) note "c"

Page: 7

Mod_10968_Text_G36-21.pdf

F10968Text Modification

	Cleaning establishments with combustible liquid solvents	The quantity of combustible liquid solvents used in closed systems and having a flash point at or above 140°F (60°C) is not limited. To qualify for this allowance, equipment shall be listed by an approved testing agency and the occupancy shall be separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies constructed in accordance with Section 711, or both	Section 307.1.1 Item 4
		The quantity of combustible liquid solvents having a flash point at or above 200°F (93°C) is not limited	Section 307.1.1 Item 5
	Closed piping systems	The quantity of flammable and combustible liquids and gases utilized for the operation of machinery or equipment is not limited	Section 307.1.1 Item 3
	Fuel	The quantity of liquid or gaseous fuel in fuel tanks on vehicles or motorized equipment is not limited	Table 307.1(1) note "p" #1 & 2
		The quantity of gaseous fuels in piping systems and fixed appliances regulated by the International Fuel Gas Code is not limited	Table 307.1(1) note "p" #3
		The quantity of liquid fuels in piping systems and fixed appliances regulated by the International Mechanical Code is not limited	Table 307.1(1) note "p" #4
	Fuel oil	The quantity of fuel oil storage complying with Section 603.3.2 of the International Fire Code is not limited	Table 307.1(1) note "i"
	Flammable finishing operations using flammable and combustible liquids	Buildings and structures occupied for the application of flammable finishes. Such buildings and areas shall comply with Section 416	Section 307.1.1 Item 1
	Hand sanitizer	The quantity of alcohol-based hand rubs classified as Class I or II liquids in dispensers installed in accordance with Sections 5705.5 and 5705.5.1 of the International Fire Code is not limited. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents	Table 307.1(1) note "p" #5
	Retail and wholesale sales occupancies with flammable and combustible liquids	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, is not limited To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.	Table 307.1(1) note "c"
Highly toxic and toxic materials	Retail and wholesale sales occupancies	The quantity of medicines, foodstuffs or consumer products, and cosmetics containing not more than 50 percent by volume of water-	Table 307.1(2) note "c"

Mod_10968_Text_G36-21.pdf Page: 8

F10968Text Modification

		miscible liquids with the remainder of the solutions not being flammable, is not limited. To qualify for this allowance, such materials shall be packaged in individual containers not exceeding 1.3 gallons.	
Any	Agricultural materials	The quantity of agricultural materials stored or utilizated for agricultural purposes on the premises is not limited	Section 307.1.1 Item 8
	Energy storage	The quantity of hazardous materials in stationary storage battery systems is not limited	Section 307.1.1 Item 9
		The quantity of hazardous materials in stationary fuel cell power systems is not limited	Section 307.1.1 Item 15
		The quantity of hazardous materials in capacitor energy storage systems is not limited	Section 307.1.1 Item 16
	Refrigeration systems	The quantity of refrigerants in refrigeration systems is not limited. To qualify for this allowance, such systems shall comply with Section 608 of the International Fire Code and Chapter 11 of the International Mechanical Code	Section 307.1.1 Item 7

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The revision is intended to be a reorganization and edit that should not affect the cost of construction.

Page: 9

Mod_10968_Text_G36-21.pdf

F10968Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 2021 International Building Code

[F] TABLE 307.1(1) MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, c j, m, n]

Portions of table not shown remain unchanged.

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds(cubic feet)	Liquid gallons (pounds)
Combustible liquid [q]	II	H-2 or H-3	NA	120[d, e]	NA	NA	120[d]	NA	NA	30[d]
	IIIA	H-2 or H-3		330[d, e]			330[d]			80[d]
	IIIB	NA		13,200[e, f]			13,200[f]			3,300[f]

TABLE 307.1.1 HAZARDOUS MATERIAL EXEMPTIONS[a]

Portions of table not shown remain unchanged.

Material Classification	Occupancy or Application	Exemption
Explosives	Groups B, F, M and S	Storage of special industrial explosive devices is are not limited
	Groups M and R-3	Storage of black powder, smokeless propellant, and small arms primers is are not limited
Flammable and combustible liquids and gases	Fuel oil	The quantity of fuel oil storage complying with Section 605.4.2 603.3.2 of the International Fire Code is not limited
Any	Refrigeration systems	The quantity of refrigerants in refrigeration systems is not limited. To qualify for this allowance, such systems shall comply with Section 608 of the International Fire Code and Chapter 11 of the International Mechanical Code

2021 International Fire Code

5001.1 Scope. Prevention, control and mitigation of dangerous conditions related to storage, dispensing, use and handling of hazardous materials shall be in accordance with this chapter. This chapter shall apply to all hazardous materials~~, other than those materials and conditions listed in Table 5001.1,~~ including those materials regulated elsewhere in this code, except that where specific requirements are provided in other chapters, those specific requirements shall apply in accordance with the applicable chapter. Where a material has multiple hazards, all hazards shall be addressed.

(balance unchanged)

TABLE 5003.1.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD [a, c, j, m, n, p]

Portions of table not shown remain unchanged.

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible fibers [q]	Loose	H-3	(100)	NA	NA	(100)	NA	NA	(20)	NA
	Baled [o]		(1,000)			(1,000)			(200)	
Combustible liquid [eq.]	II	H-2 or H-3	NA	120[d, e]	NA	NA	120[d]	NA	NA	30[d]
	IIIA	H-2 or H-3		330[d, e]			330[d]			80[d]
	IIIB	NA		13,200[e, f]			13,200[f]			3,300[f]

p.	Quantities in this table shall be modified in accordance with Table 5003.1.1(5).

TABLE 5003.1.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A HEALTH HAZARD[a, c, h, i, j,

Page: 10

Mod_10968_Text_G36-21.pdf

F10968Text Modification

Portions of table not shown remain unchanged.

c. For hazardous materials in Group B higher education laboratory occupancies, See Section 428 of the International Building Code and Chapter 38.

j. Quantities in this table shall be modified in accordance with Table 5003.1.1(5).

TABLE ~~5001.1~~ 5003.1.1(5) HAZARDOUS MATERIAL EXEMPTIONS[a]

Portions of table not shown remain unchanged.

Material Classification	Occupancy or Application	Exemption
Explosives	Groups B, F, M and S	Storage of special industrial explosive devices is are not limited
	Groups M and R-3	Storage of black powder, smokeless propellant, and small arms primers is are not limited
Flammable and combustible liquids and gases	Cleaning establishments with combustible liquid solvents	The quantity of combustible liquid solvents used in closed systems and having a flash point at or above 140°F (60°C) is not limited. To qualify for this allowance, equipment shall be listed by an approved testing agency and the occupancy shall be separated from all other areas of the building by 1-hour fire barriers constructed in accordance with Section 707 or 1-hour horizontal assemblies, or both, constructed in accordance with Section 711, or boththe International Building Code
		The quantity of combustible liquid solvents having a flash point at or above 200°F (93°C) is not limited
	Fuel oil	The quantity of fuel oil storage complying with Section 605.4.2 603.3.2 of the International Fire Code is not limited
	Flammable finishing operations using flammable and combustible liquids	Buildings and structures occupied for the application of flammable finishes. Such buildings and areas shall comply withChapter 24Section 416
	Hand sanitizer	The quantity of alcohol-based hand rubs classified as Class I or II liquids in dispensers installed in accordance with Sections 5705.5 and 5705.5.1of the International Fire Code is not limited. The location of the alcohol-based hand rub (ABHR) dispensers shall be provided in the construction documents
Any	Refrigeration systems	The quantity of refrigerants in refrigeration systems is not limited.To qualify for this allowance, such systems shall comply with Section 608 of the International Fire Code and Chapter 11 of the International Mechanical Code

a. Exempted materials and conditions listed in this table are required to comply with~~applicable~~ provisions of ~~the *International Fire Code*~~ this code that are not based on exceeding maximum allowable quantities in Section 5003.

Committee Reason: This proposal clarifies and cleans up the group H occupancy exemptions and applicability of the hazardous materials provisions of the IFC. The new IBC Table 307.1.1 is a better and more comprehensive approach than the current list found in IBC Section 307.1.1. This proposal along with the F197-21 revising roof top storage are necessary fixes to better clarify the application of the hazardous materials requirements. The modifications further coordinate footnotes amongst the tables, clarifies references and fixes redundant text. Additionally, the proposed table explaining the exceptions to requirements for IFC Chapter 50 has been more appropriately placed within Section 5003 as Table 5003.1.1(5). Section 5003 is the more appropriate location as that is where the maximum allowable quantity (MAQ) information is found. Appropriate references were made in Tables 5003.1.1(1) and 5003.1.1(2) through footnotes. (Vote: 13-0)

Final Hearing Results

G36-21 AM

Page: 11

Mod_10968_Text_G36-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

21

F10969 **/G40-21**

Date Submitted	03/08/2024	**Section**	307.3.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposed Item 2 is intended to correlate Table 307.1(1) with this section consistent with guidance provided in the IFC Commentary.

Rationale

see attached

F10969Text Modification

see attached

Page: 1

Mod10969_TextOfModification.pdf

F10969Text Modification

G40-21

Original Proposal

IBC: [F] 307.3.1

Proponents: William Koffel, Koffel Associates, Inc., Self (wkoffel@koffel.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[F] 307.3.1 Occupancies containing explosives not classified as H-1. The following occupancies containing *explosive* materials shall be classified as follows:

1. Division 1.3 *explosive* materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass *explosion* hazard shall be allowed in H-2 occupancies.
2. Division 1.4 explosive materials that are used and maintained in a form that only pose a minor explosion hazard shall be allowed in H-3 occupancies.
3. ~~2~~3. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4*explosive* under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

Reason: The FCAC Working Group 6.1 on Hazardous Materials discussed that Table 307.1(1) identified the occupancy for Division 1.4 explosive materials as Group H-3. However the language within Section 307.3 and the exceptions in Section 307.3.1 do not clearly link to that occupancy classification.
The IFC Commentary states that:
There are certain explosive materials that pose a hazard level less than that anticipated for a Group H-1 occupancy. A Group H-2 classification is permitted for Division 1.3 explosive materials used or maintained under conditions where the hazard level will not rise from that of a mass fire hazard to a mass explosion hazard. A Group H-3 occupancy classification is permitted for packaged and unpackaged articles not regulated as Division 1.4 explosives by the Bureau of Alcohol, Tobacco and Firearms, as well as unpackaged articles used in process operations, provided there is no concern regarding the propagation of a detonation or deflagration between the articles during process operations.

The proposed Item 2 is intended to correlate Table 307.1(1) with this section consistent with guidance provided in the IFC Commentary.

It should be noted that while Koffel Associates provides consulting services to the American Pyrotechnics Association, the proposal was not submitted on their behalf. The proposal was prepared based upon a commitment made to the Working Group to proposal a solution to the conflict.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Whereas the proposal clarifies the intent of the Code, there should be no impact on the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it appropriately correlates with the occupancy classifications for explosives. The

Page: 1

Mod_10969_Text_G40-21.pdf

language is consistent with the definition for 1.4 explosives but could be simplified to remove the duplicative language. (Vote: 14-0)

Public Comments

Public Comment 1

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

[F] 307.3.1 Occupancies containing explosives not classified as H-1 . The following occupancies containing *explosive* materials shall be classified as follows:

1. Division 1.3 *explosive* materials that are used and maintained in a form where either confinement or configuration will not elevate the hazard from a mass fire to mass *explosion* hazard shall be allowed in H-2 occupancies.
2. Division 1.4 explosive materials ~~that are used and maintained in a form that only pose a minor explosion hazard~~shall be allowed in H-3 occupancies.
3. Articles, including articles packaged for shipment, that are not regulated as a Division 1.4*explosive* under Bureau of Alcohol, Tobacco, Firearms and Explosives regulations, or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles shall be allowed in H-3 occupancies.

Commenter's Reason: The added text was not necessary since Division 1.4 explosives are always considered to be a minor explosion hazard, by definition. From IBC Chapter 2, Explosives 1.4 are "Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package." The added text suggests that Division 1.4 explosives might be used or maintained in such a way that they are not a minor explosion hazard, which does not appear to be possible for a material classified in 1.4.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Editorial clarification.

Final Hearing Results

G40-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

22

F10970	/G41-21				
Date Submitted	03/08/2024	**Section**	307.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change coordinates the classification of high hazard with the change in definition to “flammable gas.”

Rationale

See attached

F10970Text Modification

See attached

Page: 1

Mod10970_TextOfModification.pdf

F10970Text Modification

G41-21

Original Proposal

IBC: [F] 307.4, [F] 307.5

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[F] 307.4 High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA *flammable or combustible liquids* that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103.4 kPa).
Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.
Cryogenic fluids, flammable.
Category 1A *Flammable gases*.
Category 1B *Flammable gases* having a burning velocity greater than 3.9 inches per second (10 cm/s).
Organic peroxides, Class I.
Oxidizers, Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than 15 pounds per square inch gauge (103 kPa).
Pyrophoric liquids, solids and gases, nondetonable.
Unstable (reactive) materials, Class 3, nondetonable.
Water-reactive materials, Class 3.

[F] 307.5 High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a *physical hazard* shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA *flammable or combustible liquids* that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103.4 kPa) or less
Combustible fibers, other than densely packed *baled cotton*, where manufactured, generated or used in such a manner that the concentration and conditions create a fire or *explosion* hazard based on information prepared in accordance with Section 414.1.3
Consumer *fireworks*, 1.4G (Class C, Common)
Cryogenic fluids, oxidizing
Category 1B *flammable gases* having a burning velocity of 3.9 inches per second (10 cm/s) or less
Flammable solids
Organic peroxides, Class II and III
Oxidizers, Class 2
Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at 15 pounds per square inch gauge (103 kPa) or less
Oxidizing gases
Unstable (reactive) materials, Class 2
Water-reactive materials, Class 2

Reason: This change coordinates the classification of high hazard with the change in definition to “flammable gas.” Category 1A flammable gases have an explosive component in that their deflagration index is extremely low. By comparison, Category 1B flammable gases with a burning velocity of 3.9 in/s or less have a very high deflagration index. Thus, there is a significant difference in the hazard level between the

Page: 1

Mod_10970_Text_G41-21.pdf

two flammable gas categories.
The more appropriate classification for a Category 1B flammable gas with a burning velocity of 3.9 in/s or less appears to be Use Group H-3. This classification can be supported by a comparison of level of hazard identified in the code change to the MAQ table for flammable gas. The minimum ignition energy varies by as much at 58,000 times. The heat of combustion is between 6 and 19 percent of these Category 1B flammable gases. Thus, Use Group H-3 is the proper classification for Category 1B flammable gas with a burning velocity of 3.9 in/s or less.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will decrease the cost of construction
This code change reduces the cost of construction. By modifying the Use Group for Category 1B flammable gas, the construction costs are also lowered. The construction costs for Category 1A flammable gas remain unchanged, neither increased nor decreased in the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the actions taken on F3-21 and F192-21. (Vote: 14-0)

Final Hearing Results

G41-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

23

F10993 /G43-21

Date Submitted	03/13/2024	**Section**	310	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

The intent of this proposal is to separate large and small lodging houses and non-transient hotel/motel.

Rationale

See attached

F10993Text Modification

See attached

Page: 1

Mod10993_TextOfModification.pdf

F10993Text Modification

G43-21

Original Proposal

IBC: 310.2, 310.3, 310.4, 310.4.2

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

SECTION 310
RESIDENTIAL GROUP R

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I or when not regulated by the *International Residential Code* . Group R occupancies not constructed in accordance with the *International Residential Code* as permited by Sections 310.4.1 and 310.4.2 shall comply with Section 420.

Revise as follows:

310.2 Residential Group R-1. Residential Group R-1 occupancies containing *sleeping units* where the occupants are primarily *transient* in nature, including:

- *Boarding houses* (*transient*) with more than 10 occupants
- *Congregate living facilities* (*transient*) with more than 10 occupants
- Hotels (*transient*)
- Motels (*transient*)
- Lodging houses with more than 5 guest rooms

310.3 Residential Group R-2. Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

- Apartment houses
- *Congregate living facilities* (nontransient) with more than 16 occupants
    - *Boarding houses* (*nontransient*)
    - Convents
    - *Dormitories*
    - Fraternities and sororities
    - Monasteries
- Hotels (nontransient) with more than 10 occupants
- *Live/work units*
- Motels (nontransient) with more than 10 occupants
- Vacation timeshare properties

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- *Congregate living facilities* (nontransient) with 16 or fewer occupants
    - *Boarding houses* (nontransient)
    - Convents
    - *Dormitories*

Page: 1

Mod_10993_Text_G43-21.pdf

F10993Text Modification

- Fraternities and sororities
- Monasteries

- *Congregate living facilities* (*transient*) with 10 or fewer occupants
  - *Boarding houses* (*transient*)
- *Lodging houses* ~~(*transient*)~~ with five or fewer *guest rooms* ~~and 10 or fewer occupants~~
- Hotels (nontransient) with 10 or fewer occupants
- Motels (nontransient) with 10 or fewer occupants

310.4.1 Care facilities within a dwelling. Care facilities for five or fewer persons receiving care that are within a single-family dwelling are permitted to comply with the *International Residential Code* provided an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the International Residential Code.

Revise as follows:

310.4.2 Lodging houses. Owner-occupied *lodging houses* with five or fewer *guest rooms* ~~and 10 or fewer total occupants~~ shall be permitted to be constructed in accordance with the *International Residential Code*, provided that an *automatic sprinkler system* is installed in accordance with Section 903.3.1.3 or Section P2904 of the *International Residential Code*.

Reason: The intent of this proposal is to separate large and small lodging houses and non-transient hotel/motel.
The definition for lodging house does not limit the size of the facility. To be consistent with what can use the IRC, the text in IBC cannot use the standard occupant load limitations. In addition, 5 guest rooms and a proprietors family is most likely to be more than 10 occupants, which is currently in the IBC. In addition, the whole lodging house is not transient.

For small non-transient hotels and motels, the maximum occupant load of 10 is consistent with the current limitations for transient boarding houses.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of the divisions between large and small lodging houses and does not add any requirements for these facilities.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
310.3 Residential Group R-2. Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

- Apartment houses
- *Congregate living facilities* (nontransient) with more than 16 occupants
  - *Boarding houses* (*nontransient*)
  - Convents
  - *Dormitories*
  - Fraternities and sororities
  - Monasteries
- Hotels (nontransient) with more than ~~10 occupants~~ five guest rooms
- *Live/work units*
- Motels (nontransient) with more than ~~10 occupants~~ five guest rooms

Page: 2

Mod_10993_Text_G43-21.pdf

F10993Text Modification

- Vacation timeshare properties

310.4 Residential Group R-3

Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- *Congregate living facilities* (nontransient) with 16 or fewer occupants
    - *Boarding houses* (nontransient)
    - Convents
    - *Dormitories*
    - Fraternities and sororities
    - Monasteries
- *Congregate living facilities* (*transient*) with 10 or fewer occupants
    - *Boarding houses* (*transient*)
- *Lodging houses* with five or fewer *guest rooms*
- Hotels (nontransient) with ~~10 or fewer occupants~~ five or fewer guest rooms
- Motels (nontransient) with ~~10 or fewer occupants~~ five or fewer guest rooms

Committee Reason: The modification was approved because it proposed the 5 guestroom limitation for lodging houses with small hotels and motels - thus using consistent terminology. The proposal was approved because it coordinated the limits for lodging houses with small hotels and motels. (Vote: 13-1).

Final Hearing Results	
G43-21	AM

Page: 3

Mod_10993_Text_G43-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

24

F10994		/G44-21 Part I			
Date Submitted	03/13/2024	**Section**	310.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

This change corrects discrepancies inadvertently created by past code changes. This has left an apparent gap in the code for transient residential occupancies with dwelling units. This change resolves that by adding "or more than two dwelling units" to the description of R-1.

Rationale

See attached

F10994Text Modification

See attached

Page: 1

Mod10994_TextOfModification.pdf

F10994Text Modification

G44-21 Part I

Original Proposal

PART I - IBC: 310.2, 420.2, 420.3, 716.2.6.1, 1010.1.2, 1103.2.11, E104.2.1; (IFC[BE] 1010.1.2)
PART II - IFC: 308.4.1, 403.9.1.1, 907.2.8.1, 907.2.8.2, 907.2.11.1, TABLE 907.5.2.3.2, 1103.7.5.1, 1103.7.5.1.1, 1103.7.5.2, 1103.7.5.2.1, 1104.5; (IBC[F] 907.2.8.1, 907.2.8.2, TABLE 907.5.2.3.2, 907.2.11.1); IPMC: [F] 704.6.1.1; IBC: [F] 403.4.7
PART III - IPC: TABLE 403.1, 606.2;
PART IV- IZC: SECTION 202, TABLE 801.2.1

Proponents: Daniel Willham, Fairfax County, Fairfax County (daniel.willham@fairfaxcounty.gov)

THIS IS A 4 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. PART III WILL BE HEARD BY THE PLUMBING CODE COMMITTEE. PART IV WILL BE HEARD BY THE PROPERTY MAINTENANCE/ZONING CODE COMMITTEE.SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

310.2 Residential Group R-1. Residential Group R-1 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily *transient* in nature, including:

- *Boarding houses* (*transient*) with more than 10 occupants
- *Congregate living facilities* (*transient*) with more than 10 occupants
- Hotels (*transient*)
- Motels (*transient*)

420.2 Separation walls. Walls separating *dwelling units* in the same building, walls separating *sleeping units* in the same building, walls separating *dwelling units* from sleeping units in the same building, and walls separating *dwelling* or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *fire partitions* in accordance with Section 708.

420.3 Horizontal separation. Floor assemblies separating *dwelling units* in the same buildings, floor assemblies separating *sleeping units* in the same building, floor assemblies separating *dwelling units* from sleeping units in the same building, and floor assemblies separating dwelling or *sleeping units* from other occupancies contiguous to them in the same building shall be constructed as *horizontal assemblies* in accordance with Section 711.

716.2.6.1 Door closing. *Fire doors* shall be latching and self- or automatic-closing in accordance with this section.

Exceptions:

1. *Fire doors* located in common walls separating *dwelling units* or *sleeping units* in Group R-1 shall be permitted without automatic- or *self-closing* devices.
2. The elevator car doors and the associated hoistway enclosure doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I emergency recall operation.

1010.1.2 Egress door types. Egress doors shall be of the side-hinged swinging door, pivoted door, or *balanced door* types.

Exceptions:

1. *Private garages*, office areas, factory and storage areas with an *occupant load* of 10 or less.
2. Group I-3 occupancies used as a place of detention.
3. Critical or intensive care patient rooms within suites of health care facilities.

Page: 1

Mod_10994_Text_G44-21 Part I.pdf

F10994Text Modification

4. Doors within or serving a single *dwelling unit* in Groups R-2 and R-3.
5. In other than Group H occupancies, revolving doors complying with Section 1010.3.1.
6. In other than Group H occupancies, special purpose horizontal sliding, accordion or folding door assemblies complying with Section 1010.3.3.
7. *Power-operated* doors in accordance with Section 1010.3.2.
8. Doors serving a bathroom within an individual *dwelling unit* or *sleeping unit* in Group R-1.
9. In other than Group H occupancies, manually operated horizontal sliding doors are permitted in a*means of egress* from spaces with an *occupant load* of 10 or less.

1103.2.11 Residential Group R-1. Buildings of Group R-1 containing not more than five *dwelling units*and *sleeping units* in aggregate for rent or hire that are also occupied as the residence of the proprietor are not required to comply with this chapter.

E104.2.1 Transient lodging. In *transient lodging* facilities, *dwelliing units* or *sleeping units* with accessible communication features shall be provided in accordance with Table E104.2.1. Units required to comply with Table E104.2.1 shall be dispersed among the various classes of units.

Reason: This change corrects discrepancies inadvertently created by past code changes. The description for R-1 occupancies used to only read "R-1 Residential occupancies where the occupants are primarily transient in nature ..." It did not mention sleeping units. The definition for *sleeping units* was added to the code to coordinate with the Fair Housing Act Guidelines (see code change E70-00) and did not involve the descriptions for residential occupancies in Chapter 3. Sleeping units was added to the descriptions of R-1 (2006 IBC) and R-2 (2003 IBC), in changes that do not appear in any code change proposal; these changes are also not marked as changes by bars in the margins. They appear to possibly have been made by the code correlation committee. However, no correction was made to the description of R-1, which, like R-2 occupancies, can also include both dwelling and sleeping units. This has left an apparent gap in the code for transient residential occupancies with dwelling units. This change resolves that by adding "or more than two dwelling units" to the description of R-1. Similar to the wording for the description for R-2, "or more than two dwelling units" avoids including R-3 residential occupancies and one- and two-family dwellings regulated under the IRC. This change also coordinates the references to sleeping units throughout the codes for R-1 occupancies to also include dwelling units. While doing this, a couple of instances of dwelling units for R-2 (without the mention of sleeping units) were found and also corrected to include sleeping units to coordinate with the description of R-2 occupancies.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification and coordination of the code which will not affect construction cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because it would address in the code requirements the extended stay hotels that include dwelling units, not just sleeping units. (Vote: 14-0)

Final Hearing Results

G44-21 Part I AS

Page: 2

Mod_10994_Text_G44-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

25

F10998		/G45-21			
Date Submitted	03/13/2024	**Section**	310.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text for this mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

Fire stations are often mixed use facilities, and sometime include living quarters. There is the question if this is a single family residence, Group R-3, regardless of the number of fireman using the living quarters. This proposal will clarify how these spaces should be classified.

Rationale

See attached

F10998Text Modification

See attached

Page: 1

Mod10998_TextOfModification.pdf

F10998Text Modification

G45-21

Original Proposal

IBC: 310.3, 310.4

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

310.3 Residential Group R-2. Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

- Apartment houses
- *Congregate living facilities* (nontransient) with more than 16 occupants
    - *Boarding houses* (*nontransient*)
    - Convents
    - *Dormitories*
    - Fire station living quarters
    - Fraternities and sororities
    - Monasteries
- Hotels (nontransient)
- *Live/work units*
- Motels (nontransient)
- Vacation timeshare properties

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- *Congregate living facilities* (nontransient) with 16 or fewer occupants
    - *Boarding houses* (nontransient)
    - Convents
    - *Dormitories*
    - Fire station living quarters
    - Fraternities and sororities
    - Monasteries
- *Congregate living facilities* (*transient*) with 10 or fewer occupants
    - *Boarding houses* (*transient*)
- *Lodging houses* (*transient*) with five or fewer *guest rooms* and 10 or fewer occupants

Reason: Fire stations are often mixed use facilities, and sometime include living quarters. There is the question if this is a single family residence, Group R-3, regardless of the number of fireman using the living quarters. This proposal will clarify how these spaces should be classified.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Page: 1

Mod_10998_Text_G45-21.pdf

F10998Text Modification

This is a clarification of the correct classification for fire stations.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

310.3 Residential Group R-2.

Residential Group R-2 occupancies containing *sleeping units* or more than two *dwelling units* where the occupants are primarily permanent in nature, including:

- Apartment houses
- *Congregate living facilities* (nontransient) with more than 16 occupants
    - *Boarding houses* (*nontransient*)
    - Convents
    - *Dormitories*
    - ~~Fire station~~ Emergency services living quarters
    - Fraternities and sororities
    - Monasteries
- Hotels (nontransient)
- *Live/work units*
- Motels (nontransient)
- Vacation timeshare properties

310.4 Residential Group R-3.

Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- *Congregate living facilities* (nontransient) with 16 or fewer occupants
    - *Boarding houses* (nontransient)
    - Convents
    - *Dormitories*
    - ~~Fire station~~ Emergency services living quarters
    - Fraternities and sororities
    - Monasteries
- *Congregate living facilities* (*transient*) with 10 or fewer occupants
    - *Boarding houses* (*transient*)
- *Lodging houses* (*transient*) with five or fewer *guest rooms* and 10 or fewer occupants

Committee Reason: The proposal was approved because it helps classify the living quarters for fire stations as Group R-2. Fire fighters are non-transient and familiar with the living arrangements. The modification was approved because it expanded this idea to include other emergency operation centers where staff may be sleeping. (Vote: 13-1)

Final Hearing Results

G45-21 AM

Page: 2

Mod_10998_Text_G45-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

26

F10999 /G46-21

Date Submitted	03/13/2024	**Section**	310.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

The intent of this change is to coordinate with IRC scoping for lodging houses.

Rationale

See attached

F10999Text Modification

See attached

Page: 1

Mod10999_TextOfModification.pdf

F10999Text Modification

G46-21

Original Proposal

IBC: 310.4, 310.4.2

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

[BG] GUESTROOM. A room used or intended to be used by one or more guests for living or sleeping purposes.

[BG] LODGING HOUSE. A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guest rooms.

SECTION 310
RESIDENTIAL GROUP R

Revise as follows:

310.4 Residential Group R-3. Residential Group R-3 occupancies where the occupants are primarily permanent in nature and not classified as Group R-1, R-2, R-4 or I, including:

- Buildings that do not contain more than two *dwelling units*
- Care facilities that provide accommodations for five or fewer persons receiving care
- *Congregate living facilities* (nontransient) with 16 or fewer occupants
    - *Boarding houses* (nontransient)
    - Convents
    - *Dormitories*
    - Fraternities and sororities
    - Monasteries
- *Congregate living facilities* (*transient*) with 10 or fewer occupants
    - *Boarding houses* (*transient*)
- *Lodging houses* ~~(*transient*)~~ with five or fewer *guest rooms* ~~and 10 or fewer occupants~~

310.4.2 Lodging houses. Owner-occupied *lodging houses* with five or fewer *guest rooms* ~~and 10 or fewer total occupants~~ shall be permitted to be constructed in accordance with this code or the *International Residential Code*~~,~~ ~~provided~~ Facilities constructed using the *International Residential Code* shall be protected by that an *automatic sprinkler system* ~~is~~ installed in accordance with Section 903.3.1.3 or Section P2904 of the *International Residential Code*.

Reason: The intent of this change is to coordinate with IRC scoping for lodging houses. G40-12 added the defined term 'lodging house' and 'guestroom' and Section 310.4.2 for coordination with the scoping in the 2012 IRC. G40-15 added 'transient' and '10 or fewer occupants'. Since the owner or proprietor lives in the lodging house (see the definition), this is not 'transient', so that language should be deleted in Section 310.4. The reason given for adding "and 10 or fewer occupants" was consistency with the occupancy load for transient boarding houses. However, this does not take into consideration that owner's family as well as the 10 transient occupants. Occupant load is not addressed in the IRC, so this does not match the IRC Scoping in Section 101.2 Exception 2.

If the committee feels that 5 or fewer guestrooms is not a sufficient limitation, a maximum occupant load or either 10 transient occupants, or 16 total occupants could be considered.

The last change to Section 310.4.2 is to allow for a small bed-n-breakfast style hotel to be constructed in accordance with IBC if they so choose.

This is one of a group of proposals intended to coordinate the scoping items in IBC Section 101.2 and IRC 101.2. While the proposals work

Page: 1

Mod_10999_Text_G46-21.pdf

F10999Text Modification

together, then also work separately. The proposal for coordination will be in Group B.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of requirements, not a change to construction requirements. Removal of the 10 occupant load from Lodging house, might allow for some small additional B-n-B facilities to be constructed under the IRC.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
310.4.2 Lodging houses. Owner-occupied *lodging houses* with five or fewer *guest rooms* shall be permitted to be constructed in accordance with this code or the *International Residential Code*~~.~~ , provided that facilities ~~Facilities~~ constructed using the *International Residential Code* shall be protected by that an *automatic sprinkler system* installed in accordance with ~~Section 903.3.1.3 or~~ Section P2904 of the *International Residential Code*.

Committee Reason: The modification was approved to make the lodging house sprinkler requirements consistent with the IRC requirements when a lodging house is permitted to be constructed under the IRC. The proposal was approved since it coordinates the 5 guest room threshold with IRC and provides and appropriate pointer that matches the IRC scoping. (Vote: 14-0)

Final Hearing Results

G46-21 AM

Page: 2

Mod_10999_Text_G46-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

27

F11000 /G48-21

Date Submitted	03/13/2024	**Section**	311.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adding aerosol cooking spray and plastic aerosols 3 (PA3) to the list for Group S-1 is consistent with the requirements in the International Fire Code. Without these being identified in the list, one is left to wonder what is the appropriate occupancy classification.

Rationale

See attached

F11000Text Modification

See attached

Page: 1

Mod11000_TextOfModification.pdf

F11000Text Modification

G48-21

Original Proposal

IBC: 311.2

Proponents: William Koffel, Koffel Associates, Inc., Household and Commercial Products Association (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

311.2 Moderate-hazard storage, Group S-1. Storage Group S-1 occupancies are buildings occupied for storage uses that are not classified as Group S-2, including, but not limited to, storage of the following:

- *Aerosol products*, Levels 2 and 3, aerosol cooking spray, plastic aerosol 3 (PA3)
- Aircraft hangar (storage and repair)
- Bags: cloth, burlap and paper
- Bamboos and rattan
- Baskets
- Belting: canvas and leather
- Beverages over 16-percent alcohol content
- Books and paper in rolls or packs
- Boots and shoes
- Buttons, including cloth covered, pearl or bone
- Cardboard and cardboard boxes
- Clothing, woolen wearing apparel
- Cordage
- Dry boat storage (indoor)
- Furniture
- Furs
- Glues, mucilage, pastes and size
- Grains
- Horns and combs, other than celluloid
- Leather
- Linoleum
- Lumber
- Motor vehicle *repair garages* complying with the maximum allowable quantities of*hazardous materials* specified in Table 307.1(1) (see Section 406.8)
- Photo engravings
- Resilient flooring
- *Self-service storage facility* (mini-storage)
- Silks
- Soaps
- Sugar
- Tires, bulk storage of
- Tobacco, cigars, cigarettes and snuff
- Upholstery and mattresses
- Wax candles

Reason: Adding aerosol cooking spray and plastic aerosols 3 (PA3) to the list for Group S-1 is consistent with the requirements in the International Fire Code and provides a more complete list. Without these being identified in the list, one is left to wonder what is the appropriate occupancy classification.

Page: 1

Mod_11000_Text_G48-21.pdf

F11000Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding these to the list does not change how the IBC or IFC is applied to these storage facilities.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it correctly classifies these types of aerosal products. The package size and flamability is regulated. (Vote: 8-6)

Final Hearing Results

G48-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

28

F10792 | **/F196-21**

Date Submitted	03/06/2024	**Section**	414.2.5	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Table 414.2.5(1).

Summary of Modification

The proposed revision does not change the protection requirements nor the number of containers on a pallet; but rather, allows a small increased capacity per container for solid Class 3 Oxidizers

Rationale

See attached

F10792Text Modification

See attached

Page: 1

Mod10792_TextOfModification.pdf

F10792Text Modification

F196-21

Original Proposal

IFC: TABLE 5003.11.1; IBC: TABLE 414.2.5(1)

Proponents: William Koffel, Koffel Associates, Inc., Axiall Corporation (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

TABLE 414.2.5(1) MAXIMUM ALLOWABLE QUANTITY PER INDOOR AND OUTDOOR CONTROL AREA IN GROUP M AND S OCCUPANCIES OF NONFLAMMABLE SOLIDS AND NONFLAMMABLE AND NONCOMBUSTIBLE LIQUIDS[d, e, f]

CONDITION		MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA	
Material[a]	Class	Solids (pounds)	Liquids (gallons)
A. Health-hazard materials—nonflammable and noncombustible solids and liquids			
1. Corrosives[b, c]	Not Applicable	9,750	975
2. Highly toxics	Not Applicable	20[b, c]	2[b, c]
3. Toxics[b, c]	Not Applicable	1,000[k]	100
B. Physical-hazard materials—nonflammable and noncombustible solids and liquids			
1. Oxidizers[b, c]	4	Not Allowed	Not Allowed
	3	~~1,350~~ 1,500[g]	~~115~~ 150
	2	2,250[h]	225
	1	18,000[i, j]	1,800[i, j]
2. Unstable (reactives)[b, c]	4	Not Allowed	Not Allowed
	3	550	55
	2	1,150	115
	1	Not Limited	Not Limited
3. Water reactives	3[b, c]	550	55
	2[b, c]	1,150	115
	1	Not Limited	Not Limited

For SI: 1 pound = 0.454 kg, 1 gallon = 3.785 L.

a. Hazard categories are as specified in the *International Fire Code*.

b. Maximum allowable quantities shall be increased 100 percent in buildings that are sprinklered in accordance with Section 903.3.1.1. Where Note c also applies, the increase for both notes shall be applied accumulatively.

c. Maximum allowable quantities shall be increased 100 percent where stored in approved storage cabinets, in accordance with the *International Fire Code*. Where Note b also applies, the increase for both notes shall be applied accumulatively.

d. See Table 414.2.2 for design and number of control areas.

e. Allowable quantities for other hazardous material categories shall be in accordance with Section 307.

f. Maximum quantities shall be increased 100 percent in outdoor control areas.

g. Maximum amounts shall be increased to 2,250 pounds where individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.

h. Maximum amounts shall be increased to 4,500 pounds where individual packages are in the original sealed containers from the manufacturer or packager and do not exceed 10 pounds each.

i. The permitted quantities shall not be limited in a building equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

j. Quantities are unlimited in an outdoor control area.

Page: 1

Mod_10792_Text_F196-21.pdf

k. Maximum allowable quantities of consumer products shall be increased to 10,000 pounds where individual packages are in the original, sealed containers from the manufacturer and the toxic classification is exclusively based on the LC threshold and no other hazardous materials classifications apply.

Reason: The proposed revision does not change the protection requirements nor the number of containers on a pallet; but rather, allows a small increased capacity per container for solid Class 3 Oxidizers. By allowing the container to be filled, overall there will be fewer plastic containers requiring disposal. The decrease in the number of containers addresses an environmental concern of the retailers and customers. Current practice is to use containers that will hold 60 pounds but the containers are currently only filled to 55 pounds to be consistent with the limit of 1350 pounds. The current practice of 24 containers per pallet equals 1320 pounds. With the increase, the same 24 containers per pallet will now equal 1440 pounds. The change will reduce the number of plastic containers that are discarded by about 9% with no, or minimal, impact on safety. The containers currently used are already UN/DOT approved to contain 60 pounds each of a Class 3 Oxidizer

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed change will have no impact on the cost of construction. By decreasing the number of containers the operational costs related to disposal of the containers will be decreased.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal appropriately aligns with DOT standards and is a very minimal increase in quantity. In addition, allowing larger containers is seen as more environmentally friendly as it facilitates less frequent deliveries. (Vote: 13-0)

Final Hearing Results

F196-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

29

F10797 | **/F98-21**

Date Submitted	03/06/2024	**Section**	414.5.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Table 414.5.1

Summary of Modification

This change coordinates with the change in the definition of flammable gas to Table 414.5.1.

Rationale

See attached

F10797Text Modification

See attached

Page: 1

Mod10797_TextOfModification.pdf

F10797Text Modification

F98-21

Original Proposal

IFC: TABLE 911.1, 3307.2.1; IBC: TABLE 414.5.1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] TABLE 414.5.1 EXPLOSION CONTROL REQUIREMENTS[a, h]

MATERIAL	CLASS	EXPLOSION CONTROL METHODS	
		Barricade construction	Explosion (deflagration) venting or explosion (deflagration) prevention systems[b]
HAZARD CATEGORY			
Combustible dusts[c]	—	Not Required	Required
Cryogenic flammables	—	Not Required	Required
Explosives	Division 1.1	Required	Not Required
	Division 1.2	Required	Not Required
	Division 1.3	Not Required	Required
	Division 1.4	Not Required	Required
	Division 1.5	Required	Not Required
	Division 1.6	Required	Not Required
Flammable gas	Gaseous	Not Required	Required[d]
	Liquefied	Not Required	Required[d]
Flammable liquid	IA[d]	Not Required	Required
	IB[e]	Not Required	Required
Organic peroxides	U	Required	Not Permitted
	I	Required	Not Permitted
Oxidizer liquids and solids	4	Required	Not Permitted
Pyrophoric gas	—	Not Required	Required
Unstable (reactive)	4	Required	Not Permitted
	3 Detonable	Required	Not Permitted
	3 Nondetonable	Not Required	Required
Water-reactive liquids and solids	3	Not Required	Required
	2[g]	Not Required	Required
SPECIAL USES			
Acetylene generator rooms	—	Not Required	Required
Electrochemical energy storage system[f]	—	Not Required	Required
Energy storage system[f]	—	Not Required	Required
Grain processing	—	Not Required	Required
Liquefied petroleum gas-distribution facilities	—	Not Required	Required
Where explosion hazards exist[f]	Detonation	Required	Not Permitted
	Deflagration	Not Required	Required

a. See Section 414.1.3.

b. See the *International Fire Code*.

c. Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 104.8.2 of the *International Fire Code*. See definition of "Combustible dust" in Chapter 2.

d. Storage or use.

e. In open use or dispensing.

f. Rooms containing dispensing and use of hazardous materials where an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.

Page: 1

Mod_10797_Text_F98-21.pdf

F10797Text Modification

g. A method of explosion control shall be provided where Class 2 water-reactive materials can form potentially explosive mixtures.

h. Explosion venting is not required for Group H-5 fabrication areas complying with Section 415.11.1 and the *International Fire Code*.

i. Where explosion control is required in Section 1207 of the *International Fire Code*.

k Not required for Category 1B Flammable Gases having a burning velocity not exceeding 3.9 in/s (10 cm/s).

Reason: This change coordinates with the change in the definition of flammable gas. Explosive flammable gases do not include Category 1B flammable gases having a burning velocity of 3.9 in/s or less (Low BV). Table 911.1 has been modified accordingly. Category 1B low burning velocity flammable gases are excluded from the explosive flammable gas requirements.A reference to the International Mechanical Code has been added as an exception for the cleaning and purging of flammable gas piping systems requirements. Chapter 11 of the International Mechanical Code includes requirements for cleaning and purging using Category 1B low burning velocity flammable gases. This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change neither increased nor decreased in the cost of construction. The change clarifies that the requirements in these sections are applicable to Category 1A flammable gases.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the actions taken on G41-21, F3-21 and F192-21. There was a minor concern about the verbiage used for the burning velocity of "not exceeding" and that "not less than" is more appropriate. (Vote: 14-0)

Final Hearing Results

F98-21 AS

Page: 2

Mod_10797_Text_F98-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

30

F10918 | **/G1-21 Part II**

Date Submitted	03/08/2024	**Section**	415.11.7.4	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Term ‘accessible’ is commonly understood as requiring access for persons with disabilities we are making the changes to delete the word accessible from the remaining codes and replace it with defined terms or phrases that are not attributed to requiring access for the physically disabled.

Rationale

See attached

F10918Text Modification

See attached

Page: 1

Mod10918_TextOfModification.pdf

F10918Text Modification

G1-21 Part II

Original Proposal

PART II - IFC: SECTION 202, 504.1, 509.2, 701.6, 2309.5.2.1, 3206.10.1.1, D102.1, L104.6, L104.14.1; IBC: [F] 415.11.7.4, [F] 914.1.1; ICCPC: [F] 2001.3.6

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org); Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 415.11.7.4 Installations in corridors and above other occupancies. The installation of HPM piping and tubing within the space defined by the walls of corridors and the floor or roof above, or in concealed spaces above other occupancies, shall be in accordance with Sections 415.11.7.1 through 415.11.7.3 and the following conditions:

1. Automatic sprinklers shall be installed within the space unless the space is less than 6 inches (152 mm) in the least dimension.
2. *Ventilation* not less than six air changes per hour shall be provided. The space shall not be used to convey air from any other area.
3. Where the piping or tubing is used to transport HPM liquids, a receptor shall be installed below such piping or tubing. The receptor shall be designed to collect any discharge or leakage and drain it to an *approved* location. The 1-hour enclosure shall not be used as part of the receptor.
4. HPM supply piping and tubing and nonmetallic waste lines shall be separated from the corridor and from occupancies other than Group H-5 by *fire barriers* or by an approved method or assembly that has a *fire-resistance rating* of not less than 1 hour. Access openings into the enclosure shall be protected by approved fire-protection-rated assemblies.
5. ~~Readily accessible manual~~ Ready access to manual or automatic remotely activated fail-safe emergency shutoff valves shall be installed on piping and tubing other than waste lines at the following locations:
   5.1. At branch connections into the *fabrication area*.
   5.2. At entries into *corridors*.

Exception: Transverse crossings of the *corridors* by supply piping that is enclosed within a ferrous pipe or tube for the width of the *corridor* need not comply with Items 1 through 5.

[F] 914.1.1 Exterior access to shaftways. Outside openings ~~accessible~~ with access to the fire department and that open directly on a hoistway or shaftway communicating between two or more floors in a building shall be plainly marked with the word "SHAFTWAY" in red letters not less than 6 inches (152 mm) high on a white background. Such warning signs shall be placed so as to be readily discernible from the outside of the building.

Reason: This effort was started by the CACs in 2015/16 code change cycle, and continued in 2018/19. This proposal is to provide coordination with the action taken with -P84-15, M2-15, RB2-16, F12-16, CE137-16 Part 1, CE29-19 Part 1 and 2 . Because the term 'accessible' is most commonly understood as requiring access for persons with disabilities we are making the changes to delete the word accessible from the remaining codes and replace it with other words, defined terms or phrases that are not attributed to requiring access for the physically disabled. Many of the codes use the defined term 'access (to)' or 'ready access (to)' for access by maintenance and service personnel or fire departments. This proposal provides clarity and consistency in the remaining codes where those coordination modifications missed or came in as part of new code changes.

Page: 1

Mod_10918_Text_G1-21 Part II.pdf

Code change proposal M2-15 removed 'door' from the definitions for 'access (to)' and 'ready access (to)'. That coordination item did not happen across codes and this proposal seeks to complete that effort.

Similar proposals will be submitted for the Group B cycle for IRC, IECC and IEBC.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (BCAC), and ICC Plumbing/Mechanical/Gas Code Action Committee (PMGCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The PMG CAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020, the PMG CAC has held several virtual meetings open to any interested party. Numerous interested parties attended the committee meetings and offered their input. Related documentation and reports are posted on the PMG CAC website at: PMGCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no change to any of the requirements. This is only a clarification in terminology.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal replaces an improper term with the proper term for the conditions listed. (Vote: 12-0)

Final Hearing Results

G1-21 Part II AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

31

F10963		/G29-21			
Date Submitted	03/08/2024	**Section**	403.2.3	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

The purpose of this proposal is to change the definition from Sprayed Fire-Resistant Matertials to Sprayed Fire-Resistive Materials (SFRM).

Rationale

See attached

F10963Text Modification

See attached

Page: 1

Mod10963_TextOfModification.pdf

F10963Text Modification

G29-21

Original Proposal

IBC: SECTION 202, 403.2.3, 412.2.1.3, 603.1, 704.13, FIGURE 722.5.1(5), 722.5.1.1, 722.5.1.3, 722.5.1.3.2, 722.5.2.2, [BF] 1705.15, [BF] 1705.15.2, [BF] 1705.15.4, [BF] 1705.15.4.1, [BF] 1705.15.4.2, [BF] 1705.15.4.5, [BF] 1705.15.5, [BF] 1705.15.6, [BF] 1705.15.6.1, [BF] 1705.15.6.2, [BF] 1705.15.6.3

Proponents: Bill McHugh, The McHugh Company, National Fireproofing Contractors Association (bill@mc-hugh.us)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BF]
SPRAYED FIRE-RESISTIVE ~~RESISTANT~~ MATERIALS

. Cementitious or fibrous materials that are sprayed to provide fire-resistant protection of the substrates.

403.2.3 Sprayed fire-resistive ~~resistant~~ materials (SFRM). The bond strength of the SFRM installed throughout the building shall be in accordance with Table 403.2.3.

412.2.1.3 Sprayed fire-resistive ~~resistant~~ materials (SFRM). The bond strength of the SFRM installed in airport traffic control towers shall be in accordance with Section 403.2.3 where the control cab is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:
   - 1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   - 1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   - 1.3. Roof construction, including girders, trusses, framing and decking.

     Exceptions:
     1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
     2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   - 1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.

F10963Text Modification

2. Thermal and acoustical insulation, other than foam plastics, having a*flame spread index* of not more than 25.

   Exceptions:

   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a*corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of*fire-retardant-treated* wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of*exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive ~~resistant~~ materials and intumescent and mastic fire-resistant coatings, determined on the basis of*fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

704.13 Sprayed fire-resistive ~~resistant~~ materials (SFRM). ~~Sprayed fire-resistant materials (SFRM)~~ SFRM shall comply with Sections 704.13.1 through 704.13.5.

Page: 2

Mod_10963_Text_G29-21.pdf

F10963Text Modification

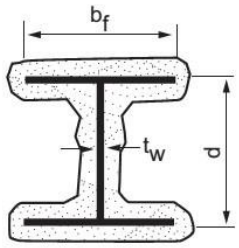


FIGURE 722.5.1(5) WIDE FLANGE STRUCTURAL STEEL COLUMNS WITH SPRAYED FIRE-RESISTIVE ~~RESISTANT~~ MATERIALS

722.5.1.1 General. These procedures establish a basis for determining the fire resistance of column assemblies as a function of the thickness of fire-resistant material and, the weight, W, and heated perimeter, D, of structural steel columns. As used in these sections, W is the average weight of a structural steel column in pounds per linear foot. The heated perimeter, D, is the inside perimeter of the fire-~~resistant~~ resistive material in inches as illustrated in Figure 722.5.1(1).

722.5.1.3 Sprayed fire-resistive ~~resistant~~ materials.(SFRM). The *fire resistance* of wide-flange structural steel columns protected with SFRM ~~sprayed fire resistant materials~~, as illustrated in Figure 722.5.1(5), shall be permitted to be determined from the following expression:

$$R = [C_1(W/D) + C_2]h \qquad \textbf{(Equation 7-13)}$$

where:

R = *Fire resistance* (minutes).

h = Thickness ofSFRM ~~sprayed fire-resistant material~~ (inches).

D = Heated perimeter of the structural steel column (inches).

C_1 and C_2 = Material-dependent constants.

W = Weight of structural steel columns (pounds per linear foot).

The *fire resistance* of structural steel columns protected with intumescent or mastic fire-resistant coatings shall be determined on the basis of *fire-resistance* tests in accordance with Section 703.2.

722.5.1.3.2 Identification. Sprayed fire-resistive ~~resistant~~ materials shall be identified by density and thickness required for a given*fire-resistance rating*.

722.5.2.2 Sprayed fire-resistive ~~resistant~~ materials (SFRM). The provisions in this section apply to structural steel beams and girders protected with (SFRM) ~~sprayed fire-resistantmaterials~~. Larger or smaller beam and girder shapes shall be permitted to be substituted for beams specified in *approved* unrestrained or restrained fire-resistance-rated assemblies, provided that the thickness of the~~fire-resistant~~ SFRM material is adjusted in accordance with the following expression:

$$h_2 = h_1\,[(W_1 / D_1) + 0.60] / [(W_2 / D_2) + 0.60] \qquad \textbf{(Equation 7-17)}$$

where:

h = Thickness of ~~sprayed fire-resistant~~ SFRM ~~material~~ in inches.

W = Weight of the structural steel beam or girder in pounds per linear foot.

D = Heated perimeter of the structural steel beam in inches.

Subscript 1 refers to the beam and ~~fire-resistant material~~ SFRM thickness in the *approved* assembly.

Subscript 2 refers to the substitute beam or girder and the required thickness ofSFRM~~fire-resistant material~~.

The *fire resistance* of structural steel beams and girders protected with intumescent or mastic fire-resistant coatings shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

[BF] 1705.15 Sprayed fire-resistive ~~resistant~~ materials (SFRM). *Special inspections* and tests of SFRM ~~sprayed fire-resistant materials~~ applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.15.1 through 1705.15.6. *Special inspections* shall be based on the fire-resistance design as designated in the*approved construction documents*. The

Page: 3

Mod_10963_Text_G29-21.pdf

F10963Text Modification

tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. *Special inspections* and tests shall be performed during construction with an additional visual inspection after the rough installation of electrical, automatic sprinkler, mechanical and plumbing systems and suspension systems for ceilings, and before concealment where applicable. The required sample size shall not exceed 110 percent of that specified by the referenced standards in Sections 1705.15.4.1 through 1705.15.4.9.

[BF] 1705.15.2 Structural member surface conditions. The surfaces shall be prepared in accordance with the*approved* fire-resistance design and the written instructions of *approved* manufacturers. The prepared surface of structural members to be sprayed shall be inspected by the *special inspector* before the application of the SFRM ~~sprayed fire-resistant material~~.

[BF] 1705.15.4 Thickness. Not more than 10 percent of the thickness measurements of the ~~sprayed fire-resistant materials~~SFRM applied to floor, roof and wall assemblies and structural members shall be less than the thickness required by the *approved* fire-resistance design, and none shall be less than the minimum allowable thickness required by Section 1705.15.4.1.

[BF] 1705.15.4.1 Minimum allowable thickness. For design thicknesses 1 inch (25 mm) or greater, the minimum allowable individual thickness shall be the design thickness minus 1/4 inch (6.4 mm). For design thicknesses less than 1 inch (25 mm), the minimum allowable individual thickness shall be the design thickness minus 25 percent. Thickness shall be determined in accordance with ASTM E605. Samples of the SFRM ~~sprayed fire-resistant materials~~ shall be selected in accordance with Sections 1705.15.4.2 and 1705.15.4.3.

[BF] 1705.15.4.2 Floor, roof and wall assemblies. The thickness of the SFRM ~~sprayed fire-resistant material~~ applied to floor, roof and wall assemblies shall be determined in accordance with ASTM E605, making not less than four measurements for each 1,000 square feet (93 m^2) of the sprayed area, or portion thereof, in each story.

[BF] 1705.15.4.5 Structural members. The thickness of the SFRM ~~sprayed fire-resistant material~~ applied to structural members shall be determined in accordance with ASTM E605. Thickness testing shall be performed on not less than 25 percent of the structural members on each floor.

[BF] 1705.15.5 Density. The density of the SFRM ~~sprayed fire-resistant material~~ shall be not less than the density specified in the *approved* fire-resistance design. Density of the ~~sprayed fire-resistant material~~ SFRM shall be determined in accordance with ASTM E605. The test samples for determining the density of the ~~sprayed fire-resistant materials~~ SFRM shall be selected as follows:

1. From each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m^2) or portion thereof of the sprayed area in each story.
2. From beams, girders, trusses and columns at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m^2) of floor area or portion thereof in each*story*.

[BF] 1705.15.6 Bond strength. The cohesive/adhesive bond strength of the cured ~~sprayed fire-resistant material~~ SFRM applied to floor, roof and wall assemblies and structural members shall be not less than 150 pounds per square foot (psf) (7.18 kN/m^2). The cohesive/adhesive bond strength shall be determined in accordance with the field test specified in ASTM E736 by testing in-place samples of the ~~sprayed fire-resistant material~~SFRM selected in accordance with Sections 1705.15.6.1 through 1705.15.6.3.

[BF] 1705.15.6.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesive bond strength of the SFRM ~~sprayed fire-resistant materials~~ shall be selected from each floor, roof and wall assembly at the rate of not less than one sample for every 2,500 square feet (232 m^2) of the sprayed area, or portion thereof, in each *story*.

[BF] 1705.15.6.2 Structural members. The test samples for determining the cohesive/adhesive bond strength of the SFRM ~~sprayed fire-resistant materials~~ shall be selected from beams, girders, trusses, columns and other structural members at the rate of not less than one sample for each type of structural member for each 2,500 square feet (232 m^2) of floor area or portion thereof in each*story*.

[BF] 1705.15.6.3 Primer, paint and encapsulant bond tests. Bond tests to qualify a primer, paint or encapsulant shall be conducted where the SFRM ~~sprayed fire-resistant material~~ is applied to a primed, painted or encapsulated surface for which acceptable bond-strength performance between these coatings and the ~~fire-resistant material~~ SFRM has not been determined. A bonding agent *approved* by the

Page: 4

Mod_10963_Text_G29-21.pdf

F10963Text Modification

SFRM manufacturer shall be applied to a primed, painted or encapsulated surface where the bond strengths are found to be less than required values.

Reason: The purpose of this proposal is to change the definition from Sprayed Fire-Resistant Matertials to Sprayed Fire-Resistive Materials (SFRM). The reason for the change is to align the IBC definition with the industry term for the products. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Secondly, the listing directories refer to "Fire-Resistive" rather than "Fire-Resistant" materials. Several IBC Chapter 7 sections use the term "Fire-Resistive", including fire-resistive glazing and door sections in the Opening Protectives Chapter. Finally, the abbreviations in Chapter 17 follow formatting for other sections (example; Exterior Insulation Finish System (EIFS).

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Since this is a change in definition, it will not impact the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:
   1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.
2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:
   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.

Page: 5

Mod_10963_Text_G29-21.pdf

F10963Text Modification

7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of*fire-retardant-treated* wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of*exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistive materials and intumescent and mastic fire-resistive ~~fire-resistant~~ coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

722.5.1.3 Sprayed fire-resistive materials.(SFRM). The *fire resistance* of wide-flange structural steel columns protected with SFRM , as illustrated in Figure 722.5.1(5), shall be permitted to be determined from the following expression:

$$R = [C_1(W / D) + C_2] \quad \textbf{(Equation 7-13)}$$
$$h$$

where:

R = *Fire resistance* (minutes).

h = Thickness ofSFRM (inches).

D = Heated perimeter of the structural steel column (inches).

C_1 and C_2 = Material-dependent constants.

W = Weight of structural steel columns (pounds per linear foot).

Page: 6

Mod_10963_Text_G29-21.pdf

F10963Text Modification

The *fire resistance* of structural steel columns protected with intumescent or masticfire-resistive ~~fire-resistant~~ coatings shall be determined on the basis of *fire-resistance* tests in accordance with Section 703.2.

722.5.2.2 Sprayed fire-resistive materials (SFRM). The provisions in this section apply to structural steel beams and girders protected with (SFRM) . Larger or smaller beam and girder shapes shall be permitted to be substituted for beams specified in *approved* unrestrained or restrained fire-resistance-rated assemblies, provided that the thickness of the SFRM material is adjusted in accordance with the following expression:

$h_2 = h_1 [W_1 / D_1) + 0.60] / [(W_2 / D_2) + 0.60]$ **(Equation 7-17)**

where:

h = Thickness of SFRM in inches.

W = Weight of the structural steel beam or girder in pounds per linear foot.

D = Heated perimeter of the structural steel beam in inches.

Subscript 1 refers to the beam and SFRM thickness in the *approved* assembly.

Subscript 2 refers to the substitute beam or girder and the required thickness of SFRMI.

The *fire resistance* of structural steel beams and girders protected with intumescent or masticfire-resistive ~~fire-resistant~~ coatings shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

Committee Reason: The committee concluded the modification fixes the main proposal text regarding using "fire-resistive" instead of "fire-resistant". Committee approval is in line with committee action on code change G 17-21. (Vote: 13-0)

Final Hearing Results

G29-21 AM

Page: 7

Mod_10963_Text_G29-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

32

F10995 | **/G44-21 Part II**

Date Submitted	03/13/2024	**Section**	403.4.7	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change corrects discrepancies inadvertently created by past code changes. This change resolves that by adding "or more than two dwelling units" to the description of R-1.

Rationale

See attached

F10995Text Modification

See attached

Page: 1

Mod10995_TextOfModification.pdf

F10995Text Modification

G44-21 Part II

Original Proposal

PART II - IFC: 308.4.1, 403.9.1.1, 907.2.8.1, 907.2.8.2, 907.2.11.1, TABLE 907.5.2.3.2, 1103.7.5.1, 1103.7.5.1.1, 1103.7.5.2, 1103.7.5.2.1, 1104.5; (IBC[F] 907.2.8.1, 907.2.8.2, TABLE 907.5.2.3.2, 907.2.11.1); IPMC: [F] 704.6.1.1; IBC: [F] 403.4.7

Proponents: Daniel Willham, Fairfax County, Fairfax County (daniel.willham@fairfaxcounty.gov)

2021 International Building Code

Revise as follows:

[F] 403.4.7 Smoke removal. To facilitate smoke removal in post-fire salvage and overhaul operations, buildings and structures shall be equipped with natural or mechanical *ventilation* for removal of products of combustion in accordance with one of the following:

1. Easily identifiable, manually operable windows or panels shall be distributed around the perimeter of each floor at not more than 50-foot (15 240 mm) intervals. The area of operable windows or panels shall be not less than 40 square feet (3.7 m^2) per 50 linear feet (15 240 mm) of perimeter.

   Exceptions:

   1. In Group R-1 occupancies, each *dwelling unit, sleeping unit* or suite having an *exterior wall* shall be permitted to be provided with 2 square feet (0.19 m^2) of venting area in lieu of the area specified in Item 1.
   2. Windows shall be permitted to be fixed provided that glazing can be cleared by fire fighters.

2. Mechanical air-handling equipment providing one exhaust air change every 15 minutes for the area involved. Return and exhaust air shall be moved directly to the outside without recirculation to other portions of the building.
3. Any other *approved* design that will produce equivalent results.

Reason: This change corrects discrepancies inadvertently created by past code changes. The description for R-1 occupancies used to only read "R-1 Residential occupancies where the occupants are primarily transient in nature ..." It did not mention sleeping units. The definition for *sleeping units* was added to the code to coordinate with the Fair Housing Act Guidelines (see code change E70-00) and did not involve the descriptions for residential occupancies in Chapter 3. Sleeping units was added to the descriptions of R-1 (2006 IBC) and R-2 (2003 IBC), in changes that do not appear in any code change proposal; these changes are also not marked as changes by bars in the margins. They appear to possibly have been made by the code correlation committee. However, no correction was made to the description of R-1, which, like R-2 occupancies, can also include both dwelling and sleeping units. This has left an apparent gap in the code for transient residential occupancies with dwelling units. This change resolves that by adding "or more than two dwelling units" to the description of R-1. Similar to the wording for the description for R-2, "or more than two dwelling units" avoids including R-3 residential occupancies and one- and two-family dwellings regulated under the IRC. This change also coordinates the references to sleeping units throughout the codes for R-1 occupancies to also include dwelling units. While doing this, a couple of instances of dwelling units for R-2 (without the mention of sleeping units) were found and also corrected to include sleeping units to coordinate with the description of R-2 occupancies.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification and coordination of the code which will not affect construction cost.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_10995_Text_G44-21 Part II.pdf

F10995Text Modification

Committee Reason: The committee stated that the reason for the approval was that it closes a gap in the requirements by including the proposed terms in various sections throughout the code. (Vote: 13-0)

Final Hearing Results

G44-21 Part II AS

Page: 2

Mod_10995_Text_G44-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

33

F11001		/G52-21			
Date Submitted	03/13/2024	**Section**	402.8.5	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The open mall building provisions essentially incorporate a covered mall building design without a roof. Travel distance within the mall of an open mall building should be permitted to terminate an exit, no different than permitted in a covered mall building.

Rationale

See attached

F11001Text Modification

See attached

Page: 1

Mod11001_TextOfModification.pdf

F11001Text Modification

G52-21

Original Proposal

IBC: 402.8.5

Proponents: Alex Miear, Code Consultants, Inc. (CCI), Code Consultants, Inc. (CCI) (alexm@codeconsultants.com)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 402
COVERED MALL AND OPEN MALL BUILDINGS

Revise as follows:

402.8.5 Distance to exits. Within each individual tenant space in a*covered* or *open mall building*, the distance of travel from any point to an *exit* or entrance to the *mall* shall be not greater than 200 feet (60 960 mm).
The distance of travel from any point within a *mall* of a *covered mall building* to an *exit* shall be not greater than 200 feet (60 960 mm). The maximum distance of travel from any point within an *open mall* to an *exit* or to the perimeter line of the *open mall building* shall be not greater than 200 feet (60 960 mm).

Reason: The open mall building provisions essentially incorporate a covered mall building design without a roof. Travel distance within the mall of an open mall building should be permitted to terminate an exit, no different than permitted in a covered mall building.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Adding the option to terminate the travel distance measurement at an exit will not impact the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as this is a clarification of the requirements for malls. (Vote: 14-0)

Final Hearing Results

G52-21 AS

Page: 1

Mod_11001_Text_G52-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

34

F11003		/G58-21			
Date Submitted	03/13/2024	**Section**	403.3.3	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This section is marked reserved in the FBC.

Summary of Modification

The purpose of this proposal is to clarify the intent of the code section. In keeping with formatting of the I-codes in general, reference to NFPA 13 by name is proposed to be changed to a reference to Section 903.3.1.1.

Rationale

See attached

F11003Text Modification

See attached

Page: 1

Mod11003_TextOfModification.pdf

F11003Text Modification

G58-21

Original Proposal

IBC: [F] 403.3.3; IFC: 914.3.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 403
HIGH-RISE BUILDINGS

Revise as follows:

[F] 403.3.3 Secondary water supply. An *automatic* secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement in accordance with Section 903.3.1.1, shall be provided for *high-rise buildings* assigned to *Seismic Design Category* C, D, E or F as determined by Section 1613. An additional fire pump shall not be required for the secondary water supply unless needed to provide the minimum design intake pressure at the suction side of the fire pump supplying the *automatic sprinkler system*. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with ~~NFPA 13~~ Section 903.3.1.1.

Reason: The purpose of this proposal is to clarify the intent of the code section. High-rise buildings will be subject to both NFPA 13 provisions, which have a hose stream requirement, as well as NFPA 14 provisions, which set forth the total hose demand for the standpipe system. The current wording does not clarify which hose demand is to be used in calculating the volume of the secondary water supply. There is significant difference in the required flow rate between the two hose demands. The proposal seeks to clarify that secondary water supply volume is to incorporate the hose stream demand from NFPA 13 only and is not required to satisfy the hose demand from NFPA 14. In keeping with formatting of the I-codes in general, reference to NFPA 13 by name is proposed to be changed to a reference to Section 903.3.1.1.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No cost impact to construction as it is intended to clarify the intent of this section. Clarifies that NFPA 14 standpipe requirements are not intended to be included.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for the approval was based on the clarification of code language that hose stream was only intended to be based upon NFPA 13 versus NFPA 14. (Vote: 14-0)

Page: 1

Mod_11003_Text_G58-21.pdf

F11003Text Modification

Final Hearing Results

G58-21 AS

Page: 2

Mod_11003_Text_G58-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

35

F11004 **/G59-21**

Date Submitted	03/13/2024	**Section**	403.5.3.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal intends to address questions that arose during that Committee Action Hearing and to include modifications to Section 403.5.3.1. Adds Standard UL 2525-2020.

Rationale

See attached

F11004Text Modification

See attached

Page: 1

Mod11004_TextOfModification.pdf

F11004Text Modification

G59-21

Original Proposal

IBC: 403.5.3.1, 1009.8.1, UL Chapter 35 (New) [IFC[BE] 1009.8.1, UL Chapter 80 (New)]

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 403
HIGH-RISE BUILDINGS

Revise as follows:

403.5.3.1 Stairway communication system. A telephone or other two-way communications system connected to an*approved constantly attended station* shall be provided at not less than every fifth floor in each*stairway* where the doors to the *stairway* are locked. Systems shall be listed to UL 2525 and installed per NFPA 72, or an equivalent standard acceptable to the authority having jurisdiction.

1009.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the*fire command center* or a central control point location *approved* by the fire department. Where the central control point is not a *constantly attended location*, the two-way communication system shall have timed, automatic telephone dial-out capability that provides two-way communication with an approved supervising station or emergency services ~~9-1-1~~. The two-way communication system shall include both audible and visible signals. Systems shall be listed to UL 2525 and installed per NFPA 72, or an equivalent standard acceptable to the authority having jurisdiction

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

UL 2525-2020 UL STANDARD FOR SAFETY Two-Way Emergency Communications systems for Rescue Assistance

Reason: A similar proposal was submitted during the 2018-2019 Group A Code Development Cycle (E35-18). This proposal intends to address questions that arose during that Committee Action Hearing and to include modifications to Section 403.5.3.1. NFPA 72 and UL 2525 are applicable to both code sections, hence a single code change proposal has been submitted.

As stated in the previous code change proposal, Section 1009.8 requires that a two-way communication system be installed at the landing serving each elevator or bank of elevators on an accessible floor that is one or more stories above or below the level of exit discharge. This system is vital for the accessible occupants of a building to communicate their need to be rescued in an emergency situation to the appropriate personnel. Currently, the IBC does not require these systems to be monitored for integrity. There is no way to ensure that these systems are operational if, and when, they are needed unless the systems are used at a non-required point in time and found to be in nonworking condition.

The first modification to Section 1009.8.1 is to address the term “emergency services” versus “9-1-1” as the latter is the colloquial term for emergency services in the USA. As this code may be utilized for international locations, and thus this verbiage modification is appropriate. A similar change is not proposed for Section 403.5.3.1 as high-rise buildings are required to be provided with fire command centers which either must be constantly attended, or the life safety systems are required to be monitored at approved constantly attended stations.

The NFPA 72 SIG-ECS committee recognized that the International Building Code (IBC) provided requirements for these systems, but installation requirements have not been correlated with the IBC to this point. This causes signification confusion on projects as to how

Page: 1

Mod_11004_Text_G59-21.pdf

F11004Text Modification

these systems are to be designed and who should install these systems (e.g., fire alarm, electrician, low voltage, etc.?). The NFPA 72 committee has specifically addressed these concerns with an expanded section in the 2019 Edition of NFPA 72. By requiring this system to be designed and installed with these NFPA 72 requirements, the system's pathways will be monitored for integrity.

During the previous code development cycle, there was confusion as to the impacts of referencing NFPA 72, as well as the terms “area of rescue” vs. “area of rescue assistance”. The NFPA 72 committee recognized these issues, hence the title of the referenced NFPA 72 has been expanded. Further, referencing NFPA 72 does not mean that any building with an accessible floor that is one or more stories above or below the level of exit discharge requires a fire alarm system nor does it necessarily require that the system must be provided with a specific level of pathway survivability. The reference to NFPA 72 is intended to confirm that a two-way communication system is required to be installed per the installation and pathway survivability requirements for two-way communication systems of NFPA 72 Chapter 24. This proposal will provide direction on how to install these systems, and provide requirements for monitoring of the installed systems.

Further to pathway survivability, NFPA 72 outlines emergency communication systems installed in buildings of less than 2-hour fire-resistive construction may be provided with Level 1, 2 or 3 pathway survivability. Buildings of 2-hour fire-resistance or greater are to be provided with Level 2 or 3 pathway survivability. (This has been included in NFPA 72 since the 2013 edition, with the modification to allow Level 1 survivability included in the 2016 edition.)

Level 1 requirements consists of pathways that are located within fully sprinklered buildings in accordance with NFPA 13 with any interconnecting conductors, cables or other physical pathways protected by metal raceways or metal armored cables.

Level 2 requirements consists of 2-hour rated circuit integrity (CI) or fire resistive cable, 2-hour fire-rated cable system (electrical circuit protective system(s)), circuits located within 2-hour enclosures or protected areas, or performance alternatives approved by the AHJ.

Level 3 requirements meet Level 2 plus located within a fully sprinklered building in accordance with NFPA 13.

Example 1: A 3-story B occupancy of Type IIB construction that is fully sprinklered could utilize Level 1 survivability. As such, the conductors, cables or other physical pathways protected by metal raceways or metal armored cables would be acceptable. Further ratings of cables, conductors, etc., would not be required.

Example 2: A 5-story, R-1 occupancy of Type IB construction would require Level 2 or 3 pathway survivability as the building is of at least 2-hour fire-resistance.

Finally, this adds language to mandate compliance with the recently updated and released (June 12, 2020) edition of UL 2525 *Standard for Two-Way Emergency Communications Systems for Rescue Assistance*, which provides updated and adequate product listing requirements for these critical systems.

Bibliography: UL 2525 *Standard for Two-Way Emergency Communications Systems for Rescue Assistance*, 2020 Edition.

Cost Impact: The code change proposal will increase the cost of construction
However, these cost increases are justified as the code requirements to date have not provided the means of designing and installing these systems.

Staff Note: E35-21, E36-21 and G59-21 addresses requirements in a different manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

403.5.3.1 Stairway communication system. A telephone or other two-way communications system connected to an *approved constantly attended station* shall be provided at not less than every fifth floor in each *stairway* where the doors to the *stairway* are locked. Systems shall be listed ~~to~~ in accordance with UL 2525 and installed ~~per~~ in accordance with NFPA 72~~, or an equivalent standard acceptable to the authority having jurisdiction~~.

Page: 2

Mod_11004_Text_G59-21.pdf

F11004Text Modification

1009.8.1 System requirements. Two-way communication systems shall provide communication between each required location and the *fire command center* or a central control point location *approved* by the fire department. Where the central control point is not a *constantly attended location*, the two-way communication system shall have timed, automatic telephone dial-out capability that provides two-way communication with an approved supervising station or emergency services . The two-way communication system shall include both audible and visible signals. Systems shall be listed ~~to~~ in accordance with UL 2525 and installed ~~per~~ in accordance with NFPA 72~~, or an equivalent standard acceptable to the authority having jurisdiction.~~

Committee Reason: The modification was approved because the language removed was already addressed under alternative means. The proposal was approved as UL 2525 and NFPA 72 will provide protection for two-way communication systems in highrise stairways, areas of refuge and in elevator lobbies. (Vote: 14-0)

Final Hearing Results

G59-21 AM

Page: 3

Mod_11004_Text_G59-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

36

F11005 **/G61-21**

Date Submitted	03/13/2024	**Section**	403.5.3	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is an code change for high rise buildings that propose to lock stairway doors from the side opposite to the side from which egress is sought.

Rationale

See attached

F11005Text Modification

See attached

Page: 1

Mod11005_TextOfModification.pdf

F11005Text Modification

G61-21

Original Proposal

IBC: 403.5.3

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 403
HIGH-RISE BUILDINGS

Revise as follows:

403.5.3 Stairway door operation. *Stairway* doors other than the exit discharge doors shall be permitted to be locked from the *stairway* side. *Stairway* doors that are locked from the *stairway* side shall be capable of being unlocked simultaneously without unlatching upon~~a~~ one of the following:

1. A signal from the fire command center.
2. Activation of a fire alarm signal in an area served by the stairway.
3. Failure of the power supply.

Reason: This is an important code change for high rise buildings that propose to lock stairway doors from the side opposite to the side from which egress is sought. It is not unusual during an emergency or power outage that building occupants need to access other stories of a building through the stairways. The IBC seems to include provisions for unlocking of locked stairway doors by fire fighting personnel when they arrive at the scene of the incident and assess the situation; it might be quite some time until someone trapped in a vertical exit way can exit the enclosure that may for example blocked at the bottom.

Frequently door locking systems are connected to emergency backup power sources or battery systems and as a result door do not unlock during an emergency. For example, during a power outage, fire department personnel may need to access floors from stairways to perform rescue or evacuation operations for elderly persons who may have difficulty evacuating the building. My jurisdiction had a vandalism incident where hose valves for standpipes serving an 8 level plus two basement building were simultaneously opened, and the fire department was not able to access stories from the stairwell side. The remote unlocking location was not accessible due to flooding and water flow put the building into alarm and evacuation was initiated. Occupants were trapped in the stairways due to rising water level at the discharge level. While not common, this incident highlights that there may be cases where occupants may require options prior to the arrival of fire rescue personnel at at the fire command center.

The Southern Nevada Building Officials have adopted the same requirement see attached.

We request that the General Committee vote to approve this sensible code change prompted by an actual incident in our jurisdiction albeit in a non-high rise building.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed code change will require that the door unlocking mechanism also connect to the fire alarm system however in most cases it already is either through the fire command center or due to common practice when a fire alarm system is present.

Staff Note: Proposals E47-21, G60-21 and G61-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Page: 1

Mod_11005_Text_G61-21.pdf

F11005Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

403.5.3 Stairway door operation. *Stairway* doors other than the exit discharge doors shall be permitted to be locked from the *stairway* side. *Stairway* doors that are locked from the *stairway* side shall be capable of being unlocked simultaneously without unlatching when ~~upon one~~ any of the following conditions occur:

1. Shall unlock individually or simultaneously upon a ~~A~~ signal from the fire command center.
2. Shall unlock simultaneously upon activation ~~Activation~~ of a fire alarm signal in an area served by the stairway.
3. Shall unlock upon failure ~~Failure~~ of the power supply to the lock or the locking system.

Committee Reason: The modification was approved as it added criteria to make the locks fail safe. The proposal was approved as this adds options for unlocking of stairway door operations. The options allows for automatic opening in addition to manual opening options. (Vote: 9-3)

Final Hearing Results

G61-21 AM

Page: 2

Mod_11005_Text_G61-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

37

F11006 **/G62-21**

Date Submitted	03/13/2024	**Section**	404.6	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

These proposed changes to Section 404.6 Atriums brings the provisions of the IBC to be an equivalence to that of the 2012 Life Safety Code.

Rationale

See attached

F11006Text Modification

See attached

Page: 1

Mod11006_TextOfModification.pdf

F11006Text Modification

G62-21

Original Proposal

IBC: 404.6

Proponents: John Williams, Healthcare Committee (ahc@iccsafe.org)

2021 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.6 Enclosure of atriums. *Atrium* spaces shall be separated from adjacent spaces by a 1-hour*fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 711, or both.

Exceptions:

1. A *fire barrier* is not required where a glass wall forming a *smoke partition* is provided. The glass wall shall comply with all of the following:
   1.1. *Automatic* sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the *atrium* side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction;
   1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and
   1.3. Where glass doors are provided in the glass wall, they shall be either*self-closing* or automatic-closing.
2. A *fire barrier* is not required where a glass-block wall assembly complying with Section 2110 and having a 3/4-hour *fire protection rating* is provided.
3. A *fire barrier* is not required between the *atrium* and the adjoining spaces of up to three floors of the*atrium* provided that such spaces are accounted for in the design of the smoke control system.
4. In other than Group I-2, and Group I-1, Condition 2, a~~A~~ *fire barrier* is not required between the *atrium* and the adjoining spaces where the *atrium* is not required to be provided with a smoke control system.
5. In Group I-2 and Group I-1, Condition 2, a fire barrier is not required between the atrium and the adjoining spaces, other than care recipient sleeping or treatment rooms, for up to three stories of the atrium provided that such spaces are accounted for in the design of the smoke control system and are not providing access to care recipient sleeping or treatment rooms.
6. ~~5.~~ A *horizontal assembly* is not required between the *atrium* and openings for escalators complying with Section 712.1.3.
7. ~~6.~~ A *horizontal assembly* is not required between the *atrium* and openings for *exit access stairways* and *ramps* complying with Item 4 of Section 1019.3.

Reason: These proposed changes to Section 404.6 Atriums brings the provisions of the IBC to be an equivalence to that of the 2012 Life Safety Code. As such it brings the provisions in alignment with federal regulatory guidelines for certification of health care facilities. A comparative review was made of the provisions of Section 8.6.7 of the 2012 LSC to that of the 2021 IBC sections 404.6. What is presented in the proposal addresses any differences in levels of protection or location of the protection required to separate the atrium from adjoining rooms or spaces. Further the provisions of IBC Sections 404.9 and 404.10 were compared to the provisions of Section 7.7.2 of the 2012 LSC and found to be equivalent. Review was based on the references from 2012 LSC section 18.3.1.1 – 18.3.1.5 for healthcare facilities

Page: 1

Mod_11006_Text_G62-21.pdf

F11006Text Modification

with vertical openings.
This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There should be no increase in the cost of construction for Group I-2 and Group I-1 condition 2 facilities as they had had to be constructed in conformity with LSC in order to gain federal certification. Facilities that don't receive federal certification also should not see significant cost increases as the proposal makes more of a change to the configuration of what can be adjoining rooms and spaces to the atrium.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it clarifies the requirements for atriums in hospitals. This is needed to match the federal certification requirements for healthcare. (Vote: 13-1)

Final Hearing Results

G62-21 AS

Page: 2

Mod_11006_Text_G62-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

38

F11007 **/G63-21**

Date Submitted	03/13/2024	**Section**	404.10	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal to change Section 404.10 "Exit stairways in an atrium". Concerning discharge from exit stairway and requiring compliance with 1028.1

Rationale

See attached

F11007Text Modification

See attached

Page: 1

Mod11007_TextOfModification.pdf

F11007Text Modification

G63-21

Original Proposal

IBC: 404.10

Proponents: David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.10 Exit stairways in an atrium. Where an *atrium* contains an *interior exit stairway* all the following shall be met:

1. The entry to the *exit stairway* is the edge of the closest riser of the *exit stairway*.
2. The entry of the *exit stairway* shall have access from a minimum of two directions.
3. The distance between the entry to an *exit stairway* in an *atrium* and the entrance to a minimum of one *exit stairway* enclosed in accordance with Section 1023.2 shall comply with the separation required by Section 1007.1.1.
4. *Exit access* travel distance shall be measured to the closest riser of the *exit stairway*.
5. Not more than 50 percent of the *exit stairways* shall be located in the same *atrium*.
6. The discharge from the exit stairway at the level of exit discharge shall comply with Section 1028.1.

Reason: Code Provisions allowing an Interior Exit Stair in an Atrium were first included in the 2018 edition of the IBC. The definition allows the design and construction of an interior exit stair in an atrium as part of the required means of egress from a building.
Interior exit stair is defined as:

[BE] INTERIOR EXIT STAIRWAY.

An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

Typically the design of an interior exit stairway provides a protected path through an enclosure for an interior exit stair as found in 1023.1. There are three specific provisions within this section: 1. required enclosure, 2. must lead directly to the exterior and 3. not used for any purpose other than means of egress and a circulation path. Section 1021.1 establishes the elements of construction that are intended to provide the design elements for an interior exit stairway, but adds additional specific features of them.

1023.1 General. *Interior exit stairways and ramps serving as an exit component in a means of egress system shall comply with the requirements of this section. Interior exit stairways and ramps shall be enclosed and lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1024, except as permitted in Section 1028.1. An interior exit stairway or ramp shall not be used for any purpose other than as a means of egress and a circulation path.*

Page: 1

Mod_11007_Text_G63-21.pdf

F11007Text Modification

.

(NOTE: This is not a code change, the underlining is for emphasis only.)

The requirement for an enclosure of an interior exit stair is contained in Section 1023.2 (construction). The requirements for an interior exit stair to lead directly to the exterior is found in Section 1028 (exit discharge). A stairway used for an interior stair can't be used for any purpose other than means of egress and a circulation path. Section 1028 also provides for how an interior exit stair may pass through other functional areas within the building.

1023.2 Construction. *Enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Interior exit stairways and ramps shall have a fire- resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.*

Exceptions:

1. *Interior exit stairways and ramps in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.*
   Interior exit stairways within an atrium enclosed in accordance with Section
2. *404.6.*

(NOTE: This is not a code change, the underlining is for emphasis only.)

Exception 2 specifically allows the construction of an interior exit stair within an atrium per Section 404.6 to be used for compliance in lieu of the 2-hour fire-resistance rated and 1-hour fire resistance rated enclosure. Section 404.6 similarly states that a 1-hour barrier must be installed between the atrium and adjacent spaces, but provides four exceptions; 1. a glass wall, 2. A glass-block wall with ¾ hr. rating, 3. no wall where a maximum of three floors that are included in the design of the smoke control system, or no wall between the atrium and a maximum of three floors where a smoke control system is not required.

404.6 Enclosure of atriums.

Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier con- structed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 711, or both.

Exceptions:

1. A fire barrier is not required where a glass wall forming a smoke partition is provided. The glass wall shall comply with all of the following:

1.1. Automatic sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the atrium side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction;

1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and

1.3. Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.

2. A fire barrier is not required where a glass-block wall assembly complying with Section 2110 and having a 3/4-hour fire protection rating is provided.

3.
A fire barrier is not required between the atrium and the adjoining spaces of up to three floors of the atrium provided that such spaces are accounted for in the design of the smoke control system

.

4. A fire barrier is not required between the atrium and the adjoining spaces where the atrium is not required to be provided with a smoke control system.

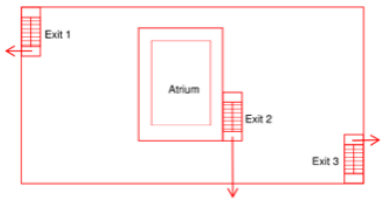
Page: 2

Mod_11007_Text_G63-21.pdf

F11007Text Modification

(NOTE: This is not a code change, the underlining is for emphasis only.)

According to 1023.1, an interior exit stairway must not be used for any purpose except to serve as egress and circulation. A interior exit stairway in an atrium enclosure or in a standard stair enclosure are required to be kept clear and unobstructed and not to be used for any other purpose. It has been construed that this provision limits the entire atrium enclosure to not be used for any other purpose, but the code language in 1023.1 specifically speaks to the stairway as defined as an "interior exit stairway," not its enclosure.



This plan illustrates three interior exit stairs. Two that discharge directly to the outside and one stair that is located in the Atrium and discharges through an occupied space. All three stairs would be required to be enclosed, although Exit 2 will discharge through an occupied space that is contiguous with the atrium as permitted by Section 1028.1.

[BE] 1028.1 General.

Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building.
The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:

1.
Not more than 50 percent of the number and minimum width or required capacity of interior exit stairways and ramps is permitted to egress through areas on the level of discharge provided that all of the following conditions are met
:

1.1. Discharge of interior exit stairways and
ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure
.

1.2.
The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure
.

1.3.
The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. Portions of the level of exit discharge with access to the egress path shall either be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of interior exit stairways or ramps
.

1.4. Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall

Page: 3

Mod_11007_Text_G63-21.pdf

F11007Text Modification

diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp.

2. Not more than 50 percent of the number and minimum width or required capacity of the interior exit stairways and ramps is permitted to egress through a vestibule provided that all of the following conditions are met:

2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating of the interior exit stairway or ramp enclosure.

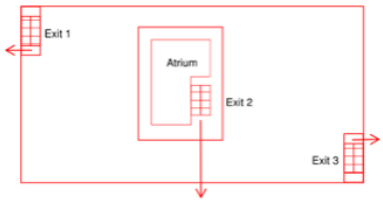
2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).

2.3. The area is separated from the remainder of the level of exit discharge by a fire partition constructed in accordance with Section 708 of the International Building Code.

***Exception:** The maximum transmitted temperature rise is not required.*

2.4. The area is used only for means of egress and exits directly to the outside.

3. Horizontal exits complying with Section 1026 shall not be required to discharge directly to the exterior of the building.



According to 1028.1, one of the exit stairs in the example plan would be allowed to discharge through the occupied space where the criteria for the path to the exterior met the requirements of this section. Similarly, when meeting these limits an interior exit stair in an atrium would be allowed to discharge through that same occupied space. Exit stair 2 in this configuration is unenclosed as permitted by 1023.2, exception 2 and per Section 404.6 because of the four exceptions which establish how an atrium is to be enclosed. The interior exit stair can discharge directly to the outside through an area on the level of exit discharge as would an enclosed stair.

In the 2021 edition of the IBC additional criteria have been added in Section 404.10 describing the conditions for design of an interior exit stairway in an atrium.

404.10.1 Exit stairways in an atrium.

Where an atrium contains an interior exit stairway all the following shall be met:

1. The entry to the exit stairway is the edge of the closest riser of the exit stairway.

2. The entry of the exit stairway shall have access from a minimum of two directions.

3. The distance between the entry to an exit stairway in an atrium, and the entrance to a minimum of one exit stair stairway enclosed in accordance with Section 1023.2 shall comply with the separation in Section 1007.1.1.

4. Exit access travel distance shall be measured to the closest riser of the exit stairway.

5. Not more than 50 percent of the exit stairways shall be located in the same atrium.

This code change adds a reference to Section 1018 for discharge from an atrium stair allowing it through an occupied space.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change simply clarifies that the discharge of the exit stairway in an atrium must comply with the same provisions for all exit stairways. This would not increase or decrease the cost of construction.

Public Hearing Results

Page: 4

Mod_11007_Text_G63-21.pdf

F11007Text Modification

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it clarifies an exit stairway can egress through the ground floor lobby. (Vote: 14-0)

Final Hearing Results

G63-21 AS

Page: 5

Mod_11007_Text_G63-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

39

F11008 **/G65-21**

Date Submitted	03/13/2024	**Section**	406.2.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Changes the text of Section 406.2.1. Rolling door operators or systems should be included. Term operator is added to text.

Rationale

See attached

F11008Text Modification

See attached

Page: 1

Mod11008_TextOfModification.pdf

F11008Text Modification

G63-21

Original Proposal

IBC: 404.10

Proponents: David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 404
ATRIUMS

Revise as follows:

404.10 Exit stairways in an atrium. Where an *atrium* contains an *interior exit stairway* all the following shall be met:

1. The entry to the *exit stairway* is the edge of the closest riser of the *exit stairway*.
2. The entry of the *exit stairway* shall have access from a minimum of two directions.
3. The distance between the entry to an *exit stairway* in an *atrium* and the entrance to a minimum of one *exit stairway* enclosed in accordance with Section 1023.2 shall comply with the separation required by Section 1007.1.1.
4. *Exit access* travel distance shall be measured to the closest riser of the *exit stairway*.
5. Not more than 50 percent of the *exit stairways* shall be located in the same *atrium*.
6. The discharge from the exit stairway at the level of exit discharge shall comply with Section 1028.1.

Reason: Code Provisions allowing an Interior Exit Stair in an Atrium were first included in the 2018 edition of the IBC. The definition allows the design and construction of an interior exit stair in an atrium as part of the required means of egress from a building.
Interior exit stair is defined as:

[BE] INTERIOR EXIT STAIRWAY.

An exit component that serves to meet one or more means of egress design requirements, such as required number of exits or exit access travel distance, and provides for a protected path of egress travel to the exit discharge or public way.

Typically the design of an interior exit stairway provides a protected path through an enclosure for an interior exit stair as found in 1023.1. There are three specific provisions within this section: 1. required enclosure, 2. must lead directly to the exterior and 3. not used for any purpose other than means of egress and a circulation path. Section 1021.1 establishes the elements of construction that are intended to provide the design elements for an interior exit stairway, but adds additional specific features of them.

1023.1 General. *Interior exit stairways and ramps serving as an exit component in a means of egress system shall comply with the requirements of this section. Interior exit stairways and ramps shall be enclosed and lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1024, except as permitted in Section 1028.1. An interior exit stairway or ramp shall not be used for any purpose other than as a means of egress and a circulation path.*

Page: 1

Mod_11008_Text_G63-21.pdf

F11008Text Modification

.

(NOTE: This is not a code change, the underlining is for emphasis only.)

The requirement for an enclosure of an interior exit stair is contained in Section 1023.2 (construction). The requirements for an interior exit stair to lead directly to the exterior is found in Section 1028 (exit discharge). A stairway used for an interior stair can't be used for any purpose other than means of egress and a circulation path. Section 1028 also provides for how an interior exit stair may pass through other functional areas within the building.

1023.2 Construction. *Enclosures for interior exit stairways and ramps shall be constructed as fire barriers in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both. Interior exit stairway and ramp enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the interior exit stairways or ramps shall include any basements, but not any mezzanines. Interior exit stairways and ramps shall have a fire- resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours.*

Exceptions:

1. *Interior exit stairways and ramps in Group I-3 occupancies in accordance with the provisions of Section 408.3.8.*
   Interior exit stairways within an atrium enclosed in accordance with Section
2. *404.6.*

(NOTE: This is not a code change, the underlining is for emphasis only.)

Exception 2 specifically allows the construction of an interior exit stair within an atrium per Section 404.6 to be used for compliance in lieu of the 2-hour fire-resistance rated and 1-hour fire resistance rated enclosure. Section 404.6 similarly states that a 1-hour barrier must be installed between the atrium and adjacent spaces, but provides four exceptions; 1. a glass wall, 2. A glass-block wall with ¾ hr. rating, 3. no wall where a maximum of three floors that are included in the design of the smoke control system, or no wall between the atrium and a maximum of three floors where a smoke control system is not required.

404.6 Enclosure of atriums.

Atrium spaces shall be separated from adjacent spaces by a 1-hour fire barrier con- structed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 711, or both.

Exceptions:

1. A fire barrier is not required where a glass wall forming a smoke partition is provided. The glass wall shall comply with all of the following:

1.1. Automatic sprinklers are provided along both sides of the separation wall and doors, or on the room side only if there is not a walkway on the atrium side. The sprinklers shall be located between 4 inches and 12 inches (102 mm and 305 mm) away from the glass and at intervals along the glass not greater than 6 feet (1829 mm). The sprinkler system shall be designed so that the entire surface of the glass is wet upon activation of the sprinkler system without obstruction;

1.2. The glass wall shall be installed in a gasketed frame in a manner that the framing system deflects without breaking (loading) the glass before the sprinkler system operates; and

1.3. Where glass doors are provided in the glass wall, they shall be either self-closing or automatic-closing.

2. A fire barrier is not required where a glass-block wall assembly complying with Section 2110 and having a 3/4-hour fire protection rating is provided.

3.
A fire barrier is not required between the atrium and the adjoining spaces of up to three floors of the atrium provided that such spaces are accounted for in the design of the smoke control system

.

4. A fire barrier is not required between the atrium and the adjoining spaces where the atrium is not required to be provided with a smoke control system.

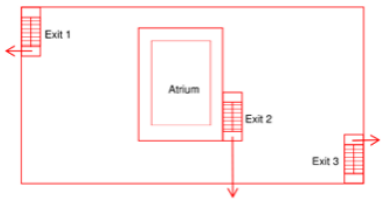
Page: 2

Mod_11008_Text_G63-21.pdf

F11008Text Modification

(NOTE: This is not a code change, the underlining is for emphasis only.)

According to 1023.1, an interior exit stairway must not be used for any purpose except to serve as egress and circulation. A interior exit stairway in an atrium enclosure or in a standard stair enclosure are required to be kept clear and unobstructed and not to be used for any other purpose. It has been construed that this provision limits the entire atrium enclosure to not be used for any other purpose, but the code language in 1023.1 specifically speaks to the stairway as defined as an "interior exit stairway," not its enclosure.



This plan illustrates three interior exit stairs. Two that discharge directly to the outside and one stair that is located in the Atrium and discharges through an occupied space. All three stairs would be required to be enclosed, although Exit 2 will discharge through an occupied space that is contiguous with the atrium as permitted by Section 1028.1.

[BE] 1028.1 General.

Exits shall discharge directly to the exterior of the building. The exit discharge shall be at grade or shall provide a direct path of egress travel to grade. The exit discharge shall not reenter a building.
The combined use of Exceptions 1 and 2 shall not exceed 50 percent of the number and minimum width or required capacity of the required exits.

Exceptions:

1.
Not more than 50 percent of the number and minimum width or required capacity of interior exit stairways and ramps is permitted to egress through areas on the level of discharge provided that all of the following conditions are met
:

1.1. Discharge of interior exit stairways and
ramps shall be provided with a free and unobstructed path of travel to an exterior exit door and such exit is readily visible and identifiable from the point of termination of the enclosure
.

1.2.
The entire area of the level of exit discharge is separated from areas below by construction conforming to the fire-resistance rating for the enclosure
.

1.3.
The egress path from the interior exit stairway and ramp on the level of exit discharge is protected throughout by an approved automatic sprinkler system. Portions of the level of exit discharge with access to the egress path shall either be equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, or separated from the egress path in accordance with the requirements for the enclosure of interior exit stairways or ramps
.

1.4. Where a required interior exit stairway or ramp and an exit access stairway or ramp serve the same floor level and terminate at the same level of exit discharge, the termination of the exit access stairway or ramp and the exit discharge door of the interior exit stairway or ramp shall be separated by a distance of not less than 30 feet (9144 mm) or not less than one-fourth the length of the maximum overall

Page: 3

Mod_11008_Text_G63-21.pdf

diagonal dimension of the building, whichever is less. The distance shall be measured in a straight line between the exit discharge door from the interior exit stairway or ramp and the last tread of the exit access stairway or termination of slope of the exit access ramp.

2. Not more than 50 percent of the number and minimum width or required capacity of the interior exit stairways and ramps is permitted to egress through a vestibule provided that all of the following conditions are met:

2.1. The entire area of the vestibule is separated from areas below by construction conforming to the fire-resistance rating of the interior exit stairway or ramp enclosure.

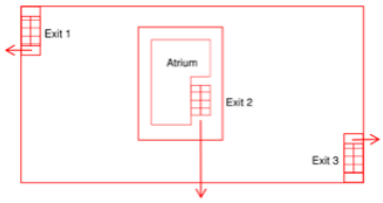
2.2. The depth from the exterior of the building is not greater than 10 feet (3048 mm) and the length is not greater than 30 feet (9144 mm).

2.3. The area is separated from the remainder of the level of exit discharge by a fire partition constructed in accordance with Section 708 of the International Building Code.

***Exception:** The maximum transmitted temperature rise is not required.*

2.4. The area is used only for means of egress and exits directly to the outside.

3. Horizontal exits complying with Section 1026 shall not be required to discharge directly to the exterior of the building.



According to 1028.1, one of the exit stairs in the example plan would be allowed to discharge through the occupied space where the criteria for the path to the exterior met the requirements of this section. Similarly, when meeting these limits an interior exit stair in an atrium would be allowed to discharge through that same occupied space. Exit stair 2 in this configuration is unenclosed as permitted by 1023.2, exception 2 and per Section 404.6 because of the four exceptions which establish how an atrium is to be enclosed. The interior exit stair can discharge directly to the outside through an area on the level of exit discharge as would an enclosed stair.

In the 2021 edition of the IBC additional criteria have been added in Section 404.10 describing the conditions for design of an interior exit stairway in an atrium.

404.10.1 Exit stairways in an atrium.

Where an atrium contains an interior exit stairway all the following shall be met:

1. The entry to the exit stairway is the edge of the closest riser of the exit stairway.

2. The entry of the exit stairway shall have access from a minimum of two directions.

3. The distance between the entry to an exit stairway in an atrium, and the entrance to a minimum of one exit stair stairway enclosed in accordance with Section 1023.2 shall comply with the separation in Section 1007.1.1.

4. Exit access travel distance shall be measured to the closest riser of the exit stairway.

5. Not more than 50 percent of the exit stairways shall be located in the same atrium.

This code change adds a reference to Section 1018 for discharge from an atrium stair allowing it through an occupied space.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change simply clarifies that the discharge of the exit stairway in an atrium must comply with the same provisions for all exit stairways. This would not increase or decrease the cost of construction.

Public Hearing Results

F11008Text Modification

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it clarifies an exit stairway can egress through the ground floor lobby. (Vote: 14-0)

Final Hearing Results

G63-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

40

F11009 /G71-21

Date Submitted	03/13/2024	**Section**	407.4.4	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new section 407.4.4.4 "Circulating space within a care suite".

Rationale

See attached

F11009Text Modification

See attached

Page: 1

Mod11009_TextOfModification.pdf

F11009Text Modification

G71-21

Original Proposal

IBC: 407.4.4, 407.4.4.4 (New)

Proponents: William Koffel, Koffel Associates, Inc., Self (wkoffel@koffel.com)

THIS CODE CHANGE WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 407
GROUP I-2

Revise as follows:

407.4.4 Group I-2 care suites. *Care suites* in Group I-2 shall comply with Sections 407.4.4.1 through ~~407.4.4.4~~ 407.4.4.5 and either Section ~~407.4.4.5~~ 407.4.4.6 or ~~407.4.4.6~~ 407.4.4.7.

407.4.4.3 Access to corridor. Every *care suite* shall have a door leading directly to an *exit access corridor* or *horizontal exit*. Movement from habitable rooms within a *care suite* shall not require more than 100 feet (30 480 mm) of travel within the *care suite* to a door leading to the *exit access corridor* or *horizontal exit*. Where a *care suite* is required to have more than one *exit access* door by Section 407.4.4.5.2 or 407.4.4.6.2, the additional door shall lead directly to an *exit access corridor*, *exit* or an adjacent suite.

Add new text as follows:

407.4.4.4 Circulating space within a care suite. The circulating space within a care suite providing the access to the door required in Section 407.4.4.3 shall have a minimum width of 36 inches (914 mm) and shall not be required to meet the requirements for a corridor or an aisle.

Revise as follows:

~~**407.4.4.4**~~ **407.4.4.5 Doors within care suites.** Doors in *care suites* serving habitable rooms shall be permitted to comply with one of the following:

1. Manually operated horizontal sliding doors permitted in accordance with Exception 9 to Section 1010.1.2.
2. *Power-operated doors* permitted in accordance with Section 1010.1.2, Exception 7.
3. *Means of egress* doors complying with Section 1010.

Reason: There is a lot of confusion regarding the space through which one travels within a Group I-2 care suite to gain access to the door leading to a corridor. Due to the definition of a corridor, some apply corridor requirements to this space. It has not been the intent of the Code that corridor requirements apply within these suites. If corridor requirements were to be applied, there would be limitations on the areas that may be open to the space, patient care would not be permitted in an area open to this space, dead end limits would apply, and corridor wall and door requirements would apply. Some have also required that the clear width of the space be 96 inches since that is the minimum width required for a corridor used for bed movement in a Group I-2 occupancy. Since the proposal language clearly states that the space is not a corridor a minimum width requirement is included.

This issue was identified during a meeting of the ICC Committee on Healthcare but the Committee did not have time to develop a proposal to address the issue. While the proponent is a member of the ICC Committee on Healthcare, the proposal has not been submitted on behalf

Page: 1

Mod_11009_Text_G71-21.pdf

F11009Text Modification

of that Committee.

Acceptance of the proposal would be consistent with the requirements in NFPA 101 which is used for Federal certification of most health care facilities.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal clarifies the intent of the Code and as such there should be no impact on the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
407.4.4.4 Circulation paths ~~Circulating space~~ within a care suite. The circulation paths ~~circulating space~~ within a care suite providing the access to ~~the door~~ doors required in Section 407.4.4.3 shall have a minimum width of 36 inches (914 mm) and shall not be required to meet the requirements for a corridor or an aisle.

Committee Reason: The modification changed circulating space to circulation path which is easier to understand. The proposal was approved as it separates 36" wide circulation paths within suites from the 72" wide corridors needed for movement of beds in corridors. (Vote: 13-1)

Final Hearing Results

G71-21 AM

Page: 2

Mod_11009_Text_G71-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

41

F11010 **/G76-21**

Date Submitted	03/13/2024	**Section**	410.2.1.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Change to text of 410.2.1.1. Stage height shall be measured from the lowest point on the stage floor to the highest point of the underside of the roof or floor deck above the stage.

Rationale

See attached

F11010Text Modification

See attached

Page: 1

Mod11010_TextOfModification.pdf

F11010Text Modification

G76-21

Original Proposal

IBC:410.2.1.1

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

2021 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2.1.1 Stage height and area. Stage areas shall be measured to include the entire performance area and adjacent backstage and support areas not separated from the performance area by fire-resistance-rated construction. *Stage* height shall be measured from the lowest point on the *stage* floor to the highest point of the underside of the roof or floor deck above the *stage*.

Reason: The building code has settled on the stage height, a measurement in the vertical dimension of the volume of the stage, as a determining factor for other code requirements. The vertical dimension of the stage is used to quantify how much combustible stage scenery may be present and the effectiveness of fire suppression systems. Is it understood for this vertical measurement to be from the lowest point of the stage floor to the highest point of the underside of the roof deck or floor deck structure above. Measuring to the top of the roof deck, floor deck, or any other protruding roof elements, does not accurately gauge the volume usable for combustible stage scenery and proven and tested effective fire suppression. The limiting factor for scenery and fire suppression is the height of the bottom of the structure over the stage.
For example, if a roof mounted mechanical smoke evacuation system added +4'-0" of height to a portion of the roof, this does not allow for +4'-0" of additional space inside the stage for the storage of combustible stage scenery nor does it raise effective height of fire suppression systems. Therefore, this additional +4'-0" of height is not applicable to the measurement of stage height for code purposes.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Change is for clarification and should have no impact on cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because it clarifies how stage height should be measured. (Vote: 13-1)

Final Hearing Results

G76-21 AS

Page: 1

Mod_11010_Text_G76-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

42

F11011 | **/G79-21**

Date Submitted	03/13/2024	**Section**	410.2.4	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds an Exception to Section 410.2.4 "Proscenium wall".

Rationale

See attached

F11011Text Modification

See attached

Page: 1

Mod11011_TextOfModification.pdf

F11011Text Modification

G79-21

Original Proposal

IBC: 410.2.4

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.2.4 Proscenium wall. Where the *stage* height is greater than 50 feet (15 240 mm), all portions of the *stage* shall be completely separated from the seating area by a *proscenium wall* with not less than a 2-hour *fire-resistance rating* extending continuously from the foundation to the roof.

Exception: Where a stage is located in a building of Type I construction, the proscenium wall is permitted to extend continuously from a minimum 2-hour fire-resistance-rated floor slab of the space containing the stage to the roof or a minimum 2-hour fire-resistance-rated floor deck above.

Reason: The purpose of the proposed code change is to clarify the code.
Stages in theaters and showrooms are often located in mixed-use facilities, not necessarily dedicated buildings. In such facilities, stages are typically not located in a space in which the floor is also the foundation of the building. On the contrary, in many mixed-use facilities that contain a stage that requires a proscenium wall, there are typically one or more occupied floor levels beneath the theater, showroom, ballroom, etc. containing the stage. The current language of IBC Section 410.2.4 would require the proscenium wall for these stages to dissect the entire height of the building even though the stage is only located in a single space within the building. The proposed code change would allow the proscenium to terminate at the 2-hour fire-resistance rated floor assembly of the space containing the stage. The proposed code change would only apply to stages in buildings of Type I construction since such buildings are required by IBC Table 601 to always have minimum 2-hour fire-resistance rated floor construction.

The intent of the proscenium wall required by Section 410.2.4 is to protect the audience from the potentially increased hazard on stages with heights greater than 50 feet, which permits multiple settings and large amounts of scenery in dense configurations (i.e., an increased fuel load). The proposed code change still meets the intent of Section 410.2.4, and there is precedence for allowing the 2-hour fire-resistance rated proscenium wall to terminate at a 2-hour fire-resistance floor assembly. Section 1026.2 requires horizontal exit separations to extend vertically through all levels of the building unless floor assemblies have a minimum fire-resistance rating of 2-hour with no unprotected openings. The proposed code change provides a similar allowance to that provided in Section 1026.2 for horizontal exit separations.

For reference, this approach of terminating proscenium walls has been successfully utilized for approximately 15 years in Southern Nevada.

Cost Impact: The code change proposal will decrease the cost of construction
This code change proposal could reduce the cost of construction as the two-hour wall could terminate into two-hour fire-resistance floor assemblies, or the roof, rather than extending through additional floor levels which do not contain the stage.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_11011_Text_G79-21.pdf

F11011Text Modification

Committee Reason: The proposal was approved because the exception did maintain the fire protection continuity for the stage. This has already been proven to be effective in many existing stage constructions. (Vote: 14-0)

Final Hearing Results

G79-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

43

F11012 | **/G82-21**

Date Submitted	03/13/2024	**Section**	410.4.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modification to text of Section 410.4.1 and 410.4.2. Changing use of "appurtenant" to "contiguous".

Rationale

See attached

F11012Text Modification

See attached

Page: 1

Mod11012_TextOfModification.pdf

F11012Text Modification

G82-21

Original Proposal

IBC: 410.4.1, 410.4.2

Proponents:
William Conner, representing American Society of Theatre Consultants (bill@bcaworld.com); Homer Maiel, PE, CBO, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

2021 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

410.4.1 Separation from stage. The *stage* shall be separated from dressing rooms, scene docks, property rooms, workshops, storerooms and compartments ~~appurtenant~~ contiguous to the *stage* and other parts of the building by *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* shall be not less than 2 hours for *stage* heights greater than 50 feet (15 240 mm) and not less than 1 hour for *stage* heights of 50 feet (15 240 mm) or less.

410.4.2 Separation from each other. Dressing rooms, scene docks, property rooms, workshops, storerooms and compartments ~~appurtenant~~ contiguous to the *stage* shall be separated from each other by not less than 1-hour *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both.

Reason: .
Conner:

An “appurtenant” space may be down the corridor or in an adjacent building; where as a contiguous space is adjacent and connected, “sharing a common border or touching” in many definitions. This requirement is to protect stages and auditoriums from the fire hazards unique to shops, dressing rooms, storage, and such spaces associated with the performing arts.

Maiel:

The word “appurtenant” is confusing. In the dictionary, this word is defined as “pertinent” and “accessory” . The word “pertinent” is defined as: “having some connection with matter at hand”, “relevant”. Any of these definitions could distort the intent of the code. Apparently, this word came into the code from BOCA. The last UBC (1997) used word “contiguous” for these two sections which is more appropriate.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Conner: No change, just for clarity.

Maiel: This change makes the intend of the code more clearer. It does not change any technical requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as this change makes the requirements easier to understand and enforce. (Vote: 13-1)

Page: 1

Mod_11012_Text_G82-21.pdf

F11012Text Modification

Final Hearing Results

G82-21 AS

Page: 2

Mod_11012_Text_G82-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

44

F11013 **/G84-21**

Date Submitted	03/13/2024	**Section**	410.6	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds an Exception to Section 410.6 "Automatic sprinkler system". Concerning catwalks and galleries under maximum widths per NFPA 13.

Rationale

See attached

F11013Text Modification

See attached

Page: 1

Mod11013_TextOfModification.pdf

F11013Text Modification

G84-21

Original Proposal

IBC: [F] 410.6; IFC: 914.6.1

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Revise as follows:

[F] 410.6 Automatic sprinkler system. *Stages* shall be equipped with an*automatic sprinkler system* in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the *stage*. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such *stages*.

Exceptions:

1. Sprinklers are not required under *stage* areas less than 4 feet (1219 mm) in clear height that are utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X *gypsum board* not less than $^{5}/_{8}$-inch (15.9 mm) in thickness.
2. Sprinklers are not required for *stages* 1,000 square feet (93 m^2) or less in area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.
3. Sprinklers are not required within portable orchestra enclosures on*stages*.
4. Sprinklers are not required under catwalks and galleries under the maximum widths as permitted by NFPA 13.

Reason: This is common practice on most projects. Catwalks under 48" open on both sides or 36" when against a wall like ducts do not require sprinklers under them. This change clarifies that.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No significant change.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for the approval was based on the addition of the language of the new exception. The exception helps clarify the code by placing a pointer directly to NFPA 13 for the allowance. (Vote: 13-1)

Public Comments

Page: 1

Mod_11013_Text_G84-21.pdf

F11013Text Modification

Public Comment 1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

SECTION 410 STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS .

[F] 410.6 Automatic sprinkler system . *Stages* shall be equipped with an*automatic sprinkler system* in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the *stage*. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such *stages*.

Exceptions:

1. Sprinklers are not required under *stage* areas less than 4 feet (1219 mm) in clear height that are utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X *gypsum board* not less than $^{5}/_{8}$-inch (15.9 mm) in thickness.
2. Sprinklers are not required for *stages* 1,000 square feet (93 m^2) or less in area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.
3. Sprinklers are not required within portable orchestra enclosures on*stages*.
4. Sprinklers are not required under catwalks and galleries~~under the maximum widths as permitted by NFPA 13~~. where they are permitted to be omitted inaccordance with Section 903.3.1.1

2021 International Fire Code

914.6.1 Automatic sprinkler system . Stages shall be equipped with an*automatic sprinkler system* in accordance with Section 903.3.1.1. Sprinklers shall be installed under the roof and gridiron and under all catwalks and galleries over the stage. Sprinklers shall be installed in dressing rooms, performer lounges, shops and storerooms accessory to such stages.

Exceptions:

1. Sprinklers are not required under stage areas less than 4 feet (1219 mm) in clear height utilized exclusively for storage of tables and chairs, provided that the concealed space is separated from the adjacent spaces by Type X gypsum board not less than $^{5}/_{8}$ inch (15.9 mm) in thickness.
2. Sprinklers are not required for stages 1,000 square feet (93 m^2) or less in area and 50 feet (15 240 mm) or less in height where curtains, scenery or other combustible hangings are not retractable vertically. Combustible hangings shall be limited to a single main curtain, borders, legs and a single backdrop.
3. Sprinklers are not required within portable orchestra enclosures on stages.
4. Sprinklers are not required under catwalks and galleries ~~under the maximum widths as permitted by NFPA 13~~. where they are permitted to be omitted inaccordance with Section 903.3.1.1

Commenter's Reason: This language is misleading and confusing. Bringing installation requirements out of the standards and into the codes is a bad practice. NFPA 13 already clearly addresses when sprinklers are not required under obstructions. This proposal leaves the user with the possibility to incorrectly interpret that sprinklers may be omitted from under other similar obstructions that NFPA 13 would require to be protected.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This is already a NFPA 13 requirement. This simply cleans up the language.

Page: 2

Mod_11013_Text_G84-21.pdf

F11013Text Modification

Final Hearing Results

G84-21 AMPC1

Mod_11013_Text_G84-21.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

45

F11014 **/G85-21**

Date Submitted	03/13/2024	**Section**	410.7	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Delete requirement for standpipes on stages.

Rationale

See attached

F11014Text Modification

See attached

Page: 1

Mod11014_TextOfModification.pdf

F11014Text Modification

G85-21

Original Proposal

IBC: [F] 410.7; IFC: 905.3.4 (IBC: [F] 905.3.4), 905.5.1 (IBC:[F] 905.5.1), 914.6.2

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

SECTION 410
STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS

Delete without substitution:

~~**[F] 410.7 Standpipes.** *Standpipe systems* shall be provided in accordance with Section 905.~~

Reason: Delete requirement for standpipes on stages. This requirement goes back 100+ years when most stages were staffed by trained employees and the standpipe with hose was intended for occupant fire fighting, not the fire service. Today, when most stages are in public schools without full time staff trained to fight fires on stages, it makes no sense. It is an archaic requirement. More and more building and/or fire officials request or require these not be installed or, where installed, request these be removed, to discourage or prevent non-fire service occupants from fighting fires. I do not believe fire service would use these, located in the space where the fire is.

Cost Impact: The code change proposal will decrease the cost of construction
A very slight reduction by not requiring a standpipe but not the cost savings is not the reason for this proposal.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the approval was based on the proponent's reason statement. (Vote: 14-0)

Final Hearing Results

G85-21 AS

Page: 1

Mod_11014_Text_G85-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

46

F11015 | **/G86-21 Part I**

Date Submitted	03/13/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC.

Summary of Modification

This proposal executes numerous fixes and clean-ups related to Proposal G48-18.

Rationale

See attached

F11015Text Modification

See attached

Page: 1

Mod11015_TextOfModification.pdf

F11015Text Modification

G86-21 Part I

Original Proposal

PART I - IBC: SECTION 202, 411.1, 411.5, 411.6, 411.6.1, 411.7, TABLE 903.2.11.6; ICCPC: [BG] A103.1.9.12
PART II - IFC: 105.5.3, SECTION 202 (New), TABLE 903.2.11.6, 907.2.12 (IBC[F]907.2.12), 907.2.12.1(IBC[F]907.2.12.1), 907.2.12.2(IBC[F]907.2.12.2), 907.2.12.3(IBC[F]907.2.12.3), 914.7, 914.7.2, 914.7.2.1 (New), 914.7.2.2 (New), 914.7.2.3 (New); IBC: [F]411.3, 411.3.1 (New), 411.3.2 (New), [F]411.4

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

[BG] SPECIAL AMUSEMENT AREA.
~~A special amusement area is any~~ temporary or permanent building or portion thereof that is occupied for amusement, entertainment or educational purposes and is arranged in a manner that meets one or more of the following descriptions:

1. Makes the means of egress path not readily apparent due to visual or audio distractions.
2. Intentionally confounds identification of the means of egress path.
3. Otherwise makes the means of egress path not readily available because of the nature of the attraction or mode of conveyance through the building or structure.

[BG] PUZZLE ROOM.
A puzzle room is a type of *special amusement area* in which occupants are encouraged to solve a challenge to escape from a room or series of rooms.A puzzle room is sometimes referred to as an escape room.

SECTION 411
SPECIAL AMUSEMENT AREAS

Revise as follows:

411.1 General. *Special amusement areas* having an *occupant load* of 50 or more shall comply with the requirements for the appropriate Group A occupancy and Sections 411.1 through 411.7. *Special amusement areas* having an *occupant load* of less than 50 shall comply with the requirements for a Group B occupancy and Sections 411.1 through 411.7.

~~**Exception**~~ **Exceptions:**

1. Special amusement areas that are without walls or a roof and constructed to prevent the accumulation of smoke~~need~~ are not required to comply with this section.
2. *Puzzle rooms* provided with a *means of egress* that is unlocked, readily identifiable and always available are not required to comply with this section.

Delete without substitution:

~~**411.5 Puzzle room exiting.** *Puzzle room* exiting shall comply with one of the following:~~
~~1. Exiting in accordance with Chapter 10.~~

Page: 1
Mod_11015_Text_G86-21 Part I.pdf

F11015Text Modification

~~2. An alternative design *approved* by the *building official*.~~

~~3. *Exits* shall be open and readily available upon activation by the *automatic fire alarm system*, *automatic sprinkler system*, and a manual control at a *constantly attended location*.~~

Revise as follows:

411.4 ~~411.6~~ Exit marking. Exit signs shall be installed at the required *exit* or *exit access doorways* serving *special amusement areas* in accordance with this section and Section 1013. *Approved* directional exit markings shall be provided. Where mirrors, mazes or other designs ~~are utilized that~~ disguise the path of egress travel such that~~they are~~ the path of egress travel is not apparent, *approved* and *listed* low-level exit signs that comply with Section 1013.5, and directional path markings *listed* in accordance with UL 1994, shall be provided and located not more than 8 inches (203 mm) above the walking surface and on or near the path of egress travel. Such markings shall become visible in an emergency. The directional exit marking shall be activated by the *automatic smoke detection system* and the *automatic sprinkler system* in accordance with Section 411.3.2. ~~907.2.12.~~

~~411.6.1~~ 411.4.1 Photoluminescent exit signs. Where *photoluminescent exit* signs are installed, such signs shall be *listed*, and the activating light source and viewing distance shall be in accordance with the listing and markings on~~of~~ the signs.

411.5 ~~411.7~~ Interior finish. ~~The *interior*~~ *Interior wall and ceiling finish* materials in *special amusement areas* shall ~~be~~ meet the *flame spread index* and *smoke-developed index* requirements for Class A in accordance with Section 803.1.

411.6 Flammable decorative materials. *Flammable decorative materials* shall comply with Section 806.

TABLE 903.2.11.6 ADDITIONAL REQUIRED PROTECTION SYSTEMS

Portions of table not shown remain unchanged.

SECTION	SUBJECT
411.3	Special amusement buildings areas

Reason: This proposal executes numerous fixes and clean-ups related to Proposal G48-18, which updated some provisions related to special amusement buildings and added provisions for puzzle rooms. Unfortunately, there were some shortcomings in that proposal that remained undiscovered until after it was too late to fix these in the 2021 edition. Explanation for individual changes are as follows:

IFC:

- 105.5.3: Updates the old "special amusement building" references to the new "special amusement area" concept.
- 202: Updates and correlates the IFC definition of "special amusement area" with the updated 2021 definition in the IBC.
- Table 903.2.11.6: Updates the old "special amusement building" references to the new "special amusement area" concept.
- 907.2.12: Updates the old "special amusement building" references to the new "special amusement area" concept. Also, moves the content from 907.2.12 to 914.7 so that all of the special amusement area requirements are in one place. Section 914 is the appropriate location for all of this text.
- 914.7: Adds a reference to the IBC for other important safety requirements and brings in the exceptions that are currently in IBC Section 411, which negate having to comply with special amusement area requirements for outdoor areas and for some puzzle rooms. This addresses/eliminates a current conflict between the codes. The definition of "puzzle room" has also been pulled into the IFC from the IBC since the term will now appear in the IFC.
- 914.7.2: Brings in the fire alarm requirements previously located in 907.2.12 with edits for improved clarity. The term "throughout" has been added for clarity. The IBC Section 411.3 stated "buildings containing special amusement areas" require detection and alarm, and the term "throughout" emphasizes that the requirement applies to the building, not just the special amusement area per the IBC provision. Other changes in this section and the following sections in 914.7 are intended as non-technical edits to improve flow and clarity.

IBC:

- 202: The definition of special amusement area has been edited for clarity.

Page: 2

Mod_11015_Text_G86-21 Part I.pdf

F11015Text Modification

- Table 903.2.11.6 and Section 907.2.12 changes have the same reasons as companion changes to the IFC described above.
- 411.1: a second exception has been added for "puzzle rooms," a term that was added in the 2021 code by Proposal G48-18. This exception is essential for the proper application of Section 411 to puzzle rooms, but when Proposal G48-18 was entered into cdpACCESS last cycle, the text was somehow omitted, which went unnoticed until it was too late to fix the mistake in the 2021 code.
- 411.3: this section has been updated to correlate with the revised (herein) IFC Section 914.7 re detection and alarm systems.
- 411.5: this section should have been omitted from Proposal G48-18, but it was mistakenly included and went unnoticed until it was too late to fix the mistake in the 2021 code. When the second exception was added to Section 411.1, this section was no longer needed.
- ~~411.6~~ (now 411.4): changes are intended as non-technical clarifications. Re. photoluminescent signs, the section required compliance with listing criteria, but didn't previously have a specific reference that required listed signs.
- ~~411.7~~ (now 411.5): changes are intended as non-technical clarifications.
- 411.6 (new): regulation of flammable decorative materials was previously included in this section, but Proposal G48-18 inadvertently omitted it when the provisions were re-written.

ICC Performance Code

- Updates and correlates the introductory text, which was originally copied from the former definition of "special amusement building." The proposed text is copied from the 2021 definition of "special amusement area" in the IBC and proposed herein for the IFC.

Cost Impact: The code change proposal will decrease the cost of construction
Most of the recommended changes are non-technical and simply improve usability of the code. However, the change that adds a new exception for puzzle rooms will reduce the code of construction for some of these uses by not requiring qualifying puzzle rooms to meet regulations for special amusement areas.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was an editorial clean up of the requirements for special amusement buildings and puzzle rooms. (Vote: 14-0)

Final Hearing Results

G86-21 Part I AS

Page: 3

Mod_11015_Text_G86-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

47

F11016 | **/G86-21 Part II**

Date Submitted	03/13/2024	**Section**	411.2	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC.

Summary of Modification

This proposal executes numerous fixes and clean-ups related to Proposal G48-18, which updated some provisions related to special amusement buildings and added provisions for puzzle rooms.

Rationale

See attached

F11016Text Modification

See attached

Page: 1

Mod11016_TextOfModification.pdf

F11016Text Modification

G86-21 Part II

Original Proposal

PART II - IFC: 105.5.3, SECTION 202 (New), TABLE 903.2.11.6, 907.2.12 (IBC[F]907.2.12), 907.2.12.1(IBC[F]907.2.12.1), 907.2.12.2(IBC[F]907.2.12.2), 907.2.12.3(IBC[F]907.2.12.3), 914.7, 914.7.2, 914.7.2.1 (New), 914.7.2.2 (New), 914.7.2.3 (New); IBC: [F]411.3, 411.3.1 (New), 411.3.2 (New), [F]411.4

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Building Code

[F] 411.2 Automatic sprinkler system. Buildings containing *special amusement areas* shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1. Where the*special amusement area* is temporary, the sprinkler water supply shall be of an *approved* temporary means.

Exception: *Automatic* sprinklers are not required where the total floor area of a temporary*special amusement area* is less than 1,000 square feet (93 m^2) and the *exit access* travel distance from any point in the*special amusement area* to an exit is less than 50 feet (15 240 mm).

Revise as follows:

411.3 Detection and alarm systems ~~Fire alarm system~~. Buildings containing *special amusement areas* shall be equipped throughout with an *automatic smoke detection system* and an *emergency voice/alarm communications* system in accordance with Section 907 ~~907.2.13~~. Pre-signal alarms and alarm activation shall comply with Sections 411.3.1 and 411.3.2, and*emergency voice/alarm communications* systems shall comply with Section 411.3.3.

Add new text as follows:

411.3.1 Alarm pre-signal. Activation of any single smoke detector, the*automatic sprinkler system* or any other single automatic fire detection device shall immediately initiate an audible and visible alarm at a constantly attended location at the *special amusement area* from which emergency action can be initiated, including the capability of manual initiation of requirements in Section 411.3.2.

411.3.2 Alarm activation. Activation of two or more smoke detectors, a single smoke detector equipped with an alarm verification feature, two or more other approved fire detection devices, the *automatic sprinkler system*, or a manual control located at the constantly attended station required by Section 411.3.1 shall automatically accomplish all of the following:

1. Automatically illuminate the means of egress with an illumination level not less than 1 footcandle (11 lux) at the walking surface level.
2. Stop conflicting or confusing sounds and visual distractions.
3. Activate approved directional exit markings.
4. Activate a prerecorded message, audible throughout the special amusement area, instructing occupants to proceed to the nearest exit. Alarm signals used in conjunction with the prerecorded message shall produce a sound that is distinct from other sounds used during normal operation of the special amusement area .

Revise as follows:

[F] ~~411.4~~ 411.3.3 Emergency voice/alarm communications system. An *emergency voice/alarm communications system* ~~shall be provided in accordance with Section 907.2.12~~ complying with Section 907.5.2.2 shall be installed in and audible throughout special amusement areas. The emergency voice/alarm communications system is allowed to also serve as a public address system.

Page: 1

Mod_11016_Text_G86-21 Part II.pdf

F11016Text Modification

Reason: This proposal executes numerous fixes and clean-ups related to Proposal G48-18, which updated some provisions related to special amusement buildings and added provisions for puzzle rooms. Unfortunately, there were some shortcomings in that proposal that remained undiscovered until after it was too late to fix these in the 2021 edition. Explanation for individual changes are as follows:
IFC:

- 105.5.3: Updates the old "special amusement building" references to the new "special amusement area" concept.
- 202: Updates and correlates the IFC definition of "special amusement area" with the updated 2021 definition in the IBC.
- Table 903.2.11.6: Updates the old "special amusement building" references to the new "special amusement area" concept.
- 907.2.12: Updates the old "special amusement building" references to the new "special amusement area" concept. Also, moves the content from 907.2.12 to 914.7 so that all of the special amusement area requirements are in one place. Section 914 is the appropriate location for all of this text.
- 914.7: Adds a reference to the IBC for other important safety requirements and brings in the exceptions that are currently in IBC Section 411, which negate having to comply with special amusement area requirements for outdoor areas and for some puzzle rooms. This addresses/eliminates a current conflict between the codes. The definition of "puzzle room" has also been pulled into the IFC from the IBC since the term will now appear in the IFC.
- 914.7.2: Brings in the fire alarm requirements previously located in 907.2.12 with edits for improved clarity. The term "throughout" has been added for clarity. The IBC Section 411.3 stated "buildings containing special amusement areas" require detection and alarm, and the term "throughout" emphasizes that the requirement applies to the building, not just the special amusement area per the IBC provision. Other changes in this section and the following sections in 914.7 are intended as non-technical edits to improve flow and clarity.

IBC:

- 202: The definition of special amusement area has been edited for clarity.
- Table 903.2.11.6 and Section 907.2.12 changes have the same reasons as companion changes to the IFC described above.
- 411.1: a second exception has been added for "puzzle rooms," a term that was added in the 2021 code by Proposal G48-18. This exception is essential for the proper application of Section 411 to puzzle rooms, but when Proposal G48-18 was entered into cdpACCESS last cycle, the text was somehow omitted, which went unnoticed until it was too late to fix the mistake in the 2021 code.
- 411.3: this section has been updated to correlate with the revised (herein) IFC Section 914.7 re detection and alarm systems.
- 411.5 : this section should have been omitted from Proposal G48-18, but it was mistakenly included and went unnoticed until it was too late to fix the mistake in the 2021 code. When the second exception was added to Section 411.1, this section was no longer needed.
- 411.6 (now 411.4): changes are intended as non-technical clarifications. Re. photoluminescent signs, the section required compliance with listing criteria, but didn't previously have a specific reference that required listed signs.
- 411.7 (now 411.5): changes are intended as non-technical clarifications.
- 411.6 (new): regulation of flammable decorative materials was previously included in this section, but Proposal G48-18 inadvertently omitted it when the provisions were re-written.

ICC Performance Code

- Updates and correlates the introductory text, which was originally copied from the former definition of "special amusement building." The proposed text is copied from the 2021 definition of "special amusement area" in the IBC and proposed herein for the IFC.

Cost Impact: The code change proposal will decrease the cost of construction
Most of the recommended changes are non-technical and simply improve usability of the code. However, the change that adds a new exception for puzzle rooms will reduce the code of construction for some of these uses by not requiring qualifying puzzle rooms to meet regulations for special amusement areas.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
907.2.12 Special amusement areas. Fire detection and alarm systems shall be provided in *special amusement areas* in accordance with Section 914.7 ~~914.7.2~~.

Mod_11016_Text_G86-21 Part II.pdf Page: 2

F11016Text Modification

Committee Reason: The committee stated that the approval of the modification was based on the revision to the section reference that allows the reader to see the exceptions for the scoping. The reason for the approval of the proposal was stated that it correlates the intent by correcting the inadvertent errors by reorganizing the section so that it's coherent and it's easier for use and it is also in coordination with the action by the IBC General committee on Part I. (Vote: 14-0)

Final Hearing Results

G86-21 Part II AM

Page: 3

Mod_11016_Text_G86-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

48

F11017 | **/G91-21**

Date Submitted	03/13/2024	**Section**	415.11	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes Section 415.11.1.1.2 "Hazardous production materials".

Rationale

See attached

F11017Text Modification

See attached

Page: 1

Mod11017_TextOfModification.pdf

F11017Text Modification

G91-21

Original Proposal

IBC: [F] 415.11.1.1.2

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

[F] 415.11 Group H-5. In addition to the requirements set forth elsewhere in this code, Group H-5 shall comply with the provisions of Sections 415.11.1 through 415.11.12 and the *International Fire Code*.

Delete without substitution:

~~**[F] 415.11.1.1.2 Hazardous production materials.** The maximum quantities of hazardous production materials (HPM) stored in a single *fabrication area* shall not exceed the maximum allowable quantities per *control area* established by Table 307.1(1) and Table 307.1(2).~~

Reason: Although this section of the IBC is under the jurisdiction of the Fire Code Committee, the section is not consistent with the IFC. A section equivalent to Section 415.11.1.1.2 does not exist in the IFC. As fabrication areas increase in size, the current Section 415.11.1.1.2 is overly restrictive and compliance becomes impractical. Furthermore, the section only applies when a facility is considered a Use Group H so applying the MAQ limits would not be appropriate.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This resolves a conflict between the IBC and IFC. If the IBC requirements are applied, the proposal has the impact of reducing the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal corrects an error dating back many editions of the codes. The fire code does not have limits based upon MAQs for fabrication areas but is instead addressed by Section 2705.2.2. There was some concern that this would allow excessive HPM in a fabrication area if IBC Section 415.11.1.1.2 is deleted. (Vote: 13-1)

Final Hearing Results

G91-21 AS

Page: 1

Mod_11017_Text_G91-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

49

F11018 **/G93-21**

Date Submitted	03/13/2024	**Section**	414.5.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Table 414.5.1. The proposal addresses an unanticipated consequence associated with Code Change F347-16 The 2015 Editions of the I-Codes contain the following definitions for “Fireworks, 1.4G” and for “Explosives, Division 1.4”:

Rationale

See attached

F11018Text Modification

See attached

Page: 1

Mod11018_TextOfModification.pdf

F11018Text Modification

G93-21

Original Proposal

IBC: TABLE 414.5.1, TABLE 415.6.5; IFC: TABLE 911.1, TABLE 5003.8.2

Proponents: William Koffel, Koffel Associates, Inc., American Pyrotechnics Association (wkoffel@koffel.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[F] TABLE 414.5.1 EXPLOSION CONTROL REQUIREMENTS[a, h]

MATERIAL	CLASS	EXPLOSION CONTROL METHODS	
		Barricade construction	Explosion (deflagration) venting or explosion (deflagration) prevention systems[b]
HAZARD CATEGORY			
Combustible dusts[c]	—	Not Required	Required
Cryogenic flammables	—	Not Required	Required
Explosives	Division 1.1	Required	Not Required
	Division 1.2	Required	Not Required
	Division 1.3	Not Required	Required
	Division 1.4[j]	Not Required	Required
	Division 1.5	Required	Not Required
	Division 1.6	Required	Not Required
Flammable gas	Gaseous	Not Required	Required
	Liquefied	Not Required	Required
Flammable liquid	IA[d]	Not Required	Required
	IB[d]	Not Required	Required
Organic peroxides	U	Required	Not Permitted
	I	Required	Not Permitted
Oxidizer liquids and solids	4	Required	Not Permitted
Pyrophoric gas	—	Not Required	Required
Unstable (reactive)	4	Required	Not Permitted
	3 Detonable	Required	Not Permitted
	3 Nondetonable	Not Required	Required
Water-reactive liquids and solids	3	Not Required	Required
	2[g]	Not Required	Required
SPECIAL USES			
Acetylene generator rooms	—	Not Required	Required
Electrochemical energy storage system[i]	—	Not Required	Required
Energy storage system[i]	—	Not Required	Required
Grain processing	—	Not Required	Required
Liquefied petroleum gas-distribution facilities	—	Not Required	Required
Where explosion hazards exist[f]	Detonation	Required	Not Permitted
	Deflagration	Not Required	Required

a. See Section 414.1.3.

b. See the *International Fire Code*.

c. Combustible dusts where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 104.8.2 of the *International Fire Code*. See definition of "Combustible dust" in Chapter 2.

d. Storage or use.

e. In open use or dispensing.

Page: 1

Mod_11018_Text_G93-21.pdf

F11018Text Modification

f. Rooms containing dispensing and use of hazardous materials where an explosive environment can occur because of the characteristics or nature of the hazardous materials or as a result of the dispensing or use process.

g. A method of explosion control shall be provided where Class 2 water-reactive materials can form potentially explosive mixtures.

h. Explosion venting is not required for Group H-5 fabrication areas complying with Section 415.11.1 and the *International Fire Code*.

i. Where explosion control is required in Section 1207 of the *International Fire Code*.

j. Does not apply to consumer fireworks, 1.4G.

[F] TABLE 415.6.5 DETACHED BUILDING REQUIRED

A DETACHED BUILDING IS REQUIRED WHERE THE QUANTITY OF MATERIAL EXCEEDS THAT SPECIFIED HEREIN			
Material	**Class**	**Solids and Liquids (tons)[a, b]**	**Gases (cubic feet)[a, b]**
Explosives	Division 1.1	Maximum Allowable Quantity	Not Applicable
	Division 1.2	Maximum Allowable Quantity	
	Division 1.3	Maximum Allowable Quantity	
	Division 1.4[g]	Maximum Allowable Quantity	
	Division 1.4[c, g]	1	
	Division 1.5	Maximum Allowable Quantity	
	Division 1.6	Maximum Allowable Quantity	
Oxidizers	Class 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Unstable (reactives) detonable	Class 3 or 4	Maximum Allowable Quantity	Maximum Allowable Quantity
Oxidizer, liquids and solids	Class 3	1,200	Not Applicable
	Class 2	2,000	Not Applicable
Organic peroxides	Detonable	Maximum Allowable Quantity	Not Applicable
	Class I	Maximum Allowable Quantity	Not Applicable
	Class II	25	Not Applicable
	Class III	50	Not Applicable
Unstable (reactives) nondetonable	Class 3	1	2,000
	Class 2	25	10,000
Water reactives	Class 3	1	Not Applicable
	Class 2	25	Not Applicable
Pyrophoric gases[d]	Not Applicable	Not Applicable	2,000

For SI: 1 ton = 906 kg, 1 cubic foot = 0.02832 m^3, 1 pound = 0.454 kg.

a. For materials that are detonable, the distance to other buildings or lot lines shall be in accordance with Section 415.6 of this code or Chapter 56 of the International Fire Code based on trinitrotoluene (TNT) equivalence of the material, whichever is greater.

b. "Maximum Allowable Quantity" means the maximum allowable quantity per control area set forth in Table 307.1(1).

c. Limited to Division 1.4 materials and articles, including articles packaged for shipment, that are not regulated as an explosive under Bureau of Alcohol, Tobacco, Firearms and Explosives (BATF) regulations or unpackaged articles used in process operations that do not propagate a detonation or deflagration between articles, provided that the net explosive weight of individual articles does not exceed 1 pound.

d. Detached buildings are not required, for gases in gas rooms that support H-5 fabrication facilities where the gas room is separated from other areas by a fire barrier with a fire-resistance rating of not less than 2 hours and the gas is located in a gas cabinet that is internally sprinklered, equipped with continuous leak detection, automatic shutdown and is not manifolded upstream of pressure controls. Additionally, the gas supply is limited to cylinders that do not exceed 125 pounds (57 kg) water capacity in accordance with 49 CFR 173.192 for Hazard Zone A toxic gases.

e. Does not apply to consumer fireworks, 1.4G.

Reason: The proposal addresses an unanticipated consequence associated with Code Change F347-16
The 2015 Editions of the I-Codes contain the following definitions for "Fireworks, 1.4G" and for "Explosives, Division 1.4":

Fireworks, 1.4G. *Small fireworks devices containing restricted amounts of pyrotechnic composition designed primarily to produce visible or audible effects by combustion. Such 1.4G fireworks which comply with the construction, chemical composition and labeling regulations of the DOTn for fireworks, UN0336, and the U.S. Consumer Product Safety Commission (CPSC) as set forth in CPSC 16 CFR: Parts 1500*

Page: 2

Mod_11018_Text_G93-21.pdf

and 1507, are not explosive materials for the purpose of this code.

Explosive, Division 1.4. *Explosives that pose a minor explosion hazard. The explosive effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package.*

While the IBC and IFC contain a definition for "Explosive", there is a difference between the two definitions. Within the definition of "Explosive" in the 2018 Edition of the IBC, the following language continued to appear:

The term "explosive" includes any material determined to be within the scope of USC Title 18: Chapter 40 and also includes any material classified as an explosive other than consumer fireworks, 1.4G by the hazardous materials regulations of DOTn 49 CFR Parts 100-185.

Code Change F347-16 proposed several changes one of which was the deletion of ", are not explosive materials for the purpose of this code." The submitter indicated that the change should have no impact as noted in the following portion of the Reason statement:

The change to Table 5603.1.1(1) is a change to reflect that consumer fireworks are indeed properly classified as an Explosive 1.4G and it's not necessary to have a separate line with identical threshold values, including all footnotes, in order to determine at what point a building would be or should be classified as a Group H-3. It's redundancy within the same table. In reality, at least at the model code level, other than the deletion of language saying consumer fireworks are not explosive, the net effect of the change to Table 5603.1.1(1) will be zero to what is taking place in the world of consumer fireworks manufacturing, storage, sale and use.

The cost analysis for the code change contains similar language that Code Change F347-16 should have no impact by stating:

Cost Impact: *Will not increase the cost of construction.*

The documentation associated with Code Change F347-16 indicated that the change would not impact the world of consumer fireworks. However, the two tables in the IBC are being applied to now require a detached building and explosion control for storage facilities containing consumer fireworks, 1.4G. Prior to the changes associated with F347-16 such protection was not required. There is on documentation indicating that storage facilities containing consumer fireworks, 1.4G need either explosion control or to be detached buildings.

Cost Impact: The code change proposal will decrease the cost of construction

Based on the way the 2021 Edition of the IBC is being interpreted, the cost of construction will be decreased. For those jurisdictions using the 2015 Edition, or earlier, of the IBC, there is no impact on the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it was considered a clean up. The revisions clarify the difference in requirements between other explosives and 1.4G fireworks. (Vote: 14-0)

Final Hearing Results

G93-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

50

F11022 | **/G97-21**

Date Submitted	03/13/2024	**Section**	423.5.1	**Proponent**	Mo Madani
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC.

Summary of Modification

Proposal deletes text from Section 423.5.1 "Required occupant capacity".

Rationale

See attached

F11022Text Modification

See attached

Page: 1

Mod11022_TextOfModification.pdf

F11022Text Modification

G97-21

Original Proposal

IBC: 423.5.1

Proponents: CRAIG MCKEE, Huckabee, INC, Huckabee, Inc (cmckee@huckabee-inc.com)

2021 International Building Code

Revise as follows:

423.5.1 Required occupant capacity. The required occupant capacity of the *storm shelter* shall include all of the buildings on the site and shall be the ~~greater of the following:~~

~~1. The~~ total *occupant load* of the classrooms, vocational rooms and offices in the Group E occupancy.

~~2. The *occupant load* of the largest indoor assembly space that is associated with the Group E occupancy~~.

Exceptions:

1. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the *storm shelter* for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building.
2. Where approved by the *building official,* the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing *storm shelters* on the site.

Reason: For the same reason that the code does not require shelters for the entire population that outdoor venues can accommodate, such as outdoor football fields, it should not be necessary for schools to increase the size of the shelters for criteria 2. It is common for schools to share sites with other buildings that have indoor assembly areas that many building officials conservatively consider to be associated with a Group E occupancy. These assembly areas are often on the same site as the school and are sometimes even used by students during the school day, but these assembly areas do not add to the normal population of students in school and the staff that are associated with those students. Many school communities can understand and support the unfunded mandate in tornado prone areas that schools bear the cost of providing tornado shelters for minors that are required by law to be in the care of a school and those adult individuals taking care of them, out of an elevated obligation that comes with having school be mandatory for minors in our country. However, it is inappropriate to require that school systems bear the cost of sheltering possible occupants from the public at these areas. The population for criteria 2 can be significantly larger than criteria 1 when there are large assembly spaces on the site such as a public library (e.g. when a public library operates on a school campus and also functions as the school library), indoor football field, performing arts center, equestrian arena, natatorium, competition basketball arena, and/or professional development center.

The additional people in question (above and beyond criteria 1) elect to be in those assembly areas (as adults, or as minors before or after normal school hours at the permission of their parents/guardians), just like they do in any commercial or other public assembly area. If ICC believed that the public in all assembly areas needed to be sheltered because the tornado hazards are that significant in those areas, then those types of businesses should be required to build tornado shelters too. The current code places an inequitable financial burden on school districts. More importantly, though, the additional area of shelter will most likely never be used.

Yes, if a tornado with windspeeds greater than the main building was designed to withstand happens to occur at the exact moment that there is an assembly with more people than the criteria 1 population, the additional area of the shelter could be used. However, there is a very low probability of this occurring and, other than this occurrence, the additional area of shelter would typically never be used because school districts that are constructing code-required shelters (not FEMA funded safe rooms) typically have no intention of ever opening their tornado shelters up to the general public because of the many operational challenges (e.g. concern with overcrowding above the shelter capacity) and increased liability.

This issue is further complicated by the fact that Section 432.5.2 requires storm shelters be within 1,000 feet of the buildings they serve. Many high school campuses have buildings with Assembly functions (that building officials conservatively consider to be associated with an E occupancy) greater than 1,000 feet from the school building. The code is not clear whether these assembly areas require their own

Page: 1

Mod_11022_Text_G97-21.pdf

F11022Text Modification

tornado shelter. Removing criteria 2 would resolve this dilemma by clearly identifying that the occupant load of the classrooms, vocational areas and offices are the areas that need to be served with tornado shelters.

The rationale to remove criteria 2 applies to new campuses as well as existing campuses; however, it is especially applicable for new buildings on existing campuses where options to provide a tornado shelter are much more limited because the existing buildings were not laid out with a future tornado shelter in mind.

The following is an example:

There is an existing performing arts center on a 100 Acre site, with the two buildings more than 1,000 feet apart, and the 2021 IBC is in effect. The school system proposes a new academic building with a criteria 1 population of 2,000. The criteria 1 population of the performing arts center is 0. The Building Official considers the performing arts center to be an A that is associated with an E occupancy. There are moveable partitions in the performing arts center that allow all of the rooms (except for the lobby) to open up into one large performing arena for 5,000 people in seats and up to 500 people on stage, making the criteria 2 population (the largest indoor assembly area associated with the E occupancy on the site) 5,500 people. The school system is required to build a shelter for at least 5,500 people because the floor plan area of the proposed addition to the academy could accommodate 5,500 people if the entire addition was one large tornado shelter. If the two buildings were closer than 1,000 feet, the 2021 IBC criteria 2 would require $10 Million of sheltering ($5.6 Million for the 2,000 people in a multi-purpose shelter and $4.4 Million for 3,500 people in a dedicated, single-use shelter). This means that even in the 1,000 feet proximity rule was not in effect, this school system would need to spend $4.4 Million on sheltering the additional population that could be in a performing arts center. However, because the buildings are more than 1,000 feet apart, the actual cost impact of criteria 2 is much greater at this campus because 2 separate shelters are required to accommodate the travel distance requirement. 2021 IBC section 432.5.2 requires that the shelters be located within 1,000 feet of the "population they serve" and these two buildings are more than 1,000 feet apart. Therefore, the code requires that a 5,500 person shelter be constructed as a new addition to the performing arts center to accommodate that population and a 2,000 person shelter be constructed as part of the proposed academic building. The combined cost of these two shelters would be $12.5 Million ($5.6 Million for the 2,000 people in the multi-purpose shelter by the academy and $6.9 Million for 5,500 people in a dedicated, single-use shelter by the performing arts center). Without criteria 2, only a $5.6 Million shelter would be required for the 2,000 occupants associated with criteria 1 on the entire campus.

Cost Impact: The code change proposal will decrease the cost of construction
There will be a decrease in the cost for storm shelters for new school buildings on existing campuses that have associated assembly spaces larger than the student population.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
423.5.1 Required occupant capacity. The required occupant capacity of the *storm shelter* shall include all of the buildings on the site and shall be the total occupant load of the classrooms, vocational rooms and offices in the Group E occupancy.
Exceptions:

1. Where approved by the building official, the actual number of occupants for whom each occupied space, floor or building is designed, although less than those determined by occupant load calculation, shall be permitted to be used in the determination of the required design occupant capacity for the storm shelter.

~~1~~2. Where a new building is being added on an existing Group E site, and where the new building is not of sufficient size to accommodate the required occupant capacity of the *storm shelter* for all of the buildings on the site, the storm shelter shall at a minimum accommodate the required occupant capacity for the new building.

~~2~~3. Where approved by the *building official,* the required occupant capacity of the shelter shall be permitted to be reduced by the occupant capacity of any existing *storm shelters* on the site.

Page: 2

Mod_11022_Text_G97-21.pdf

F11022Text Modification

Committee Reason: The modification to add the new Exception 1 is logical and is consistent with a similar allowance for consideration of actual occupant load in Section 1004.5, This would be consistent with the committee action in G96. The proposal was approved as this provides needed guidance for the size of storm shelters required for the students and staff in the school. The associated assembly spaces will not be occupied at the same time. The amount of time the public will be in assembly space in a school building is limited, is not typically fully occupied when school is in operation, or may have a much higher occupant load than the students and staff, therefore the elimination of the assembly space for sizing criteria is appropriate. (Vote: 14-0)

Final Hearing Results

G97-21 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

51

F11031 | **/G105-21**

Date Submitted	03/13/2024	**Section**	503.1.4.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

There has been concerns that higher guards are needed on higher roofs to prevent people from jumping off the roof deck and/or to allow for wind breaks to limit items blowing off the roof deck and falling on people below.

Rationale

See attached

F11031Text Modification

See attached

Page: 1

Mod11031_TextOfModification.pdf

F11031Text Modification

G105-21

Original Proposal

IBC: 503.1.4.1

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

503.1.4.1 Enclosures over occupied roof areas. Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

~~**Exception:**~~ **Exceptions:**

1. Penthouses constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.
2. Required guards shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupied roof where the roof deck is located more than 75 feet (22 860 mm) above the level of fire department vehicle access.

Reason: The limit on the guard height was based on fire department access to the roof. Once the roof deck is higher than fire ladder access, this is no longer justification for this limitation. There has been concerns that higher guards are needed on higher roofs to prevent people from jumping off the roof deck and/or to allow for wind breaks to limit items blowing off the roof deck and falling on people below.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This allows additional design options for guards around roof decks.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted. The proposal will allow for what is currently done. The committee recommend the section title be reviewed to read "enclosures around and over roof areas" to better match the provision. (Vote: 9-5)

Public Comments

Public Comment 2

Proponents: Jonathan Siu, Self, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Page: 1

Mod_11031_Text_G105-21.pdf

F11031Text Modification

Further modify as follows:

2021 International Building Code

503.1.4.1 Enclosures over occupied roof areas . Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

Exceptions:

1. Penthouses constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.
2. Required guards shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupied roof where the roof deck is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Commenter's Reason: We agree with the intent of this proposal, that in tall buildings, the 48" limitation is not necessary. However, we believe the originally proposed text is ambiguous. What fire department access is used to determine the 75' threshold? We believe it is much clearer to tie it to the trigger for high rise buildings, which uses lowest fire department vehicle access as the datum. Note that because of other proposals in this cycle that may change the definition of high rise buildings as related to occupied/occupiable roofs, we have not proposed to refer directly to high rise buildings.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The public comment does not change the original cost impact statement: "This allows additional design options for guards around roof decks."

Public Comment 3

Proponents: Jonathan Siu, Self; Lee Kranz, City of Bellevue Washington, Myself (lkranz@bellevuewa.gov); Micah Chappell, Seattle Department of Construction and Inspections, Seattle Department of Construction and Inspections (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

503.1.4.1 Enclosures over occupied roof areas . Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

Exceptions:

1. Penthouses constructed in accordance with Section 1511.2 and towers, domes, spires and cupolas constructed in accordance with Section 1511.5.
2. ~~Required guards~~ Elements or structures enclosing the occupied roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupied roof where the roof deck is located more than 75 feet (22 860 mm) above the level of fire department vehicle access.

Commenter's Reason: The proposed Exception 2 to Section 503.1.4.1 takes an important step forward, but does not go far enough. As written, the new exception only applies to "required guards." This public comment would expand the application of the exception to any element or structure that encloses the occupied roof.
The reason statement for the original proposal states there is no justification for the restriction on guard heights once the roof deck is higher than fire ladder access. We agree. However, the current (2021) code text is not just about guards, and even the reason statement refers to items that are not "required guards." The language in Section 503.1.4.1 was deliberately crafted to be broad, so it would encompass any elements that might extend upward at the perimeter of the roof such as walls, parapets, rooftop structures (some of which are exempted in Exception 1), and wind screens ("wind breaks" in the reason statement).

This public comment would allow any of these elements or structures to extend above the roof level, once the occupied roof is above fire department ladder reach.

Page: 2

Mod_11031_Text_G105-21.pdf

F11031Text Modification

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The original proposal stated this will not change the cost of construction. This public comment does not change that.

Final Hearing Results

G105-21 AMPC2,3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

52

F11033 | **/G112-21 Part I**

Date Submitted	03/13/2024	**Section**	506	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal provides allowances and limitations on designed spaces specifically identified as a sleeping loft, while clearly differentiating these small spaces from mezzanines and other habitable space.

Rationale

See attached

F11033Text Modification

See attached

Page: 1

Mod11033_TextOfModification.pdf

F11033Text Modification

G112-21 Part I

Original Proposal

PART I - IBC: SECTION 202 (New), SECTION 506 (New)
PART II - IBC:1011.14, 1015.2, 1015.3 (IFC[BE]1011.14, 1015.2, 1015.3)
PART III - IFC: 907.2.11.1, 907.2.11.2 (IBC:[F] 907.2.11.1, [F] 907.2.11.2)

Proponents: Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov); Jonathan Siu, Self, Washington Association of Building Officials Technical Code Development Committee (jonsiuconsulting@gmail.com)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE MEANS OF EGRESS CODE COMMITTEE. PART III WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Add new definition as follows:

EGRESS ROOF ACCESS WINDOW

.
A skylight or roof window designed and installed to satisfy the emergency escape and rescue opening requirements of Section 1031.

SLEEPING LOFT

.
A sleeping space on a floor level located more than 30 inches (762 mm) above the main floor and open to the main floor on one or more sides with a ceiling height of less than 6 feet 8 inches (2032 mm).

LANDING PLATFORM

.
A landing provided as the top step of a stairway accessing a sleeping loft.

Add new text as follows:

SECTION 506
SLEEPING LOFT

506.1 General. *Sleeping lofts* shall comply with Sections 506.1 through 506.5.

506.2 Sleeping loft area and dimensions. Sleeping lofts shall meet the minimum area and dimension requirements of Sections 506.2.1 through 506.2.3. A *sleeping loft* or *sleeping lofts* in compliance with Section 506.2 shall be considered a portion of the story below. Such *sleeping lofts* shall not contribute to either the building area or number of stories as regulated by Section 503.1. The area of the*sleeping loft* shall be included in determining the *fire area*.

506.2.1 Area. *Sleeping lofts* shall have a floor area of not less than 35 square feet (3.25 m^2) and less than 70 square feet (6.5 m^2).

506.2.2 Minimum horizontal dimensions. *Sleeping lofts* shall be not less than 5 feet (1524 mm) in any horizontal dimension.

506.2.3 Height effect on sleeping loft area. Portions of a *sleeping loft* with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the loft but shall contribute to

Page: 1
Mod_11033_Text_G112-21 Part I.pdf

F11033Text Modification

the maximum allowable area.

Exception: Under gable roofs with a minimum slope of 6 units vertical in 12 units horizontal (50-percent slope), portions of a sleeping loft with a sloped ceiling measuring less than 16 inches (406 mm) from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required area for the sleeping loft but shall contribute to the maximum allowable area.

506.3 Sleeping loft access and egress. The access to and primary egress from sleeping lofts shall be of any type described in Sections 506.3.1 through 506.3.5 and shall meet the sleeping loft where the sleeping loft's ceiling height is not less than 3 feet (914 mm) along the entire width of the access and egress component.

506.3.1 Stairways. Stairways accessing sleeping lofts shall comply with Sections 506.3.1.1 through 506.3.1.7.

506.3.1.1 Headroom. The headroom above the sleeping loft access and egress shall be not less than 6 feet 2 inches (1880 mm), as measured vertically, from a sloped line connecting the tread, landing, or landing platform nosing's in the center of their width, and vertically from the landing or landing platform along the center of its width.

506.3.1.2 Width. Stairways accessing a sleeping loft shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The width below the handrail shall be not less than 20 inches (508 mm).

506.3.1.3 Treads and risers. Risers for stairs accessing a sleeping loft shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four-thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three-fourths of the tread depth.

506.3.1.4 Landings. Intermediate landings and landings at the bottom of stairways shall comply with Section 1011.6, except that the depth in the direction of travel shall be not less than 24 inches (508 mm).

506.3.1.5 Landing platforms. The top tread and riser of *stairways* accessing *sleeping lofts* shall be constructed as a *landing platform* where the loft ceiling height is less than 6 feet 2 inches (1880 mm) where the stairway meets the *sleeping loft*. The *landing platform* shall be not less than 18 inches (508 mm) in width and in depth measured horizontally from and perpendicular to the nosing of the *landing platform*. The *landing platform* riser height to the edge of the *sleeping loft* floor, shall not be greater than 18 inches (508 mm) in height.

506.3.1.6 Handrails. *Handrails* shall comply with Section 1011.11.

506.3.1.7 Stairway guards. *Guards* at open sides of *stairways*, *landings*, and *landing platforms* shall comply with Section 1115.

506.3.2 Ladders. Ladders accessing sleeping lofts shall comply with Sections 506.3.2.1 and 506.3.2.2.

506.3.2.1 Size and capacity. Ladders accessing sleeping lofts shall have a rung width of not less than 12 inches (305 mm), and 10-inch (254 mm) to 14-inch (356 mm) spacing between rungs. Ladders shall be capable of supporting a 300-pound (136 kg) load on any rung. Rung spacing shall be uniform within 3/8 inch (9.5 mm).

506.3.2.2 Incline. Ladders shall be installed at 70 to 80 degrees from horizontal.

506.3.3 Alternating tread devices. *Alternating tread devices* accessing *sleeping lofts* shall comply with Section 1011.14. The clear width at and below the handrails shall be not less than 20 inches (508 mm).

506.3.4 Ships ladders. Ships ladders accessing sleeping lofts shall comply with Sections 1011.15. The clear width at and below handrails shall be not less than 20 inches (508 mm).

Page: 2

Mod_11033_Text_G112-21 Part I.pdf

F11033Text Modification

506.4 Sleeping Loft Guards. Guards shall be located along open sides of sleeping lofts that are located more than 30 inches (762 mm) measured vertically to the floor below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Sleeping loft guards shall be constructed in accordance with Section 1015.

506.5 Emergency escape and rescue openings. *An emergency escape and rescue opening* shall be located in each *sleeping loft.*

Exception: Sleeping lofts where an egress roof access window is provided complying with Section 1031.3.

Reason: This proposal takes an important part of the Residential Code Appendix Q outlining the design criteria for a loft, modifies some of the requirements, and then incorporates it into the main sections of the IBC with definitions and a new section. This proposal provides allowances and limitations on designed spaces specifically identified as a sleeping loft, while clearly differentiating these small spaces from mezzanines and other habitable space.
The proposal requires these small spaces to include smoke detection and an emergency escape and rescue opening. A sleeping loft in an IBC dwelling unit would provide the equivalent safety standards as a loft located in a small dwelling unit as currently allowed in IRC Appendix Q. Expanding the availability of sleeping lofts will promote more broad uses of space, while possibly allowing for an increase in housing density and affordability.

Most of the technical provisions are taken from IRC Appendix Q. However, the list below explains the differences between this proposal and Appendix Q, and our rationale.

- "sleeping loft" vs "loft" - we want to trigger smoke alarm, emergency escape/rescue opening.
- 506.2.1: Imposes max. 70 sf area. Intent is to keep these small, without being able to circumvent minimum habitable space requirements for larger rooms. Thus, beyond 70 sf, space should meet full interior dimension requirements for habitable space (IBC 1208) and mezzanines (IBC 505)
- 506.3: Requires 3' ceiling height at access/egress component. Stair requires 6'2" headroom, but ladders, alternating tread devices, and ships ladders have no similar requirement. Ceiling heights of less than 3' are allowed, and nothing states that the ladders, etc. can't be placed in those lower-ceiling areas. Some minimum height above the device is necessary to allow people in the sleeping loft to egress in an emergency.
- 506.3.1.5: Allows 18" landing platforms, vs "18 to 22 inches" in direction of travel in Appendix Q. Picked lower limit, since Appendix Q doesn't say when to use anything larger. Allows 18" rise from landing platform to loft floor, where Appendix Q allows 16 to 18 inches. In this case, picked 18" as the maximum, again, because there is no other guidance in Appendix Q why something smaller might be required.
- 506.3.2.1: Requires ladders be capable of supporting 300 pound load on any rung, vs 200 in Appendix Q. 300 is consistent with load requirements in IBC Chapter 16.

The change to 1011.14 is for coordination with the new Section 506.3.3. In order to add to the list of allowed uses, there was a need to clarify whether alternating tread devices are allowed to provide access to unoccupied roofs to other than I-3 occupancies. Numbering the list is for clarity, taking the place of a long sentence with clauses separated by semicolons, and also clearly allows these for unoccupied roof access in other occupancies besides I-3s, consistent with the IBC Commentary. The change to 1015.2 and the new Exception 4 in 1015.3 integrate the sleeping loft guard provisions from IRC Appendix Q Section AQ104.2.5 into the guard provisions of the IBC, instead of having them reside in the sleeping loft section."

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal will not increase or decrease the cost of construction because the new sections to the code add an option and not a requirement. When and applicant decides to utilize these new sections, the code provides guidance on minimum standards for that space.

Public Hearing Results

Committee Action **Disapproved**

Page: 3

Mod_11033_Text_G112-21 Part I.pdf

Committee Reason: The proposal was disapproved. The committee had several concerns, including appropriate location in the code. Confusion between mezzanine and/or sleeping loft. There is no defined height. The proposal had no scoping. The committee expressed concerns about guards. (Vote: 12-1)

Public Comments

Public Comment 2

Proponents: Sue Coffman, City of Tacoma, City of Tacoma (sue.coffman@cityoftacoma.org); Ardel Jala, City of Seattle, Seattle Dept of Construction & Inspections (ardel.jala@seattle.gov); Hoyt Jeter, City of Tacoma, City of Tacoma (hjeter@cityoftacoma.org); Quyen Thai, City of Tacoma, City of Tacoma (qthai76@gmail.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

APPENDIX P SLEEPING LOFTS

SECTION P101 GENERAL .

P101.1 General . Where provided in Group R occupancies,sleeping lofts shall comply with the provisions of this code, except as modified by this appendix. Sleeping lofts constructed in compliance with this appendix shall be considered a portion of the story below. Such sleeping lofts shall not contribute to either the building area or number of stories as regulated by Section 503.1. The sleeping loft floor area shall be included in determining the fire area.
The following sleeping lofts are exempt from compliance with this appendix:

1. Sleeping lofts with a maximum depth of less than 3 feet (914 mm).
2. Sleeping lofts with a floor area of less than 35 square feet (3.3 m^2).
3. Sleeping lofts not provided with a permanent means of egress.

P101.2 Sleeping loft limitations . Sleeping lofts shall comply with the following:

1. The sleeping loft floor area shall be less than 70 square feet (6.5 m^2).
2. The sleeping loft ceiling height shall not exceed 7 feet (2134 mm) for more than one half of the sleeping loft floor area.

The provisions of this appendix shall not apply to sleeping lofts that do not comply with Items 1 and 2.

P101.3 Sleeping loft ceiling height . The clear height below the sleeping loft floor construction shall not be less than 7 feet (2134 mm). The ceiling height above the finished floor of the sleeping loft shall not be less than 3 feet (914 mm). Portions of the sleeping loft with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not contribute to the sleeping loft floor area.

P101.4 Sleeping loft area . The aggregate area of all sleeping lofts and mezzanines within a room shall comply with Section 505.2.1.

Exception: The area of a single sleeping loft shall not be greater than two-thirds of the area of the room in which it is located, provided that no other sleeping lofts or mezzanines are open to the room in which the sleeping loft is located.

SECTION P102 DEFINITIONS .

P102.1 General . The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions.
SLEEPING LOFT. A space on an intermediate level or levels between the floor and ceiling of a Group R occupancy dwelling or sleeping unit, open on one or more sides to the room in which the sleeping loft is located.

F11033Text Modification

SECTION P103 MEANS OF EGRESS .

P103.1 General . Where a permanent means of egress is provided for sleeping lofts, the means of egress shall comply with Chapter 10 of this code, as modified by Sections P103.2 through P103.6.

P103.2 Ceiling height at sleeping loft means of egress . A minimum ceiling height of 3 feet (914 mm) shall be provided for the entire width of the means of egress from the sleeping loft.

P103.3 Stairways . Stairways providing egress from sleeping lofts shall be permitted to comply with Sections P103.3.1 through P103.3.3.

P103.3.1 Width . Stairways providing egress from a sleeping loft shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The width below the handrail shall be not less than 20 inches (508 mm).

P103.3.2 Treads and risers . Risers for stairs providing egress from a sleeping loft shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four-thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three-fourths of the tread depth.

P103.3.3 Landings . Landings at stairways providing egress from sleeping lofts shall comply with Section 1011.6, except that the depth of landings in the direction of travel shall be not less than 24 inches (508 mm).

P103.4 Alternating tread devices . Alternating tread devices shall be permitted as a means of egress from sleeping lofts, where the sleeping loft floor is no more than 10 feet (3048 mm) above the floor of the room to which it is open. Handrails and treads of such alternating tread devices shall comply with Section 1011.14.

P103.5 Ship's ladders . Ship's ladders shall be permitted as a means of egress from sleeping lofts where the sleeping loft floor is no more than 10 feet (3048 mm) above the floor of the room to which it is open. Handrails and treads of such ship's ladders shall comply with Section 1011.15.

P103.6 Ladders . Ladders shall be permitted as a means of egress from sleeping lofts where the sleeping loft floor is no more than 10 feet (3048 mm) above the floor of the room to which it is open. Such ladders shall comply with Sections P103.6.1 and P103.6.2.

P103.6.1 Size and capacity . Ladders providing egress from sleeping lofts shall have a rung width of not less than 12 inches (305 mm), and 10-inch (254 mm) to 14-inch (356 mm) spacing between rungs. Ladders shall be capable of supporting a 300-pound (136 kg) load on any rung. Rung spacing shall be uniform within 3/8 inch (9.5 mm).

P103.6.2 Incline . Ladders shall be inclined at 70 to 80 degrees from horizontal.

SECTION P104 GUARDS .

P104.1 General . Guards complying with Section 1015 of this code shall be provided at the open sides of sleeping lofts.

Exception: The guard height at sleeping lofts shall be permitted to be 36 inches (914 mm) where the ceiling height of the sleeping loft is 42 inches (1067 mm) or less.

SECTION P105 SMOKE ALARMS .

P105.1 General . Listed single- or multiple-station smoke alarms complying with UL 217 shall be installed in all sleeping lofts.

Commenter's Reason: This public comment fully replaces G112-21 Parts I, II, and III, and places the proposed sleeping loft provisions

Page: 5

Mod_11033_Text_G112-21 Part I.pdf

F11033Text Modification

from G112-21 Parts I, II, and III into a new appendix, where a jurisdiction has the option to adopt them. While sleeping lofts are a prevalent and important enough issue to warrant placement in the body of the code, this appendix is being offered in response to comments from some Committee members and some opponents.
The provisions of the appendix were modified from the original proposal in response to comments we received from the Committees and opposing testimony, and in collaboration with some of the opponents. A general description of the changes made to the original provisions follows.

Sleeping loft scoping and general provisions:

Even if the appendix is adopted by a jurisdiction, application of the appendix is an option ("Where provided…," P101.1). It will be up to the designer to decide whether or not to designate these areas as sleeping lofts.

- Sleeping lofts are limited to dwelling units or sleeping units in R occupancies (P101.1, P102.1).
- Sleeping lofts are required to comply with the base code, except where the provisions of the appendix modify them (P101.1).
- Small spaces that might technically meet the definition of a sleeping loft or sleeping loft-like spaces that don't have a permanent means of egress are exempt from the requirements of the appendix (P101.1).
- Once a sleeping loft is provided with dimensions that are equivalent to "normal" residential living spaces, it must comply with the full provisions for egress, habitable space, etc. (P101.2).
- The requirement for 7 feet below the sleeping loft was added in response to a comment received from a Committee member (P101.3). The text is drawn from IBC 505.2 regarding clear height below mezzanines. We actually don't see an issue with having smaller, usable spaces below sleeping lofts (what about a storage closet?) but the 7-foot requirement also reflects what we have seen in real-world project proposals, where these are generally placed on top of bathrooms in microhousing. See Figure 1 below, which is an example of a real-life (constructed) sleeping loft, taken from the article, "What you need to know about NYC apartments with sleeping lofts" posted on www.brickunderground.com.



Figure 1: Example of constructed sleeping loft

Sleeping loft vs mezzanine:

During testimony, the question was raised as to how sleeping lofts are the same as or different from mezzanines. We also received conflicting comments as to whether these provisions belonged in the mezzanine provisions or in its own section. We believe it is more understandable to keep sleeping lofts separate. We have clarified that the aggregate area of all sleeping lofts plus any mezzanines must meet the area limitations of mezzanines (P101.4). However, the exception in P101.4 allows a very small dwelling or sleeping unit, which can be as small as 70 square feet of habitable space (think microhousing), to have a single sleeping loft that can be up to two-thirds of the area of the main room. This is based on the allowance for mezzanines and equipment platforms in IBC 505.2.1.1.

Sleeping loft egress and guards:

In general, means of egress (including individual components) and guards must comply with the base code, but the specific provisions in P103 and the exception in P104.1 modify Chapter 10 (P103.1, P104.1). Changes from the original proposal include:

- Allowing the use of alternating tread devices, ship's ladders, and ladders as a means of egress, but limiting their height (P103.4, P103.5, P103.6). We received a comment after the CAH expressing concern about having small children only having a ladder for a

Page: 6

Mod_11033_Text_G112-21 Part I.pdf

F11033Text Modification

means of egress from an unlimited height. The 10-foot limitation is consistent with the 7-foot clear height requirement in P101.3, and would also allow for floor framing and a full-height space below the sleeping loft.

- Guards at sleeping lofts must fully comply with Section 1015 (P104.1), but the exception allows a shorter guard in sleeping lofts with lower ceiling heights. Based on comments we received after the CAH, a 36-inch guard is only allowed where a 42-inch guard would not fit.

Housing affordability has become increasingly important in recent years due to the impacts of recessions and COVID. This proposal allows for densification of multi-family residential housing by providing an option for additional sleeping space within the same building footprint. The proposed provisions are especially important for increasing usable space in very small units, which have been increasingly popular with the importance of sustainability and living more simply. Not only would this allow more living space within a new multifamily building, but it also encourages the alteration of existing dwelling and sleeping units rather than demolition and new construction.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This proposal will not increase or decrease the cost of construction because the appendix adds an option and not a requirement. When a jurisdiction adopts the appendix and an applicant decides to utilize these new provisions, the code will provide guidance on minimum standards for that space.

Final Hearing Results

G112-21 Part I AMPC2

Page: 7

Mod_11033_Text_G112-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

53

F11034 | **/G116-21**

Date Submitted	03/13/2024	**Section**	506.3	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal provides some minor revisions to the new process of determining the frontage increase.

Rationale

See attached

F11034Text Modification

See attached

Page: 1

Mod11034_TextOfModification.pdf

F11034Text Modification

G116-21

Original Proposal

IBC: 506.3.2, TABLE 506.3.3, 506.3.3.1

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, City and County of Broomfield, Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

506.3 Frontage increase. Every building shall adjoin or have access to a *public way* to receive an area factor increase based on frontage. Area factor increase shall be determined in accordance with Sections 506.3.1 through 506.3.3.

506.3.1 Minimum percentage of perimeter. To qualify for an area factor increase based on frontage, a building shall have not less than 25 percent of its perimeter on a *public way* or open space. Such open space shall be either on the same lot or dedicated for public use and shall be accessed from a street or approved *fire lane*.

Revise as follows:

506.3.2 Minimum frontage distance. To qualify for an area factor increase based on frontage, the*public way* or open space adjacent to the building perimeter shall have a minimum distance *(W)* of 20 feet (6096 mm) measured at right angles from the building face to any of the following:

1. The closest interior lot line.
2. The entire width of a street, alley or*public way*.
3. The exterior face of an adjacent building on the same property.

The frontage increase shall be based on the smallest*public way* or open space that is 20 feet (6096 mm) or greater, and the percentage of building perimeter having a minimum 20 feet (6096 mm) *public way* or open space. Not all public ways or open spaces that are 20 feet (6096 mm) or greater are required to be used to determine the frontage increase.

506.3.3 Amount of increase. The area factor increase based on frontage shall be determined in accordance with Table 506.3.3.

Revise as follows:

TABLE 506.3.3 FRONTAGE INCREASE FACTOR[a]

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)			
	0 to less than 20	20 to less than 25	25 to less than 30	30 or greater
0 to less than 25	~~0~~	0	0	0
25 to less than 50	~~0~~	0.17	0.21	0.25
50 to less than 75	~~0~~	0.33	0.42	0.50
75 to 100	~~0~~	0.50	0.63	0.75

a. Interpolation is permitted.

506.3.3.1 Section 507 buildings. Where a building meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot (18 288 mm) *public way* or *yard* requirement, the area factor increase based on frontage shall be determined in accordance with Table 506.3.3.1. The frontage increase shall be based on the smallest public way or open space that is 30 feet (9144 mm)

Page: 1

Mod_11034_Text_G116-21.pdf

F11034Text Modification

or greater, and the percentage of building perimeter having a minimum 30 feet (9144 mm) public way or open space. Not all public ways or open spaces that are 20 feet (6096 mm) or greater are required to be used to determine the frontage increase.

TABLE 506.3.3.1 SECTION 507 BUILDINGS[a]

PERCENTAGE OF BUILDING PERIMETER	OPEN SPACE (feet)					
	30 to less than 35	35 to less than 40	40 to less than 45	45 to less than 50	50 to less than 55	55 to less than 60 or greater
0 to less than 25	0	0	0	0	0	0
25 to less than 50	0.29	0.33	0.38	0.42	0.46	0.50
50 to less than 75	0.58	0.67	0.75	0.83	0.92	1.00
75 to 100	0.88	1.00	1.13	1.25	1.38	1.50

a. Interpolation is permitted.

Reason: This proposal provides some minor revisions to the new process of determining the frontage increase. We felt that additional clarification was needed for application. The proposed language does not change any technical provisions of the section.
The additional language is needed because there are situations where you can get a larger increase by not using all of the open space around the building.

For a couple examples:

1) A building with four sides open at 30', 35', 24' and 60'. The percentage of building perimeter open (>20') is 100%, with the smallest open space at 25 feet, my increase would be 0.50.

2) A building with three sides open at 30' 35' and 60', plus a short side that is not open. Assume the percentage of perimeter at least 20' open at 90%. With the smallest open space that is 20' or more being 30', my increase would be 0.75.

So I get a bigger increase with no yard than I do with a 24' yard.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal is designed to clarify the requirement.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved as it is not needed as it is understood that one does not have to use the frontage increase. Additionally, when calculating the frontage increase, one does not need to consider all the open spaces around the building. (Vote: 8-7)

Public Comments

Public Comment 1

Proponents: Steve Thomas, Shums Coda Associates, Colorado Chapter ICC (sthomas@coloradocode.net) requests As Modified by Public Comment

Page: 2

Mod_11034_Text_G116-21.pdf

F11034Text Modification

Modify as follows:

2021 International Building Code

506.3.2 Minimum frontage distance . To qualify for an area factor increase based on frontage, the*public way* or open space adjacent to the building perimeter shall have a minimum distance *(W)* of 20 feet (6096 mm) measured at right angles from the building face to any of the following:

1. The closest interior lot line.
2. The entire width of a street, alley or*public way.*
3. The exterior face of an adjacent building on the same property.

The frontage increase shall be based on the smallest*public way* or open space that is 20 feet (6096 mm) or greater, and the percentage of building perimeter having a minimum 20 feet (6096 mm) *public way* or open space. ~~Not all public ways or open spaces that are 20 feet (6096 mm) or greater are required to be used to determine the frontage increase.~~

506.3.3.1 Section 507 buildings . Where a building meets the requirements of Section 507, as applicable, except for compliance with the minimum 60-foot (18 288 mm) *public way* or *yard* requirement, the area factor increase based on frontage shall be determined in accordance with Table 506.3.3.1. The frontage increase shall be based on the smallest public way or open space that is 30 feet (9144 mm) or greater, and the percentage of building perimeter having a minimum 30 feet (9144 mm) public way or open space. ~~Not all public ways or open spaces that are 20 feet (6096 mm) or greater are required to be used to determine the frontage increase.~~

Commenter's Reason: The committee agreed with the major portion of this proposal. However, they did not like the last sentence in Sections 506.3.2 and 506.3.3.1. They felt that the language was more commentary and already permitted by the current language. They did not think it was necessary. Therefore, we have deleted the two sentences to address their concerns. The original reason statement supports the public comment as well. This proposed language is intended to clean up the language based on users of the code contacting us with their questions and concerns. The new language is intended to be a clarification and does not create a technical change.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction The proposal is a clarification of the current language.

Final Hearing Results	
G116-21	AMPC1

Page: 3

Mod_11034_Text_G116-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

54

F11035		/G117-21			
Date Submitted	03/13/2024	**Section**	507.3	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change is making the language of Section 507.3 consistent with Section 507.4. No change in technical requirements.

Rationale

See attached

F11035Text Modification

See attached

Page: 1

Mod11035_TextOfModification.pdf

F11035Text Modification

G117-21

Original Proposal

IBC: 507.3

Proponents: Homer Maiel, PE, CBO, ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

2021 International Building Code

Revise as follows:

507.3 Nonsprinklered, one-story buildings. The area of a Group F-2 or S-2 building not more than one*story* above *grade plane* of any *construction type*. ~~in height~~ shall not be limited where the building is surrounded and adjoined by*public ways* or *yards* not less than 60 feet (18 288 mm) in width.

Reason: This change is making the language of Section 507.3 consistent with Section 507.4. No change in technical requirements.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The change is merely making the language of Section 507.3 consistent with Section 507.4.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as submitted. The proposal has no technical changes. The proposal modifies the language of Section 507.3 to be consistent with Section 507.4. (Vote: 12-2)

Final Hearing Results

G117-21 AS

Page: 1

Mod_11035_Text_G117-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

55

F11037 **/G123-21**

Date Submitted	03/13/2024	**Section**	508.4.4.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

Adds an Exception to 508.4.4.1 and 509.4.1.1. Concerning thermal barrier.

Rationale

See attached

1st Comment Period History

F11037-G1

Proponent Cade Booth Submitted 6/21/2024 11:35:58 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11037Text Modification

See attached

Page: 1

Mod11037_TextOfModification.pdf

F11037Text Modification

G123-21

Original Proposal

IBC: 508.4.4.1, 509.4.1.1

Proponents: Paul Coats, American Wood Council, American Wood Council (pcoats@awc.org)

2021 International Building Code

Revise as follows:

508.4.4.1 Construction. Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of gypsum board that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

509.4.1.1 Type IV-B and IV-C construction. Where Table 509.1 specifies a fire-resistance-rated separation, mass timber elements serving as fire barriers or horizontal assemblies in Type IV-B or IV-C construction shall be separated from the interior of the incidental use with an approved thermal barrier consisting of gypsum board that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

Reason: The ICC Ad Hoc Committee on Tall Wood Buildings' intent for these provisions was to prohibit exposed mass timber elements in required occupancy and incidental use separations so that under fire conditions the separation would not contribute to the fuel load. However, when a fire-resistance rated horizontal assembly serves as an occupancy separation, the horizontal assembly is typically rated for exposure from the underside. There is no specific protection required on the top of the floor for horizontal assemblies of conventional framing of wood or other materials since there is no thermal barrier requirement for them (unless the assembly contains foam plastic). Mass timber floors (typically cross-laminated timber several inches thick) represents a lesser hazard in these circumstances than a conventional framed floor. Therefore, the protection should be required only on the underside of rated mass timber horizontal assemblies and is unnecessary on the top of floors. The proposed exception does not negate the requirement for one inch of noncombustible material on the top of mass timber floors in Type IV-B.

Cost Impact: The code change proposal will decrease the cost of construction
May decrease the cost of construction. Noncombustible or other protection on the top of floors in required separations will not be required in some circumstances where it currently may be.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as a thermal barrier is not required on the top of a horizontal assembly as along as the stated criteria are satisfied. (Vote: 14-0)

Page: 1

Mod_11037_Text_G123-21.pdf

F11037Text Modification

Final Hearing Results

G123-21 AS

Mod_11037_Text_G123-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

56

F11038 | **/G125-21**

Date Submitted	03/13/2024	**Section**	508.5	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of the proposal is to coordinate the IRC and IBC scoping. IRC Section 101.2 Exception 1 allows for live/work units to be constructed under the IRC. However, the IBC does not state this option.

Rationale

See attached

F11038Text Modification

See attached

Page: 1

Mod11038_TextOfModification.pdf

F11038Text Modification

G125-21

Original Proposal

IBC: 508.5, 508.5.6

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

508.5 Live/work units. A *live/work unit* shall comply with Sections ~~508.5~~ 508.5.1 through 508.5.11. Live/work units complying with the requirements of Section 508.5.1 through 508.5.11 for the non-residential portion of the unit and that are within the scope of the *International Residential Code*, shall be permitted to be constructed in accordance with this code or the *International Residential Code*.

Exception: *Dwelling or sleeping units* that include an office that is less than 10 percent of the area of the *dwelling unit* ~~are~~ shall be permitted to be classified as *dwelling units* with accessory occupancies in accordance with Section 508.2.

508.5.1 Limitations. The following shall apply to live/work areas:

1. The *live/work unit* is permitted to be not greater than 3,000 square feet (279 m^2) in area.
2. The nonresidential area is permitted to be not more than 50 percent of the area of each *live/work unit*.
3. The nonresidential area function shall be limited to the first or main floor only of the *live/work unit*.
4. Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time.

508.5.2 Occupancies. *Live/work units* shall be classified as a Group R-2 occupancy. Separation requirements found in Sections 420 and 508 shall not apply within the *live/work unit* where the *live/work unit* is in compliance with Section 508.5. Nonresidential uses that would otherwise be classified as either a Group H or S occupancy shall not be permitted in a *live/work unit*.

Exception: Storage shall be permitted in the *live/work unit* provided that the aggregate area of storage in the nonresidential portion of the *live/work unit* shall be limited to 10 percent of the space dedicated to nonresidential activities.

508.5.3 Means of egress. Except as modified by this section, the *means of egress* components for a *live/work unit* shall be designed in accordance with Chapter 10 for the function served.

508.5.4 Egress capacity. The egress capacity for each element of the *live/work unit* shall be based on the *occupant load* for the function served in accordance with Table 1004.5.

508.5.5 Spiral stairways. *Spiral stairways* that conform to the requirements of Section 1011.10 shall be permitted.

Revise as follows:

508.5.6 Vertical openings. Floor openings between floor levels of a *live/work unit* ~~are~~ shall be permitted without enclosure.

[F] 508.5.7 Fire protection. The *live/work unit* shall be provided with a monitored *fire alarm* system where required by Section 907.2.9 and an *automatic sprinkler system* in accordance with Section 903.2.8.

508.5.8 Structural. Floors within a *live/work unit* shall be designed for the *live loads* in Table 1607.1, based on the function within the space.

508.5.9 Accessibility. *Accessibility* shall be designed in accordance with Chapter 11 for the function served.

Page: 1

Mod_11038_Text_G125-21.pdf

F11038Text Modification

508.5.10 Ventilation. The applicable *ventilation* requirements of the *International Mechanical Code* shall apply to each area within the *live/work unit* for the function within that space.

508.5.11 Plumbing facilities. The nonresidential area of the *live/work unit* shall be provided with minimum plumbing facilities as specified by Chapter 29, based on the function of the nonresidential area. Where the nonresidential area of the *live/work unit* is required to be accessible by Section 1108.6.2.1, the plumbing fixtures specified by Chapter 29 shall be accessible.

Reason: The intent of the proposal is to coordinate the IRC and IBC scoping. IRC Section 101.2 Exception 1 allows for live/work units to be constructed under the IRC. However, the IBC does not state this option in IBC Section 101.2 or this section.

During the discussions, there were concerns that the current requirements for complying with the IRC and the IBC could be a conflict for several of the items listed, such as means of egress, fire protection, structural and accessibility. The addition of 'for the non-residential portion of the unit' should help clarify that the means of egress, fire protection, structural loading and plumbing facilities for the business/mercantile portion of the unit needs to look at the IBC for requirements.

This is one of a group of proposals intended to coordinate the scoping items in IBC Section 101.2 and IRC 101.2. While the proposals work together, then also work separately. The proposal for coordination will be in Group B.
This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a coordination of scoping requirements and references in the IBC and IRC, not a change to construction requirements.

Staff Note: G125-21 and G126-21addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved as it still needs work since the wording is unclear. (Vote: 14-0)

Public Comments

Public Comment 2

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

508.5 Live/work units . ~~A~~ *Live/work unit*s shall comply with one of the following:

1. For a live/work unit located in a building constructed in accordance with this code, both the residential and non-residential portions of the live/work unit shall comply with Sections 508.5 through 508.5.11.

Page: 2

Mod_11038_Text_G125-21.pdf

F11038Text Modification

2. For a live/work unit located in a building constructed in accordance with the International Residential Code, the non-residential portion of the live/work unit shall comply with Sections 508.5.1 through 508.5.11, and the residential portion of the live/work unit shall be constructed in accordance with the International Residential Code and Section 508.5.7.

Exception: *Dwelling or sleeping units* that include an office that is less than 10 percent of the area of the*dwelling unit* are permitted to be classified as *dwelling units* with accessory occupancies in accordance with Section 508.2.

Commenter's Reason: This public comment represents an effort to coordinate and collaborate proposals G125 and G126, Part 1. I withdrew proposal G126, Part 1 in an effort to consolidate discussion of these items, but the online hearing format and the pressure to speed discussion prevented thorough consideration of this topic, including consideration of a floor modification that included this text. G126, Part 2 was approved, and it is important that the companion effort to clean up the remainder of the live/work provisions be completed.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Intent of this public comment is to clarify existing code requirements.

Final Hearing Results

G125-21 AMPC2

Page: 3

Mod_11038_Text_G125-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

57

F11039 | **/G126-21 Part II**

Date Submitted	03/13/2024	**Section**	508.5.7	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of 508.5.7 "Fire protection". Concerning Live/work units constructed in accordance with the IRC.

Rationale

See attached

F11039Text Modification

See attached

Page: 1

Mod11039_TextOfModification.pdf

F11039Text Modification

G126-21 Part II

Original Proposal

PART II – IBC[F] 508.5.7

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Building Code

Revise as follows:

[F] 508.5.7 Fire protection. ~~The *live*~~ *Live*/work ~~*unit*~~ *units* constructed in accordance with this code shall ~~comply with be provided with a monitored *fire alarm* system where required by Section 907.2.9 and~~ be provided with all of the following:

1. An *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 ~~903.2.8~~.
2. *Smoke alarms* in accordance with Section 907.2.11.
3. Where required by Section 907.2.9.1, a manual*fire alarm system.*

Live/work units constructed in accordance with the *International Residential Code* shall be provided with an*automatic sprinkler system* and *smoke alarms*. The *automatic sprinkler system* shall comply with *International Residential Code* Section P2904, and *smoke alarms* shall comply with *International Residential Code* Section 314.

Reason: Currently, some live/work units are permitted to be constructed under the IRC, per the IRC scope, but the IRC scope references back to IBC Section 508.5 for additional specific requirements. So presumably, IRC live/work units are constructed to the IRC, except as modified by IBC Section 508.5. On the other hand, IBC live/work units are constructed to the IBC, including Section 508.5. This proposal more clearly states that approach.
In addition, the fire protection requirements have been edited to clarify the allowance to use fire protection requirements in the IRC for IRC live/work units. It does not appear that the intent of membership in establishing live/work provisions was requiring IRC live/work units to comply with IBC Group R2 fire protection requirements. Plus, the IBC fire protection requirements have been clarified/improved by directly referencing the two applicable sprinkler standards for Group R2 vs. sending the user to another code section to receive the references, and the requirement for smoke alarms has been added for completeness.

Regarding fire alarms for live/work units under the IBC, there are not and never have been any special live/work requirements. Instead, the requirements are based on the general Group R2 occupancy triggers and exceptions found in Section 907.2.9.1, which often won't require a fire alarm system for live/work units based on the exceptions. The reference to "monitored" systems has been dropped, as monitoring requirements will be determined by Section 907.

Cost Impact: The code change proposal will decrease the cost of construction
By clearly conveying that IRC live/work units do not have to meet IBC fire protection requirements, the cost of construction for live/work units may be reduced.

Staff Note: G125-21 and G126-21addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
[F] 508.5.7 Fire protection. *Live/work units* in buildings constructed in accordance with this code shall be provided with all of the following:

1. An *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 .

Page: 1

Mod_11039_Text_G126-21 Part II.pdf

F11039Text Modification

2. *Smoke alarms* in accordance with Section 907.2.11.
3. Where required by Section 907.2.9.1, a manual *fire alarm system*.

Live/work units in buildings constructed in accordance with the *International Residential Code* shall be provided with an *automatic sprinkler system* and *smoke alarms*. The *automatic sprinkler system* shall comply with *International Residential Code* Section P2904, and *smoke alarms* shall comply with *International Residential Code* Section 314.

Committee Reason: The committee stated that the reason for the approval of the modification was that it clarifies the requirement by specifying that the live work units are in buildings. The reason for the approval of the proposal is that it improves the intent of the requirements and gives the correct code citations for the various items in the list. (Vote: 14-0)

Final Hearing Results

G126-21 Part II AM

Page: 2

Mod_11039_Text_G126-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

58

F11040 | **/G127-21**

Date Submitted	03/13/2024	**Section**	508.5.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes Item 4 of Section 508.5.1 "Limitations".

Rationale

See attached

F11040Text Modification

See attached

Page: 1

Mod11040_TextOfModification.pdf

F11040Text Modification

G127-21

Original Proposal

IBC: 508.5.1

Proponents: Hoyt Jeter, City of Tacoma/ Planning and Development, WABO TCD (hjeter@cityoftacoma.org)

2021 International Building Code

Revise as follows:

508.5.1 Limitations. The following shall apply to live/work areas:

1. The *live/work unit* is permitted to be not greater than 3,000 square feet (279 m^2) in area.
2. The nonresidential area is permitted to be not more than 50 percent of the area of each *live/work unit*.
3. The nonresidential area function shall be limited to the first or main floor only of the *live/work unit*.
4. ~~Not more than five nonresidential workers or employees are allowed to occupy the nonresidential area at any one time~~.

Reason: 1. Item number 4 is un-enforceable. When permits are issues, how do you limit the number of employees? The other exceptions will meet the intend allowed per the code.
2. The maximum area of the non-residential area is already limited to 1500 square feet, so the occupant load will be limited by that floor area.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This removes un-enforceable operational language and is not a change to construction requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted. The deleted item #4 was not enforceable. (Vote: 11-2)

Final Hearing Results

G127-21 AS

Page: 1

Mod_11040_Text_G127-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

59

F11041 | **/G128-21**

Date Submitted	03/13/2024	**Section**	509.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The change to the waste and linen collection items is correlation with the allowances in the federal requirements (K321). The addition of “and provide and automatic sprinkler system” is editorial since Group I is already required to be sprinklered.

Rationale

See attached

F11041Text Modification

See attached

Page: 1

Mod11041_TextOfModification.pdf

F11041Text Modification

G128-21

Original Proposal

IBC:TABLE 509.1

Proponents: John Williams, Healthcare Committee (ahc@iccsafe.org)

2021 International Building Code

SECTION 509
INCIDENTAL USES

509.1 General. Incidental uses located within single occupancy or mixed occupancy buildings shall comply with the provisions of this section. Incidental uses are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy and are limited to those uses specified in Table 509.1.

Exception: Incidental uses within and serving a *dwelling unit* are not required to comply with this section.

Revise as follows:

TABLE 509.1 INCIDENTAL USES

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input	1 hour or provide automatic sprinkler system
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen fuel gas rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and provide automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic sprinkler system
In Group E occupancies, laboratories and vocational shops not classified as Group H	1 hour or provide automatic sprinkler system
In Group I-2 occupancies, laboratories not classified as Group H	1 hour and provide automatic sprinkler system
In *ambulatory care facilities*, laboratories not classified as Group H	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2, laundry rooms over 100 square feet	1 hour and provide automatic sprinkler system
Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour and provide automatic sprinkler system
In Group I-2, physical plant maintenance shops	1 hour and provide automatic sprinkler system
In ambulatory care facilities or Group I-2 occupancies, waste and linen collection rooms with containers that have an aggregate volume of 10 8.67 cubic feet or greater	1 hour and provide automatic sprinkler system
In other than ambulatory care facilities and Group I-2 occupancies, waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In ambulatory care facilities or Group I-2 occupancies, storage rooms greater than 100 50 square feet	1 hour and provide automatic sprinkler system
Electrical installations and transformers	See Sections 110.26 through 110.34 and Sections 450.8 through 450.48 of NFPA 70 for protection and separation requirements.

For SI: 1 square foot = 0.0929 m^2, 1 pound per square inch (psi) = 6.9 kPa, 1 British thermal unit (Btu) per hour = 0.293 watts, 1 horsepower = 746 watts, 1 gallon = 3.785 L, 1 cubic foot = 0.0283 m^3.

Reason: The change to the waste and linen collection items is correlation with the allowances in the federal requirements (K321). The addition of “and provide and automatic sprinkler system” is editorial since Group I is already required to be sprinklered.

This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

Page: 1

Mod_11041_Text_G128-21.pdf

F11041Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This a federal certification requirement for Group I-2.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the proposal coordinates Table 509.1 with the federal requirements. (Vote: 12-2)

Final Hearing Results

G128-21 AS

Page: 2

Mod_11041_Text_G128-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

60

F11042 | **/G130-21**

Date Submitted	03/13/2024	**Section**	510.2	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

The code provides for the allowance of vertical offsets in horizontal building separations, but does not clarify how the separation must be constructed other than to also be 3-hour rated. Code proposal concerning this.

Rationale

See attached

F11042Text Modification

See attached

Page: 1

Mod11042_TextOfModification.pdf

F11042Text Modification

G130-21

Original Proposal

IBC: 510.2, 707.3.11 (New)

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. Where ~~vertical offsets are provided as part of~~ a *horizontal assembly* contains vertical offsets , the vertical offset ~~and the structure supporting the vertical offset~~ shall be constructed as a fire barrier in accordance with Section 707 and shall have a *fire-resistance rating* of not less than 3 hours.
2. The building below, including the *horizontal assembly* and any associated vertical offsets, is of Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.

   Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided that the following conditions are met:

   1. The building above the *horizontal assembly* is not required to be of Type I construction.
   2. The enclosure connects fewer than four stories.
   3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.

4. *Interior exit stairways* located within the Type IA building are permitted to be of combustible materials where the following requirements are met:
   4.1. The building above the Type IA building is of Type III, IV, or V construction.
   4.2. The *stairway* located in the Type IA building is enclosed by 3-hour fire-resistance-rated construction with opening protectives in accordance with Section 716.
5. The building or buildings above the *horizontal assembly* shall be permitted to have multiple Group A occupancy uses, each with an *occupant load* of less 300, or Group B, M, R or S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
7. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

Add new text as follows:

707.3.11 Horizontal separation offsets. The fire-resistance rating of a fire barrier serving as the vertical offset in a horizontal building separation shall comply with Section 510.2.

Reason: The code provides for the allowance of vertical offsets in horizontal building separations, but does not clarify how the separation

Page: 1

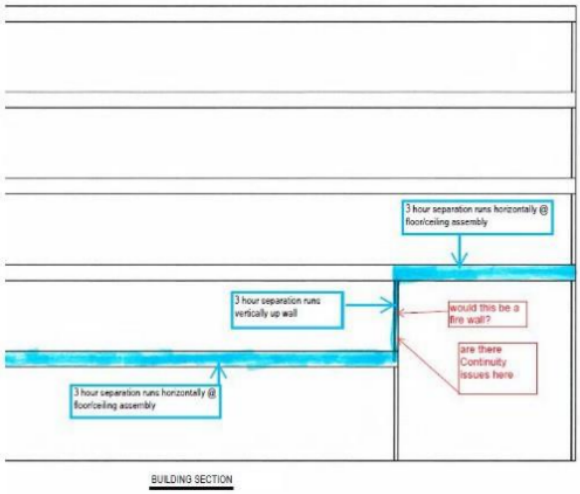
Mod_11042_Text_G130-21.pdf

F11042Text Modification

must be constructed other than to also be 3-hour rated. This code proposal fills in the gap so that users know what type of assembly must be used, fire barriers, and subsequently how to address openings, penetrations, joints, continuity, etc. This also clarifies that the vertical offset must also be Type 1A construction just like the horizontal assembly does.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban



interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal only provides clear direction as to how the vertical offset must be constructed, in the manner that it likely commonly is.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the proposal clarifies the intent and provides continuity. (Vote: 14-0)

Page: 2
Mod_11042_Text_G130-21.pdf

F11042Text Modification

Final Hearing Results

G130-21 AS

Page: 3

Mod_11042_Text_G130-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

61

F11043 /G132-21

Date Submitted	03/13/2024	**Section**	510.2	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

Modifies text of Item 5 of 510.2 "Horizontal building separation allowance".

Rationale

See attached

F11043Text Modification

See attached

Page: 1

Mod11043_TextOfModification.pdf

F11043Text Modification

G132-21

Original Proposal

IBC: 510.2

Proponents:

Sarah Rice, The Preview Group. Inc., representing The Preview Group (srice@preview-group.com)

2021 International Building Code

Revise as follows:

510.2 Horizontal building separation allowance. A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity of *fire walls*, limitation of number of *stories* and type of construction where the following conditions are met:

1. The buildings are separated with a *horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. Where vertical offsets are provided as part of a *horizontal assembly*, the vertical offset and the structure supporting the vertical offset shall have a *fire-resistance rating* of not less than 3 hours.
2. The building below, including the *horizontal assembly*, is of Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.

   Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided that the following conditions are met:

   1. The building above the *horizontal assembly* is not required to be of Type I construction.
   2. The enclosure connects fewer than four stories.
   3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.

4. *Interior exit stairways* located within the Type IA building are permitted to be of combustible materials where the following requirements are met:
   4.1. The building above the Type IA building is of Type III, IV, or V construction.
   4.2. The *stairway* located in the Type IA building is enclosed by 3-hour fire-resistance-rated construction with opening protectives in accordance with Section 716.
5. The building or buildings above the *horizontal assembly* shall be permitted to have ~~multiple~~ Group A ~~occupancy uses, each with an *occupant load* of less 300, or Group~~ B, M, R or S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
7. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

Reason: The IBC currently limits a building that is over what is commonly referred to as a "podium building" (IBC Section 510.2, Item 5) to having "multiple Group A occupancy uses, each with an occupant load of
less than 300." This means that no single assembly space is allowed to have an occupant load of 300 persons within a building located above the horizontal assembly - think museum, swimming pool deck or movie theater. or a health club. Again, I want you remember that this is a limit to ALL Group A occupancies, not just large entertainment venues - think outdoor sculpture museums (Group A-3). And in this day of COVID-19, think outdoor restaurants (Group A-2) or even outdoor places of religious worship (Group A-5). The current language in the code would not allow these to occur over a podium building. This limitation really curtails the construction of buildings that are placed

Page: 1

Mod_11043_Text_G132-21.pdf

F11043Text Modification

on a podium building on an inner city site.

And what just does "shall be permitted to have multiple Group A occupancy uses, each with an occupant load of 300" mean? Does each Group A space with 299 occupants have to be separated from an adjacent Group A space with 299 occupants? And if so, does the separation need to be fire rated? But what if each of these spaces with 299 persons discharge out into a foyer (that has an occupant load of 299) and which leads to the exterior? Is that acceptable? But then everyone is discharged out onto the horizontal assembly to open air - just like a Group A-5 occupancy - but oops, a Group A-5 occupancy cannot have more than 300 persons to be located above the horizontal assembly.

This proposal seeks to eliminate the Group A 299 occupant load limitation in its entirety and let the overall provisions found in the IBC dictate the design of the Group A building or building with a Group A occupancy constructed over the horizontal assembly.

While this limitation, and all what is currently in IBC 510 has been in the IBC since the 2000 IBC, the real roots of the entire section are in one of the legacy codes - the Uniform Building Code (UBC) Section 311.2.2.1
"311.2.2.1 Group S, Division 3 with Group A, Division 3; Group B; Group M or R, Division 1 Occupancy above.

Other provisions of this code notwithstanding, a basement or first story of a building may be considered as a separate and distinct building for the purpose of area limitations, limitation of number of stories and type of construction, when all of the following conditions are met:"

And specifically Item 2 in UBC Section 311.2.2.1:
"2. The building above the three-hour occupancy separation contains only Group A, Division 3; Group B; or Group M or R, Division 1 Occupancies."

In the 1997 UBC Group A was divided into 5 sub classifications:

- Division 1 - Any assembly building or portion of a building with a legitimate stage and an occupant load of 1,000 or more
- Division 2 - Any assembly building or portion of a building with an occupant load of less than 1,000 and a legitimate stage.
- Division 2.1 - Any assembly building or portion of a building with an occupant load of 300 or more without a legitimate stage, including such buildings used for educational purposes and not classified as a Group E or Group B, Division 2 Occupancy.
- Division 3 - Any assembly building or portion of a building with an occupant load of less than 300 without a legitimate stage, including such buildings used for educational purposes and not classified as a Group E or Group B, Division 2 Occupancies
- Division 4 - Stadiums, reviewing stands and amusement park structures not included within other Group A occupancies.

The thing is, the UBC occupancy classifications do correlate in any way to the Group A occupancy classifications in 2021 IBC nor in how the provisions are applied. When the applicable provisions of the IBC are applied to a building with an assembly space having an occupant load of 300 or more, it is unjustified and inconsistent to prohibit that space from being located on top of podium building.

Cost Impact: The code change proposal will decrease the cost of construction
If accepted this code change will reduce the cost of construction as buildings above a podium building will have a broader choice of types of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

510.2 Horizontal building separation allowance.

A building shall be considered as separate and distinct buildings for the purpose of determining area limitations, continuity o ***fire walls***, limitation of number of *stories* and type of construction where the following conditions are met:

Page: 2

Mod_11043_Text_G132-21.pdf

F11043Text Modification

1. The buildings are separated with a*horizontal assembly* having a *fire-resistance rating* of not less than 3 hours. Where vertical offsets are provided as part of a *horizontal assembly*, the vertical offset and the structure supporting the vertical offset shall have a *fire-resistance rating* of not less than 3 hours.
2. The building below, including the *horizontal assembly*, is of Type IA construction.
3. *Shaft, stairway, ramp* and escalator enclosures through the *horizontal assembly* shall have not less than a 2-hour *fire-resistance rating* with opening protectives in accordance with Section 716.

   Exception: Where the enclosure walls below the *horizontal assembly* have not less than a 3-hour *fire-resistance rating* with opening protectives in accordance with Section 716, the enclosure walls extending above the *horizontal assembly* shall be permitted to have a 1-hour *fire-resistance rating*, provided that the following conditions are met:
   1. The building above the *horizontal assembly* is not required to be of Type I construction.
   2. The enclosure connects fewer than four stories.
   3. The enclosure opening protectives above the *horizontal assembly* have a *fire protection rating* of not less than 1 hour.
4. *Interior exit stairways* located within the Type IA building are permitted to be of combustible materials where the following requirements are met:
   4.1. The building above the Type IA building is of Type III, IV, or V construction.
   4.2. The *stairway* located in the Type IA building is enclosed by 3-hour fire-resistance-rated construction with opening protectives in accordance with Section 716.
5. The building or buildings above the *horizontal assembly* shall be permitted to have Group A, B, M, R ~~or~~ and S occupancies.
6. The building below the *horizontal assembly* shall be protected throughout by an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, and shall be permitted to be any occupancy allowed by this code except Group H.
7. The maximum *building height* in feet (mm) shall not exceed the limits set forth in Section 504.3 for the building having the smaller allowable height as measured from the *grade plane*.

Committee Reason: The proposal was approved as modified by Eckhoff-1. The proposal with the modification removes the restrictions on Group A occupancies. The modification clarifies the intent. (Vote: 14-0)

Final Hearing Results

G132-21 AM

Page: 3

Mod_11043_Text_G132-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

62

F11044		/G136-21			
Date Submitted	03/13/2024	**Section**	601	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

Table 601. Modifies footnote B of Table 601 "FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)".

Rationale

See attached

F11044Text Modification

See attached

Page: 1

Mod11044_TextOfModification.pdf

F11044Text Modification

G136-21

Original Proposal

IBC: TABLE 601

Proponents: Bill McHugh, The McHugh Company, National Fireproofing Contractors Association (bill@mc-hugh.us)

2021 International Building Code

Revise as follows:

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame[i] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	3[a]	2[a]	2[a]	HT	1[b, c]	0
Bearing walls												
Exterior[e, f]	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3[a]	2[a]	1	0	1	0	3	2	2	1/HT[g]	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 1/2[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	1 1/2[b]	1	1	HT	1[b,c]	0

For SI: 1 foot = 304.8 mm.

a. Roof supports: Fire-resistance ratings of primary structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.

b. Except in Group F-1, H, M and S-1 occupancies, fire protection of structural members in roof construction shall not be required, including protection of primary structural frame members, roof framing and decking where every part of the roof construction is 20 feet or more above any floor or mezzanine immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber complying with Section 2304.11 shall be allowed for roof construction, including primary structural frame members, where a 1-hour or less *fire-resistance rating is required*.

d. Not less than the fire-resistance rating required by other sections of this code.

e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a*fire resistance* rating of not less than 1 hour.

Reason: This section of the code seems to cause a lot of confusion in the field, according to reports to the National Fireproofing Contractors Association. The purpose of this proposal is to bring a key point from the IBC Commentary into the code. It seems the commentary has a graphic that depicts a mezzanine to show visually what this section means -- that the mezzanine located less than 20' below the roof - triggers fire protection of structural members.

Page: 1

Mod_11044_Text_G136-21.pdf

F11044Text Modification

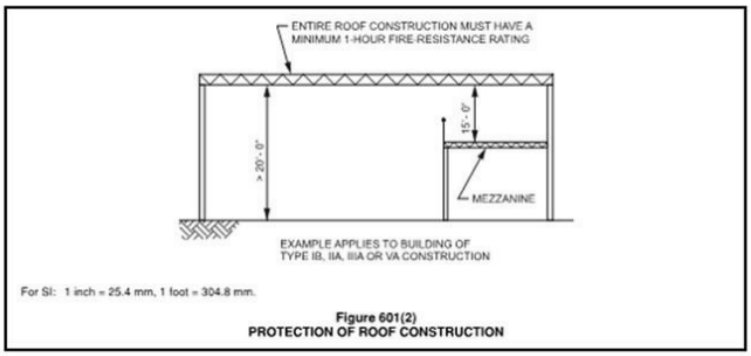


Figure 601(2)
PROTECTION OF ROOF CONSTRUCTION

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Since this is a proposal to clarify what is already in the code to eliminate confusion, there is no cost increase or decrease.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the proposal provides good clarification of the code's intent. (Vote: 14-0)

Final Hearing Results

G136-21 AS

Page: 2

Mod_11044_Text_G136-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

63

F11045	/G144-21				
Date Submitted	03/13/2024	**Section**	602.4	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

This change is editorial and does not change the requirements of the section.

Rationale

See attached

1st Comment Period History

F11045-G1

Proponent Cade Booth Submitted 6/21/2024 11:08:49 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11045Text Modification

See attached

Page: 1

Mod11045_TextOfModification.pdf

F11045Text Modification

G144-21

Original Proposal

IBC: 602.4

Proponents: James Smith, American Wood Council, American Wood Council (jsmith@awc.org)

2021 International Building Code

Revise as follows:

602.4 Type IV. Type IV construction is that type of construction in which the *building elements* are *mass timber* or noncombustible materials and have *fire-resistance ratings* in accordance with Table 601. *Mass timber* elements shall meet the *fire-resistance-rating* requirements of this section based on either the *fire-resistance rating* of the *noncombustible protection*, the *mass timber*, or a combination of both and shall be determined in accordance with Section 703.2. The minimum dimensions and permitted materials for *building elements* shall comply with the provisions of this section and Section 2304.11. *Mass timber* elements of Types IV-A, IV-B and IV-C construction shall be protected with *noncombustible protection* applied directly to the *mass timber* in accordance with Sections 602.4.1 through 602.4.3. The time assigned to the *noncombustible protection* shall be determined in accordance with Section 703.6 and comply with Section 722.7.
Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT Construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718. In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

Reason: This change is editorial and does not change the requirements of the section. The ICC Building Code Action Committee asked AWC to consider taking on this code change proposal when it found one of the proposals by the ICC Tall Wood Building Ad Hoc Committee (TWB) included language that was different from that used elsewhere in the code. We reached out to members of the TWB Committee to see if there was a reason why they used “lowest level of fire department access” instead of “lowest level of fire department vehicle access” and it was confirmed that there was no reasoning or intent behind their use of a differing phrase. Accordingly, we are proposing the change to make it consistent with the language found in other areas of the code, including the definition of "HIGH-RISE BUILDING" as follows: **[BG] HIGH-RISE BUILDING**. A building with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is just an editorial clean up to make the language consistent to that found elsewhere in the code.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_11045_Text_G144-21.pdf

F11045Text Modification

Committee Reason: The proposal was approved as submitted as it is editorial and clarifies the intent consistent with the code provisions elsewhere in the IBC. (Vote: 14-0)

Final Hearing Results	
G144-21	AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

64

F11046		/G147-21			
Date Submitted	03/13/2024	**Section**	602.4.2.2	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text for this code is not consistent with that of the 2023 FBC - B.

Summary of Modification

Modifies text of Section 602.4.2.2.2 and 602.4.2.2.4.

Rationale

See attached

1st Comment Period History

F11046-G1

Proponent Cade Booth Submitted 6/21/2024 11:10:03 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11046Text Modification

See attached

Page: 1

Mod11046_TextOfModification.pdf

F11046Text Modification

G147-21

Original Proposal

IBC: 602.4.2.2.2, 602.4.2.2.4

Proponents: Susan Jones, atelierjones, llc, atelierjones, llc (susan@atelierjones.com); Stephen DiGiovanni, Clark County, Self (sdigiovanni@clarkcountynv.gov); Carl Baldassarra, Wiss Janney Elstner Associates, Inc, Self (cbaldassarra@wje.com)

2021 International Building Code

602.4.2.2 Interior protection. Interior faces of all *mass timber* elements, including the inside face of exterior *mass timber* walls and *mass timber* roofs, shall be protected, as required by this section, with materials complying with Section 703.3.

602.4.2.2.1 Protection time. *Noncombustible protection* shall contribute a time equal to or greater than times assigned in Table 722.7.1(1), but not less than 80 minutes. The use of materials and their respective protection contributions specified in Table 722.7.1(2) shall be permitted to be used for compliance with Section 722.7.1.

Revise as follows:

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior*mass timber walls* and *mass timber roofs*, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber*ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of mass timber ceilings and walls complying with one of the following:
   1.1. Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area less than or equal to ~~20~~ 100 percent of the floor area in any *dwelling unit* or *fire area*.
   1.2. Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any*dwelling unit* or *fire area*.
   1.3. Unprotected portions of both walls and ceilings of*mass timber*, including attached columns and beams, in any*dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.
2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

602.4.2.2.3 Mixed unprotected areas. In each *dwelling unit* or *fire area* , where both portions of ceilings and portions of walls are unprotected, the total allowable unprotected area shall be determined in accordance with Equation 6-1.

$$(U_{tc}/U_{ac}) + (U_{tw}/U_{aw}) \le 1$$ **Equation 6-1**

where:

U_{tc} = Total unprotected *mass timber* ceiling areas.

U_{ac} = Allowable unprotected *mass timber* ceiling area conforming to Exception 1.1 of Section 602.4.2.2.2.

U_{tw} = Total unprotected *mass timber* wall areas.

U_{aw} = Allowable unprotected *mass timber* wall area conforming to Exception 1.2 of Section 602.4.2.2.2.

Revise as follows:

602.4.2.2.4 Separation distance between unprotected mass timber elements. In each *dwelling unit* or *fire area*, unprotected portions of *mass timber* walls ~~and ceilings~~ shall be not less than 15 feet (4572 mm) from unprotected portions of other walls~~and ceilings, measured horizontally along the ceiling and from other unprotected portions of walls~~ measured horizontally along the floor.

Page: 1

Mod_11046_Text_G147-21.pdf

F11046Text Modification

Reason: The Ad-Hoc Committee on Tall Wood Buildings (TWB) was created by the Board of Directors of the International Code Council (ICC) to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB created several code change proposals with respect to the concept of tall buildings of mass timber in the last code cycle. All of the TWB proposals were approved.
The TWB decided, as it worked its way through data and research, that it would only incorporate criteria into the code that had bases in tests. When the fire test program at ATF was being developed, a determination was made regarding how much ceiling area and how much wall area and in which combinations could be left exposed in those tests. Limitations in the physical equipment (exhaust hood and exhaust duct connector) limited the amount of exposed MT material and led to a conservative calculation estimate which, for ceilings, became 20% of the floor area. Thus, the number that was incorporated into the text of the 2021 IBC reflected those limitations.

The proposed revisions above are based upon recently completed research conducted at the Research Institute of Sweden (RISE). These fire tests demonstrated that the proposed amounts of unprotected areas on the ceiling and walls, as a function of floor area, can be safely implemented while still achieving the performance objectives specified by the ICC Tall Wood Building Ad-Hoc Committee in the development of the tall building mass timber provisions in the 2021 I-codes. Specifically, Test 1 of the test series conducted at RISE involved a ceiling in which 100% of the area was unprotected mass timber. Tests 2 and 5 had unprotected mass timber on 100% of the ceiling area, in addition to unprotected areas on the two opposing side walls, equivalent to 78% of the floor area. These tests exhibited satisfactory performance in that no significant fire re-growth was observed and temperatures within the compartment decreased continuously from the time of the fully-developed phase until the end of the four-hour test.

The proposed increase of allowable unprotected area on the ceiling from 20% to 100% is consistent with the configurations tested in all of the RISE tests. Although the RISE data also justifies a higher percentage of unprotected area of the wall, this proposal leaves the limit at 40% of the floor area for the sake of conservatism. Videos of the tests performed at RISE may be viewed at the following link: https://www.ri.se/en/what-we-do/expertises/fire-safety-timber-buildings

Furthermore, all of the code proposals included in the work of the TWB were based on CLT products using an earlier edition of material standard PRG 320. During that code development process, being responsive to the concerns of the TWB, the industry demonstrated that the latest PRG-320 standard required a higher grade of adhesive to limit delamination during fire exposure. These RISE fire tests used the subsequent improvements in the code-referenced product standard for CLT (ANSI/APA PRG-320), resulting in enhancements to fire safety.

Cost Impact: The code change proposal will decrease the cost of construction
The prosed changes will decrease the cost of construction, by reducing the required amount of noncombustible protection on walls and ceilings in Type IV-B Construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted since the provided preliminary RISE test report indicated that the test met or exceeded the requirements. (Vote: 9-5)

Public Comments

Public Comment 2

Proponents: Jason Smart, American Wood Council, AWC (jsmart@awc.org); David Tyree, American Wood Council, AWC (dtyree@awc.org) requests As Submitted

Commenter's Reason: We request approval as submitted, as recommended by the code development committee. The committee was correct that tests performed at the Research Institutes of Sweden (RISE) met or exceeded the fire safety performance objectives specified by the ICC Tall Wood Building Ad Hoc Committee. Most of the committee members studied the RISE test report and agreed that it justified

Page: 2

Mod_11046_Text_G147-21.pdf

F11046Text Modification

approval of the proposal.
To address the comment that reporting was not yet complete and the membership should wait until it is completed, please note the results and conclusions have been made available since before the CAH, and the final report is now available at the following link:

https://www.ri.se/en/what-we-do/expertises/fire-safety-of-timber-buildings

In response to a committee member that had reservations due to the limited history of buildings that have been constructed to date and concerns over how to repair fire damage the following is offered: 1) there are plenty of examples of exposed heavy timber construction in North America – certainly more than enough to provide 'proof of concept,' 2) part of the research conducted at RISE deals with the topic of how to repair a mass timber structure that has experienced a fire. The results of this study are also published in the final RISE report, available at the link above.

To help increase the comfort level in acceptance of the committee action and to address any remaining concerns, AWC has presented a webinar with Daniel Brandon, RISE, to discuss the test results, findings and conclusions of the research performed at RISE. This webinar may be viewed at the following link:

https://www.awc.org/education/main/lists/des-design-considerations/des612---expanding-mass-timber-opportunities-through-testing-and-code-development

We also felt the votes by the few committee members who voted against the motion to approve G147 may have been swayed by the opposition testimony provided at the Committee Action Hearings, so we are offering rebuttal to each of their concerns and comments as follows.

Opposition comment: It is too soon for this change. The Type IV-A, B and C mass timber provisions were just added to the 2021 IBC in the last cycle, and now we're starting to pick these provisions apart with changes like G147, after all the work that the TWB Committee did with their evaluations. **Rebuttal:** Rather than 'picking apart' the provisions developed by the TWB Committee, this proposal is intended to complement it by addressing a factor that could not be addressed at the time of the ATF tests due to the fact that PRG 320-18-compliant CLT was not available at that time. Because PRG 320-18-compliant CLT was not available at the time of the tests performed at ATF, the exposed mass timber areas tested in that series had to be kept to a lower percentage than would have been otherwise justified had PRG 320-18-compliant CLT been used. So, in the absence of test data showing that the full ceiling area could be safely exposed where PRG 320-18-compliant CLT is used, the TWB Committee set the original ceiling area limits equivalent to what was tested in ATF Test 2. Now that we have the data that the TWB did not have at their disposal, based on testing performed on PRG 320-18-compliant CLT, which the 2021 IBC requires anyway, this proposal is perfectly logical, timely, prudent and justifiable.

Opposition comment: The TWB worked for over a year-and-a-half to develop their proposals, but this proposal is based on just one set of tests from Sweden. **Rebuttal:** The justification for the proposal in G147 is the result of two years' worth of research by a team of world-renowned experts in fire science at the Research Institute of Sweden (RISE). It would be a misrepresentation to imply that this research was simply cobbled together in a haphazard manner.

Opposition comment: The RISE tests used a different fuel load basis than the ATF tests. **Rebuttal:** This is incorrect. Both the ATF tests and the RISE tests used approximately the same fuel load. The ATF tests used a fuel load of 550 MJ/m^2. The RISE tests used a fuel load of 560 MJ/m^2.

Opposition comment: The RISE tests were less severe than the E119 test that the other building materials must test to for fire resistance. **Rebuttal:** The tests performed at RISE were not "less severe", they were*different* than a standard ASTM E119 exposure because they followed natural growth and decay curves. Moreover, in certain respects (such as during the fully developed phase), they actually resulted in a more severe exposure for temperature and heat flux exposure than would result from a standard ASTM E119 curve.

Opposition comment: Standardized test protocols should have been used, instead of the non-standard tests performed at RISE. **Rebuttal:** A multitude of tests have been performed on CLT, including standardized tests (such as horizontal and vertical ASTM E119 fire-resistance tests). The results from many of these tests are readily available on AWC's website. As for why non-standard tests such as those performed at ATF and RISE were performed *in addition* to the standardized tests, the TWB Committee developed a set of six fire performance objectives at the outset of their work. They recognized early-on that it would not be possible to assess these fire performance objectives by simply performing standardized tests alone. This is why they developed the ATF test series: to determine whether the new mass timber construction types could meet their fire performance objectives. The TWB Fire Work Group determined that this assessment

Page: 3

Mod_11046_Text_G147-21.pdf

F11046Text Modification

needed to be performed on a full scale structure which resulted in the two story structure of the test series. The configurations tested in the research at RISE were similar to the ATF tests in many respects (including fuel load density), with the primary differences being that 1) PRG 320-18-compliant CLT was used, and 2) commensurately larger areas of mass timber were exposed.

Opposition comment: It would be unsafe to allow an exposed mass timber area on a wall to intersect an exposed mass timber area on the ceiling. **Rebuttal:** All five of the RISE tests involved configurations in which exposed mass timber areas on the walls intersected exposed mass timber areas on the ceiling. These were not shown to be problem areas, and did not result in fire re-growth.

Opposition comment: This proposal would allow for 100% of the mass timber to be exposed on the ceiling, with the top 40% of the intersecting wall also exposed simultaneously. **Rebuttal:** This is incorrect. The options under Exception 1 to IBC Section 602.4.2.2.2 are mutually exclusive -only one of them can be applied for any particular fire area or dwelling unit. Because of this, it would not be permissible to have 100% of the ceiling exposed and simultaneously have exposed mass timber on the walls.

Opposition comment: The concern of delamination has not been completely resolved. **Rebuttal:** The Tall Wood Building (TWB) Committee's original concern over delamination has to do with fire re-growth, which could lead to a second flashover. While delamination led to this unacceptable fire performance in some of the tests performed using the previous generation of CLT, this concern is now addressed through qualification requirements in the CLT product standard (PRG 320-18). Now the CLT adhesive is required to be qualified under PRG 320-18, proving that it does not exhibit delamination which can cause fire re-growth leading to a second flashover. Compartment fire tests performed with this newer generation of CLT have also verified this superior fire performance. Not only has this concern been resolved, but the outcome of this resolution (i.e., the newer generation of CLT products) is what made it possible to meet the fire safety performance objectives in the more rigorous test configurations of the RISE test series.

Opposition comment: The RISE tests were conducted in open air, so how was the performance of the interior protection evaluated?" **Rebuttal:** Although the test structures were situated outside, in open air, the interior protection was inside the test structure in each test. Every building is ultimately located "outside" so this is a legitimate *full scale* test of a building, not just a system. This scenario is representative of a building fire in which the glazing has broken out in the openings. Except in the case of tempered glass, the glazing would typically break and fall out (either partially or completely) during a fully developed fire. By testing a configuration without any glazing in the openings, more oxygen is supplied to the fire during the growth phase, thereby allowing the fire to reach the fully developed phase sooner. This also eliminates a significant source of test variability related to the timing and degree to which the glazing would break out of the openings.

Bibliography: The final RISE report is now available at the following link:
https://www.ri.se/en/what-we-do/expertises/fire-safety-of-timber-buildings

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
The prosed changes will decrease the cost of construction, by reducing the required amount of noncombustible protection on walls and ceilings in Type IV-B Construction.

Final Hearing Results

G147-21 AS

Page: 4

Mod_11046_Text_G147-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

65

F11047		/G148-21			
Date Submitted	03/13/2024	**Section**	602.4.2.2.2	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text for this code change is not consistent with that of the 2023 FBC-B.

Summary of Modification

Modifies the text of Section 602.4.2.2.2.

Rationale

See attached

1st Comment Period History

F11047-G1

Proponent Cade Booth Submitted 6/21/2024 11:11:26 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11047Text Modification

See attached

Page: 1

Mod11047_TextOfModification.pdf

F11047Text Modification

G148-21

Original Proposal

IBC: 602.4.2.2.2

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Building Code

Revise as follows:

602.4.2.2.2 Protected area. Interior faces of *mass timber* elements, including the inside face of exterior *mass timber walls* and *mass timber roofs*, shall be protected in accordance with Section 602.4.2.2.1.

Exceptions: Unprotected portions of *mass timber* ceilings and walls complying with Section 602.4.2.2.4 and the following:

1. Unprotected portions of mass timber ceilings and walls complying with one of the following:
   1.1. Unprotected portions of *mass timber* ceilings, including attached beams, shall be permitted and shall be limited to an area equal to 20 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.
   1.2. Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area equal to 40 percent of the floor area in any *dwelling unit* within a story or fire area within a story.
   1.3. Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.
2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

Reason: The proposed code change is based on a public comment that was withdrawn from consideration for code change G108-18 at the Group A PCH, which was the main code change. The public comment was withdrawn and not considered at the request of supporters of Tall wood who at the time argued that a legitimate public comment added with the hundreds of of opposition public comments would put the tall wood proposal in jeopardy due to the online governmental voting process.
Fire area is defined by the designer of the building and is used to limit the scope of application of fire sprinklers and/or fire alarm. As published in the the 2021 IBC, the Section proposed to be revised will allow multiple stories in Type IV B construction with exposed ceilings and walls in a multi-level units and in non-residential buildings like an office building.

- This condition was not tested during the code development process for Tall Wood package; it was also not discussed during the lengthy heated debate on the complex tall wood package.
- A single story dwelling unit or multi-story dwelling unit within a tall wood building constructed of Type IV B construction will be separated from adjacent dwelling units with fire resistive construction, as low as 1/2 hour and a non-residential tenant spaces may not be separated from adjoining tenant spaces.

Additionally, Section 602.4.2.2.4 requires that exposed portions of walls and ceilings be separated form one another by 15 feet, however the Section seems to apply within the story. The intent of the protection discussed in Section 602.4.2.2.2 is to limit the amount of exposed wood in walls and ceilings even if their thickness provides for the required fire resistance rating. A concern has been that the exposed wood can contribute to the fire load and full scale testing performed to technically substantiate the requirements in Section 602.4.2.2.2 did not envision open multiple stories and the full scale test set up included protected shafts between stories.

After speaking with some of original proponents for the exceptions to Section 602.4.2.2.2, it was clear that the Tall Wood committee struggled to find a simple useable method to address a desire by the architectural community to allow for the warmth and beauty of wood to be exposed and appreciated by occupants.

Fire area is defined as "[BF] FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas

Page: 1

Mod_11047_Text_G148-21.pdf

F11047Text Modification

are included within the horizontal projection of the roof or floor next above."

- Fire area is bounded by horizontal assemblies and fire barriers, however not all horizontal assemblies are required to be continuous to exterior walls.
- Not all vertical openings between stories that pass through horizontal assemblies need to be protected. Section 712 of the IBC permits openings between stories that are not protected with fire barriers and Section 712.1.12 permits many interconnected stories. Section 712 includes numerous subsections that permit the omission of shaft protection for vertical openings.
- Yes fire area was an elegant solution but perhaps the limitation should have been within dwelling units and separated tenant spaces.

We request that the General Committee approve this reasonable update to the exception to limit applicability of the exception within a story for both dwelling units and fire areas.

2018 IBC Commentary Fire Area

[BF] FIRE AREA. The aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if such areas are included within the horizontal projection of the roof or floor next above.

This term is used to describe a specific and controlled area within a building that may **consist of a portion of the floor area within a single story, one entire story or the combined floor area of several stories, depending on how these areas are enclosed and separated from other floor areas**. Where a fire barrier with a fire-resistance rating in accordance with Section 707.3.10 divides the floor area of a one-story building, the floor area on each side of the wall would constitute a separate fire area. Where a horizontal assembly separating the two stories in a two-story building is fire-resistance rated in accordance with Section 711.2.4, each story would be a separate fire area. In cases where mezzanines are present, the floor area of the mezzanine is included in the fire area calculations, even though the area of the mezzanine does not contribute to the building area calculations. See the commentary to Sections 707.3.10 and 711.2.4 for further information.

Note that fire walls are one way of creating fire areas but are typically used to create separate buildings.

Cost Impact: The code change proposal will increase the cost of construction
The proposed code change may increase the cost of construction in that more gypsum board we be required. However this building system is so new there is not much history of applications for precision in this determination.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted consistent with the provided reason statement. (Vote: 12-2)

Final Hearing Results

G148-21 AS

Page: 2

Mod_11047_Text_G148-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

66

F11048	/G149-21				
Date Submitted	03/13/2024	**Section**	602.4.2.3	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This code change proposal is intended to address an apparent conflict in the code. Modifies text of Section 602.4.2.3.

Rationale

See attached

1st Comment Period History

F11048-G1

Proponent Cade Booth Submitted 6/21/2024 11:12:21 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11048Text Modification

See attached

Page: 1

Mod11048_TextOfModification.pdf

F11048Text Modification

G149-21

Original Proposal

IBC: 602.4.2.3

Proponents: Jonathan Siu, Self, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Revise as follows:

602.4.2.3 Floors. The floor assembly shall contain a noncombustible material not less than 1 inch (25 mm) in thickness above the *mass timber*. Floor finishes in accordance with Section 804 shall be permitted on top of the noncombustible material. Except where unprotected mass timber ceilings are permitted in Section 602.4.2.2.2. ~~The~~ the underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

Reason: This code change proposal is intended to address an apparent conflict in the code.

For Type IV-B construction, the current code requires the underside of mass timber floor assemblies to be protected in accordance with the provisions for Type IV-A construction (the last sentence in Section 602.4.2.3 points to Section 602.4.1.2). However, Section 602.4.1.2 does not permit any exposed mass timber ("...interior faces of **all** mass timber elements...shall be protected...." [emphasis mine]). This conflicts with Section 602.4.2.2.2, which allows some limited exposed mass timber.

This proposal eliminates the conflict by clarifying the reference to Type IV-A construction does not apply to the unprotected portions of mass timber permitted for Type IV-B construction.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Because this is a resolution of an apparent conflict in the code, there is no increase or decrease in the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted. The proposal cleans up the existing language and eliminates a possible conflict. (Vote: 13-0)

Final Hearing Results

G149-21 AS

Page: 1

Mod_11048_Text_G149-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

67

F11049	/G150-21				
Date Submitted	03/13/2024	**Section**	602.4.4.3	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

Modifies text of Item 3, Section 602.4.4.3 "Concealed spaces".

Rationale

See attached

1st Comment Period History

F11049-G1

Proponent Cade Booth Submitted 6/21/2024 11:14:38 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F11049Text Modification

See attached

Page: 1

Mod11049_TextOfModification.pdf

F11049Text Modification

G150-21

Original Proposal

IBC: 602.4.4.3

Proponents: James Smith, American Wood Council, American Wood Council (jsmith@awc.org)

2021 International Building Code

Revise as follows:

602.4.4.3 Concealed spaces. Concealed spaces shall not contain combustible materials other than *building elements* and electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the *International Mechanical Code*. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces ~~Surfaces~~ within the concealed space shall be fully sheathed with not less than $^{5}/_{8}$-inch Type X *gypsum board.*

Exception: Concealed spaces within interior walls and partitions with a 1-hour or greater *fire-resistance rating* complying with Section 2304.11.2.2 shall not require additional protection.

Reason: The change is necessary to adequately convey the intent of the third protection alternative. Only combustible surfaces in concealed spaces need to be protected. If a concealed space is created by furring out with steel studs, for instance, only the heavy timber surfaces would need to be sheathed with 5/8 inch Type X gypsum board, not the steel studs.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
We feel this change is essentially editorial in nature in that it is only clarifying the text to match the original intent of the 3rd option.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the committee agreed with the reason statement that non-combustible surface need not be covered. (Vote: 14-0)

Final Hearing Results

G150-21 AS

Page: 1

Mod_11049_Text_G150-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

68

F11050 | **/G151-21**

Date Submitted	03/13/2024	**Section**	602.4.4.4	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

FBC - Section 62.4.3.

Summary of Modification

Sometimes parties question the intent of this section, and wonder if the exterior columns themselves must be separated from one another. Using the defined term “fire separation distance” will eliminate any confusion

Rationale

See attached

F11050Text Modification

See attached

Page: 1

Mod11050_TextOfModification.pdf

F11050Text Modification

G151-21

Original Proposal

IBC: 602.4.4.4

Proponents: James Smith, American Wood Council, American Wood Council (jsmith@awc.org)

2021 International Building Code

Revise as follows:

602.4.4.4 Exterior structural members. Where a ~~horizontal~~ *fire separation distance* of 20 feet (6096 mm) or more is provided, wood columns and arches conforming to heavy timber sizes complying with Section 2304.11 shall be permitted to be used externally.

Reason: Although it has been correctly explained in the IBC Commentary for many editions, code officials sometimes question the intent of this section, and wonder if the exterior columns themselves must be separated from one another. Using the defined term "fire separation distance" will eliminate any confusion as to how that distance is to be measured. This change is editorial and does not change the requirement.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
We feel that this proposed change only reflects theintent of the code.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as it clarifies the intent of the code. (Vote: 14-0)

Final Hearing Results

G151-21 AS

Page: 1

Mod_11050_Text_G151-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

69

F11051 /G153-21

Date Submitted	03/13/2024	**Section**	603.1	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

To establish consistency within the code. Throughout the section, language appears as both, “complying with 2303.2” and without it. I am adding the, “complying with 2303.2” to the sections where it has been left off.

Rationale

See attached

F11051Text Modification

See attached

Page: 1

Mod11051_TextOfModification.pdf

F11051Text Modification

G153-21

Original Proposal

IBC: 603.1

Proponents: Christopher Athari, Hoover Treated Wood Products, Hoover Treated Wood Products (cathari@frtw.com)

2021 International Building Code

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* complying with Section 2303.2 shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:
   1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.
2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:
   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.

Page: 1

Mod_11051_Text_G153-21.pdf

F11051Text Modification

11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood complying with Section 2303.2, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

Reason: To establish consistency within the code. Throughout the section, language appears as both, “complying with 2303.2” and without it. I am adding the, “complying with 2303.2” to the sections where it has been left off.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
It is a clerical addition to the code. The phrase appears in some sections but not others.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as it creates consistent code language by adding a necessary pointer to Section 2303.2. (Vote: 11-3)

Final Hearing Results

G153-21 AS

Page: 2

Mod_11051_Text_G153-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

70

F11052 | **/G156-21**

Date Submitted	03/13/2024	**Section**	603.1	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Vapor retarders are required to be installed in all climate zones. Many times the material is combustible. Proposal to clarify that vapor retarders are permitted in these types of construction.

Rationale

See attached

F11052Text Modification

See attached

Page: 1

Mod11052_TextOfModification.pdf

F11052Text Modification

G156-21

Original Proposal

IBC: 603.1

Proponents: Stephen Thomas, Colorado Code Consulting dba Shums Coda Associates, Inc., Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, City and County of Broomfield, Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

1. *Fire-retardant-treated wood* shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:
   1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.
2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:
   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.
3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.

Page: 1

Mod_11052_Text_G156-21.pdf

F11052Text Modification

10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.
16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.
28. Vapor Retarders as required by Section 1404.3

Reason: Vapor retarders are required to be installed in all climate zones. Many times the material is combustible. This has been questioned by some plans examiners when reviewing buildings of Type I and II construction. There is no language in the current code that specifically addresses this issue. We have developed this proposal to clarify that vapor retarders are permitted in these types of construction. The installation of the material does not have any significant impact on the building element in our opinion.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Since most jurisdictions already permit the vapor retarder in exterior walls of Type I and II construction, this is just intended to clarify that the retarders can be installed and will not affect the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as adding a pointer to Section 1404.3 for vapor retarders is appropriate. (Vote:12-2)

Page: 2

Mod_11052_Text_G156-21.pdf

F11052Text Modification

Final Hearing Results

G156-21 AS

Mod_11052_Text_G156-21.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

71

F11053 | **/G157-21**

Date Submitted	03/13/2024	**Section**	603.1.2	**Proponent**	Mo Madani
Chapter	6	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change is to clarify that plastic plumbing fixtures are acceptable to be installed in Type I and Type II buildings.

Rationale

See attached

F11053Text Modification

See attached

Page: 1

Mod11053_TextOfModification.pdf

F11053Text Modification

G157-21

Original Proposal

IBC: 603.1.2

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

603.1.2 Piping and plumbing fixtures. The use of combustible piping materials and plumbing fixtures shall be permitted where installed in accordance with the limitations of the *International Mechanical Code* and the *International Plumbing Code*.

Reason: This change is to clarify that plastic plumbing fixtures are acceptable to be installed in Type I and Type II buildings. Fiberglass and acrylic shower compartments are often chosen for these types of buildings to speed construction and lower the cost of construction. Plastic water closets, bathtubs and lavatories are more durable than those of vitreous china and thus are more cost effective in the long run. However, not all jurisdictions are uniformly enforcing the building code because of the misconception that such fixtures are as combustible as common plastic materials. This is not true as the standards for plastic plumbing fixtures require testing for ignitability.
This proposal is submitted by the ICC Building Code Action Committee (BCAC) and developed in cooperation with the PMGCAC.

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will decrease the cost of construction
Fiberglass and acrylic shower compartments are much more economical to install because there is a significant installation labor savings over field-constructed tile showers. Other plastic plumbing fixtures generally have a lower cost than their vitreous china counterparts and, being of lighter weight, may provide for some installation labor savings in handling alone.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the proposal is consistent with current standards for plumbing fixtures. The proposal is a clarification of the provision. The committee did question if a 'prefabricated shower compartment' qualifies as a plumbing fixture. (Vote: 9-5)

Final Hearing Results

G157-21 AS

Page: 1

Mod_11053_Text_G157-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

72

F10805 | **/FS8-21**

Date Submitted	03/06/2024	**Section**	704.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new Section 704.1.1. Adds new exception for 704.1.1. This is an editorial clean-up to better describe the intent of the exception.

Rationale

See attached

F10805Text Modification

See attached

Mod10805_TextOfModification.pdf Page: 1

F10805Text Modification

FS8-21

Original Proposal

IBC: 704.1, 704.1.1 (New)

Proponents: Matthew Hunter, American Wood Council, American Wood Council (mhunter@awc.org)

2021 International Building Code

Revise as follows:

704.1 Requirements. The *fire-resistance ratings* of structural members and assemblies shall comply with this section and the requirements for the type of construction as specified in Table 601. ~~The *fire-resistance ratings* shall be not less than the ratings required for the fire-resistance-rated assemblies supported by the structural members.~~

Exception: ~~*Fire barriers*, *fire partitions*, *smoke barriers* and *horizontal assemblies* as provided in Sections 707.5, 708.4, 709.4 and 711.2, respectively.~~

Add new text as follows:

704.1.1 Supporting construction. The *fire-resistance* ratings of supporting structural members and assemblies shall be not less than the ratings required for the fire-resistance-rated assemblies supported by the structural members.

Exception: Structural members and assemblies that support fire barriers, fire partitions, smoke barriers and horizontal assemblies as provided in Sections 707.5, 708.4, 709.4 and 711.2, respectively.

Reason: This is an editorial clean-up to better describe the intent of the exception. There is no technical change. The current exception does not exempt fire barriers, fire partitions, smoke barriers and horizontal assemblies from requirements for type of construction, only the provision about supporting construction.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The purpose of this code change is editorial in nature and is only proposed to clarify the intent of the Exception.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that this proposal is editorial and clarifies the language of the section. (Vote: 9-3)

Final Hearing Results

FS8-21 AS

Page: 1

Mod_10805_Text_FS8-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

73

F10807 **/FS9-21**

Date Submitted	03/06/2024	**Section**	704.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal restructures and consolidates into two sections, primary and secondary members

Rationale

See attached

F10807Text Modification

See attached

Page: 1

Mod10807_TextOfModification.pdf

F10807Text Modification

FS9-21

Original Proposal

IBC: 704.2, 704.3, 704.4, 704.4.1, 704.4.2

Proponents: Shane Nilles, City of Cheney, WA, WABO (snilles@cityofcheney.org); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Revise as follows:

704.2 ~~Column protection.~~ ~~Where columns are required to have protection to achieve a *fire-resistance rating*, the entire column shall be provided individual encasement protection by protecting it on all sides for the full column height, including connections to other structural members, with materials having the required *fire-resistance rating*. Where the column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column.~~

~~Exception:~~ ~~Columns that meet the limitations of Section 704.4.1.~~

704.2 ~~704.3~~ Protection of the primary structural frame ~~other than columns~~. Members of the *primary structural frame* ~~other than columns~~ that are required to have protection to achieve a *fire-resistance rating* ~~and support more than two floors or one floor and roof, or support a *load-bearing wall* or a *nonload-bearing wall* more than two *stories* high,~~ shall be provided individual encasement protection by protecting them on all sides for the full length, including connections to other structural members, with materials having the required *fire-resistance rating*.

~~Exception~~ Exceptions: ~~Individual encasement protection on all sides shall be permitted on all exposed sides provided that the extent of protection is in accordance with the required *fire-resistance rating*, as determined in Section 703.~~

1. Individual encasement protection is permitted to be interrupted where the primary structural member is in direct contact with another structural member.
2. Primary structural members other than columns that do not support more than two floors or one floor and roof, or a load-bearing wall or a nonload-bearing wall more than two stories high, are permitted to be protected by the membrane of a fire-resistance rated wall or horizontal assembly.
3. Members that are integral elements in walls of light-frame construction, including studs, columns, and boundary elements located entirely between the top and bottom plates or tracks, shall be permitted to be protected by the membrane of a fire-resistance rated wall assembly.

~~704.4~~ 704.3 Protection of secondary structural members. *Secondary structural members* that are required to have protection to achieve a *fire-resistance rating* shall be protected by individual encasement protection, by the membrane of a fire-resistance rated wall or horizontal assembly, or a combination of both.

~~704.4.1 Light-frame construction.~~ ~~Studs, columns and boundary elements that are integral elements in *walls* of *light-frame construction* and are located entirely between the top and bottom plates or tracks shall be permitted to have required *fire-resistance ratings* provided by the membrane protection provided for the *wall*.~~

~~704.4.2 Horizontal assemblies.~~ ~~*Horizontal assemblies* are permitted to be protected with a membrane or ceiling where the membrane or ceiling provides the required *fire-resistance rating* and is installed in accordance with Section 711.~~

Reason: The current language is confusing and misleading. It does not follow regular code language structure that provides charging language, and exceptions thereto. It further divides the primary structural elements into two separate sections, columns and those other than columns, and it also mixes some secondary member language in with the primary structure section. This proposal restructures and consolidates into two sections, primary and secondary members, to have the charging language first and outlines the appropriate

Page: 1

Mod_10807_Text_FS9-21.pdf

exceptions thereto. This will lead to more consistent application and safer buildings without increasing the stringency of the provisions.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Proposal only restructures the code section language to be more understandable.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee concluded that the proposed text is not editorial. The proposal is making technical changes without providing technical justification. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: Shane Nilles, City of Cheney, WABO TCD (snilles@cityofcheney.org); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

704.2 Protection of the primary structural frame . Members of the *primary structural frame* that are required to have protection to achieve a *fire-resistance rating* shall be provided individual encasement protection by protecting them on all sides for the full length, including connections to other structural members, with materials having the required *fire-resistance rating*. Where a column extends through a ceiling, the encasement protection shall be continuous from the top of the foundation or floor/ceiling assembly below through the ceiling space to the top of the column.

Exceptions:

1. ~~Individual encasement protection is permitted to be interrupted where the primary structural member is in direct contact with another structural member.member~~Individual encasement protection on all sides shall be permitted on all exposed sides provided that the extent of protection is in accordance with the required fire-resistance rating, as determined in Section 703.
2. Primary structural members other than columns that do not support more than two floors or one floor and roof, or a load-bearing wall or a nonload-bearing wall more than two stories high, are permitted to be protected by the membrane of a fire-resistance rated wall or horizontal ~~assembly.~~assembly where the membrane provides the required *fire-resistance rating*.
3. ~~Members that are integral elements in walls of light-frame construction, including studs, columns, and boundary elements located entirely between the top and bottom plates or tracks, shall be permitted to be protected by the membrane of a fire-resistance rated wall assembly.~~Columns that meet the limitations of Section 704.3.1.

704.3 Protection of secondary structural members . *Secondary structural members* that are required to have protection to achieve a*fire-resistance rating* shall be protected by individual encasement protection,or by the membrane of a fire-resistance rated wall or horizontal assembly,where the membrane provides the required *fire-resistance rating*~~, or a combination of both.both.~~

704.3.1 Light-frame construction . Studs, columns and boundary elements that are integral elements in*walls* of *light-frame construction* and are located entirely between the top and bottom plates or tracks shall be permitted to have required*fire-resistance ratings* provided by the membrane protection provided for the *wall*.

704.3.2 Horizontal assemblies . *Horizontal assemblies* are permitted to be protected with a membrane or ceiling where the membrane or

F10807Text Modification

ceiling provides the required *fire-resistance rating* and is installed in accordance with Section 711.

Commenter's Reason: The proposal was intended to rewrite and rearrange the sections without changing the intent. The committee felt that the language rewriting has some unintended consequences. We have addressed those concerns by maintaining the existing language that was identified as being critical, while still providing for a much-needed restructuring to make the code easier to interpret and apply. In that process we determined that there are some perceivable technical changes that we feel are still consistent with the intent and how these sections are most commonly interpreted:

1. The exception permitting the individual encasement of primary structural members to be provided on exposed sides only where the unexposed sides are other elements that afford the same required protection has been expanded to apply to columns as well.
2. Currently there is a hole in the code where there is no type of protection method prescribed for primary structural members that do not support more than two floors or one floor and roof, or a load-bearing wall or a nonload-bearing wall more than two stories high, the proposal clarifies that the intent is that they must still be protected, but rather than by “individual encasement”, they are permitted to be protected by the membrane on an assembly they are located in.
3. Currently the main section for secondary members is to be protected by individual encasement only, but then there are two subsections that clarify those within horizontal assemblies, or light-frame walls, are permitted to be protected by the membrane of the horizontal assembly or wall respectively. This suggests that secondary members are actually intended to be protected by either individual encasement, or by the membrane of an assembly, which may be selected by the designer depending on what is more feasibly constructive and appropriate. The proposal simply adds that language into the charging language to be clearer.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction There should be negligible or no change in costs. The proposal is primarily to clarify the intent of the code. Clarified language may lead to a decrease in costs in areas where membrane protection clarified to be allowed on secondary members in lieu of individual encasement.

Final Hearing Results

FS9-21 AMPC1

Page: 3

Mod_10807_Text_FS9-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

74

F10809 | **/FS11-21**

Date Submitted	03/06/2024	**Section**	704.6.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 704.6.1.

Rationale

See attached

F10809Text Modification

See attached

Page: 1

Mod10809_TextOfModification.pdf

F10809Text Modification

FS11-21

Original Proposal

IBC: 704.6.1

Proponents: Bill McHugh, The McHugh Company, National Fireproofing Contractors Association (billmchugh-jr@att.net)

2021 International Building Code

Revise as follows:

704.6.1 Secondary attachments to structural members.

Where primary and secondary structural steel members require fire protection, secondary<u>tubular</u> steel attachments to those structural members shall be protected with the same fire-resistive material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches (305 mm), or shall be applied to the entire length where the attachment is less than 12 inches (305 mm) long. Where an attachment is hollow and the ends are open, the fire-resistive material and thickness shall be applied to both exterior and interior of the hollow steel attachment.

Reason: We applaud the proponent that added this new section for fire-resistance-rated protection of secondary steel attachments to structural steel building elements. While we supported the original proposal that dealt with only tubular steel secondary attachments, we believe the approved Public Comment far exceeds the 2018/2019 Fire Safety Committee's Action to protect only tubular - substantial attachments - to the secondary structural frame. It extends the protection to ANY steel attachments to the primary and secondary structural frame of the building.

The new code language means that thin hanger wire that holds up ceiling grid and other items such as ½" or less threaded rod that also holds up items above ceilings must be protected with fire-resistive materials of thickness equal to or greater than the attachments.

Experts in fire resistance testing from a major testing laboratory and suspended ceiling manufacturer have stated "heat transfer from hanger wires or small rods have never melted or caused failure of the secondary members to which they are attached. The wires and rods elongate during the fire test, but remain through the end of the fire-tests." These experts also state that in fire tests of assembles where ceiling panels or gypsum panels are used, the wires and rods melt when the assembly eventually fails. These attachments are not substantial steel items that make a difference to the building fire safety - but are now are required to have 12" of protection.

To protect wires and rods for 12" means some kind of wire mesh cage must be fabricated around the wire or rod to allow the fireproofing thickness to build and provide required protection. This new requirement - that does extend to thin 12ga. hanger wire and small threaded rods – adds unjustified cost to the project without proof that it adds to safety.

Finally, there is no tested and listed system design in the UL Product iQ currently that requires 12" protection of threaded rods or ceiling hanger wire. That's why we request reverting back to the original proposal prior to the PCH last cycle, which refers to only tubular attachments that can cause problems on the structure.

Cost Impact: The code change proposal will decrease the cost of construction

The cost impact will be that the small attachments defined in the proposal will not require protection, reducing costs significantly. The amount of reduction varies based on the number of small attachments, the presence of a hanging ceiling with metal grid and ceiling tiles, or other building service items such as ducts, cables and pipes, that might hang from a fire-resistance-rated assembly. .

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 704.6.1 Secondary attachments to structural members

Page: 1

Mod_10809_Text_FS11-21.pdf

F10809Text Modification

Where primary and secondary structural steel members require fire protection, ~~secondary tubular steel attachments to those structural members~~ any additional structural steel members having direct connection to the primary structural frame or secondary structural members shall be protected with the same fire-resistive material and thickness as required for the structural member. The protection shall extend away from the structural member a distance of not less than 12 inches (305 mm), or shall be applied to the entire length where the attachment is less than 12 inches (305 mm) long. Where an attachment is hollow and the ends are open, the fire-resistive material and thickness shall be applied to both exterior and interior of the hollow steel attachment.

Committee Reason: The committee deemed the modification is capturing what was missing from the original proposal. The committee also concluded that the reason statement is convincing that a modifier is needed before steel attachments. The committee encouraged the proponent to work with other suggested additions in the public comment phase, including addressing the word "structural" and addressing the heat transfer issue. (Vote: 13-0)

Final Hearing Results

FS11-21 AM

Page: 2

Mod_10809_Text_FS11-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

75

F10811	/FS12-21				
Date Submitted	03/06/2024	**Section**	705.2.3.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

The proposal simply seeks to add a “-HT” designator to the Type IV construction addressed in Exception 3 of Section 705.2.3.1

Rationale

See attached

1st Comment Period History

F10811-G1

Proponent Cade Booth Submitted 6/21/2024 11:06:03 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

1st Comment Period History

F10811-G2

Proponent Cade Booth Submitted 6/21/2024 11:31:27 AM Attachments No

Comment:

The American Wood Council (AWC) would like to acknowledge that this modification will likely not move forward under this phase of the FBC Code Development Cycle; and also, would also like to inform the commission that we intend to propose it once the appropriate cycle for modifications opens. We appreciate your consideration and look forward to related discussion. Thank you.

F10811Text Modification

See attached

Page: 1

Mod10811_TextOfModification.pdf

F10811Text Modification

FS12-21

Original Proposal

IBC: 705.2.3.1

Proponents: Stephen DiGiovanni, Clark County, Self (sdigiovanni@clarkcountynv.gov)

2021 International Building Code

Revise as follows:

705.2.3.1 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the building's perimeter on each floor.

Exceptions:

1. On buildings of Types I and II construction, three*stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required exits.
2. Untreated wood and plastic composites that comply with ASTM D7032 and Section 2612 are permitted for pickets, rails and similar *guard* components that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on buildings of Types III, IV-HT and V construction shall be permitted to be of Type V construction and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

Reason: The Ad Hoc Committee for Tall Wood Buildings (TWB) was formed by the ICC Board of Directors in 2016 to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes. A total of 17 proposals were presented and approved in the Group A and Group B code cycles leading to the 2021 edition of the I-codes. Having provided the technical foundation for deploying tall wood buildings in the various codes, the Ad Hoc Committee for Tall Wood Buildings was sunset in 2020.

Upon reflection of the codes, there appears to be at least one item that was not adequately addressed by the TWB. In particular, this proposal seeks to address the allowance of balconies and similar projections on Type IV buildings to be constructed of Type V construction.

A goal of the TWB code changes was to minimize exterior fire spread for Type IV buildings that were proposed for increased heights over what was previously permitted for traditional Type IV Heavy Timber construction. The committee took particular care in eliminating combustibles from the exterior walls for Types IV-A, IV-B, and IV-C construction, as evidenced by the language presented for IBC Section 602.4. The only combustibles permitted are mass timber elements, and a water barrier. Outboard of these materials, the proposals required non-combustible protection with a minimum rating of 40 minutes. The allowances in IBC 705.2.3.1 to allow Type V balconies and projection, exterior of and thus without the benefit of the non-combustible protection, are incongruent with the TWB code proposals in terms of the type of construction materials allowed and the lack of protection in place. While it can be argued that the specific language in Section 602.4 overrides the general exception in Section 705.2.3.1, still the apparent conflicting provisions would benefit from clarification. For this reason, the proposed fix is being offered. In adding the new construction types, the TWB took care to not affect the existing requirements for traditional Type IV Heavy Timber construction. Where the TWB found codes that were to be maintained for traditional Type IV construction, but were not applicable to the new Type IV-A, IV-B, and IV-C construction types, the committee proposed a change to add the -HT designator, to clarify the particular code requirement applied to Type IV-HT only.

Thus, in order to correct an apparent code conflict, to clarify the intent of the TWB, and to maintain consistency with the traditional Type IV Heavy Timber construction, the proposal simply seeks to add a "-HT" designator to the Type IV construction addressed in Exception 3, thus eliminating the perceived allowance of adding balconies and similar projections of Type V construction for new Types IV-A, IV-B and IV-C construction.

Page: 1

Mod_10811_Text_FS12-21.pdf

F10811Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Cost impact is based on interpretation of the code conflict between IBC 602.4 and IBC 705.2.3.1. The author's interpretation is that Type V balconies are not currently permitted on Types IV-A, IV-B, and IV-C construction, and that this proposal only seeks to clarify the code's intent, and thus there is no cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that the proposal clarifies and corrects the type of construction within the exception. The committee encourages the proponent to fix the conflict with section 705.2.2. (Vote: 8-5)

Final Hearing Results

FS12-21 AS

Page: 2

Mod_10811_Text_FS12-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

76

F10813 **/FS16-21**

Date Submitted	03/06/2024	**Section**	705.5	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Table 705.5. The current language in the footnote refers to the table and not the charging language that sends you to the table. Proposal to address this. The footnote should tie to the charging language of the Section and not the table

Rationale

See attached

F10813Text Modification

See attached

Page: 1

Mod10813_TextOfModification.pdf

F10813Text Modification

FS16-21

Original Proposal

IBC: TABLE 705.5

Proponents: Eric Bressman, Ankrom Moisan Architects, Ankrom Moisan Architects (ericb@ankrommoisan.com)

2021 International Building Code

Revise as follows:

TABLE 705.5 FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, g]

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H[g]	OCCUPANCY GROUP F-1, M, S-1[f]	OCCUPANCY GROUP A, B, E, F-2, I, R[f], S-2, U[f,h]
X < 5[b]	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1[c]
	IIB, VB	1	0	0
	Others	1	1	1[c]
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.

b. See Section 706.1.1 for party walls.

c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.

d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.

e. For special requirements for Group H occupancies, see Section 415.6.

f. For special requirements for Group S aircraft hangars, see Section 412.3.1.

g. Where ~~Table 705.8~~ Section 705.8.1 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.

h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

i. For a Group R-3 building of Type II-B or Type V-B construction, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

Reason: The current language in the footnote refers to the table and not the charging language that sends you to the table. By structuring the reference in this manner, the two exceptions in the charging language are excluded. These two exceptions allow for 100% unprotected openings. It stands to reason that if the entire wall can be unprotected openings, then any solid portion of the wall should not require a fire rating. The footnote should tie to the charging language of the Section and not the table. While the 2nd exception is already accounted for in the body of Table 602 (Types IIB and VB construction), the current language does not capture the first exception for ground floor storefronts with the prescribed *fire separation distance* or unoccupied space. This results in a situation where a designer can have a wall with 100% unprotected openings per this exception, but if any part of the wall is not an opening it is required to be rated per Table 705.5.

Cost Impact: The code change proposal will decrease the cost of construction
There is potential for a small cost savings for projects not required to rate the ground floor walls due to the added exception.

Page: 1

Mod_10813_Text_FS16-21.pdf

F10813Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that the proposed code change is a good adjustment and better coordination with other related code sections. The proposal does not introduce new technical changes. (Vote: 13-0)

Final Hearing Results

FS16-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

77

F10814 **/FS18-21**

Date Submitted	03/06/2024	**Section**	705.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

To address the continuity of the required exterior wall rating. Adds Section 705.6 "Continuity".

Rationale

See attached

F10814Text Modification

See attached

Page: 1

Mod10814_TextOfModification.pdf

F10814Text Modification

FS18-21

Original Proposal

IBC: 705.6 (New), 705.6

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

2021 International Building Code

Add new text as follows:

705.6 Continuity. The fire-resistance rating of exterior walls shall extend from the top of the foundation or floor/ceiling assembly below to one of the following:

1. The underside of the floor or roof sheathing, deck or slab above.
2. The underside of a one-hour fire-resistance rated floor/ceiling or roof/ceiling assembly.

Parapets shall be provided as required by Section 705.11.

Revise as follows:

~~**705.6**~~ **705.7 Structural stability.** ~~*Exterior walls* shall extend to the height required by Section 705.11~~. Interior structural elements that brace the *exterior wall* but that are not located within the plane of the *exterior wall* shall have the minimum *fire-resistance rating* required in Table 601 for that structural element. Structural elements that brace the *exterior wall* but are located outside of the *exterior wall* or within the plane of the *exterior wall* shall have the minimum *fire-resistance rating* required in Table 601 and Table 705.5 for the *exterior wall*.

Reason: This is the same proposal that was brought forth last code cycle, FS-19. Steve pointed out a problem with the code in the continuity of exterior wall ratings. While his proposal may have been too simplistic, it really does provide the needed clarification on how to address the continuity of the required exterior wall rating. This is a huge issue in Type III construction where there is little direction on how the supporting construction for the exterior walls are to be rated, especially in the case of a parapet. FS-20 of the same code cycle got into too many specific requirements but attempted to address the same concern.

Cost Impact: The code change proposal will decrease the cost of construction
I like the Steve Thomas's reason statement from last cycle - this will reduce the cost because confusion will be eliminated and people won't be making things up.

In all seriousness, this could reduce the cost of construction as it will clearly define how exterior wall continuity is to be provided.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee concluded that the proposal is not clear enough and missing significant technical aspects. The committee recommended that the proponent work on more clarification during the public comment phase. Such as addressing the intersection with a rated roof ceiling assembly and protecting the sides. (Vote: 13-0)

Public Comments

Page: 1

Mod_10814_Text_FS18-21.pdf

F10814Text Modification

Public Comment 1

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

705.6 Continuity . The fire-resistance rating of exterior walls shall extend from the top of the foundation or floor/ceiling assembly below to one of the following:

1. The underside of the floor or roof sheathing, deck or slab above.
2. The underside of a ~~one-hour fire-resistance rated~~ floor/ceiling or roof/ceiling ~~assembly.~~ assembly having a fire-resistance rating equal to or greater than the exterior wall and the fire separation distance is greater than 10 feet.

Parapets shall be provided as required by Section 705.11.

705.11.1 Parapet construction . Required ~~Parapets~~ parapets shall have the same *fire-resistance rating* as that required for the supporting wall, and on any side adjacent to a roof surface, shall have noncombustible faces for the uppermost 18 inches (457 mm), including counterflashing and coping materials. The height of the parapet shall be not less than 30 inches (762 mm) above the point where the roof surface and the wall intersect. Where the roof slopes toward a parapet at a slope greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a *fire separation distance* where protection of wall openings is required, but the height shall be not less than 30 inches (762 mm).

Commenter's Reason: The committee was concerned that the original code change was too broad and missing technical aspects. There was concern about how the floor/ceiling or roof/ceiling assemblies that may carry a higher rating were to be addressed. There was also concern about an exterior wall condition that may have been needing a rating due to proximity to the property line, thus the added language on the fire separation distance.
The additional language to the parapet section is to clearly indicate that when the parapet is required, then it must comply. Parapets may be provided on a building which are not required and in those instances, the parapet does not need to comply with the parapet language.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
With the clarification on how exterior wall continuity is to be provided, it may decrease the cost of construction.

Final Hearing Results

FS18-21 AMPC1

Page: 2

Mod_10814_Text_FS18-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

78

F10815 /FS19-21

Date Submitted	03/06/2024	**Section**	705.6.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Maintaining the fire resistance of supporting construction. Addressing requirements for loadbearing exterior walls in Type III construction when floors intersect the exterior wall in typical “platform” framing.

Rationale

See attached

F10815Text Modification

See attached

Mod10815_TextOfModification.pdf

Page: 1

F10815Text Modification

FS19-21

Original Proposal

IBC: 705.6.1 (New), 705.6.1.1 (New)

Proponents: David Tyree, American Wood Council, AWC (dtyree@awc.org); Paul Coats, American Wood Council, American Wood Council (pcoats@awc.org)

2021 International Building Code

Add new text as follows:

705.6.1 Supporting construction. Construction that supports gravity loads from fire-resistance-rated exterior walls shall have a fire-resistance rating that is equal to or greater than the required fire resistance rating of the supported wall. For achieving the required fire resistance rating for exposure from the interior of the building, ceiling materials shall be permitted to contribute to the required fire-resistance of the supporting construction.

705.6.1.1 Materials. The material requirements of floor/ceiling assemblies shall be in accordance with requirements for interior building elements for the Type of Construction, including portions of the floor/ceiling construction that support gravity loads from an exterior wall.

Reason: There is increasing controversy about the requirements for loadbearing exterior walls in Type III construction when floors intersect the exterior wall in typical "platform" framing. Driving this are overlapping concerns for maintaining the fire resistance of the exterior wall at the intersection with the floor, as well as material requirements for the floor structure, given that the wall itself is required to be fire-retardant treated wood if wood framing is used.

Platform framing can be accomplished without compromising the fire resistance of the exterior wall. When an unrated or one-hour fire-resistance rated floor intersects and supports the two-hour exterior wall at each floor level, the code requires the construction supporting the wall to have the same fire-resistance rating as the supported wall. This can be accomplished by several means, such as providing extra rim board members or blocking, and extra protection for the floor elements at the intersection. AWC's Design for Code Acceptance No. 3 (DCA 3) document has design details to maintain the required fire resistance of the wall for fire exposure from the interior of the building, and, when required by IBC Section 705.5, for exposure from the exterior as well. One example of these details (there are four details in DCA 3) is shown below this reason statement.

Maintaining the fire resistance of supporting construction plays a much more important role in the performance of the wall than the use of fire-retardant treated wood in the supporting floor. There is no demonstrated increase in fire-resistance rating for fire-retardant-treated wood when compared to untreated wood. Fire-retardant treated wood exhibits reduced flame spread, but it does not increase the fire-resistance rating of the assembly. In other words, requiring the end of the floor to be fire-retardant treated does not increase the fire-resistance of the wall. The code does not require elements of the floor to be fire-retardant treated even if they serve to support the gravity loads from the wall above. However, it does require those supporting floor elements to provide fire resistance equal to that required for the wall.

The current code language is subject to multiple interpretations, including requiring the floor elements to be fire-retardant-treated or prohibiting platform details altogether. These interpretations are costly and do not serve to increase safety. Often, they may jeopardize the fire performance of the floor for the sake of protecting the wall. The proposed subsections will clarify the issues, encouraging a practical and effective approach without compromising fire resistance or safety.

[Below page 7 from DCA 3 here: Figure 1B example detail and accompanying "methodology" notes]

Page: 1

Mod_10815_Text_FS19-21.pdf

F10815Text Modification

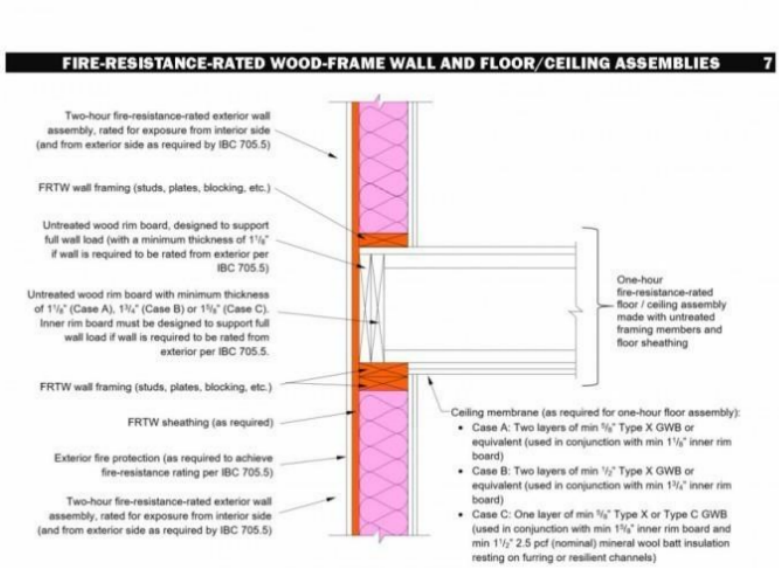


Figure 1B: Example detail for Type III-A exterior wall–floor intersection with two rim boards

Methodology:

Fire-resistance for exposure from interior side:

- Case A: Minimum $1^{1}/_{8}$-inch-thick inner rim board plus two layers of minimum $^{5}/_{8}$ in. Type X GWB in the ceiling membrane provides 2 hours of protection to the outer rim board, based on the NDS-calculated time for the char depth to reach the inner rim board / outer rim board interface plus 40 minutes for each layer of $^{5}/_{8}$ in. Type X GWB (per IBC Table 722.6.2(1)).
- Case B: Minimum $1^{3}/_{4}$-inch-thick inner rim board plus two layers of minimum $^{1}/_{2}$ in. Type X GWB in the ceiling membrane provides 2 hours of protection to the outer rim board, based on the NDS-calculated time for the char depth to reach the inner rim board / outer rim board interface plus 25 minutes for each layer of $^{1}/_{2}$ in. Type X GWB (per IBC Table 722.6.2(1)).
- Case C: Minimum $1^{5}/_{8}$-inch-thick inner rim board plus one layer of minimum $^{5}/_{8}$ in. Type X GWB in the ceiling membrane plus minimum $1^{1}/_{2}$-inch-thick, 2.5 pcf (nominal) mineral wool batt insulation provides 2 hours of protection to the outer rim board, based on the NDS-calculated time for the char depth to reach the inner rim board / outer rim board interface, plus 40 minutes for the $^{5}/_{8}$ in. Type X GWB (per IBC Table 722.6.2(1)), plus 15 minutes for the mineral wool batt insulation.

The outer rim board must be designed to support the load from the wall above.

Fire-resistance for exposure from exterior side (where required per IBC Section 705.5): A combination of exterior fire protection, FRTW sheathing, and minimum $1^{1}/_{8}$-inch-thick outer rim board is used to provide two hours of protection to the inner rim board. Layers to the exterior of the outer rim board (e.g., exterior fire protection, FRTW sheathing, etc.) must be sufficient to provide at least 80 minutes of protection to the outer rim board. The inner rim board must be designed to support the load from the wall above.

Note: *NDS*® is the *2018 National Design Specification*® *for Wood Construction*

Copyright © 2020 American Wood Council March 2020

Bibliography: AWC Design for Code Acceptance (DCA) 3 - Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies can be downloaded at https://awc.org/codes-standards/publications/dca3

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change only clarifies the intent of this section for more uniform and consistent application. It may decrease costs in some jurisdictions depending on interpretation and application of the current code language.

Mod_10815_Text_FS19-21.pdf Page: 2

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee concluded that the proposed language is confusing for the building official. The committee recommended that the proposed language is a good step in the right direction but needs to address more aspects, such as intersections and rated assemblies. (Vote: 7-5)

Public Comments

Public Comment 1

Proponents: David Tyree, American Wood Council, AWC (dtyree@awc.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

705.6.1 ~~Supporting construction~~ Floor Assemblies in Type III Construction . ~~Construction that~~ In Type III construction where a floor assembly supports gravity loads from ~~fire-resistance-rated exterior walls shall have a fire-resistance rating that is equal to or greater than the required fire resistance rating of the supported wall. For achieving the required fire resistance rating for exposure from the interior of the building, ceiling materials shall be permitted to contribute to the required fire-resistance of the supporting construction.~~ an exterior wall, the fire-resistance rating of the portion of the floor assembly that supports the exterior wall shall not be less than the fire-resistance rating required for the exterior wall in Table 601. The fire-resistance rating provided by the portion of the floor assembly supporting and within the plane of the exterior wall shall be permitted to include the contribution of the ceiling membrane when considering exposure to fire from the inside. Where a floor assembly supports gravity loads from an exterior wall, the building elements of the floor construction within the plane of the exterior wall, including but not limited to, rim joists, rim boards, and blocking, shall be in accordance with the requirements for interior building elements of Type III Construction.

~~**705.6.1.1 Materials .** The material requirements of floor/ceiling assemblies shall be in accordance with requirements for interior building elements for the Type of Construction, including portions of the floor/ceiling construction that support gravity loads from an exterior wall.~~

Commenter's Reason: The original proposal is rewritten to address opposition testimony and comments from the committee members during their discussion. The reason statement provided with the original proposal is applicable and pertinent to what is being proposed in this public comment and should be made a part of the record.

Following is a detailed explanation of the proposed text addressing each of the statements made in opposition to this proposal. The first sentence of 705.6.1 limits the application of this section to ONLY Type III construction. No other material interests are affected. Although it is not stated, the criteria will most commonly apply to platform construction where the floor assembly is supported by the top of the wall below and the wall above is supported by that floor assembly. The portion of the floor assembly directly within the gravity load path of the exterior wall is required to provide a two-hour fire-resistance rating as required by Table 601. This requirement is to ensure the fire resistance rating required of the exterior wall of the story above, will continue through the supporting segment of the floor assembly, to the exterior wall of the story below. The second sentence states that it is permissible to consider the contribution from the ceiling membrane when assessing the fire-resistance rating of the floor assembly at the exterior wall. A ceiling membrane may or may not be present, but as shown in AWC's DCA3, it is an appropriate design assumption to consider its contribution when the fire rating of the floor assembly supporting the exterior wall is to be based on fire exposure from the interior of the building.

The original section and subsection have now been combined to better clarify the construction and fire-resistive requirements of the intersection of the exterior wall and floor construction. With the combination of all of the requirements in one section, it clarifies the nature of the material permitted as building elements in the floor construction of Type III construction. The terms “building element” and “floor construction” are from Table 601 to eliminate confusion. Typically, material at the perimeter of the floor assembly (construction) may include a single rim joist, multiple rim joists and/or blocking to achieve the required fire-resistance rating, while also maintaining a gravity load path

F10815Text Modification

for the duration of the required fire resistance rating. AWC's DCA 3 provides specific examples of how this can be achieved. Material requirements for the materials within the wall space but part of the floor construction are to be consistent with what is required for the interior floor assembly, not the exterior wall. For example, if the exterior wall studs are light gauge steel, the perimeter material in the floor assembly which bears on the wall below can be constructed of any material permitted for the interior building elements in Type III construction, provided the required fire resistance rating, as clarified in 705.6.1, is demonstrated.

To better understand how these revisions interrelate to the original proposal, we felt it would be helpful to include the section in it's entirety so it could be reviewed and considered in the proper context as follows:

705.6 Structural stability. Exterior walls shall extend to the height required by Section 705.11. Interior structural elements that brace the exterior wall but that are not located within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 for that structural element. Structural elements that brace the exterior wall but are located outside of the exterior wall or within the plane of the exterior wall shall have the minimum fire-resistance rating required in Table 601 and Table 705.5 for the exterior wall.

705.6.1 Floor Assemblies in Type III Construction.
In Type III construction where a floor assembly supports gravity loads from an exterior wall, the fire-resistance rating of the portion of the floor assembly that supports the exterior wall shall not be less than the fire-resistance rating required for the exterior wall in Table 601. The fire-resistance rating provided by the portion of the floor assembly supporting and within the plane of the exterior wall shall be permitted to include the contribution of the ceiling membrane when considering exposure to fire from the inside. Where a floor assembly supports gravity loads from an exterior wall, the building elements of the floor construction within the plane of the exterior wall, including but not limited to, rim joists, rim boards, and blocking, shall be in accordance with the requirements for interior building elements of Type III Construction.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This code change only clarifies the intent of this section for more uniform and consistent application. It may decrease costs in some jurisdictions depending on interpretation and application of the current code language.

Final Hearing Results

FS19-21 AMPC1

Page: 4

Mod_10815_Text_FS19-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

79

F10816 | **/FS21-21**

Date Submitted	03/06/2024	**Section**	705.8	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Table 705.8. Footnote G. This proposal revises "open parking structure" to defined term "open parking garage" and requires compliance with section 406.5 to use this footnote.

Rationale

See attached

F10816Text Modification

See attached

Page: 1

Mod10816_TextOfModification.pdf

F10816Text Modification

FS21-21

Original Proposal

IBC: TABLE 705.8

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

TABLE 705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA[a]
0 to less than 3[b, c, k]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted[k]
	Unprotected, Sprinklered (UP, S)[i]	Not Permitted[k]
	Protected (P)	Not Permitted[k]
3 to less than 5[b, e]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[i]	15%
	Protected (P)	15%
5 to less than 10[e, f, j]	Unprotected, Nonsprinklered (UP, NS)	10%[m]
	Unprotected, Sprinklered (UP, S)[i]	25%
	Protected (P)	25%
10 to less than 15[e, f, g, j]	Unprotected, Nonsprinklered (UP, NS)	15%[m]
	Unprotected, Sprinklered (UP, S)[i]	45%
	Protected (P)	45%
15 to less than 20[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)[i]	75%
	Protected (P)	75%
20 to less than 25[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
25 to less than 30[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit

For SI: 1 foot = 304.8 mm.

UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.

a. Values indicated are the percentage of the area of the exterior wall, per story.

b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.

c. For openings in a fire wall for buildings on the same lot, see Section 706.8.

d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.

e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.

f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.

Page: 1

Mod_10816_Text_FS21-21.pdf

F10816Text Modification

g. The area of openings in an ~~open parking structure~~ *open parking garage* that complies with Section 406.5with a fire separation distance of 10 feet or greater shall not be limited.

h. Includes buildings accessory to Group R-3.

i. Not applicable to Group H-1, H-2 and H-3 occupancies.

j. The area of openings in a building containing only a Group U occupancy private garage or carport with a fire separation distance of 5 feet or greater shall not be limited.

k. For openings between S-2 parking garage and Group R-2 building, see Section 705.3, Exception 2.

Reason: Footnote "g" allows an open parking structure to have unlimited openings where the fire separation distance is 10 feet or greater, but "open parking structure" is not defined and is up for interpretation - this proposal clarifies exactly what requirements must be met to allow unlimited openings. It is believed the intent is that this footnote is for open parking garages that comply with the special requirements in Chapter 4 for open parking garages. To clarify intent, this proposal revises "open parking structure" to defined term "*open parking garage*" and requires compliance with section 406.5 to use this footnote.

It should be noted that it is necessary to require compliance with 406.5 in addition to using the defined term since the defined term doesn't include all of the requirements in 406.5. For example, 406.5.1 requires Type I, II or V construction, but this isn't mentioned in the definition.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a clarification that will not change the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE 705.8 MAXIMUM AREA OF EXTERIOR WALL OPENINGS BASED ON FIRE SEPARATION DISTANCE AND DEGREE OF OPENING PROTECTION

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA[a]
0 to less than 3[b, c, k]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted[k]
	Unprotected, Sprinklered (UP, S)[i]	Not Permitted[k]
	Protected (P)	Not Permitted[k]
3 to less than 5[d, e]	Unprotected, Nonsprinklered (UP, NS)	Not Permitted
	Unprotected, Sprinklered (UP, S)[i]	15%
	Protected (P)	15%
5 to less than 10[e, f, j]	Unprotected, Nonsprinklered (UP, NS)	10%[h]
	Unprotected, Sprinklered (UP, S)[i]	25%
	Protected (P)	25%
10 to less than 15[e, f, g, j]	Unprotected, Nonsprinklered (UP, NS)	15%[h]
	Unprotected, Sprinklered (UP, S)[i]	45%
	Protected (P)	45%
15 to less than 20[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	25%
	Unprotected, Sprinklered (UP, S)[i]	75%
	Protected (P)	75%
20 to less than 25[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	45%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
25 to less than 30[f, g, j]	Unprotected, Nonsprinklered (UP, NS)	70%
	Unprotected, Sprinklered (UP, S)[i]	No Limit
	Protected (P)	No Limit
30 or greater	Unprotected, Nonsprinklered (UP, NS)	No Limit
	Unprotected, Sprinklered (UP, S)[i]	No Limit

Page: 2

Mod_10816_Text_FS21-21.pdf

F10816Text Modification

FIRE SEPARATION DISTANCE (feet)	DEGREE OF OPENING PROTECTION	ALLOWABLE AREA
	Protected (P)	No Limit

For SI: 1 foot = 304.8 mm.

UP, NS = Unprotected openings in buildings not equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

UP, S = Unprotected openings in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

P = Openings protected with an opening protective assembly in accordance with Section 705.8.2.

a. Values indicated are the percentage of the area of the exterior wall, per story.

b. For the requirements for fire walls of buildings with differing heights, see Section 706.6.1.

c. For openings in a fire wall for buildings on the same lot, see Section 706.8.

d. The maximum percentage of unprotected and protected openings shall be 25 percent for Group R-3 occupancies.

e. Unprotected openings shall not be permitted for openings with a fire separation distance of less than 15 feet for Group H-2 and H-3 occupancies.

f. The area of unprotected and protected openings shall not be limited for Group R-3 occupancies, with a fire separation distance of 5 feet or greater.

g. The area of openings in an *open parking garage* ~~that complies~~ in accordance with Section 406.5 with a fire separation distance of 10 feet or greater shall not be limited.

h. Includes buildings accessory to Group R-3.

i. Not applicable to Group H-1, H-2 and H-3 occupancies.

j. The area of openings in a building containing only a Group U occupancy private garage or carport with a fire separation distance of 5 feet or greater shall not be limited.

k. For openings between S-2 parking garage and Group R-2 building, see Section 705.3, Exception 2.

Committee Reason: The committee concluded the modification supports the original intent and better clarifies the text by replacing "that complies" with "in accordance with" section 406.5. The committee based their approval on the proponent's reason statement and concluded the proposal clarifies what requirements must be met to allow unlimited openings. (Vote: 13-0)

Final Hearing Results

FS21-21 AM

Page: 3

Mod_10816_Text_FS21-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

80

F10817 | **/FS29-21**

Date Submitted	03/06/2024	**Section**	706.1.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes text from Section 706.2 "Structural stability".

Rationale

See attached

F10817Text Modification

See attached

Page: 1

Mod10817_TextOfModification.pdf

F10817Text Modification

FS29-21

Original Proposal

IBC: 706.1.2 (New), 706.2

Proponents: David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com)

2021 International Building Code

Add new text as follows:

706.1.2 Double fire walls. Double fire walls designed and constructed in accordance with NFPA 221 and its Annex shall be deemed to comply with this section.

Revise as follows:

706.2 Structural stability. *Fire walls* shall be designed and constructed to allow collapse of the structure on either side without collapse of the wall under fire conditions. ~~*Fire walls* designed and constructed in accordance with NFPA 221 shall be deemed to comply with this section.~~

Exception: In *Seismic Design Categories* D through F, where double *fire walls* are used in accordance with NFPA 221, floor and roof sheathing not exceeding 3/4 inch (19.05 mm) thickness shall be permitted to be continuous through the wall assemblies of *light frame construction*.

Reason: The use of NFPA 221 for the design and construction of double fire walls is permitted in Section 706.2 regarding structural stability. Additional details and specific requirements in NFPA 221 go beyond simply structural stability and should be a part of the designated requirements for design of fire walls.

Cost Impact: The code change proposal will decrease the cost of construction
This code change adds clarification how NFPA 221 is used to provide for double fire walls which are signifiantly less expensive to build than independent fire walls.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 706.1.2 ~~Double fire walls~~ Deemed to comply. ~~Double~~ ~~f~~Fire walls designed and constructed in accordance with NFPA 221 and its Annex shall be deemed to comply with this section.

Committee Reason: The committee concluded the modification corrected the proposal by adding "Deemed to comply". The proposed change adds clarity to the code section by adding the Annex and NFPA 221. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com) requests As Modified by Public Comment

Page: 1

Mod_10817_Text_FS29-21.pdf

F10817Text Modification

Further modify as follows:

2021 International Building Code

706.1.2 Deemed to comply . Fire walls designed and constructed in accordance with NFPA 221~~and its Annex~~ and providing the reqired fire resistance required in Section 706.4 shall be deemed to comply with this section.

Commenter's Reason: An error in the changes was called to our attention after the committee hearing. NFPA 221 does not include a requirement for a specific fire resistance. It depends on the building code to set the fire resistance requirement. FS29 makes NFPA 221"deemed to comply" with Section 706 which includes the requierd fire resistance. Similarly, the NFPA 221 Annex includes non-mandrory languge which can cause problems with design and enforcement.
The code change committee approved this change as modified. With this additional modification, Section 706.4 is referenced directly to establish the necessary fire resistance and the NFPA 221 Annex material would no longer be referenced.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This clarification will not increase or decrease the cost of construction.

Public Comment 2

Proponents: Jonathan Siu, Self; David Collins, The Preview Group, Inc, The American Institute of Architects (dcollins@preview-group.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

706.1.2 Deemed to comply. Fire walls designed and constructed in accordance with NFPA 221~~and its Annex~~ shall be deemed to comply with this sectionsubject to the limitations of Section 102.4. The required fire resistance rating shall be determined by Section 706.4.

Commenter's Reason: The purposes of this public comment are 1) to prevent adoption of commentary as code requirements; 2) to clarify that the code will still govern over the adopted reference standard; and 3) to clarify how to determine the fire-resistance rating for fire walls designed and constructed using NFPA 221. Our intent is to allow the use of NFPA 221 so designers can utilize the pieces in NFPA 221 to construct double fire walls and to rate each wall as prescribed in NFPA 221, as well as create vestibules for doors to facilitate connections through the fire wall, without reducing the protections required by the IBC.
First, as approved (as modified) by the committee, FS29-21 directly references the annex to NFPA 221–essentially, adopting the annex as code. However, according to introductory notes before the requirements and before the annex, the annex is clearly commentary ("Annex A is not part of the requirements of this NFPA document, but is included for informational purposes only. This annex contains explanatory material….")

Second, there are provisions in NFPA 221 that are less stringent than IBC or where NFPA 221 does not address a requirement in IBC. This public comment points the user back to IBC Section 102.4 to set the IBC provisions as the minimum requirements for fire wall construction.

As approved by the committee, NFPA 221 is a wholesale replacement for the IBC provisions for fire walls ("deemed to comply"). Essentially, nothing in IBC Section 706 would apply. Ordinarily, Section 102.4 would say that where there's a conflict between the code and a standard, the code governs. In this case, since NFPA 221 is "deemed to comply" with IBC, at least three requirements in the IBC will not be able to be enforced:

1. IBC 706.3 requires fire walls be constructed of noncombustible materials, with an exception for Type V construction. NFPA 221 doesn't appear to address fire wall materials at all. So one could argue that NFPA 221 would allow combustible materials in Types III and IV construction, where IBC would not. There is another code change that may align these but at this moment, there is a disconnect.
2. IBC allows termination of fire walls at the inside face of noncombustible exterior sheathing, exterior siding, or other exterior finishes (IBC 706.5 Exception 2). NFPA 221 adds "limited combustible" sheathing/siding/other finishes to the exception (NFPA 221 Section 6.9.1.2). "Limited combustibles" is not defined in the IBC, nor in NFPA 221, so it will be difficult for the code officials to enforce. In

Page: 2

Mod_10817_Text_FS29-21.pdf

F10817Text Modification

addition, on its face, “limited combustibles” is less stringent than noncombustible.

3. IBC prohibits duct and air transfer openings at lot lines (IBC 706.1.1 and 706.11). NFPA 221 points back to the building code in Section 4.9.2 (“Unless required otherwise by the applicable building code…”), but since NFPA 221 is “deemed to comply,” IBC Section 706 is no longer in play. Therefore, there is no prohibition in NFPA 221 for duct and air transfer openings at lot lines/party walls.

Thirdly, NFPA 221 does not contain any requirements for fire resistance rating of the fire walls. On the other hand, it does provide the fire resistance of each wall in a double fire wall, whereas the IBC does not. This public comment points the user who wants comply with NFPA 221 to IBC 706.4 so they will know the required fire resistance ratings on which to base a design.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
The original cost impact statement said the proposal will "add clarification how NFPA 221 is used to provide for double fire walls, which are significantly less expensive to build than independent fire walls." This public comment will not change that, and will not affect how fire walls are constructed under the IBC.

Final Hearing Results

FS29-21 AMPC1,2

Page: 3

Mod_10817_Text_FS29-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

81

F10818 **/FS35-21**

Date Submitted	03/06/2024	**Section**	706.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of Exception 2, Section 706.6 "Vertical continuity" for clarity of intent.

Rationale

See attached

F10818Text Modification

See attached

Page: 1

Mod10818_TextOfModification.pdf

F10818Text Modification

FS35-21

Original Proposal

IBC: 706.6

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, City and County of Broomfield, Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

706.6 Vertical continuity. *Fire walls* shall extend from the foundation to a termination point not less than 30 inches (762 mm) above both adjacent roofs.

Exceptions:

1. Stepped buildings in accordance with Section 706.6.1.
2. Two-hour fire-resistance-rated walls shall be permitted to terminate at the underside of the roof sheathing, deck or slab, provided that all of the following requirements are met:
   2.1. The lower *roof assembly* within 4 feet (1220 mm) of the wall has not less than a 1-hour *fire-resistance rating* and the entire length and span of supporting elements for the rated *roof assembly* has a *fire-resistance rating* of not less than 1 hour.
   2.2. Openings in the roof shall not be located within 4 feet (1220 mm) of the *fire wall*.
   2.3. Each building shall be provided with not less than a Class B *roof covering*.
3. Walls shall be permitted to terminate at the underside of noncombustible roof sheathing, deck or slabs where both buildings are provided with not less than a Class B *roof covering*. Openings in the roof shall not be located within 4 feet (1220 mm) of the *fire wall*.
4. In buildings of Types III, IV and V construction, walls shall be permitted to terminate at the underside of combustible roof sheathing or decks, provided that all of the following requirements are met:
   4.1. Roof openings are not less than 4 feet (1220 mm) from the *fire wall*.
   4.2. The roof is covered with a minimum Class B *roof covering*.
   4.3. The roof sheathing or deck is constructed of *fire-retardant-treated wood* for a distance of 4 feet (1220 mm) on both sides of the wall or the roof is protected with $^{5}/_{8}$-inch (15.9 mm) Type X *gypsum board* directly beneath the underside of the roof sheathing or deck, supported by not less than 2-inch (51 mm) nominal ledgers attached to the sides of the roof framing members for a distance of not less than 4 feet (1220 mm) on both sides of the *fire wall*.
5. In buildings designed in accordance with Section 510.2, *fire walls* located above the 3-hour *horizontal assembly* required by Section 510.2, Item 1 shall be permitted to extend from the top of this *horizontal assembly*.
6. Buildings with sloped roofs in accordance with Section 706.6.2.

Reason: Exceptions 2 and 4 are similar in that they require that all of the requirements listed be met. However, the existing language in Exception 2 does not say this. This proposal is designed to make the two sections consistent and clarify the intent.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This language is intended to clarify the requirements and provide consistent language.

Public Hearing Results

Page: 1

Mod_10818_Text_FS35-21.pdf

F10818Text Modification

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposed text clarifies that in order to qualify for Exception #2, all the subsections of #2 need to be complied with. (Vote: 13-0)

Final Hearing Results

FS35-21 AS

Mod_10818_Text_FS35-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

82

F10819 **/FS38-21**

Date Submitted	03/06/2024	**Section**	707.5	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Exception 3 to Section 707.5 "Continuity".

Rationale

See attached

F10819Text Modification

See attached

Page: 1

Mod10819_TextOfModification.pdf

F10819Text Modification

FS38-21

Original Proposal

IBC: 707.5

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

707.5 Continuity. *Fire barriers* shall extend from the top of the foundation or floor/ceiling assembly below to the underside of the floor or roof sheathing, slab or deck above and shall be securely attached thereto. Such *fire barriers* shall be continuous through concealed space, such as the space above a suspended ceiling. *Joints* and voids at intersections shall comply with Sections 707.8 and 707.9

Exceptions:

1. *Shaft enclosures* shall be permitted to terminate at a top enclosure complying with Section 713.12.
2. *Interior exit stairway* and *ramp* enclosures required by Section 1023 and *exit access stairway* and *ramp* enclosures required by Section 1019 shall be permitted to terminate at a top enclosure complying with Section 713.12.
3. An *exit passageway* enclosure required by Section 1024.3 that does not extend to the underside of the floor or roof sheathing, slab or deck above shall be enclosed at the top with construction of the same *fire-resistance rating* as required for the *exit passageway*.

Reason: The current wording of Exception 3 is for fire barriers of exit passageways that don't extend to the underside of the roof sheathing, slab or deck above. Exit passageways typically occur on the level of exit discharge and extend to the floor above instead of the roof above, so the wording in Exception 3 is proposed to be revised to apply to fire barriers that don't extend to the underside of floor or roof sheathing, slab or deck above. This wording is identical to wording in the body of this section.
This proposal also corrects a typo by adding a space between "*rating*" and "as".

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is a clarification that will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposed text clarifies the technical requirements and per the proponent's reason statement with respect to taking into account exit passageways that occur on the level of exit discharge in a multiple-story bldg. (Vote: 13-0)

Final Hearing Results

FS38-21 AS

Page: 1

Mod_10819_Text_FS38-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

83

F10820 | **/FS40-21**

Date Submitted	03/06/2024	**Section**	707.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Section 707.6 "Openings". This proposal corrects references to other sections that have additional requirements for fire barrier openings and penetrations.

Rationale

See attached

F10820Text Modification

See attached

Page: 1

Mod10820_TextOfModification.pdf

F10820Text Modification

FS40-21

Original Proposal

IBC: 707.6, 707.7, 707.7.1

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net)

2021 International Building Code

Revise as follows:

707.6 Openings. Openings in a *fire barrier* shall be protected in accordance with Section 716. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m^2). Openings in enclosures for *shafts* ~~*exit access stairways and ramps*~~, *interior exit stairways* and *ramps* and *exit passageways* shall also comply with Sections 713.7 ~~1019~~, 1023.4 and 1024.5, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m^2) where adjoining floor areas are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door* serving enclosures for *exit access stairways* and *ramps,* and *interior exit stairways* and *ramps.*
3. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E119 or UL 263 and has a minimum *fire-resistance rating* not less than the *fire-resistance rating* of the wall.
4. *Fire window assemblies* permitted in *atrium* separation walls shall not be limited to a maximum aggregate width of 25 percent of the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door assembly* in a *fire barrier* separating an enclosure for *exit access stairways* and *ramps*, and *interior exit stairways* and *ramps* from an *exit passageway* in accordance with Section 1023.3.1.

707.7 Penetrations. Penetrations of *fire barriers* shall comply with Section 714.

Revise as follows:

707.7.1 Prohibited penetrations. Penetrations into enclosures for *shafts* ~~*exit access stairways and ramps*~~, *interior exit stairways* and *ramps*, and *exit passageways* shall be allowed only where permitted by Sections 713.8.1 ~~1019~~, 1023.5 and 1024.6, respectively.

Reason: This proposal corrects references to other sections that have additional requirements for fire barrier openings and penetrations. These sections currently refer to Section 1019 for exit access stairways and ramps, but Section 1019 has no information for openings and penetrations so these references are deleted. References are added for shaft enclosures that have additional requirements for openings and penetrations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal corrects references to other sections that serve as pointers. Since compliance with these other sections is required regardless of pointers to these sections, there is no change to code requiriements and no change in the cost of construction.

Public Hearing Results

Page: 1

Mod_10820_Text_FS40-21.pdf

F10820Text Modification

Committee Action **As Submitted**

Committee Reason: The committee determined this proposal clarifies the current text. (Vote: 12-1)

Final Hearing Results	
FS40-21	AS

Mod_10820_Text_FS40-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

84

F10821 /FS41-21

Date Submitted	03/06/2024	**Section**	707.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds Exception 6 to Section 707.6 "Openings". Elevator car opening.

Rationale

See attached

F10821Text Modification

See attached

Page: 1

Mod10821_TextOfModification.pdf

F10821Text Modification

FS41-21

Original Proposal

IBC: 707.6

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

707.6 Openings. Openings in a *fire barrier* shall be protected in accordance with Section 716. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m^2). Openings in enclosures for *exit access stairways* and *ramps*, *interior exit stairways* and *ramps* and *exit passageways* shall also comply with Sections 1019, 1023.4 and 1024.5, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m^2) where adjoining floor areas are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door* serving enclosures for *exit access stairways* and *ramps,* and *interior exit stairways* and *ramps.*
3. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E119 or UL 263 and has a minimum *fire-resistance rating* not less than the *fire-resistance rating* of the wall.
4. *Fire window assemblies* permitted in *atrium* separation walls shall not be limited to a maximum aggregate width of 25 percent of the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door assembly* in a *fire barrier* separating an enclosure for *exit access stairways* and *ramps*, and *interior exit stairways* and *ramps* from an *exit passageway* in accordance with Section 1023.3.1.
6. Openings providing entrance to an elevator car shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a fire door assembly in a fire barrier that is an elevator hoistway enclosure.

Reason: The doors to the elevator in an elevator shaft are limited by the size of the associated cab and addressed by the safety standards in ASME A17.1. The size of the shaft is determined by the car size and the number of cars. While this size and length limitation is a literal requirement in fire barriers, it is not typically applied to elevator shafts.

This proposal is submitted by the the ICC Fire Code Action Committee (FCAC).
ICC Building Code Action Committee (BCAC) worked with the FCAC to develop this proposal.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of existing criteria. This limitation was not typically applied to elevator shafts.

Page: 1

Mod_10821_Text_FS41-21.pdf

F10821Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason:

The committee based their approval on the proponent's reason statement and concluded the code change clarifies existing criteria for doors to the elevator in an elevator shaft that needs to be limited by the size of the associated cab and addressed by the safety standards in ASME A17.1. (Vote: 13-0)

Final Hearing Results

FS41-21 AS

Page: 2

Mod_10821_Text_FS41-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

85

F10822 | **/FS42-21**

Date Submitted	03/06/2024	**Section**	707.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal adds two new exceptions to the 25% length limitation for fire barrier openings. Section 707.6 "Openings".

Rationale

See attached

F10822Text Modification

See attached

Mod10822_TextOfModification.pdf

Page: 1

F10822Text Modification

FS42-21

Original Proposal

IBC: 707.6

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

707.6 Openings. Openings in a *fire barrier* shall be protected in accordance with Section 716. Openings shall be limited to a maximum aggregate width of 25 percent of the length of the wall, and the maximum area of any single opening shall not exceed 156 square feet (15 m^2). Openings in enclosures for *exit access stairways* and *ramps*, *interior exit stairways* and *ramps* and *exit passageways* shall also comply with Sections 1019, 1023.4 and 1024.5, respectively.

Exceptions:

1. Openings shall not be limited to 156 square feet (15 m^2) where adjoining floor areas are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door* serving enclosures for *exit access stairways* and *ramps,* and *interior exit stairways* and *ramps*.
3. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective has been tested in accordance with ASTM E119 or UL 263 and has a minimum *fire-resistance rating* not less than the *fire-resistance rating* of the wall.
4. *Fire window assemblies* permitted in *atrium* separation walls shall not be limited to a maximum aggregate width of 25 percent of the length of the wall.
5. Openings shall not be limited to 156 square feet (15 m^2) or an aggregate width of 25 percent of the length of the wall where the opening protective is a *fire door assembly* in a *fire barrier* separating an enclosure for *exit access stairways* and *ramps*, and *interior exit stairways* and *ramps* from an *exit passageway* in accordance with Section 1023.3.1.
6. Openings shall not be limited to an aggregate width of 25 percent of the length of the wall where opening serves a *shaft enclosure* in accordance with Section 713.
7. Openings shall not be limited to an aggregate width of 25 percent of the length of the wall where opening serves a chute access room in accordance with Section 713.13.3 or a chute discharge room in accordance with Section 713.13.4.

Reason: This proposal adds two new exceptions to the 25% length limitation for fire barrier openings. This section already includes Exceptions 2 and 5 for openings into stair, ramp and exit passageway enclosures where it is not practical to meet this length limitation since the door opening typically takes up well over 25% of the length of the wall. The two new exceptions are proposed for the same reason - it is simply not practical to meet this length limitation. Exception 6 is for shaft enclosures where door openings typically exceed 25% of the length of a wall - consider elevator doors or shaft access doors that take up nearly the entire length of the wall. Exception 7 is for chute access rooms and discharge rooms. Chute access rooms are typically very small rooms and it is not practical to meet the 25% limitation for the door into these rooms without oversizing the room. Chute discharge rooms often have a large door opening to allow passage of trash or recycling dumpsters and it is not practical to meet the 25% limitation without oversizing the room.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Due to impracticality of meeting the the 25% length limitation for shafts, chute access rooms and chute discharge rooms, it is believed that this requirement is typically not enforced so this proposal would not change the cost of construction.

Page: 1

Mod_10822_Text_FS42-21.pdf

F10822Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this code change reflects the common practice in review and construction with little or no reports of safety issues. (Vote: 13-0)

Final Hearing Results

FS42-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

86

F10823 | **/FS43-21**

Date Submitted	03/06/2024	**Section**	707.8	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal clarifies that the joint requirements apply to the intersection of fire barriers and other fire-resistance-rated wall assemblies (e.g. a smoke barrier wall) and not solely to exterior wall assemblies.

Rationale

See attached

F10823Text Modification

See attached

Mod10823_TextOfModification.pdf

Page: 1

F10823Text Modification

FS43-21

Original Proposal

IBC: 707.8

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

707.8 Joints. *Joints* made in or between *fire barriers*, and *joints* made at the intersection of *fire barriers* with the underside of a fire-resistance-rated floor or roof sheathing, slab or deck above, and ~~the exterior vertical wall intersection~~ with other fire-resistance-rated wall assemblies ~~intersection~~ shall comply with Section 715.

Reason: This proposal clarifies that the joint requirements apply to the intersection of fire barriers and other fire-resistance-rated wall assemblies (e.g. a smoke barrier wall) and not solely to exterior wall assemblies. As revised this Section addresses just fire-resistance-rated walls. Intersections with nonfire-resistance-rated wall assemblies are covered in Section 707.9.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change proposal simply clarifies joint protection requirements already stated in Section 715.3.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal clarifies the intersection of the exterior wall with other fire-resistance-rated wall assemblies. (Vote: 11-2)

Final Hearing Results

FS43-21 AS

Page: 1

Mod_10823_Text_FS43-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

87

F10824 **/FS44-21**

Date Submitted	03/06/2024	**Section**	707.9	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of Section 707.9 "Voids at intersections". Adds new Section 715.6 "Fire barrier/nonfire-resistance-rated roof assembly intersections".

Rationale

See attached

F10824Text Modification

See attached

Page: 1

Mod10824_TextOfModification.pdf

F10824Text Modification

FS44-21

Original Proposal

IBC: 707.9, 715.6 (New)

Proponents: Richard Walke, Creative Technology Inc., Creative Technology Inc. (RichWalke61@gmail.com)

2021 International Building Code

Revise as follows:

707.9 Voids at intersections. The voids created at the intersection of a *fire barrier* and a nonfire-resistance-rated *roof assembly* or a nonfire-resistance-rated *exterior wall* assembly shall ~~be filled. An *approved* material or system shall be used to fill the void, and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and hot gases.~~comply with Section 715.

Add new text as follows:

715.6 Fire barrier/nonfire-resistance-rated roof assembly intersections. Voids created at the intersection of a fire barrier and the underside of a nonfire-resistance-rated roof sheathing, slab or deck above shall be filled by an approved material or system to retard the passage of fire and hot gases.

Reason: This proposal makes the following editorial changes:

1. It moves the details on how to protect the voids created at the intersection of a fire barrier and the underside of a nonfire-resistance-rated roof assembly from Section 707.9 to new Section 715.6 where it more appropriately belongs.
2. It removes redundant language that is already covered in Section 715.2.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not change the cost of construction as the changes are editorial and do not add new construction requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

715.7Exterior wall/vertical fire barrier intersections.
Voids created at the intersection of nonfire-resistance-rated exteriorwall assemblies and vertical *fire barriers* shall be filled with an *approved* material or system to retard the interior spread of fire and hot gases.

Committee Reason: The committee concluded the modification is necessary to keep the intent of the original code text intact. As modified, the proposal removes redundant language. It also relocates the details on protecting the voids created at the intersection of a fire barrier and the underside of a nonfire-resistance-rated roof assembly to a more appropriate new section. (Vote: 13-0)

Final Hearing Results

FS44-21 AM

Page: 1

Mod_10824_Text_FS44-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

88

F10825 /FS45-21

Date Submitted	03/06/2024	**Section**	707.9	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod "F Rating" is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal revises the requirements for protecting voids at the intersection of a fire barrier and the underside of a nonfire- resistance-rated roof assembly.

Rationale

See attached

F10825Text Modification

See attached

Page: 1

Mod10825_TextOfModification.pdf

F10825Text Modification

FS45-21

Original Proposal

IBC: SECTION 202 (New), SECTION 202, 707.9, 715.2, 715.6 (New), ASTM Chapter 35 (New)

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Add new definition as follows:

CONTINUITY HEAD-OF-WALL JOINT SYSTEM

.

An assemblage of specific materials or products that are designed to resist the passage of fire through voids created at the intersection of fire barriers and the underside of nonfire-resistance-rated roof assemblies for a prescribed period of time.

Revise as follows:

[BF] F RATING.
The time period that the *through-penetration firestop system,* ~~*or*~~ *perimeter fire containment system* or *continuity head-of-wall joint system* limits the spread of fire through the penetration or void.

[BF] T RATING.
The time period that the *penetration firestop system*, including the penetrating item, or *continuity head-of-wall joint system* limits the maximum temperature rise to 325°F (~~163~~181°C) above its initial temperature through the penetration or void on the nonfire side ~~when tested in accordance with ASTM E814 or UL 1479~~.

707.9 Voids at intersections. The voids created at the intersection of a *fire barrier* and a nonfire-resistance-rated *roof assembly* or a nonfire-resistance-rated *exterior wall* assembly shall ~~be filled. An *approved* material or system shall be used to fill the void, and shall be securely installed in or on the intersection for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to retard the passage of fire and hot gases~~comply with Section 715.

715.2 Installation. Systems or materials protecting *joints* and voids shall be securely installed in accordance with the manufacturer's installation instructions in or on the *joint* or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases. *Fire-resistant joint systems,* ~~*or*~~ systems used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections, and *continuity head-of-wall joint systems* shall also be installed in accordance with the listing criteria.

Add new text as follows:

715.6 Fire barriers/nonfire-resistance-rated roof assembly intersections. Voids created at the intersection of a fire barrier and the underside of a nonfire-resistance-rated roof sheathing, slab or deck above shall be filled by an approved material to retard the passage of fire and hot gases, or shall be protected by an approved continuity head-of-wall joint system tested in accordance with ASTM E2837 to provide an F rating/T rating for a time period not less than the required fire-resistance rating of the fire barrier in which it is installed.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

E2837-2013 (2017)	Standard Test Method for Determining the Fire Resistance of Continuity Head-of- Wall Joint Systems Installed Between Rated Wall Assemblies and Nonrated Horizontal Assemblies

Page: 1

Mod_10825_Text_FS45-21.pdf

F10825Text Modification

Reason: This proposal revises the requirements for protecting voids at the intersection of a fire barrier and the underside of a nonfire-resistance-rated roof assembly as follows:

A. It moves the details on how to protect this void from Section 707.9 to new Section 715.6, leaving Section 707.9 as simply a pointer to Section 715.

B. The phrase relating to installation in a manner "so as not to dislodge, loosen or otherwise impair its ability to accommodated expected building movement" is not necessary in new Section 715.6 as it has been incorporated into Section 715.2 of the 2021 IBC.

C. New Section 715.6 includes an OPTION for protecting this void with a tested continuity head-of-wall joint system, without changing the current protection option. The use of a continuity head-of-wall joint system provides a simpler method for code compliance and enforcement as the system defines the materials necessary and the installation details.

D. A definition of continuity head-of-wall joint system is provided.

E. The definition of F rating is being revised to add continuity head-of-wall joint systems.

F. The definition of T rating is being revised to add reference continuity head-of-wall joint systems. In addition, it is being revised to remove reference to the two firestop test standards. Because these two firestop test standards were similarly removed from the definition of the F rating during the last code cycle, this change provides further consistency.

G. ASTM E2837 is being added as new referenced standard.There are currently over 20 continuity head-of-wall joint system tested and certified by UL.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal does not increase construction cost as it simply makes some editorial changes and offers an additional option to install a tested continuity head-of-wall joint system.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: CONTINUITY HEAD-OF-WALL ~~JOINT~~ SYSTEM. An assemblage of specific materials or products that are designed to resist the passage of fire through voids created at the intersection of *fire barriers* and the underside of nonfire-resistance-rated *roof assemblies* for a prescribed period of time.

[BF] F RATING. The time period that the *through-penetration firestop system, perimeter fire containment system* or *continuity head-of-wall ~~joint~~ system* limits the spread of fire through the penetration or void.

[BF] T RATING. The time period that the *penetration firestop system*, including the penetrating item, or *continuity head-of-wall ~~joint~~ system* limits the maximum temperature rise to 325°F (181°C) above its initial temperature through the penetration or void on the nonfire side.

715.2Installation.

Systems or materials protecting *joints* and voids shall be securely installed in accordance with the manufacturer's installation instructions in or on the *joint* or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases. *Fire-resistant joint systems,* systems used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections, and *continuity head-of-wall ~~joint~~ systems* shall also be installed in accordance with the

Page: 2

Mod_10825_Text_FS45-21.pdf

F10825Text Modification

listing criteria.

715.6Fire barriers/nonfire-resistance-rated roof assembly intersections.
Voids created at the intersection of a *fire barrier* and the underside of a nonfire-resistance-rated roof sheathing, slab or deck above shall be filled by an *approved* material to retard the passage of fire and hot gases, or shall be protected by an *approved continuity head-of-wall ~~joint~~ system* tested in accordance with ASTM E2837 to provide an *F rating*/*T rating* for a time period not less than the required *fire-resistance rating* of the *fire barrier* in which it is installed.

Committee Reason: The committee concluded the modification enhances the proposed text by removing the word joint from the continuity head-of-wall system. The proposal removes redundant language and gives another option for voids to be protected by an approved continuity head-of-wall joint system tested in accordance with ASTM E2837 to provide an F rating/T rating. (Vote: 8-5)

Final Hearing Results

FS45-21 AM

Page: 3

Mod_10825_Text_FS45-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

89

F10826 | **/FS47-21 Part I**

Date Submitted	03/06/2024	**Section**	708.4.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

This is an editorial change. The word draftstopping is used multiple times throughout the IBC, IFC, IMC and IPC. This term is used with no definition. However, the term draftstop is a defined term in the IBC and IFC.

Rationale

See attached

F10826Text Modification

See attached

Page: 1

Mod10826_TextOfModification.pdf

F10826Text Modification

FS47-21 Part I

Original Proposal

IBC: 708.4.2, 713.11, 718.1, 718.3, 718.3.1, 718.4, 718.4.1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis@nfsa.org); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

THIS IS A 4 PART CODE CHANGE. PART I WILL BE HEARD BY THE FIRE SAFETY CODE COMMITEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. PART III WILL BE HEARD BY THE MECHANICAL CODE COMMITEE. PART IV WILL BE HEARD BY THE PLUMBING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

708.4.2 Fireblocks and draftstops in combustible construction. In combustible construction where *fire partitions* do not extend to the underside of the floor or roof sheathing, deck or slab above, the space above and along the line of the *fire partition* shall be provided with one of the following:

1. *Fireblocking* up to the underside of the floor or roof sheathing, deck or slab above using materials complying with Section 718.2.1.
2. ~~Draftstopping~~ *Draftstops* up to the underside of the floor or roof sheathing, deck or slab above using materials complying with Section 718.3.1 for floors or Section 718.4.1 for *attics*.

Exceptions:

1. Buildings equipped with an *automatic sprinkler system* installed throughout in accordance with Section 903.3.1.1, or in accordance with Section 903.3.1.2 provided that protection is provided in the space between the top of the *fire partition* and underside of the floor or roof sheathing, deck or slab above as required for systems complying with Section 903.3.1.1.
2. Where *corridor* walls provide a *sleeping unit* or *dwelling unit* separation, ~~draftstopping~~ *draftstops* shall only be required above one of the *corridor* walls.
3. In Group R-2 occupancies with fewer than four *dwelling units*, *fireblocking* and ~~draftstopping~~ *draftstops* shall not be required.
4. In Group R-2 occupancies up to and including four *stories* in height in buildings not exceeding 60 feet (18 288 mm) in height above *grade plane*, the *attic* space shall be subdivided by *draftstops* into areas not exceeding 3,000 square feet (279 m^2) or above every two *dwelling units*, whichever is smaller.
5. In Group R-3 occupancies with fewer than three *dwelling units, fireblocking* and ~~draftstopping~~ *draftstops* shall not be required in floor assemblies.

713.11 Enclosure at the bottom. *Shafts* that do not extend to the bottom of the building or structure shall comply with one of the following:

1. Be enclosed at the lowest level with construction of the same *fire-resistance rating* as the *lowest floor* through which the *shaft* passes, but not less than the rating required for the *shaft enclosure*.
2. Terminate in a room having a use related to the purpose of the *shaft*. The room shall be separated from the remainder of the building by *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. The *fire-resistance rating* and opening protectives shall be not less than the protection required for the *shaft enclosure*.
3. Be protected by *approved fire dampers* installed in accordance with their listing at the *lowest floor* level within the *shaft enclosure*.

Exceptions:

Page: 1

Mod_10826_Text_FS47-21 Part I.pdf

F10826Text Modification

1. The fire-resistance-rated room separation is not required, provided that the only openings in or penetrations of the *shaft enclosure* to the interior of the building occur at the bottom. The bottom of the *shaft* shall be closed off around the penetrating items with materials permitted by Section 718.3.1 for ~~draftstopping~~ *draftstops*, or the room shall be provided with an *approved automatic sprinkler system*.
2. A *shaft enclosure* containing a waste or linen chute shall not be used for any other purpose and shall discharge in a room protected in accordance with Section 713.13.4.
3. The fire-resistance-rated room separation and the protection at the bottom of the *shaft* are not required provided that there are no combustibles in the *shaft* and there are no openings or other penetrations through the *shaft enclosure* to the interior of the building.

718.1 General. *Fireblocking* and ~~draftstopping~~ *draftstops* shall be installed in combustible concealed locations in accordance with this section. *Fireblocking* shall comply with Section 718.2. ~~Draftstopping~~ *draftstops* in floor/ceiling spaces and attic spaces shall comply with Sections 718.3 and 718.4, respectively. The permitted use of combustible materials in concealed spaces of buildings of Type I or II construction shall be limited to the applications indicated in Section 718.5.

718.3 ~~Draftstopping~~ Draftstops in floors. ~~Draftstopping~~ *draftstops* shall be installed to subdivide floor/ceiling assemblies where required by Section 708.4.2. In other than Group R occupancies, ~~draftstopping~~ *draftstops* shall be installed to subdivide combustible floor/ceiling assemblies so that horizontal floor areas do not exceed 1,000 square feet (93 m^2).

Exception: Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

718.3.1 ~~Draftstopping~~ *Draftstop* materials. ~~Draftstopping~~ *Draftstop* materials shall be not less than $^1/_2$-inch (12.7 mm) *gypsum board*, $^3/_8$-inch (9.5 mm) *wood structural panel*, $^3/_8$-inch (9.5 mm) *particleboard*, 1-inch (25-mm) nominal lumber, cement *fiberboard*, batts or blankets of mineral wool or glass fiber, or other *approved* materials adequately supported. The integrity of *draftstops* shall be maintained.

718.4 ~~Draftstopping~~ Draftstops in attics. ~~Draftstopping~~ *Draftstops* shall be installed to subdivide *attic* spaces where required by Section 708.4.2. In other than Group R, ~~draftstopping~~ *draftstops* shall be installed to subdivide combustible *attic* spaces and combustible concealed roof spaces such that any horizontal area does not exceed 3,000 square feet (279 m^2). *Ventilation* of concealed roof spaces shall be maintained in accordance with Section 1202.2.1.

Exception: Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

718.4.1 ~~Draftstopping~~ Draftstop materials. Materials utilized for ~~draftstopping~~ *draftstops* of *attic* spaces shall comply with Section 718.3.1.

Reason: This is an editorial change. The word draftstopping is used multiple times throughout the IBC, IFC, IMC and IPC. This term is used with no definition. However, the term draftstop is a defined term in the IBC and IFC. These are the same terms. This development replaces all occurrences of draftstopping with the defined term of draftstop. Additionally, this development inserts the definition for draftstop into the IMC and IPC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial change.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal is an editorial change to correct the code text by using draftstops instead of draftstopping. (Vote: 11-2)

Page: 2

Mod_10826_Text_FS47-21 Part I.pdf

F10826Text Modification

Final Hearing Results

FS47-21 Part I AS

Page: 3

Mod_10826_Text_FS47-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

90

F10827 | **/FS47-21 Part II**

Date Submitted	03/06/2024	**Section**	707.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is an editorial change. The word draftstopping is used multiple times throughout the IBC, IFC, IMC and IPC. This term is used with no definition. However, the term draftstop is a defined term in the IBC and IFC.

Rationale

See attached

F10827Text Modification

See attached

Page: 1

Mod10827_TextOfModification.pdf

F10827Text Modification

FS47-21 Part II

Original Proposal

IFC: 707.1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis.andrew1988@gmail.com); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Fire Code

Revise as follows:

707.1 Fireblocking and ~~draftstopping~~ draftstops. Required *fireblocking* and ~~*draftstopping*~~ draftstops in combustible concealed spaces shall be maintained to provide continuity and integrity of the construction.

Reason: This is an editorial change. The word draftstopping is used multiple times throughout the IBC, IFC, IMC and IPC. This term is used with no definition. However, the term draftstop is a defined term in the IBC and IFC. These are the same terms. This development replaces all occurrences of draftstopping with the defined term of draftstop. Additionally, this development inserts the definition for draftstop into the IMC and IPC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial change.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal revises the current language to the proper terminology that is used in the code. (Vote: 14-0)

Final Hearing Results

FS47-21 Part II AS

Page: 1

Mod_10827_Text_FS47-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

91

F10832 | **/FS48-21**

Date Submitted	03/07/2024	**Section**	709.5	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes text from Section 709.5 "Openings".

Rationale

See attached

F10832Text Modification

See attached

Mod10832_TextOfModification.pdf Page: 1

F10832Text Modification

FS48-21

Original Proposal

IBC: 709.5

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Revise as follows:

709.5 Openings. Openings in a *smoke barrier* shall be protected in accordance with Section 716.

Exceptions:

1. In Group I-1, Condition 2, Group I-2 and *ambulatory care facilities*, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 709.5.1, the doors shall not be required to be protected in accordance with Section 716. The doors shall be close fitting within operational tolerances, and shall not have a center mullion or undercuts in excess of $^{3}/_{4}$ inch (19.1 mm), louvers or grilles. The doors shall have head and jamb stops, and astragals or rabbets at meeting edges. ~~Where permitted by the door manufacturer's listing, positive-latching devices are not required.~~ Factory-applied or field-applied protective plates are not required to be labeled.
2. In Group I-1, Condition 2, Group I-2 and *ambulatory care facilities*, special purpose horizontal sliding, accordion or folding doors installed in accordance with Section 1010.3.3 and protected in accordance with Section 716.

Reason: These cross corridor doors do not require a manufacturer's listing, so this sentence is confusing. Thus, the first part of the sentence should be deleted.
Also, doors required to comply with Section 716 are required to be positive latching. But, these cross corridors are explicitly not required to comply with Section 716. Thus, the requirement to be positive latching should also be deleted.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Deleting this sentence cleans up an internal conflict in the code.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

709.5 Openings.
Openings in a *smoke barrier* shall be protected in accordance with Section 716.

Exceptions:

1. In Group I-1, Condition 2, Group I-2 and *ambulatory care facilities*, where a pair of opposite-swinging doors are installed across a corridor in accordance with Section 709.5.1, the doors shall not be required to be protected in accordance with Section 716. The doors shall be close fitting within operational tolerances, and shall not have a center mullion or undercuts in excess of $^{3}/_{4}$ inch (19.1 mm), louvers or grilles. The doors shall have head and jamb stops, and astragals or rabbets at meeting edges. Positive latching devices are not required. Factory-applied or field-applied protective plates are not required to be labeled.
2. In Group I-1, Condition 2, Group I-2 and *ambulatory care facilities*, special purpose horizontal sliding, accordion or folding doors installed in accordance with Section 1010.3.3 and protected in accordance with Section 716.

Page: 1

Mod_10832_Text_FS48-21.pdf

F10832Text Modification

Committee Reason: The committee determined the modification is consistent with CMS (Centers for Medicare and Medicaid Services) regulation. The committee approved the deletions of the first part of the sentence since these cross corridor doors do not require a manufacturer's listing, so this sentence is confusing. The committee mentioned this proposal conflicts with section 909.5.3. Section 909.5.3 opening protection, exception #3 still states, "where permitted by the door manufacturer's listing, positive-latching devices are not required" that need to be fixed in the public comment phase. (Vote: 13-0)

Final Hearing Results

FS48-21 AM

Page: 2

Mod_10832_Text_FS48-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

92

F10833 | **/FS49-21**

Date Submitted	03/07/2024	**Section**	710.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds an Exception to Section 710.4 "Continuity".

Rationale

See attached

F10833Text Modification

See attached

Mod10833_TextOfModification.pdf Page: 1

F10833Text Modification

FS49-21

Original Proposal

IBC: 710.4

Proponents: John Williams, Healthcare Committee (ahc@iccsafe.org)

2021 International Building Code

Revise as follows:

710.4 Continuity. *Smoke partitions* shall extend from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke.

Exception: In Group I-2, a lay-in ceiling system shall be considered capable of limiting the transfer of smoke where the ceiling tiles that weigh a minimum of one pound per square foot and where the HVAC system is fully ducted in accordance with Section 603 of the *International Mechanical Code*.

Reason: Current interpretation of an allowable ceiling system is to be "monolithic." This type of ceiling is not feasible in a hospital setting, because main utility and ductwork lines run in the corridor to keep them out of patient care areas. This would facilitate the need for many access panels which compromise the smoke tight nature of the monolithic ceiling. The construction of the lay-in system would basically mean no open portions or gaps in the ceiling, either as an architectural feature or between items such as louvers. Normal ceiling fixtures such as lights, sprinkler heads, and diffusers and grills (as part of a fully ducted air system) can be considered part of the smoke tight system, as there is no opportunity for smoke to travel straight through them. A tight fitting lay-in grid is defined as one with no gaps in them, which is easily enforced via visual inspection and is therefore simply maintained.
Group I-2 is being specified, to make clear that this allowance applies to nursing homes (Condition 1) and hospitals (Condition 2), which is consistent with federal standards.

Lay in ceiling assemblies meeting this requirement would be consistent with listed fire resistance rated floor and roof ceiling assemblies using lay-in ceilings as a component of the assembly. Enforcement of this provision including fire code maintenance inspections would be far less challenging than currently exists for the fire-resistance rated floor- and roof-ceiling assemblies which require a specific manufacture's product for each of the assemblies that are listed by an approved testing facility. This proposal would allow any manufacturer's product to be used as long as it met the 1 pound per square foot criteria and other code requirements related to combustibility or flame spread. This is also supported by UL's BXUV Guide Information - Fire Resistance Ratings - ANSI/UL 263, Section III - FLOOR-CEILINGS AND ROOF-CEILINGS, Paragraph 10 which states "Hold down clips are required for assemblies incorporating ceiling panels weighing less that 1 lb per square foot."

As noted in past studies, the ceiling tile weight is also consistent with the findings of NBSIR 81-2444 Smoke Movement Through A Suspended Ceiling System (by John H Klote, 1982, NBS/VA), as noted on page 4 which states "[t]he ceiling tiles weighed 49.6 N/m2 (1.00 lb/ft2). During plan review, a cut sheet of the desired ceiling tile (readily available from any manufacturer) can be included in the review package or the one pound per square foot criteria can be listed in the specifications. The NBSIR 81-2444 report also notes in its abstract and conclusions that "smoldering fires of the type examined in this test series are not significant problems in hospitals." This is even more true today because of the expanded use of non combustible materials in construction as well as bedding and other typically used items in the hospital.

In terms of enforcement, hospitals have maintenance teams that are tasked with performing preventative maintenance and timely repairs as not to compromise the environment of care. Also, each hospital has personnel resources that deal specifically with regulatory issues. This regulatory staff has many regulations that deal with direct patient care, but they also help monitor the environment of care. There is also Infection Prevention professionals that Multidisciplinary teams regularly round in the hospital, reviewing delivery of care and the condition of the built environment. The multidisciplinary rounding team typically consists of representatives from Facilities, Regulatory, Infection Prevention, and leadership from the nursing care team. The status of a ceiling system is a key element that is observed to maintain its integrity.

Page: 1

Mod_10833_Text_FS49-21.pdf

F10833Text Modification

A ceiling's role is a component of the life safety system of the hospital, by way of the relationship to activation of sprinkler heads and control of smoke. With the exception of mechanical rooms, all spaces in a patient care area have ceilings as part of the life safety system of the hospital, in particular the corridor. it is also a key component of the infection prevention elements of the hospital. These are some elements that Infection Prevention professionals focus on for the integrity of the ceiling:

· Minimize dust and particulates to enter patient care environments, including corridors, patient rooms, procedure rooms, storage rooms of medical supply, clean utility rooms, among others.

· Contribute to the air pressure relationships provided for each room. For example, negative pressure patient bed rooms to treat patients with infectious diseases.

When monitoring the integrity of the ceiling, missing or cracked tiles are a main area of focus, and are easily seen by all staff. The replacement of a ceiling tile is a top priority of a hospital maintenance department. This information is also tracked by the agencies that regulate hospitals, including Centers for Medicare and Medicaid Services (CMS), and deemed authorities including The Joint Commission (TJC). According to TJC, in 2009, citations in the Life Safety portion of surveys that involved ceilings ranked #2 in 2009. In 2019, this citation rank fell to #6. This demonstrates the focus on the issue, even when the criteria for a citation can be the smallest scratch, or stain from a water leak, much less the more obvious missing or tile with a corner out or other damage.

This code change proposal is a key element of compliance with the federal standards that are enforced for I-2 occupancies, and are important to be aligned with those standards.

Also limiting the HVAC system to ducted systems will preclude the possibility of an open plenum return system. Plenum systems are generally not used in hospitals due to the required pressure relationships foe infection prevention considerations and to maintain more accurate control of the temperature and humidity control.

Corridor walls are built to structure in most cases based on FGI (acoustic requirements), however, having to access the above ceiling space for inspection and maintenance causes issues with infection control, whereas maintaining a suspended acoustic ceiling to limit the transfer of smoke is visible and easily maintained and as noted above, is being done as part of infection control procedures with the interdisciplinary team.

This proposal is submitted by the ICC Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This represents current common practice in Group I-2 facilities.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal clarifies the limitation of the transfer of smoke in Group I-2. (Vote: 11-2)

Final Hearing Results

FS49-21 AS

Page: 2

Mod_10833_Text_FS49-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

93

F10834 | **/FS51-21**

Date Submitted	03/07/2024	**Section**	712.1.3.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal requires the shutters used to protect escalator openings to belisted or approved, rather than just approved. It also requires them to be installed in accordance with the manufacturer's instructions.

Rationale

See attached

F10834Text Modification

See attached

Page: 1

Mod10834_TextOfModification.pdf

F10834Text Modification

FS51-21

Original Proposal

IBC: 712.1.3.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

712.1.3.2 Automatic shutters. Protection of the vertical opening by *listed* or *approved* shutters at every penetrated floor shall be permitted in accordance with this section. The shutters shall be installed in accordance with the manufacturer's instructions.The shutters shall be of noncombustible construction and have a *fire-resistance rating* of not less than 1.5 hours. The shutter shall be so constructed as to close immediately upon the actuation of a smoke detector installed in accordance with Section 907.3.1 and shall completely shut off the well opening. Escalators shall cease operation when the shutter begins to close. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) and shall be equipped with a sensitive leading edge to arrest its progress where in contact with any obstacle, and to continue its progress on release therefrom.

Reason: This proposal requires the shutters used to protect escalator openings to be*listed* or *approved*, rather rather than just approved. It also requires them to be installed in accordance with the manufacturer's instructions.
There is currently a product available which is being marketed to meet this code provision, and is*listed* in a manner consistent with this proposal.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal will not increase construction cost but instead will now recognize both listed or approved shutters.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee objects to adding "listed or" in section 712.1.3.2, while it is not prohibited in the section. The proposal could be confusing by requiring listed as an alternative to "approved". The committee also disagrees with the cost impact statement since the proposal will increase the cost of construction. (Vote: 8-5)

Public Comments

Public Comment 1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org) requests As Submitted

Page: 1

Mod_10834_Text_FS51-21.pdf

F10834Text Modification

Commenter's Reason: This public comment is asking that this proposal be approved as submitted (AS). The committee was concerned that the language should say "listed and approved." However, the listed products are fairly limited at this time and requiring "listed or aproved" provides flexibility and would not increase the cost of applying the code.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The 2021 IBC only requires they be approved. This proposal and PC simply provides more flexibility. The revised code text recognizes that there are some listed products available but would not be limited to listed products.

Final Hearing Results	
FS51-21	AS

Mod_10834_Text_FS51-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

94

F10835 **/FS53-21**

Date Submitted	03/07/2024	**Section**	712.1.3.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal reformats Section 712.1.3.2 into a “bullet point” format and includes minor technical and editorial changes.

Rationale

See attached

F10835Text Modification

See attached

Page: 1

Mod10835_TextOfModification.pdf

F10835Text Modification

FS53-21

Original Proposal

IBC: 712.1.3.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

712.1.3.2 Automatic shutters. Protection of the vertical opening by approved shutters at every penetrated floor shall be permitted in accordance with ~~this section.~~ all of the following:

1. The ~~shutters~~shutter shall be of noncombustible construction and have a fire-resistance rating of not less than 1.5 hours.
2. The shutter shall ~~be so constructed as to~~ close immediately upon the actuation of a smoke detector installed in accordance with Section ~~907.3.1 and~~ 907.3.
3. The shutter shall completely ~~shut~~ close off the ~~well~~ vertical opening.
4. Escalators shall cease operation when the shutter begins to close.
5. The shutter shall operate at a speed of not more than 30 feet per minute (152.4 mm/s) ~~and.~~
6. The shutter shall be equipped with ~~a~~sensitive sensing leading edge to ~~arrest its progress~~ stop closure where in contact with any obstacle, and ~~to~~ continue ~~its progress on release therefrom~~ to close when the obstacle is cleared.

Reason: The FCAC has several proposals to this section that all work together. However, disapproval of any of the proposals will not jeopardize the remaining proposals. This proposal reformats Section 712.1.3.2 into a "bullet point" format and includes minor technical and editorial changes.

The reference change from 907.3.1 to 907.3, for smoke activated devices is consistent with similar references in Sections 716.2.6.6 and 717.3.3.2.

The change to sensing leading edge reflects the commonly used industry term.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No change to construction cost as this proposal is primarily an editorial reformatting. The changes do not mandate anything new which increases the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposed change is editorial and is a good clarification of the code requirements.

Page: 1

Mod_10835_Text_FS53-21.pdf

F10835Text Modification

(Vote: 13-0)

Final Hearing Results

FS53-21 AS

Mod_10835_Text_FS53-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

95

F10836 **/FS55-21**

Date Submitted	03/07/2024	**Section**	713.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal is to provide a cross reference back to the high-rise provisions Section 403.2.1.2 permits the rating of a shaft to be reduced by one-hour.

Rationale

See attached

F10836Text Modification

See attached

Page: 1

Mod10836_TextOfModification.pdf

F10836Text Modification

FS55-21

Original Proposal

IBC: 713.4

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net)

2021 International Building Code

Revise as follows:

713.4 Fire-resistance rating. *Shaft enclosures* shall have a *fire-resistance rating* of not less than 2 hours where connecting four*stories* or more, and not less than 1 hour where connecting less than four *stories*. The number of *stories* connected by the *shaft enclosure* shall include any *basements* but not any *mezzanines*. *Shaft enclosures* shall have a *fire-resistance rating* not less than the floor assembly penetrated, but need not exceed 2 hours. *Shaft enclosures* shall meet the requirements of Section 703.2.1.1.

Exception: Shafts permitted to have their fire-resistance rating reduced in high-rise buildings in accordance with Section 403.2.1.2.

Reason: The intent of this proposal is to provide a cross reference back to the high-rise provisions Section 403.2.1.2 permits the rating of a shaft to be reduced by one-hour. Therefore, there is a conflict between that section and Section 713.4. This improves the language since it clarifies the intent of the provisions and makes the language correct in the application. I also eliminates the conflict between the two sections.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The intent of the is proposal is to clarify the language and provide a cross reference.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded adding the exception is a helpful pointer back to the high-rise provisions; section 403.2.1.2 permits the fire-resistance rating of a shaft to be reduced. (Vote: 8-5)

Final Hearing Results

FS55-21 AS

Page: 1

Mod_10836_Text_FS55-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

96

F10837 **/FS57-21**

Date Submitted	03/07/2024	**Section**	713.13.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies Section 713.13.4 "Chute discharge room". Regarding Tables 716.1(20 and 716.1(3).

Rationale

See attached

F10837Text Modification

See attached

Page: 1

Mod10837_TextOfModification.pdf

F10837Text Modification

FS57-21

Original Proposal

IBC: 713.13.4

Proponents: Eric Bressman, Ankrom Moisan Architects, Ankrom Moisan Architects (ericb@ankrommoisan.com)

2021 International Building Code

Revise as follows:

713.13.4 Chute discharge room. Table 509.1Waste, recycling or linen chutes shall discharge into an enclosed room separated by *fire barriers* with a *fire-resistance rating* not less than the required fire rating of the*shaft enclosure* and constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both. Openings into the discharge room from the remainder of the building shall be protected by opening protectives having a *fire protection rating* ~~equal to~~ based on the ~~protection required for~~ fire rating of the *shaft enclosure* in accordance with Tables 716.1(2) and 716.1(3). Doors shall be self- or automatic-closing upon the detection of smoke in accordance with Section 716.2.6.6. Waste chutes shall not terminate in an incinerator room. Waste and linen rooms that are not provided with chutes need only comply with Table 509.1.

Reason: The current language is confusing to both designers and building officials. It implies that openings into a termination room have to carry the same rating as the walls of the shaft, either 60 or 120 minutes. This is not the case, but the use of the words 'equal to' implies that it is. There could be no reference at all to the doors, and the requirements would be clearer than they are now since users would refer to Sections 707 for the design of the fire barriers and 716 for the associated opening protection requirements. The only places the Code references specific opening requirements for walls, is when they are not in alignment with Tables 716.1(2) and 716.1(3). An example of this is Section 3007.6.3, doorways into Fire Service Access Elevator lobbies. These lobbies have 1-hour smoke barrier walls around them, but require 45 minute rated doors. This is an exception to the typical 1-hour smoke barrier which would only carry a 20 minute requirement.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal only clarifies the existing requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal is in line with the opening protective in Tables 716.1(2) and 716.1(3). (Vote: 13-0)

Final Hearing Results

FS57-21 AS

Page: 1

Mod_10837_Text_FS57-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

97

F10838 **/FS60-21**

Date Submitted	03/07/2024	**Section**	714.3	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

Modifies text of Section 714.3 "Sleeves". This change allows the instructions shown in the listing to take precedence, where it is part of the listing criteria.

Rationale

See attached

F10838Text Modification

See attached

Page: 1

Mod10838_TextOfModification.pdf

F10838Text Modification

FS60-21

Original Proposal

IBC: 714.3

Proponents: William Koffel, Koffel Associates, Inc., Firestop Contractors Association International (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

714.3 Sleeves. Where sleeves are used, they shall be ~~securely fastened to the assembly penetrated~~installed in accordance with manufacturer's installation instructions and the listing criteria for the listed system. Where listed systems are not used, sleeves shall be securely fastened to the assembly penetrated. The space between the item contained in the sleeve and the sleeve itself and any space between the sleeve and the assembly penetrated shall be protected in accordance with this section. Insulation and coverings on or in the penetrating item shall not penetrate the assembly unless the specific material used has been tested as part of the assembly in accordance with this section.

Reason: Currently, sleeve installation details are only described generically in this section. The listing needs to be the guiding document for sleeve installations with firestop systems. Not all sleeves are required by the listing to be securely fastened to the assembly. In fact, some listings state fastening is not required. This change allows the instructions shown in the listing to take precedence, where it is part of the listing criteria. If the system is not a listed system, the sleeves shall be securely attached to the assembly penetrated.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed language is consistent with current construction practice.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal clarifies the current language for sleeves. The committee advised the proponent to clarify the second sentence of the proposal in the public comment phase. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: William Koffel, Koffel Associates, Inc., Firestop Contractors Association International (wkoffel@koffel.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

714.3 Sleeves . Where sleeves are used, they shall be ~~installed~~ securely fastened to the assembly penetrated and installed in accordance with the sleeve manufacturer's installation instructions, ~~and the~~ Where listed systems are used, the sleeve shall be installed in accordance with the listing criteria for the ~~listed~~ system. ~~Where listed systems are not used, sleeves shall be securely fastened to the assembly penetrated.~~ The space between the item contained in the sleeve and the sleeve itself and any space between the sleeve and the assembly

Page: 1

Mod_10838_Text_FS60-21.pdf

F10838Text Modification

penetrated shall be protected in accordance with this section. Insulation and coverings on or in the penetrating item shall not penetrate the assembly unless the specific material used has been tested as part of the assembly in accordance with this section.

Commenter's Reason: Although the Committee approved FS60-21 As Submitted, the Committee did note that the second sentence needed to be clarified during the Public Comment period. The Public Comment attempts to clarify the requirements be resequencing some of the language, as recommended by at least one Committee member.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Editorial clarification.

Final Hearing Results

FS60-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

98

F10839		/FS64-21			
Date Submitted	03/07/2024	**Section**	714.5	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds a new exception to Section 714.5 "Through penetrations". Concerning penetrations of concrete floors or ramps within parking garages or structures.

Rationale

See attached

F10839Text Modification

See attached

Page: 1

Mod10839_TextOfModification.pdf

F10839Text Modification

FS64-21

Original Proposal

IBC: 714.5, 714.5.1

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

714.5 Horizontal assemblies. Penetrations of a *fire-resistance-rated* floor, floor/ceiling assembly or the ceiling membrane of a roof/ceiling assembly not required to be enclosed in a *shaft* by Section 712.1 shall be protected in accordance with Sections 714.5.1 through 714.5.4.

Revise as follows:

714.5.1 Through penetrations. *Through penetrations* of *horizontal assemblies* shall comply with Section 714.5.1.1 or 714.5.1.2.

Exceptions:

1. Penetrations by steel, ferrous or copper conduits, pipes, tubes or vents or concrete or masonry items through a single fire-resistance-rated floor assembly where the *annular space* is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E119 or UL 263 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the *fire-resistance rating* of the construction penetrated. Penetrating items with a maximum 6-inch (152 mm) nominal diameter shall not be limited to the penetration of a single fire-resistance-rated floor assembly, provided that the aggregate area of the openings through the assembly does not exceed 144 square inches (92 900 mm^2) in any 100 square feet (9.3 m^2) of floor area.
2. Penetrations in a single concrete floor by steel, ferrous or copper conduits, pipes, tubes or vents with a maximum 6-inch (152 mm) nominal diameter, provided that the concrete, grout or *mortar* is installed the full thickness of the floor or the thickness required to maintain the *fire-resistance rating*. The penetrating items shall not be limited to the penetration of a single concrete floor, provided that the area of the opening through each floor does not exceed 144 square inches (92 900 mm^2).
3. Penetrations by *listed* electrical boxes of any material, provided that such boxes have been tested for use in fire-resistance-rated assemblies and installed in accordance with the instructions included in the listing.
4. Penetrations of concrete floors or ramps within parking garages or structures constructed in accordance with Sections 406.5 and 406.6 where the areas above and below the penetrations are parking areas.

Reason: Section 712.1.10 currently permits unprotected vertical openings in parking garages for ramps, elevators and duct systems and Section 715.1 currently permits unprotected joints in floors and ramps within parking garages or structures. Based on these allowances, it goes to reason that penetrations through floors and ramps of parking garages should also be permitted to be unprotected. This proposal allows such unprotected penetrations but is limited to concrete floors and ramps since these unprotected penetrations do not compromise the fire-resistance rating of the floor, while an unprotected penetration through a floor/ceiling assembly would allow a fire enter the cavity of the assembly and compromise the fire-resistance rating. These unprotected penetrations are further limited to penetrations with parking above and below the penetration, which is consistent with 712.1.10 and 715.1 that allow vertical openings and joints "in" or "within" parking garages or structures - this also essentially prohibits concealed penetrations which could allow a fire through a penetration to go undetected for some period of time.

Cost Impact: The code change proposal will decrease the cost of construction
This proposal will allow unprotected penetrations in garages which will reduce the cost of construction due to a reduction in through-penetration firestop systems.

Page: 1

Mod_10839_Text_FS64-21.pdf

F10839Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that this exception for "penetrations of concrete floors or ramps within parking garages or structures constructed per Sections 406.5 and 406.6 where the areas above and below the penetrations are parking areas" is common sense. (Vote: 10-3)

Final Hearing Results

FS64-21 AS

Mod_10839_Text_FS64-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

99

F10840 **/FS66-21**

Date Submitted	03/07/2024	**Section**	714.5.1.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds exception to Section 714.5.1.2 "Through-penetration firestop system." Concerning penetrations in a single concrete floor by steel, ferrous or copper conduits, pipes, tubes or vents.

Rationale

See attached

F10840Text Modification

See attached

Page: 1

Mod10840_TextOfModification.pdf

F10840Text Modification

FS66-21

Original Proposal

IBC: 714.5.1.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

714.5.1.2 Through-penetration firestop system. *Through penetrations* shall be protected by an *approved through-penetration firestop system* installed and tested in accordance with ASTM E814 or UL 1479, with a minimum positive pressure differential of 0.01 inch of water (2.49 Pa). The system shall have an *F rating*/*T rating* of not less than 1 hour but not less than the required rating of the floor penetrated.

Exceptions:

1. Floor penetrations contained and located within the cavity of a wall above the floor or below the floor do not require a *T rating*.
2. Floor penetrations by floor drains, tub drains or shower drains contained and located within the concealed space of a *horizontal assembly* do not require a *T rating*.
3. Floor penetrations of maximum 4-inch (102 mm) nominal diameter metal conduit or tubing penetrating directly into metal-enclosed electrical power switchgear do not require a *T rating*.
4. Penetrations in a single concrete floor by steel, ferrous or copper conduits, pipes, tubes or vents with a maximum 6-inch (152 mm) nominal diameter do not require a T rating. These penetrating items shall not be limited to the penetration of a single concrete floor, provided the area of the opening through each floor does not exceed 144 square inches (92,900 mm^2).

Reason: This proposal provides consistency with the temperature rise criteria (T rating) between penetrations protected with tested and listed systems versus those protected with concrete, grout and mortar. The language in this proposal is identical to the wording used to protect these same penetrations using concrete, grout and mortar in Section 714.5.1, Exception 2.
The code is currently inconsistent in the application of temperature rise criteria for continuous metallic penetrants such as pipes and conduit penetrating fire separations. Penetrations protected with concrete, grout, or mortar are permitted without a T rating, but the same penetrations protected with tested and listed systems would require the T rating. There is no technical justification for such a distinction. If anything, the tested systems have been specifically evaluated and will reliably achieve the same or higher level of performance.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will decrease the cost of construction
This proposal will decrease cost by expanding the exception and removing the need to insulate these penetrating items.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposed text is needed to provide consistency with the code language for continuous

Mod_10840_Text_FS66-21.pdf

F10840Text Modification

metallic penetrants. (Vote: 13-0)

Final Hearing Results

FS66-21 AS

Page: 2

Mod_10840_Text_FS66-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

100

F10841 **/FS68-21**

Date Submitted	03/07/2024	**Section**	715.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 715.2 "Installation". Concerning perimeter fire containment systems.

Rationale

See attached

F10841Text Modification

See attached

Page: 1

Mod10841_TextOfModification.pdf

F10841Text Modification

FS68-21

Original Proposal

IBC: 715.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

715.2 Installation. Systems or materials protecting *joints* and voids shall be securely installed in accordance with the manufacturer's installation instructions in or on the *joint* or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases. *Fire-resistant joint systems* ~~or systems used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections~~ and *perimeter fire containment systems* shall also be installed in accordance with the listing criteria.

Reason: This is a clean up arising from changes in the last cycle. Proposal FS52-18 expanded on the installation requirements for joints and voids contained in Section 715.2, which included the "system used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections." Proposal FS53-18 introduced a new defined phrase "perimeter fire containment system" to describe the method of protecting this same void. Since these were two independent proposals, it was not possible to editorially combine the newly defined phrase "perimeter fire containment system" into the updated Section 715.2, covering Installation. This proposal is intended to do that, thereby simplifying Section 715.2.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change proposal will not increase the cost of construction. This change is editorial and does not add new construction requirements

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal is a good clarification of the current code text without technical changes. The proposal introduced a defined phrase, "perimeter fire containment system," to describe the method of protecting the same void in section 715.2. (Vote: 13-0)

Final Hearing Results

FS68-21 AS

Page: 1

Mod_10841_Text_FS68-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10842	/FS70-21				101
Date Submitted	03/07/2024	**Section**	715.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal to break Section 715.2 into two separate sections. 1. Section requiring fire-resistive joint systems and perimeter fire containment systems. 2. Section requiring materials and not systems.

Rationale

See attached

F10842Text Modification

See attached

Page: 1

Mod10842_TextOfModification.pdf

F10842Text Modification

FS70-21

Original Proposal

IBC: 715.2, 715.2.1 (New), 715.2.2 (New)

Proponents: William Koffel, Koffel Associates, Inc., Firestop Contractors Association International (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

715.2 Installation. Systems or materials protecting joints and voids shall be installed in accordance with 715.2.1 and 715.2.2S~~. ystems or materials protecting *joints* and voids shall be securely installed in accordance with the manufacturer's installation instructions in or on the *joint* or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases. *Fire-resistant joint systems* or systems used to protect voids at exterior curtain walls and fire-resistance-rated floor intersections shall also be installed in accordance with the listing criteria.~~

Add new text as follows:

715.2.1 List system installation. Listed *fire-resistant joint systems* and perimeter fire containment systems shall be securely installed in accordance with the manufacturer's installation instructions and the listing criteria in or on the joint or void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases.

715.2.2 Approved materials installation. Approved materials protecting voids shall be securely installed in accordance with the manufacturer's installation instructions in or on the void for its entire length so as not to dislodge, loosen or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gases.

Reason: The 2018 Edition of the IBC had the language, 'installed in accordance with the listing criteria and the manufacturers installation instruction ... so as not to dislodge, loosen, or otherwise impair its ability to accommodate expected building movements and to resist the passage of fire and hot gasses. The change in the 2021 Edition of the IBC has taken the installation sections out of the material and system requirements and put it in a consolidated installation section. While we agree with moving the language to the installation section, it seems that combining the 'materials' and 'systems' confuses when listings are needed and when manufacturers installation instructions are needed. To be crystal clear, we've broken the section into two sections:

1. Section requiring fire-resistive joint systems and perimeter fire containment systems
2. Section requiring materials and not systems.

Additionally, the listings do not always refer to the manufacturers installation instructions. Therefore, only having the word 'systems', does not connect the manufacturers installation instructions and listing criteria. This clarified section makes it clear what is required in each section of the code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal is mostly editorial for clarification purposes and is consistent with current practice.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal clarifies the current text by dividing one paragraph into two subsections.

Page: 1

Mod_10842_Text_FS70-21.pdf

F10842Text Modification

(Vote: 11-2)

Final Hearing Results

FS70-21 AS

Page: 2

Mod_10842_Text_FS70-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

102

F10843 /FS75-21

Date Submitted	03/07/2024	**Section**	715.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal extends exceptions that are applicable to curtain wall/floor intersections to the void at the curtain wall/floor intersection. Section 715.4 and Section 715.5.

Rationale

See attached

F10843Text Modification

See attached

Page: 1

Mod10843_TextOfModification.pdf

F10843Text Modification

FS75-21

Original Proposal

IBC: 715.4, 715.5

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

715.4 Exterior curtain wall/fire-resistance-rated floor intersections. Voids created at the intersection of exterior curtain wall assemblies and fire-resistance-rated floor or floor/ceiling assemblies shall be protected with an *approved perimeter fire containment system* to prevent the interior spread of fire. Such systems shall provide an *F rating* for a time period not less than the *fire-resistance rating* of the floor or floor/ceiling assembly.

Exception: *Approved perimeter fire containment system* shall not be required for voids in the following locations:

1. Floors within a single *dwelling unit*.
2. Floors and ramps within parking garages or structures constructed in accordance with Sections 406.5 and 406.6.
3. *Mezzanine* floors.

715.5 Exterior curtain wall/nonfire-resistance-rated floor assembly intersections. Voids created at the intersection of exterior curtain wall assemblies and nonfire-resistance-rated floor or floor/ceiling assemblies shall be filled with an *approved* material or system to retard the interior spread of fire and hot gases ~~between *stories*~~.

Exception: *Approved* material or system to retard the interior spread of fire and hot gases shall not be required for voids in the following locations:

1. Floors within a single *dwelling unit*.
2. Floors and ramps within parking garages or structures constructed in accordance with Sections 406.5 and 406.6.
3. *Mezzanine* floors.

Reason: Section 715.3 for fire-resistant joint systems includes exceptions for several types of floors, which essentially allows open joints between fire-resistant floors or floor/ceiling assemblies. This proposal extends exceptions that are applicable to curtain wall/floor intersections to the void at the curtain wall/floor intersection. If an an open joint within these floors is acceptable, it goes to reason that it is also acceptable to have an open void between these floors and exterior curtain wall. The exceptions for this condition include floors within a dwelling unit, floors and ramps in parking garages or structures, and mezzanine floors. An example of the use of these exceptions is a parking garage on the lower floors of a building that have exterior curtain walls to "hide" the garage to match the exterior appearance of the building above the garage levels. Also, in Section 715.5, the words "between stories" is proposed to be deleted to align the wording of this section with that of 715.4 and 715.3.

Cost Impact: The code change proposal will decrease the cost of construction
For certain conditions, this proposal will remove the requirement for approved systems at voids at curtain wall/floor intersections so the cost of construction will decrease.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_10843_Text_FS75-21.pdf

F10843Text Modification

Committee Reason: The committee based their approval on the proponent's reason statement and concluded the code change clarifies existing criteria. The committee also mentioned that the relocation is necessary and practical. (Vote: 11-2)

Final Hearing Results

FS75-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

103

F10844 | **/FS76-21**

Date Submitted	03/07/2024	**Section**	715.6	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal clarifies that this section covers voids created with all non-fire-resistance-rated wall assemblies, not just non-fire- resistance-rated curtain wall assemblies.

Rationale

See attached

F10844Text Modification

See attached

Page: 1

Mod10844_TextOfModification.pdf

F10844Text Modification

FS76-21

Original Proposal

IBC: 715.6

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

715.6 Exterior ~~curtain~~ wall/vertical fire barrier intersections. Voids created at the intersection of nonfire-resistance-rated exterior ~~curtain~~ wall assemblies and vertical *fire barriers* shall be filled with an approved material or system to retard the interior spread of fire and hot gases.

Reason: This proposal clarifies that this section covers voids created with all non-fire-resistance-rated wall assemblies, not just non-fire-resistance-rated curtain wall assemblies.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change proposal will not increase the cost of construction. The proposal simply clarifies the voids are to be protected.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded word "curtain" is not needed since the section addresses the intersection of an exterior wall with a vertical fire barrier. Although this code change has been approved, one committee member mentioned the proposal would contradict section 715.3, addressing fire-resistance-rated assembly intersections. (Vote: 9-4)

Final Hearing Results

FS76-21 AS

Page: 1

Mod_10844_Text_FS76-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

104

F10845 | **/FS79-21**

Date Submitted	03/07/2024	**Section**	716.1.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

2023 FBC - B - Section 716.4.

Summary of Modification

Modifies text of Section 716.1.1. Concerning changing fire resistance to "fire protection rating".

Rationale

See attached

F10845Text Modification

See attached

Page: 1

Mod10845_TextOfModification.pdf

F10845Text Modification

FS79-21

Original Proposal

IBC: 716.1.1

Proponents: William Koffel, Koffel Associates, Inc., Fire Safe North America (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

716.1.1 Alternative methods for determining fire protection ratings. The application of any of the alternative methods specified in this section shall be based on the fire exposure and acceptance criteria specified in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C. The required ~~*fire resistance*~~*fire protection rating* of an opening protective shall be permitted to be established by any of the following methods or procedures:

1. Designs documented in *approved* sources.
2. Calculations performed in an *approved* manner.
3. Engineering analysis based on a comparison of opening protective designs having *fire protection ratings* as determined by the test procedures set forth in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C.
4. Alternative protection methods as allowed by Section 104.11.

Reason: The paragraph currently uses the generic, defined term of "fire resistance." However, opening protectives are assigned a "fire protection rating." The test methods referenced in the paragraph are used to determine a "fire protection rating." The use of "fire resistance" causes confusion and people don't always understand the different performance characteristics associated with assemblies that have a "fire resistance rating" or a "fire protection rating."

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed change simply clarifies the intent of existing code requirements. If anything, the cost of construction could be decreased by eliminating the confusion associated with the current code text.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this code change brings the proper terminology by replacing "fire resistance" with "fire protection rating". (Vote: 13-0)

Final Hearing Results

FS79-21 AS

Page: 1

Mod_10845_Text_FS79-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

105

F10846 | **/FS80-21**

Date Submitted	03/07/2024	**Section**	716.1.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - B - Section 716.4.

Summary of Modification

There are no approved calculation methods for open protectives. Deletes Item 2 of Section 716.1.1 "Alternative methods for determining fire protection ratings".

Rationale

See attached

F10846Text Modification

See attached

Page: 1

Mod10846_TextOfModification.pdf

F10846Text Modification

FS80-21

Original Proposal

IBC: 716.1.1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

716.1.1 Alternative methods for determining fire protection ratings. The application of any of the alternative methods specified in this section shall be based on the fire exposure and acceptance criteria specified in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C. The required *fire resistance* of an opening protective shall be permitted to be established by any of the following methods or procedures:

1. Designs documented in *approved* sources.
2. ~~Calculations performed in an *approved* manner.~~
3 2. Engineering analysis based on a comparison of opening protective designs having *fire protection ratings* as determined by the test procedures set forth in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C.
4 3. Alternative protection methods as allowed by Section 104.11.

Reason: There are no approved calculation methods for open protectives, published by competent sources we are aware of, that would yield a reliable determination of fire protection ratings for an open protective. While thermal transfer rates can be calculated in assemblies the results do not yield an equivalent fire protection rating.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no known calculation methods that can be used.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee based their approval of deleting procedure #2 on the proponent's reason statement. There are no approved calculation methods for open protectives, published by competent sources. (Vote: 12-1)

Final Hearing Results

FS80-21 AS

Page: 1

Mod_10846_Text_FS80-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

106

F10847 /FS84-21

Date Submitted	03/07/2024	**Section**	716.2.2.1.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - B - Section 716.5.3.1.

Summary of Modification

Adds exception to Section 716.2.2.1.1 "Smoke and draft control". Concerning elevator hoistway door openings protected in accordance with Section 3006.3.

Rationale

See attached

F10847Text Modification

See attached

Mod10847_TextOfModification.pdf

Page: 1

F10847Text Modification

FS84-21

Original Proposal

IBC: 716.2.2.1.1

Proponents: William Koffel, Koffel Associates, Inc., Fire Safe North America (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

716.2.2.1.1 Smoke and draft control. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot (0.01524 $m^3/s \times m^2$) of door opening at 0.10 inch (24.9 Pa) of water for both the ambient temperature and elevated temperature tests. Louvers shall be prohibited. *Terminated stops* shall be prohibited on doors required by Section 405.4.3 to comply with Section 716.2.2.1 and prohibited on doors required by Item 3 of Section 3006.3, or Section 3007.6.3 or 3008.6.3 to comply with this section.

Exception: Elevator hoistway door openings protected in accordance with Section 3006.3.

Reason: It is recognized that elevator doors themselves, at least current elevator door assemblies, are not able to meet the smoke- and draft-control assembly requirements. However, since its inception the IBC has required that such door openings into a fire resistance rated corridor or a smoke barrier meet smoke- and draft-control assembly requirements. This was clarified when Section 3006.2.1 was added to the 2018 Edition of the IBC, not as a new requirement; but rather as a clarification (G201-15). The Reason Statement for G201-15 read as follows:

Reason: During the 2012 cycle the CTC submitted a code change FS88-12 to clarify that it was not the intent to require protection of a hoistway opening in rated corridors. Instead, the elevator lobby requirements themselves addressed this issue. That proposal was not approved. Based upon that disapproval, it appears that it is within the intent to require protection of elevator hoistway openings based upon the requirement for rated corridor construction. Therefore, this requirement needs to be specifically clarified within Section 3006 to avoid the requirement being missed. A new section 3006.2.1 has been written to clarify that intent. Also, to further clarify this intent a Section 1020.1.1 has been provided as a pointer to these specific lobby requirements.

BCAC has submitted a proposal to delete Section 3006.2.1 and add the requirement to Section 3006.2. One of the supporting arguments offered by the proponents is that there is minimal stack effect in low-rise buildings. While there may be some truth to that statement, it fails to address the fact that the intent of the requirements in Chapters 7, 10, and 30 have been to also protected the corridor from a fire originating in the elevator hoistway. While most of the BCAC discussion focused on exit access corridors, it should be noted that this provision also impacts door openings in smoke barriers.

In theory, we support the BCAC proposal related to Section 3006.2.1 but only if the requirement to protect the openings in a corridor or smoke barrier is added to Chapter 7 or Chapter 10. The concerns are different and should be addressed in different sections of the IBC. Chapter 30 addresses the vertical migration of smoke in the hoistway. Chapters 7 and 10 address protecting a corridor and smoke barrier that is required to have a fire resistance rating. For most of the instances in which a fire resistance rated corridor is required, the building is not protected with an automatic sprinkler system. However, even in a building protected throughout with an automatic sprinkler system, the elevator hoistway is one area in which sprinkler protection is likely to be omitted. Does it make sense to require smoke- and draft-control assemblies on every other corridor door or smoke barrier door but then omit such a requirement from one of the few spaces that is not likely to be protected with sprinkler protection? If a door in a corridor or smoke barrier is provided to access a utility shaft, the door is required to meet smoke- and draft-control assembly requirements. However, if Section 3006.2.1 is not retained, or similar provisions are added to Chapter 7 as proposed herein, if an elevator is in the shaft the door is not required to meet smoke- and draft-control assembly requirements.

Project FAIL-SAFE, a project of the NASFM Fire Research & Education Foundation, included a phase of computer modeling that looked at the impact on fire behavior, occupant survivability, and structural resiliency in a Group R-2 occupancy, both with and without sprinkler protection. One of the conclusions of the modeling that was done by WPI was that the **"single largest impact on occupant egress survivability is compartmentation of smoke and multiple egress routes."**

In summary, the proposal does not change the requirements in the IBC, either the 2021 edition or prior editions. Instead it retains the

Page: 1

Mod_10847_Text_FS84-21.pdf

F10847Text Modification

current code requirements and clarifies that there are alternative means to ensure that the opening between an elevator hoistway and a fire resistance rated corridor or in a smoke barrier is protected in a manner equivalent to that required for all other openings into the corridor or smoke barrier.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal clarifies that there are alternative means to comply with current code provisions.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal clarifies the current text. For elevator hoistway door openings, section 3006.3 is applicable. (Vote: 13-0)

Final Hearing Results

FS84-21 AS

Page: 2

Mod_10847_Text_FS84-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

107

F10848 | **/FS85-21**

Date Submitted	03/07/2024	**Section**	716.2.6.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - B - Section 716.5.9.

Summary of Modification

Adds exception to Section 716.2.6.1 "Door closing". Fire doors required solely for compliance with ICC 500 shall not be required to be self-closing or automatic-closing.

Rationale

See attached

F10848Text Modification

See attached

Page: 1

Mod10848_TextOfModification.pdf

F10848Text Modification

FS85-21

Original Proposal

IBC: 716.2.6.1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org); Marc Levitan, NIST, ICC 500 Storm Shelter Standard Committee (marc.levitan@nist.gov)

2021 International Building Code

Revise as follows:

716.2.6.1 Door closing. *Fire doors* shall be latching and self- or automatic-closing in accordance with this section.

Exceptions:

1. *Fire doors* located in common walls separating *sleeping units* in Group R-1 shall be permitted without automatic- or *self-closing* devices.
2. The elevator car doors and the associated hoistway enclosure doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I emergency recall operation.
3. Fire doors required solely for compliance with ICC 500 shall not be required to be self-closing or automatic-closing.

Reason: The ICC 500 *Standard for the Design and Construction of Storm Shelters* allows a room or area within a larger building to be designed as a storm shelter, and requires the walls separating the storm shelter from the remaining portions of the host building to be constructed as 2-hour fire barriers, even if the IBC does not require a 2 hour rating.

The 2020 edition of ICC 500 provided an exception to the requirement for door closers in the situation where the fire-resistance rated wall is only required to separate a storm shelter from a host building. Any doors in the wall would still have to be fire-rated, but they would not have to include self or automatic closers. In a situation where large numbers of people need to enter the shelter quickly, such as for a tornado warning, exempting these doors from closers would allow for a constant flow of occupants seeking shelter without being interrupted by the door closing whenever someone releases the door.
Once people have entered the shelter, all openings can be secured from the inside by the personnel responsible for operating the shelter, or if necessary, by shelter occupants. Once the shelter doors are closed, the openings in the fire-resistance rated walls would be protected. When the storm is over, no closers would also allow for a smoother flow for egress.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC 500 Development Committee.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

The ICC 500 (Standard for the Design and Construction of Storm Shelters) development committee has held several virtual meetings during the last two years to develop the 202) edition. In addition, there were numerous virtual Working Group meetings. All meetings included members of the committee as well as interested parties. Related documents and reports are posted on the ICC 500 website at ICC 500.

Page: 1

Mod_10848_Text_FS85-21.pdf

F10848Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Will not increase the cost of construction if anything it lowers the construction cost as the requirements for door closers are being reduced.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal is the appropriate application for the exception to the requirement for door closers in the situation where the fire-resistance-rated wall is only required to separate a storm shelter from a host building. The proposal utilizes protection per ICC 500 Standard for the Design and Construction of Storm Shelters. (Vote: 12-1)

Final Hearing Results

FS85-21 AS

Page: 2

Mod_10848_Text_FS85-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

108

F10849 | **/FS88-21**

Date Submitted	03/07/2024	**Section**	717.2.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

There are instances in which wiring and/or cabling is run through fire dampers, smoke dampers, combination fire/smoke dampers, and ceiling radiation dampers, which can cause improper operation of the device during inspection and fire events

Rationale

See attached

F10849Text Modification

See attached

Page: 1

Mod10849_TextOfModification.pdf

F10849Text Modification

FS88-21

Original Proposal

IBC: 717.2.4 (New) [IMC 607.2.4 (New)] , 717.2.4.1 (New) [IMC 607.4.1 (New)]

Proponents: William Koffel, Koffel Associates, Inc., Air Movement and Control Association (wkoffel@koffel.com)

2021 International Building Code

Add new text as follows:

717.2.4 Mechanical, electrical and plumbing controls. Mechanical, electrical and plumbing controls shall not be installed in air duct systems.

Exception: Controls shall be permitted to be installed in air duct systems only if the wiring is directly associated with the air distribution system. The wiring shall be as short as practicable.

717.2.4.1 Controls not permitted to be installed through dampers. Mechanical, electrical and plumbing controls shall not be installed through fire dampers, smoke dampers, combination fire/smoke dampers or ceiling radiation dampers unless otherwise permitted by the manufacturer and the listing.

Reason:
There are instances in which wiring and/or cabling is run through fire dampers, smoke dampers, combination fire/smoke dampers, and ceiling radiation dampers, which can cause improper operation of the device during inspection and fire events. Adding the proposed language will prevent this occurrence, thereby increasing occupant safety and lowering building damage during a fire event.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not increase cost by adding materials or requirements. Alternative solutions would need to be used for instances where wiring is run through dampers, which might incur labor costs. However, this cost is justified since the full operation of these devices is paramount for increasing occupant safety and lowering building damage during a fire event.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 717.2.4 Mechanical, electrical and plumbing controls.
Mechanical, electrical and plumbing controls shall not be installed in air duct systems.

Exception: Controls shall be permitted to be installed in air duct systems only if the wiring is directly associated with the air distribution system. The wiring shall comply with the requirements of Section 602 of the International Mechanical Code andbe as short as practicable.

Committee Reason: The committee concluded the modification had improved the original proposal; it brings IMC 602 for wiring with a duct. The proposal is a good addition to the code text. (Vote: 13-0).

Final Hearing Results

FS88-21 AM

Page: 1

Mod_10849_Text_FS88-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

109

F10850 /FS91-21

Date Submitted	03/07/2024	**Section**	717.6.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new Section 717.6.2 "Through penetration for Group I-2 and I-3".

Rationale

See attached

F10850Text Modification

See attached

Page: 1

Mod10850_TextOfModification.pdf

F10850Text Modification

FS91-21

Original Proposal

IBC: 717.6 (IMC 607.6), 717.6.1 (IMC 607.6.1), 717.6.2 (New) [IMC 607.6.2 (New)]

Proponents: John Williams, Healthcare Committee (ahc@iccsafe.org); James Peterkin, TLC Engineering Solutions, TLC Engineering Solutions (jim.peterkin@tlc-eng.com)

2021 International Building Code

717.6 Horizontal assemblies. Penetrations by ducts and air transfer openings of a floor, floor/ceiling assembly or the ceiling membrane of a roof/ceiling assembly shall be protected by a shaft enclosure that complies with Section 713 or shall comply with Sections 717.6.1 through 717.6.3.

717.6.1 Through penetrations. In occupancies other than Groups I-2 and I-3, a duct constructed of approved materials in accordance with the *International Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two *stories* is permitted without *shaft enclosure* protection, provided that a *listed fire damper* is installed at the floor line or the duct is protected in accordance with Section 714.5. For air transfer openings, see Section 712.1.9.

Exception: A duct is permitted to penetrate three floors or less without a *fire damper* at each floor, provided that such duct meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum wall thickness of 0.0187 inches (0.4712 mm) (No. 26 gage).
2. The duct shall open into only one *dwelling unit*or *sleeping unit* and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m^2) in any 100 square feet (9.3 m^2) of floor area.
4. The *annular space* around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the *fire-resistance rating* of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a *listed ceiling radiation damper* installed in accordance with Section 717.6.2.1.

Add new text as follows:

717.6.2 Through penetration for Group I-2 and I-3. In Group I-2 and I-3 occupancies a duct constructed of approved materials in accordance with the International Mechanical Code that penetrates a fire-resistance-rated floor of floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided that a listed fire damper is installed at the floor line.

Reason: It does not make any sense to provide a shaft with a damper into the shaft and a damper out of the shaft when it only penetrates one floor. This is consistent with the federal certification requirements for the Centers for Medicaid and Medicare Services (e.g. NFPA 101 and NFPA 99).
This proposal is submitted by the ICC Committee on Healthcare (CHC) for Group I-2 in cooperation with Jim Peterkin for Group I-3.

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting

Page: 1

Mod_10850_Text_FS91-21.pdf

F10850Text Modification

agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

Cost Impact: The code change proposal will decrease the cost of construction
The code change proposal will slightly decrease the cost of construction, because it eliminates a second damper and minimal shaft construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 717.6.1Through penetrations.

~~In occupancies other than Groups I-2 and I-3, a~~A duct constructed of approved materials in accordance with the *International Mechanical Code* that penetrates a fire-resistance-rated floor/ceiling assembly that connects not more than two *stories* is permitted without *shaft enclosure* protection, provided that a *listed fire damper* is installed at the floor line or the duct is protected in accordance with Section 714.5. For air transfer openings, see Section 712.1.9.

Exception: In occupancies other than Group I-2 and I-3, a~~A~~ duct is permitted to penetrate three floors or less without a *fire damper* at each floor, provided that such duct meets all of the following requirements:

1. The duct shall be contained and located within the cavity of a wall and shall be constructed of steel having a minimum wall thickness of 0.0187 inches (0.4712 mm) (No. 26 gage).
2. The duct shall open into only one *dwelling unit* or *sleeping unit* and the duct system shall be continuous from the unit to the exterior of the building.
3. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m^2) in any 100 square feet (9.3 m^2) of floor area.
4. The *annular space* around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E119 or UL 263 time-temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the *fire-resistance rating* of the construction penetrated.
5. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a *listed ceiling radiation damper* installed in accordance with Section 717.6.2.1.

~~717.6.2Through penetration for Group I-2 and I-3.~~
~~In Group I-2 and I-3 occupancies a duct constructed of approved materials in accordance with the International Mechanical Code that penetrates a fire-resistance-rated floor of floor/ceiling assembly that connects not more than two stories is permitted without shaft enclosure protection, provided that a listed fire damper is installed at the floor line.~~

Committee Reason: The committee concluded the modification clarifies the language by moving "In occupancies other than Group I-2 and I-3" into the exception. The proposal aligns IBC with the federal certification requirements for the Centers for Medicaid and Medicare Services. (Vote: 13-0)

Final Hearing Results

FS91-21 AM

Page: 2

Mod_10850_Text_FS91-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

110

F10852 | **/FS96-21**

Date Submitted	03/07/2024	**Section**	718.2.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new item to Section 718.2.1 "Fireblocking materials".

Rationale

See attached

F10852Text Modification

See attached

Page: 1

Mod10852_TextOfModification.pdf

F10852Text Modification

FS96-21

Original Proposal

IBC: 718.2.1

Proponents: Christopher Athari, Hoover Treated Wood Products, Hoover Treated Wood Products (cathari@frtw.com)

2021 International Building Code

Revise as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot gases.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of 19/32-inch (15.1 mm) fire-retardant-treated wood structural panel complying with Section 2303.2.

Reason: Referencing the data in IBC table 722.6.2(1), one-half-inch gypsum board and 19/32-inch wood structural panel membranes have the same fire resistance. It is common practice to substitute FRTW structural panels for untreated wood structural panels. One thickness of 19/32-inch FRTW structural panel has the same fire resistance as one thickness of 19/32-inch untreated wood structural panel. One-half-inch gypsum board has a flame spread rating of 25 or less, and FRTW complying with IBC Section 2303.2 has a flame spread rating of 25 or less. Therefore, one thickness of 19/32-inch FRTW structural panel demonstrates both the equivalent fire resistance and flame spread properties of one-half-inch gypsum board.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The other 9 options remain unchanged and may be chosen as they were. This adds one more option.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee approval is based on the proponent's reason statement. (Vote: 12-0)

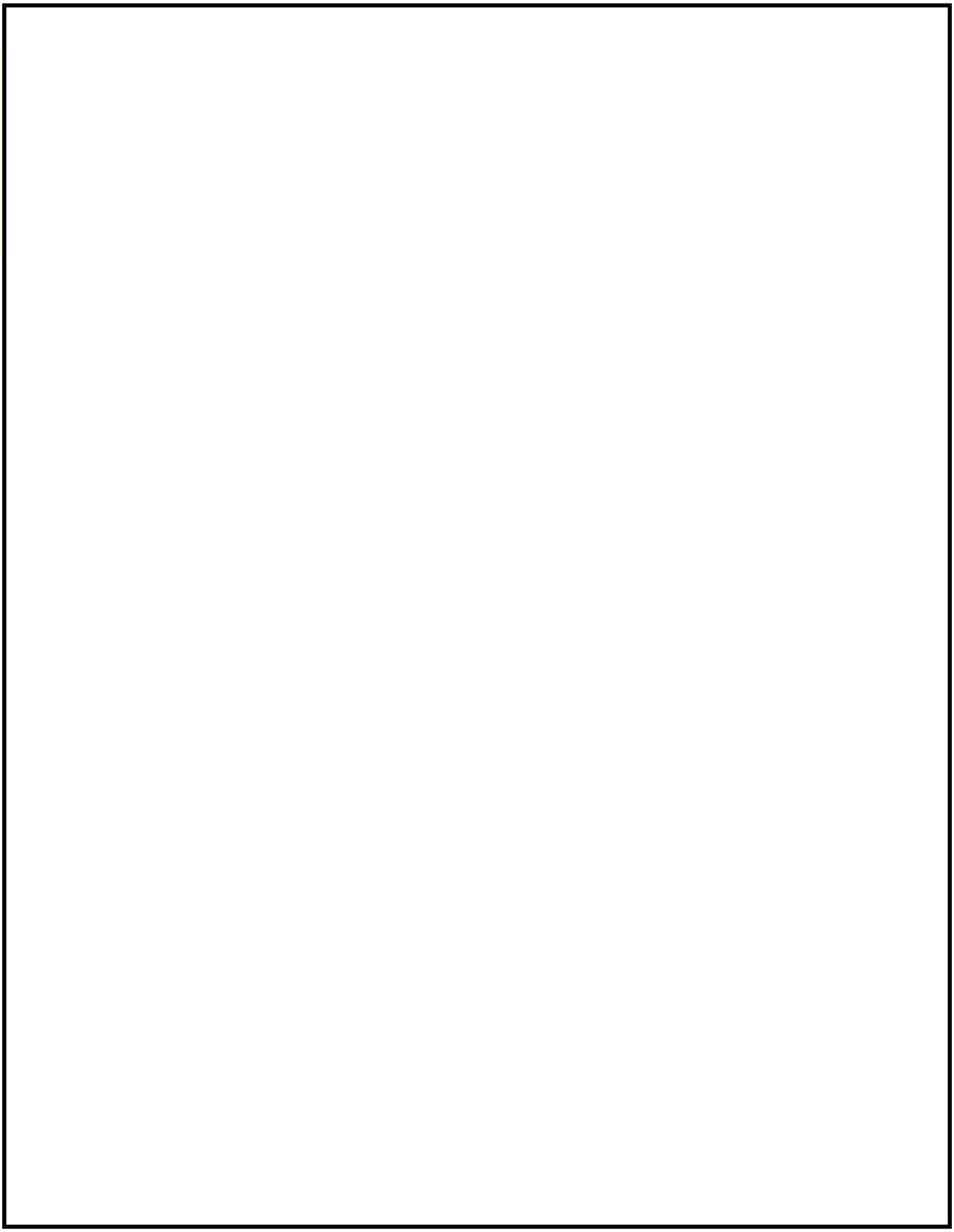
Final Hearing Results

FS96-21 AS

Page: 1

Mod_10852_Text_FS96-21.pdf

F10852Text Modification



Mod_10852_Text_FS96-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

111

F10853 | **/FS97-21**

Date Submitted	03/07/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies Table 721.1(2). Figure 722.5.1(2).

Rationale

See attached

F10853Text Modification

See attached

Page: 1

Mod10853_TextOfModification.pdf

F10853Text Modification

FS97-21 Part I

Original Proposal

IBC: TABLE 721.1(2), FIGURE 722.5.1(2)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE FIRE SAFETY CODE COMMITEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. PART III WILL BE HEARD BY THE PROPERTY MAINTENANCE/ZONING CODE COMMITTEE. COMMITEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS[a, o, p]

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE[b] (inches)			
			4 hours	3 hours	2 hours	1 hour
1. Brick of clay or shale	1-1.1	Solid brick of clay or shale.[c]	6	4.9	3.8	2.7
	1-1.2	Hollow brick, not filled.	5.0	4.3	3.4	2.3
	1-1.3	Hollow brick unit wall, grout or filled with perlite vermiculite or expanded shale aggregate.	6.6	5.5	4.4	3.0
	1-2.1	4" nominal thick units not less than 75 percent solid backed with a hat-shaped metal furring channel $^{3}/_{4}$" thick formed from 0.021" sheet metal attached to the brick wall on 24" centers with approved fasteners, and $^{1}/_{2}$" Type X gypsum wallboard attached to the metal furring strips with 1"-long Type S screws spaced 8" on center.	—	—	5[d]	—
2. Combination of clay brick and load-bearing hollow clay tile	2-1.1	4" solid brick and 4" tile (not less than 40 percent solid).	—	8	—	—
	2-1.2	4" solid brick and 8" tile (not less than 40 percent solid).	12	—	—	—
3. Concrete masonry units	3-1.1[f, g]	Expanded slag or pumice.	4.7	4.0	3.2	2.1
	3-1.2[f, g]	Expanded clay, shale or slate.	5.1	4.4	3.6	2.6
	3-1.3[f]	Limestone, cinders or air-cooled slag.	5.9	5.0	4.0	2.7
	3-1.4[f, g]	Calcareous or siliceous gravel.	6.2	5.3	4.2	2.8
4. Solid concrete[h, i]	4-1.1	Siliceous aggregate concrete.	7.0	6.2	5.0	3.5
		Carbonate aggregate concrete.	6.6	5.7	4.6	3.2
		Sand-lightweight concrete.	5.4	4.6	3.8	2.7
		Lightweight concrete.	5.1	4.4	3.6	2.5
5. Glazed or unglazed facing tile, nonload-bearing	5-1.1	One 2" unit cored 15 percent maximum and one 4" unit cored 25 percent maximum with $^{3}/_{4}$" mortar-filled collar joint. Unit positions reversed in alternate courses.	—	$6^{3}/_{8}$	—	—
	5-1.2	One 2" unit cored 15 percent maximum and one 4" unit cored 40 percent maximum with $^{3}/_{4}$" mortar-filled collar joint. Unit positions side with $^{3}/_{4}$" gypsum plaster. Two wythes tied together every fourth course with No. 22 gage corrugated metal ties.	—	$6^{3}/_{4}$	—	—
	5-1.3	One unit with three cells in wall thickness, cored 29 percent maximum.	—	—	6	—
	5-1.4	One 2" unit cored 22 percent maximum and one 4" unit cored 41 percent maximum with $^{1}/_{4}$" mortar-filled collar joint. Two wythes tied together every third course with 0.030"(No. 22 galvanized sheet steel gage) corrugated metal ties.	—	—	6	—
	5-1.5	One 4" unit cored 25 percent maximum with $^{3}/_{4}$" gypsum plaster on one side.	—	—	$4^{3}/_{4}$	—
	5-1.6	One 4" unit with two cells in wall thickness, cored 22 percent maximum.	—	—	—	4
	5-1.7	One 4" unit cored 30 percent maximum with $^{3}/_{4}$" vermiculite gypsum plaster on one side.	—	—	$4^{1}/_{2}$	—
	5-1.8	One 4" unit cored 39 percent maximum with $^{3}/_{4}$" gypsum plaster on one side.	—	—	—	$4^{1}/_{2}$
6. Solid gypsum plaster	6-1.1	$^{3}/_{4}$" by 0.055" (No. 16 carbon sheet steel gage) vertical cold-rolled channels, 16" on center with 2.6-pound flat metal lath applied to one face and tied with 0.049" (No. 18 B.W. gage) wire at 6" spacing. Gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-1.2	$^{3}/_{4}$" by 0.05" (No. 16 carbon sheet steel gage) cold-rolled channels 16" on center with metal lath applied to one face and tied with 0.049" (No. 18 B.W. gage) wire at 6" spacing. Perlite or vermiculite gypsum plaster each side. For three-coat work, the plaster mix for the second coat shall not exceed 100 pounds of gypsum to $2^{1}/_{2}$ cubic feet of aggregate for the 1-hour system.	—	—	$2^{1}/_{2}$[d]	2[d]
	6-1.3	$^{3}/_{4}$" by 0.055" (No. 16 carbon sheet steel gage) vertical cold-rolled channels, 16" on center with $^{3}/_{8}$" gypsum lath applied to one face and attached with sheet metal clips. Gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-2.1	Studless with $^{1}/_{2}$" full-length plain gypsum lath and gypsum plaster each side. Plaster mixed 1:1 for scratch coat and 1:2 for brown coat, by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-2.2	Studless with $^{1}/_{2}$" full-length plain gypsum lath and perlite or vermiculite gypsum plaster each side.	—	—	$2^{1}/_{2}$[d]	2[d]
	6-2.3	Studless partition with $^{3}/_{8}$" rib metal lath installed vertically adjacent edges tied 6" on center with No. 18 gage wire ties, gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]

Page: 1

Mod_10853_Text_FS97-21 Part I.pdf

F10853Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
7. Solid perlite and Portland cement	7-1.1	Perlite mixed in the ratio of 3 cubic feet to 100 pounds of Portland cement and machine applied to stud side of 1/2" mesh by 0.058-inch (No. 17 B.W. gage) paper-backed woven wire fabric lath wire-tied to 4"-deep steel trussed wire[j] studs 16" on center. Wire ties of 0.049" (No. 18 B.W. gage) galvanized steel wire 6" on center vertically.	—	—	3 1/8[d]	—
8. Solid neat wood fibered gypsum plaster	8-1.1	3/4" by 0.055-inch (No. 16 carbon sheet steel gage) cold-rolled channels, 12" on center with 2.5-pound flat metal lath applied to one face and tied with 0.049" (No. 18 B.W.gage) wire at 6" spacing. Neat gypsum plaster applied each side.	—	—	2[d]	—
9. Solid wallboard partition	9-1.1	One full-length layer 1/2" Type X gypsum wallboard[e] laminated to each side of 1" full-length V-edge gypsum coreboard with approved laminating compound. Vertical joints of face layer and coreboard staggered not less than 3".	—	—	2[d]	—
10. Hollow (studless) gypsum wallboard partition	10-1.1	One full-length layer of 5/8" Type X gypsum wallboard[e] attached to both sides of wood or metal top and bottom runners laminated to each side of 1" × 6" full-length gypsum coreboard ribs spaced 2" on center with approved laminating compound. Ribs centered at vertical joints of face plies and joints staggered 24" in opposing faces. Ribs ~~may~~ shall be permitted to be recessed 6" from the top and bottom.	—	—	—	2 1/4[d]
	10-1.2	1" regular gypsum V-edge full-length backing board attached to both sides of wood or metal top and bottom runners with nails or 1 5/8" drywall screws at 24" on center. Minimum width of runners 1 5/8". Face layer of 1/2" regular full-length gypsum wallboard laminated to outer faces of backing board with approved laminating compound.	—	—	4 5/8[d]	—
11. Noncombustible studs–interior partition with plaster each side	11-1.1	3 1/4" × 0.044" (No. 18 carbon sheet steel gage) steel studs spaced 24" on center. 5/8" gypsum plaster on metal lath each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	4 3/4[d]
	11-1.2	3 3/8" × 0.055" (No. 16 carbon sheet steel gage) approved nailable[k] studs spaced 24" on center. 5/8" neat gypsum wood-fibered plaster each side over 3/8" rib metal lath nailed to studs with 6d common nails, 8" on center. Nails driven 1 1/4" and bent over.	—	—	5 5/8	—
	11-1.3	4" × 0.044" (No. 18 carbon sheet steel gage) channel-shaped steel studs at 16" on center. On each side approved resilient clips pressed onto stud flange at 16" vertical spacing, 1/4" pencil rods snapped into or wire tied onto outer loop of clips, metal lath wire-tied to pencil rods at 6" intervals, 1" perlite gypsum plaster, each side.	—	7 5/8[d]	—	—
	11-1.4	2 1/2" × 0.044" (No. 18 carbon sheet steel gage) steel studs spaced 16" on center. Wood fibered gypsum plaster mixed 1:1 by weight gypsum to sand aggregate applied on 3/4-pound metal lath wire tied to studs, each side. 3/4" plaster applied over each face, including finish coat.	—	—	4 1/4[d]	—
12. Wood studs—interior partition with plaster each side	12-1.1[l, m]	2" × 4" wood studs 16" on center with 5/8" gypsum plaster on metal lath. Lath attached by 4d common nails bent over or No. 14 gage by 1 1/4" by 3/4" crown width staples spaced 6" on center. Plaster mixed 1:1 1/2 for scratch coat and 1:3 for brown coat, by weight, gypsum to sand aggregate.	—	—	—	5 1/8
	12-1.2[l]	2" × 4" wood studs 16" on center with metal lath and 7/8" neat wood-fibered gypsum plaster each side. Lath attached by 6d common nails, 7" on center. Nails driven 1 1/4" and bent over.	—	—	5 1/2[d]	—
	12-1.3[l]	2" × 4" wood studs 16" on center with 3/8" perforated or plain gypsum lath and 1/2" gypsum plaster each side. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard blued nails, 4" on center. Plaster mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	5 1/4
	12-1.4[l]	2" × 4" wood studs 16" on center with 3/8" Type X gypsum lath and 1/2" gypsum plaster each side. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard blued nails, 5" on center. Plaster mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	5 1/4
13. Noncombustible studs–interior partition with gypsum wallboard each side	13-1.1	0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 24" on center with one full-length layer of 5/8" Type X gypsum wallboard[e] applied vertically attached with 1"-long No. 6 dry wall screws to each stud. Screws are 8" on center around the perimeter and 12" on center on the intermediate stud. Where applied horizontally, the Type X gypsum wallboard shall be attached to 3 5/8" studs and the horizontal joints shall be staggered with those on the opposite side. Screws for the horizontal application shall be 8" on center at vertical edges and 12" on center at intermediate studs.	—	—	—	2 7/8[d]
	13-1.2	0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 25" on center with two full-length layers of 1/2" Type X gypsum wallboard[e] applied vertically each side. First layer attached with 1"-long, No. 6 drywall screws, 8" on center around the perimeter and 12" on center on the intermediate stud. Second layer applied with vertical joints offset one stud space from first layer using 1 5/8" long, No. 6 drywall screws spaced 9" on center along vertical joints, 12" on center at intermediate studs and 24" on center along top and bottom runners.	—	—	3 5/8[d]	—
	13-1.3	0.055" (No. 16 carbon sheet steel gage) approved nailable metal studs[e] 24" on center with full-length 5/8" Type X gypsum wallboard[e] applied vertically and nailed 7" on center with 6d cement-coated common nails. Approved metal fastener grips used with nails at vertical butt joints along studs.	—	—	—	4 7/8
14. Wood studs—interior partition with gypsum wallboard each side	14-1.1[l, m]	2" × 4" wood studs 16" on center with two layers of 5/8" regular gypsum wallboard[e] each side, 4d cooler[n] or wallboard[n] nails at 8" on center first layer, 5d cooler[n] or wallboard[n] nails at 8" on center second layer with laminating compound between layers, joints staggered. First layer applied full length vertically, second layer applied horizontally or vertically.	—	—	—	5
	14-1.2[l, m]	2" × 4" wood studs 16" on center with two layers 1/2" regular gypsum wallboard[e] applied vertically or horizontally each side[k], joints staggered. Nail base layer with 5d cooler[n] or wallboard[n] nails at 8" on center face layer with 8d cooler[n] or wallboard[n] nails at 8" on center.	—	—	—	5 1/2
	14-1.3[l, m]	2" × 4" wood studs 24" on center with 5/8" Type X gypsum wallboard[e] applied vertically or horizontally nailed with 6d cooler[n] or wallboard[n] nails at 7" on center with end joints on nailing members. Stagger joints each side.	—	—	—	4 3/4
	14-1.4[l]	2" × 4" fire-retardant-treated wood studs spaced 24" on center with one layer of 5/8" Type X gypsum wallboard[e] applied with face paper grain (long dimension) parallel to studs. Wallboard attached with 6d cooler[n] or wallboard[n] nails at 7" on center.	—	—	—	4 3/4[d]
	14-1.5[l, m]	2" × 4" wood studs 16" on center with two layers 5/8" Type X gypsum wallboard[e] each side. Base layers applied vertically and nailed with 6d cooler[n] or wallboard[n] nails at 9" on center. Face layer applied vertically or horizontally and nailed with 8d cooler[n] or wallboard[n] nails at 7" on center. For nail-adhesive application, base layers are nailed 6" on center. Face layers applied with coating of approved wallboard adhesive and nailed 12" on center.	—	—	6	—
	14-1.6[l]	2" × 3" fire-retardant-treated wood studs spaced 24" on center with one layer of 5/8" Type X gypsum wallboard[e] applied with face paper grain (long dimension) at right angles to studs. Wallboard attached with 6d cement-coated box nails spaced 7" on center.	—	—	—	3 5/8[d]
15. Exterior or interior walls	15-1.1[l, m]	Exterior surface with 3/4" drop siding over 1/2" gypsum sheathing on 2" × 4" wood studs at 16" on center, interior surface treatment as required for 1-hour-rated exterior or interior 2" × 4" wood stud partitions. Gypsum sheathing nailed with 1 3/4" by No.11 gage by 7/16" head galvanized nails at 8" on center. Siding nailed with 7d galvanized smooth box nails.	—	—	—	Varies
	15-1.2[l, m]	2" × 4" wood studs 16" on center with metal lath and 3/4" cement plaster on each side. Lath attached with 6d common nails 7" on center driven to 1" minimum penetration and bent over. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	5 3/8
	15-1.3[l, m]	2" × 4" wood studs 16" on center with 7/8" cement plaster (measured from the face of studs) on the exterior surface with interior surface treatment as required for interior wood stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies
	15-1.4	3 5/8" No. 16 gage noncombustible studs 16" on center with 7/8" cement plaster (measured from the face of the studs) on the exterior surface with interior surface treatment as required for interior, nonbearing, noncombustible stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies[b]

Page: 2

Mod_10853_Text_FS97-21 Part I.pdf

F10853Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
	15-1.5[m]	2 1/4" × 3 3/4" clay face brick with cored holes over 1/2" gypsum sheathing on exterior surface of 2" × 4" wood studs at 16" on center and two layers 5/8" Type X gypsum wallboard[e] on interior surface. Sheathing placed horizontally or vertically with vertical joints over studs nailed 6" on center with 3 1/4" × No. 11 gage by 7/16" head galvanized nails. Inner layer of wallboard placed horizontally or vertically and nailed 8" on center with 6d cooler[n] or wallboard[n] nails. Outer layer of wallboard placed horizontally or vertically and nailed 8" on center with 8d cooler[n] or wallboard[n] nails. Joints staggered with vertical joints over studs. Outer layer joints taped and finished with compound. Nail heads covered with joint compound. 0.035 inch (No. 20 galvanized sheet gage) corrugated galvanized steel wall ties 3/4" by 6 5/8" attached to each stud with two 8d cooler[n] or wallboard[n] nails every sixth course of bricks.	—	—	10	—
	15-1.6[l, m]	2" × 6" fire-retardant-treated wood studs 16" on center. Interior face has two layers of 5/8" Type X gypsum with the base layer placed vertically and attached with 6d box nails 12"on center. The face layer is placed horizontally and attached with 8d box nails 8" on center at joints and 12" on center elsewhere. The exterior face has a base layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by self-furred exterior lath attached with 2 1/2", No. 12 gage galvanized roofing nails with a 3/8" diameter head and spaced 6" on center along each stud. Cement plaster consisting of a 1/2" brown coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat.	—	—	8 1/4	—
	15-1.7[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1" by No. 18 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat, a bonding agent and a 1/2" brown coat and a finish coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of 0.035 inch (No. 20 B.W. gage) woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No. 12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shall not exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.8[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1 1/2" by No. 17 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat and a 1/2" brown coat is then applied. The plaster ~~may~~ shall be permitted to be placed by machine. The scratch coat is mixed in the proportion of 1:4 by weight, plastic cement to sand. The brown coat is mixed in the proportion of 1:5 by weight, plastic cement to sand. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of No. 20-gage woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No.12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shallnot exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.9	4" No. 18 gage, nonload-bearing metal studs, 16" on center, with 1" Portland cement lime plaster (measured from the back side of the 3/4-pound expanded metal lath) on the exterior surface. Interior surface to be covered with 1" of gypsum plaster on 3/4-pound expanded metal lath proportioned by weight–1:2 for scratch coat, 1:3 for brown, gypsum to sand. Lath on one side of the partition fastened to 1/4" diameter pencil rods supported by No. 20 gage metal clips, located 16" on center vertically, on each stud. 3" thick mineral fiber insulating batts friction fitted between the studs.	—	—	6 1/2[d]	—
	15-1.10	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have two layers of 1/2" Type X gypsum wallboard.[e] The first layer of wallboard to be attached with 1"-long Type S buglehead screws spaced 24" on center and the second layer is attached with 1 5/8"-long Type S screws spaced at 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	6 1/2	—
	15-1.11	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, respectively, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have one layer of 5/8" Type X gypsum wallboard[e], attached with 1 1/4"-long Type S buglehead screws spaced 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	—	6 1/8
	15-1.12[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4´ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	—	6 3/4
	15-1.13[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4´ wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. R-19 mineral fiber insulation installed in stud cavity.	—	—	—	6 3/4
	15-1.14[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4´ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 7" on center.	—	—	—	6 3/4
	15-1.15[u]	2" × 4" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard and sheathing, respectively, 4´ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 3 1/2" mineral wool insulation.	—	—	—	4 3/4
	15-1.16[u]	2" × 6" wood studs at 24" centers with double top plates, single bottom plate; interior and exterior side covered with two layers of 5/8" Type X gypsum wallboard, 4´ wide, applied horizontally with vertical joints over studs. Base layer fastened with 2 1/4" Type S drywall screws, spaced 24" on center and face layer fastened with Type S drywall screws, spaced 8" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	8	—
	15-2.1[v]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 1 3/4". Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1" long No. 6 drywall screws at 12" on center.	—	—	—	6

Mod_10853_Text_FS97-21 Part I.pdf Page: 3

F10853Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
	15-2.2[Q]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 2". Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	6 7/8	—
	15-2.3[Q]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1"-long No. 6 drywall screws at 12" on center.	—	—	—	7 7/8
	15-2.4[Q]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	8 1/2	—
16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5.	16-1.1[Q]	2" × 4" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally unblocked, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Exterior covered with 3/8" wood structural panels, applied vertically, horizontal joints blocked and fastened with 6d common nails (bright)–12" on center in the field, and 6" on center panel edges. Cavity to be filled with 3 1/2" mineral wool insulation. Rating established for exposure from interior side only.	—	—	—	4 1/2
	16-1.2[Q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound, exterior side covered with 7/16" wood structural panels fastened with 6d common nails (bright) spaced 12" on center in the field and 6" on center along the panel edges. Cavity to be filled with 5 1/2" mineral wool insulation. Rating established from the gypsum-covered side only.	—	—	—	6 9/16
	16-1.3[Q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plates; interior side covered with 5/8" Type X gypsum wallboard, 4'wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws spaced 7" on center. Joints to be covered with tape and joint compound. Exterior covered with 3/8" wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 mineral fiber insulation installed in stud cavity. Rating established from the gypsum-covered side only.	—	—	—	6 1/2

For SI: 1 inch = 25.4 mm, 1 square inch = 645.2 mm^2, 1 cubic foot = 0.0283 m^3.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Thickness shown for brick and clay tile is nominal thicknesses unless plastered, in which case thicknesses are net. Thickness shown for concrete masonry and clay masonry is equivalent thickness defined in Section 722.3.1 for concrete masonry and Section 722.4.1.1 for clay masonry. Where all cells are solid grouted or filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, the equivalent thickness shall be the thickness of the block or brick using specified dimensions as defined in Chapter 21. Equivalent thickness shall include the thickness of applied plaster and lath or gypsum wallboard, where specified.

c. For units in which the net cross-sectional area of cored brick in any plane parallel to the surface containing the cores is not less than 75 percent of the gross cross-sectional area measured in the same plane.

d. Shall be used for nonbearing purposes only.

e. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinforced and the entire surface is covered with not less than 1/16-inch gypsum veneer plaster.

f. The fire-resistance time period for concrete masonry units meeting the equivalent thicknesses required for a 2-hour fire-resistance rating in Item 3, and having a thickness of not less than 7 5/8 inches is 4 hours where cores that are not grouted are filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, sand or slag having a maximum particle size of 3/8 inch.

g. The fire-resistance rating of concrete masonry units composed of a combination of aggregate types or where plaster is applied directly to the concrete masonry shall be determined in accordance with ACI 216.1/TMS 0216. Lightweight aggregates shall have a maximum combined density of 65 pounds per cubic foot.

F10853Text Modification

h. See Note b. The equivalent thickness shall be permitted to include the thickness of cement plaster or 1.5 times the thickness of gypsum plaster applied in accordance with the requirements of Chapter 25.

i. Concrete walls shall be reinforced with horizontal and vertical temperature reinforcement as required by Chapter 19.

j. Studs are welded truss wire studs with 0.18 inch (No. 7 B.W. gage) flange wire and 0.18 inch (No. 7 B.W. gage) truss wires.

k. Nailable metal studs consist of two channel studs spot welded back to back with a crimped web forming a nailing groove.

l. Wood structural panels shall be permitted to be installed between the fire protection and the wood studs on either the interior or exterior side of the wood frame assemblies in this table, provided that the length of the fasteners used to attach the fire protection is increased by an amount not less than the thickness of the wood structural panel.

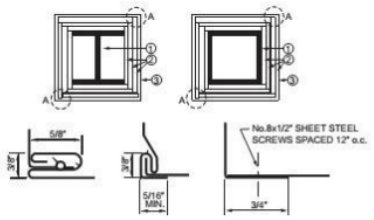
m. For studs with a slenderness ratio, l_e/d, greater than 33, the design stress shall be reduced to 78 percent of allowable F'_c. For studs with a slenderness ratio, l_e/d, not exceeding 33, the design stress shall be reduced to 78 percent of the adjusted stress F'_c calculated for studs having a slenderness ratio l_e/d of 33.

n. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

o. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

p. NCMA TEK 5-8A shall be permitted for the design of fire walls.

q. The design stress of studs shall be equal to not more than 100 percent of the allowable F'_c calculated in accordance with Section 2306.



CORNER JOINT DETAILS (A)

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm.

1. Structural steel column, either wide flange or tubular shapes.

Page: 5

Mod_10853_Text_FS97-21 Part I.pdf

F10853Text Modification

2. Type X gypsum board or gypsum panel products in accordance with ASTM C1177, C1178, C1278, C1396 or C1658. The total thickness of gypsum board or gypsum panel products calculated as *h* in Section 722.5.1.2 shall be applied vertically to an individual column using one of the following methods:
   1. As a single layer without horizontal joints.
   2. As multiple layers with horizontal joints not permitted in any layer.
   3. As multiple layers with horizontal joints staggered not less than 12 inches vertically between layers and not less than 8 feet vertically in any single layer. The total required thickness of gypsum board or gypsum panel products shall be determined on the basis of the specified fire-resistance rating and the weight-to-heated-perimeter ratio (W/D) of the column. For fire-resistance ratings of 2 hours or less, one of the required layers of gypsum board or gypsum panel product ~~may~~ shall be permitted to be applied to the exterior of the sheet steel column covers with 1-inch long Type S screws spaced 1 inch from the wallboard edge and 8 inches on center. For such installations, 0.0149-inch minimum thickness galvanized steel corner beads with $1^1/_2$-inch legs shall be attached to the wallboard with Type S screws spaced 12 inches on center.

3. For fire-resistance ratings of 3 hours or less, the column covers shall be fabricated from 0.0239-inch minimum thickness galvanized or stainless steel. For 4-hour fire-resistance ratings, the column covers shall be fabricated from 0.0239-inch minimum thickness stainless steel. The column covers shall be erected with the Snap Lock or Pittsburgh joint details. For fire-resistance ratings of 2 hours or less, column covers fabricated from 0.0269-inch minimum thickness galvanized or stainless steel shall be permitted to be erected with lap joints. The lap joints shall be permitted to be located anywhere around the perimeter of the column cover. The lap joints shall be secured with $^1/_2$-inch-long No. 8 sheet metal screws spaced 12 inches on center. The column covers shall be provided with a minimum expansion clearance of $^1/_8$ inch per linear foot between the ends of the cover and any restraining construction.

FIGURE 722.5.1(2) GYPSUM-PROTECTED STRUCTURAL STEEL COLUMNS WITH SHEET STEEL COLUMN COVERS

Reason: The term 'may' is subjective. The proposal is to bring the text into enforceable language by using the ICC preferred language.as often as possible. Similar proposals will be submitted for the Group B cycle for IRC, IECC and IEBC.
This is a joint proposal submitted by the ICC Building Code Action Committee (BCAC) and the ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at:
FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These changes are only changing verbiage.

Public Hearing Results

Page: 6

Mod_10853_Text_FS97-21 Part I.pdf

F10853Text Modification

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal provides consistency for the text throughout the code and replaces the current text of "may" with enforceable language. (Vote: 13-0)

Final Hearing Results

FS97-21 Part I AS

Page: 7

Mod_10853_Text_FS97-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

112

F10854		/FS97-21 Part II			
Date Submitted	03/07/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

The proposed code change is specific to the IFC and does not apply to the IBC.

Summary of Modification

Modifies text of Table 721.1(2). Figure 722.5.1(2).

Rationale

See attached

F10854Text Modification

See attached

Page: 1

Mod10854_TextOfModification.pdf

F10854Text Modification

FS97-21 Part II

Original Proposal

IFC: 5704.2.9.7.5.1, TABLE 6109.12

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Fire Code

Revise as follows:

5704.2.9.7.5.1 Information signs. A permanent sign shall be provided at the fill point for the tank, documenting the filling procedure and the tank calibration chart.

Exception: Where climatic conditions are such that the sign ~~may be~~ has the potential to be obscured by ice or snow, or weathered beyond readability or otherwise impaired, said procedures and chart shall be located in the office window, lock box or other area available to the person filling the tank.

TABLE 6109.12 SEPARATION FROM EXPOSURES OF LP-GAS CONTAINERS AWAITING USE, RESALE OR EXCHANGE STORED OUTSIDE OF BUILDINGS

QUANTITY OF LP-GAS STORED (pounds)	MINIMUM SEPARATION DISTANCE FROM STORED LP-GAS CYLINDERS TO (feet):						
	Nearest important building or group of buildings or line of adjoining property that may be has the potential to be built on	Line of adjoining property occupied by schools, places of religious worship, hospitals, athletic fields or other points of public gathering; busy thoroughfares; or sidewalks	LP-gas dispensing station	Doorway or opening to a building with two or more means of egress	Doorway or opening to a building with one means of egress	Combustible materials	Motor vehicle fuel dispenser
720 or less	0	0	5	5	10	10	20
721–2,500	0	10	10	5	10	10	20
2,501–6,000	10	10	10	10	10	10	20
6,001–10,000	20	20	20	20	20	10	20
Over 10,000	25	25	25	25	25	10	20

For SI: 1 foot = 304.8 mm, 1 pound = 0.454 kg.

Reason: The term 'may' is subjective. The proposal is to bring the text into enforceable language by using the ICC preferred language.as often as possible. Similar proposals will be submitted for the Group B cycle for IRC, IECC and IEBC.
This is a joint proposal submitted by the ICC Building Code Action Committee (BCAC) and the ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at:
FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These changes are only changing verbiage.

Page: 1

Mod_10854_Text_FS97-21 Part II.pdf

F10854Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the approval of Parts I and III and the fact that the proposal appropriately changes non-mandatory language to enforceable language. (Vote:14-0)

Final Hearing Results

FS97-21 Part II AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

113

F10857 | **/FS98-21**

Date Submitted	03/07/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Table 721.1(2). The American Wood Council (AWC) has tested a number of wood-frame fire-resistance-rated assemblies. This proposal is adding another tested assembly which is popular among designers and is being provided for the convenience of the building official.

Rationale

See attached

F10857Text Modification

See attached

Page: 1

Mod10857_TextOfModification.pdf

F10857Text Modification

FS98-21

Original Proposal

IBC: TABLE 721.1(2)

Proponents: David Tyree, American Wood Council, AWC (dtyree@awc.org); Jason Smart, American Wood Council, AWC (jsmart@awc.org)

2021 International Building Code

Revise as follows:

TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS[a, o, p]

Portions of table not shown remain unchanged.

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE[b] (inches)			
			4 hours	3 hours	2 hours	1 hour
16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5.	16-1.4[q]	2" × 6" wood studs at 24" centers with double top plates, single bottom plates; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws spaced 7" on center. Joints covered with tape and joint compound. Exterior covered with 15/32" wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 fiberglass insulation installed in stud cavity. Rating established from the gypsum-covered side only.	=	=	=	6 19/32

For SI: 1 inch = 25.4 mm, 1 square inch = 645.2 mm^2, 1 cubic foot = 0.0283 m^3.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Thickness shown for brick and clay tile is nominal thicknesses unless plastered, in which case thicknesses are net. Thickness shown for concrete masonry and clay masonry is equivalent thickness defined in Section 722.3.1 for concrete masonry and Section 722.4.1.1 for clay masonry. Where all cells are solid grouted or filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, the equivalent thickness shall be the thickness of the block or brick using specified dimensions as defined in Chapter 21. Equivalent thickness shall include the thickness of applied plaster and lath or gypsum wallboard, where specified.

c. For units in which the net cross-sectional area of cored brick in any plane parallel to the surface containing the cores is not less than 75 percent of the gross cross-sectional area measured in the same plane.

d. Shall be used for nonbearing purposes only.

e. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinforced and the entire surface is covered with not less than 1/16-inch gypsum veneer plaster.

f. The fire-resistance time period for concrete masonry units meeting the equivalent thicknesses required for a 2-hour fire-resistance rating in Item 3, and having a thickness of not less than 7 5/8 inches is 4 hours where cores that are not grouted are filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, sand or slag having a maximum particle size of 3/8 inch.

g. The fire-resistance rating of concrete masonry units composed of a combination of aggregate types or where plaster is applied directly to the concrete masonry shall be determined in accordance with ACI 216.1/TMS 0216. Lightweight aggregates shall have a maximum combined density of 65 pounds per cubic foot.

Page: 1

Mod_10857_Text_FS98-21.pdf

F10857Text Modification

h. See Note b. The equivalent thickness shall be permitted to include the thickness of cement plaster or 1.5 times the thickness of gypsum plaster applied in accordance with the requirements of Chapter 25.

i. Concrete walls shall be reinforced with horizontal and vertical temperature reinforcement as required by Chapter 19.

j. Studs are welded truss wire studs with 0.18 inch (No. 7 B.W. gage) flange wire and 0.18 inch (No. 7 B.W. gage) truss wires.

k. Nailable metal studs consist of two channel studs spot welded back to back with a crimped web forming a nailing groove.

l. Wood structural panels shall be permitted to be installed between the fire protection and the wood studs on either the interior or exterior side of the wood frame assemblies in this table, provided that the length of the fasteners used to attach the fire protection is increased by an amount not less than the thickness of the wood structural panel.

m. For studs with a slenderness ratio, l_e/d, greater than 33, the design stress shall be reduced to 78 percent of allowable F'_c. For studs with a slenderness ratio, l_e/d, not exceeding 33, the design stress shall be reduced to 78 percent of the adjusted stress F'_c calculated for studs having a slenderness ratio l_e/d of 33.

n. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

o. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

p. NCMA TEK 5-8A shall be permitted for the design of fire walls.

q. The design stress of studs shall be equal to not more than 100 percent of the allowable F'_c calculated in accordance with Section 2306.

Reason: Fire-resistance-rated wood-frame assemblies can be found in a number of sources including the *IBC*, Underwriters Laboratories (UL) *Fire Resistance Directory*, Intertek Testing Services' *Directory of Listed Products*, and the Gypsum Association's *Fire Resistance Design Manual*. The American Wood Council (AWC) has tested a number of wood-frame fire-resistance-rated assemblies. This proposal is adding another tested assembly which is popular among designers and is being provided for the convenience of the building official. It is the same as Assembly WS6-1.6 in the American Wood Council's publication titled *Design for Code Acceptance (DCA) 3 - Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, which may be downloaded from the AWC website. Similar descriptions of successfully tested wood stud wall assemblies are provided in Table 721.1(2) for one-hour and two-hour fire-resistance-rated wall assemblies.

Bibliography: Design for Code Acceptance (DCA) 3 - *Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, American Wood Council, 2020,
https://awc.org/pdf/codes-standards/publications/dca/AWC_DCA3_20200401_AWCWebsite.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal simply adds another tested assembly for one-hour wall construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal gives another option for the rated fire-resistance periods for various walls and partitions and addresses the code's energy requirements. (Vote: 12-0)

Page: 2

Mod_10857_Text_FS98-21.pdf

F10857Text Modification

Final Hearing Results

FS98-21 AS

Page: 3

Mod_10857_Text_FS98-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

114

F10858 | **/FS99-21**

Date Submitted	03/07/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of footnote Q. of Table 721.1(2).

Rationale

See attached

F10858Text Modification

See attached

Mod10858_TextOfModification.pdf

Page: 1

F10858Text Modification

FS99-21

Original Proposal

IBC: TABLE 721.1(2)

Proponents: John-Jozef Proczka, City of Phoenix, self (john-jozef.proczka@phoenix.gov)

2021 International Building Code

Revise as follows:

TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS[a, o, p]

Portions of table not shown remain unchanged.

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE[b] (inches)			
			4 hours	3 hours	2 hours	1 hour
15. Exterior or interior walls	15-1.1[l, m]	Exterior surface with 3/4" drop siding over 1/2" gypsum sheathing on 2" × 4" wood studs at 16" on center, interior surface treatment as required for 1-hour-rated exterior or interior 2" × 4" wood stud partitions. Gypsum sheathing nailed with 1 3/4" by No.11 gage by 7/16" head galvanized nails at 8" on center. Siding nailed with 7d galvanized smooth box nails.	—	—	—	Varies
	15-1.2[l, m]	2" × 4" wood studs 16" on center with metal lath and 3/4" cement plaster on each side. Lath attached with 6d common nails 7" on center driven to 1" minimum penetration and bent over. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	5 3/8
	15-1.3[l, m]	2" × 4" wood studs 16" on center with 7/8" cement plaster (measured from the face of studs) on the exterior surface with interior surface treatment as required for interior wood stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies
	15-1.4	3 5/8" No. 16 gage noncombustible studs 16" on center with 7/8" cement plaster (measured from the face of the studs) on the exterior surface with interior surface treatment as required for interior, nonbearing, noncombustible stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies[q]
	15-1.5[m]	2 1/4" × 3 3/4" clay face brick with cored holes over 1/2" gypsum sheathing on exterior surface of 2" × 4" wood studs at 16" on center and two layers 5/8" Type X gypsum wallboard[e] on interior surface. Sheathing placed horizontally or vertically with vertical joints over studs nailed 6" on center with 3 1/4" × No. 11 gage by 7/16" head galvanized nails. Inner layer of wallboard placed horizontally or vertically and nailed 8" on center with 6d cooler[n] or wallboard[n] nails. Outer layer of wallboard placed horizontally or vertically and nailed 8" on center with 8d cooler[n] or wallboard[n] nails. Joints staggered with vertical joints over studs. Outer layer joints taped and finished with compound. Nail heads covered with joint compound. 0.035 inch (No. 20 galvanized sheet gage) corrugated galvanized steel wall ties 3/4" by 6 5/8" attached to each stud with two 8d cooler[n] or wallboard[n] nails every sixth course of bricks.	—	—	10	—
	15-1.6[l, m]	2" × 6" fire-retardant-treated wood studs 16" on center. Interior face has two layers of 5/8" Type X gypsum with the base layer placed vertically and attached with 6d box nails 12"on center. The face layer is placed horizontally and attached with 8d box nails 8" on center at joints and 12" on center elsewhere. The exterior face has a base layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by self-furred exterior lath attached with 2 1/2", No. 12 gage galvanized roofing nails with a 3/8" diameter head and spaced 6" on center along each stud. Cement plaster consisting of a 1/2" brown coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat.	—	—	8 1/4	—
	15-1.7[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1" by No. 18 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat, a bonding agent and a 1/2" brown coat and a finish coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of 0.035 inch (No. 20 B.W. gage) woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No. 12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shall not exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.8[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1 1/2" by No. 17 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat and a 1/2" brown coat is then applied. The plaster may be placed by machine. The scratch coat is mixed in the proportion of 1:4 by weight, plastic cement to sand. The brown coat is mixed in the proportion of 1:5 by weight, plastic cement to sand. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of No. 20-gage woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No.12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shallnot exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.9	4" No. 18 gage, nonload-bearing metal studs, 16" on center, with 1" Portland cement lime plaster (measured from the back side of the 3/4-pound expanded metal lath) on the exterior surface. Interior surface to be covered with 1" of gypsum plaster on 3/4-pound expanded metal lath proportioned by weight--1:2 for scratch coat, 1:3 for brown, gypsum to sand. Lath on one side of the partition fastened to 1/4" diameter pencil rods supported by No. 20 gage metal clips, located 16" on center vertically, on each stud. 3" thick mineral fiber insulating batts friction fitted between the studs.	—	—	6 1/2	—
	15-1.10	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have two layers of 1/2" Type X gypsum wallboard.[e] The first layer of wallboard to be attached with 1"-long Type S buglehead screws spaced 24" on center and the second layer is attached with 1 5/8"-long Type S screws spaced at 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	6 1/2	—

Page: 1

Mod_10858_Text_FS99-21.pdf

F10858Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
	15-1.11	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, respectively, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have one layer of 5/8" Type X gypsum wallboard[e], attached with 1 1/4"-long Type S buglehead screws spaced 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	—	6 1/8
	15-1.12[q]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	—	6 3/4
	15-1.13[q]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4' wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. R-19 mineral fiber insulation installed in stud cavity.	—	—	—	6 3/4
	15-1.14[q]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 7" on center.	—	—	—	6 3/4
	15-1.15[q]	2" × 4" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard and sheathing, respectively, 4' wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 3 1/2" mineral wool insulation.	—	—	—	4 3/4
	15-1.16[q]	2" × 6" wood studs at 24" centers with double top plates, single bottom plate; interior and exterior side covered with two layers o5f/8" Type X gypsum wallboard, 4' wide, applied horizontally with vertical joints over studs. Base layer fastened with 2 1/4" Type S drywall screws, spaced 24" on center and face layer fastened with Type S drywall screws, spaced 8" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	8	—
	15-2.1[d]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 1 3/4". Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1" long No. 6 drywall screws at 12" on center.	—	—	—	6
	15-2.2[d]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 2". Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	6 7/8	—
	15-2.3[d]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1"-long No. 6 drywall screws at 12" on center.	—	—	—	7 7/8
	15-2.4[d]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	8 1/2	—
16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5.	16-1.1[q]	2" × 4" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally unblocked, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Exterior covered with 3/8" wood structural panels, applied vertically, horizontal joints blocked and fastened with 6d common nails (bright)–12" on center in the field, and 6" on center panel edges. Cavity to be filled with 3 1/2" mineral wool insulation. Rating established for exposure from interior side only.	—	—	—	4 1/2
	16-1.2[q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound, exterior side covered with 7/16" wood structural panels fastened with 6d common nails (bright) spaced 12" on center in the field and 6" on center along the panel edges. Cavity to be filled with 5 1/2" mineral wool insulation. Rating established from the gypsum-covered side only.	—	—	—	6 9/16
	16-1.3[q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plates; interior side covered with 5/8" Type X gypsum wallboard, 4'wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws spaced 7" on center. Joints to be covered with tape and joint compound. Exterior covered with 3/8" wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 mineral fiber insulation installed in stud cavity. Rating established from the gypsum-covered side only.	—	—	—	6 1/2

For SI: 1 inch = 25.4 mm, 1 square inch = 645.2 mm^2, 1 cubic foot = 0.0283 m^3.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Thickness shown for brick and clay tile is nominal thicknesses unless plastered, in which case thicknesses are net. Thickness shown for concrete masonry and clay masonry is equivalent thickness defined in Section 722.3.1 for concrete masonry and Section 722.4.1.1 for clay masonry. Where all cells are solid grouted or filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, the equivalent thickness shall be the thickness of the block or brick using specified dimensions as defined in Chapter 21. Equivalent thickness shall include the thickness of applied plaster and lath or gypsum wallboard, where specified.

Mod_10858_Text_FS99-21.pdf Page: 2

c. For units in which the net cross-sectional area of cored brick in any plane parallel to the surface containing the cores is not less than 75 percent of the gross cross-sectional area measured in the same plane.

d. Shall be used for nonbearing purposes only.

e. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinforced and the entire surface is covered with not less than $^{1}/_{16}$-inch gypsum veneer plaster.

f. The fire-resistance time period for concrete masonry units meeting the equivalent thicknesses required for a 2-hour fire-resistance rating in Item 3, and having a thickness of not less than $7^{5}/_{8}$ inches is 4 hours where cores that are not grouted are filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, sand or slag having a maximum particle size of $^{3}/_{8}$ inch.

g. The fire-resistance rating of concrete masonry units composed of a combination of aggregate types or where plaster is applied directly to the concrete masonry shall be determined in accordance with ACI 216.1/TMS 0216. Lightweight aggregates shall have a maximum combined density of 65 pounds per cubic foot.

h. See Note b. The equivalent thickness shall be permitted to include the thickness of cement plaster or 1.5 times the thickness of gypsum plaster applied in accordance with the requirements of Chapter 25.

i. Concrete walls shall be reinforced with horizontal and vertical temperature reinforcement as required by Chapter 19.

j. Studs are welded truss wire studs with 0.18 inch (No. 7 B.W. gage) flange wire and 0.18 inch (No. 7 B.W. gage) truss wires.

k. Nailable metal studs consist of two channel studs spot welded back to back with a crimped web forming a nailing groove.

l. Wood structural panels shall be permitted to be installed between the fire protection and the wood studs on either the interior or exterior side of the wood frame assemblies in this table, provided that the length of the fasteners used to attach the fire protection is increased by an amount not less than the thickness of the wood structural panel.

m. For studs with a slenderness ratio, l_e/d, greater than 33, the design stress shall be reduced to 78 percent of allowable F'_c. For studs with a slenderness ratio, l_e/d, not exceeding 33, the design stress shall be reduced to 78 percent of the adjusted stress F'_c calculated for studs having a slenderness ratio l_e/d of 33.

n. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

o. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

p. NCMA TEK 5-8A shall be permitted for the design of fire walls.

q. The design stress of studs shall be equal to not more than<u>that obtained with a load duration factor of 1.0</u>~~100 percent of the allowable F'_c~~ calculated in accordance with Section 2306.

Reason: The change in footnote q is only desired in order to clarify the existing provision. This is the only change presented here. The current wording is intended to not allow a load duration factor associated with shorter term loading being used, based on the type of loading applied during testing. The current wording of footnote q does not make it readily apparent that this is the intent, and is not coordinated with the terminology used for structural wood design.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simply clarification of what is existing

F10858Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS

q. ~~The design stress of studs shall be equal to not more than that obtained with a load duration factor of 1.0 calculated in accordance with Section 2306.~~ The studs in this assembly can be designed without fire-related capacity reductions.

Committee Reason: The committee determined the modification clarifies what was initially proposed and helps explain footnote q. The proposal does not change the technical content of the note. It clarifies the requirements. (Vote: 12-0)

Final Hearing Results

FS99-21 AM

Page: 4

Mod_10858_Text_FS99-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

115

F10859	/FS100-21				
Date Submitted	03/07/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

Table 721.1(3). The American Wood Council (AWC) and its members have tested a number of wood-frame fire-resistance-rated assemblies. This proposal is adding another tested assembly.

Rationale

See attached

1st Comment Period History

F10859-G1

Proponent Cade Booth Submitted 6/21/2024 12:23:01 PM Attachments Yes

Comment:

The American Wood Council would like to bring to the attention of the FBC a typo/errata of the ICC mod FS100-21 referenced. The proper position of “varies” and inclusion of “1” in the table is as shown on the attached document.

F10859Text Modification

See attached

Page: 1

Mod10859_TextOfModification.pdf

F10859Text Modification

FS100-21

Original Proposal

IBC: TABLE 721.1(3)

Proponents: David Tyree, AWC (dtyree@awc.org); Jason Smart, American Wood Council, AWC (jsmart@awc.org)

2021 International Building Code

Revise as follows:

TABLE 721.1(3) MINIMUM PROTECTION FOR FLOOR AND ROOF SYSTEMS[a, q]

Portions of table not shown remain unchanged.

31. Wood I-joist (minimum I-joist depth 9 1/4" with a minimum flange thickness of 1 1/2" and a minimum flange cross-sectional area of 2.25 square inches; minimum web thickness of 3/8") @ 24" o.c.	31-1.1	Two layers of 1/2" Type C gypsum wallboard applied with the long dimension perpendicular to the I-joists with end joints staggered. The base layer is fastened with 1" Type S drywall screws spaced 12" o.c. and the face layer is fastened with 1 5/8" Type S drywall screws spaced 12" o.c. in the field and 8" o.c. on the edges. Face layer edge joints shall not occur on the same I-joist as base layer end joints and edge joints shall be offset 24" from base layer joints. End joints centered on bottom flange of I-joists and offset a minimum of 48 inches from those of base layer. Face layer to also be attached to base layer with 1 1/2" Type G drywall screws spaced 8" o.c. with a 4" stagger, placed 6" from face layer end joints. Face layer wallboard joints taped and covered with joint compound. Screw heads covered with joint compound.	Varies	-	-

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m^3,

1 pound per square inch = 6.895 kPa, 1 pound per linear foot = 1.4882 kg/m.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Where the slab is in an unrestrained condition, minimum reinforcement cover shall be not less than 1 5/8 inches for 4 hours (siliceous aggregate only); 1 1/4 inches for 4 and 3 hours; 1 inch for 2 hours (siliceous aggregate only); and 3/4 inch for all other restrained and unrestrained conditions.

c. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinfoa.

   Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.rced and the entire surface is covered with not less than 1/16-inch gypsum veneer plaster.

d. Slab thickness over steel joists measured at the joists for metal lath form and at the top of the form for steel form units.

e. (a) The maximum allowable stress level for H-Series joists shall not exceed 22,000 psi.

   (b) The allowable stress for K-Series joists shall not exceed 26,000 psi, the nominal depth of such joist shall be not less than 10 inches and the nominal joist weight shall be not less than 5 pounds per linear foot.

f. Cement plaster with 15 pounds of hydrated lime and 3 pounds of approved additives or admixtures per bag of cement.

g. Gypsum wallboard ceilings attached to steel framing shall be permitted to be suspended with 1 1/2-inch cold-formed carrying channels spaced 48 inches on center, that are suspended with No. 8 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with No. 18 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with No. 18 SWG galvanized wire (double strand) and spaced as required for direct attachment to the framing. This alternative is applicable to those steel framing assemblies recognized under Note q.

h. Six-inch hollow clay tile with 2-inch concrete slab above.

i. Four-inch hollow clay tile with 1 1/2-inch concrete slab above.

Page: 1

Mod_10859_Text_FS100-21.pdf

F10859Text Modification

j. Thickness measured to bottom of steel form units.

k. Five-eighths inch of vermiculite gypsum plaster plus $^{1}/_{2}$ inch of approved vermiculite acoustical plastic.

l. Furring channels spaced 12 inches on center.

m. Double wood floor shall be permitted to be either of the following:

(a) Subfloor of 1-inch nominal boarding, a layer of asbestos paper weighing not less than 14 pounds per 100 square feet and a layer of 1-inch nominal tongue-and-groove finished flooring.

(b) Subfloor of 1-inch nominal tongue-and-groove boarding or $^{15}/_{32}$-inch wood structural panels with exterior glue and a layer of 1-inch nominal tongue-and-groove finished flooring or $^{19}/_{32}$-inch wood structural panel finish flooring or a layer of Type I Grade M-1 particleboard not less than $^{5}/_{8}$-inch thick.

n. The ceiling shall be permitted to be omitted over unusable space, and flooring shall be permitted to be omitted where unusable space occurs above.

o. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

p. Thickness measured on top of steel deck unit.

q. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

Reason: Fire-resistance-rated wood-frame assemblies can be found in a number of sources including the*IBC*, Underwriters Laboratories (UL) *Fire Resistance Directory*, Intertek Testing Services' *Directory of Listed Products*, and the Gypsum Association's *Fire Resistance Design Manual*. The American Wood Council (AWC) and its members have tested a number of wood-frame fire-resistance-rated assemblies. This proposal is adding another tested assembly which is popular among designers and is being provided for the convenience of the building official. It is the same as Assembly WIJ-1.5 in the American Wood Council's publication titled DCA3 - *Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, which may be downloaded from the AWC website. Similar descriptions of successfully tested I-joist floor assemblies are provided in Table 721.1(3) for one-hour and two-hour fire-resistance-rated floor/ceiling assemblies. I-joists are required to comply with ASTM D5055, *Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists*.

Bibliography: DCA3 - *Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, American Wood Council, 2020, https://awc.org/pdf/codes-standards/publications/dca/AWC_DCA3_20200401_AWCWebsite.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal provides the IBC with another tested floor assembly for use by designers and building department personnel.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal provides the designer another option for minimum protection for floor and roof systems. (Vote: 11-0)

Final Hearing Results

FS100-21 AS

Page: 2

Mod_10859_Text_FS100-21.pdf

F10859-G1General Comment

FS83-24

IBC: TABLE 721.1(3), AWC Chapter 35 (New)

Proponents: Edward Lisinski, American Wood Council (elisinski@awc.org)

2024 International Building Code

TABLE 721.1(3) MINIMUM PROTECTION FOR FLOOR AND ROOF SYSTEMS [a] [c]

Portions of table not shown remain unchanged.

FLOOR OR ROOF CONSTRUCTION	ITEM NUMBER	CEILING CONSTRUCTION	THICKNESS OF FLOOR OR ROOF SLAB (inches)				MINIMUM THICKNESS OF CEILING (inches)			
			4 hours	3 hours	2 hours	1 hour	4 hours	3 hours	2 hours	1 hour
31. Wood I-joist (minimum I-joist depth 9 1/2" with a minimum flange thickness of 1 1/2" and a minimum flange cross-sectional area of 2.25 square inches; minimum web thickness of 3/8") @ 24" o.c.	31-1.1	Two layers of 1/2" Type C gypsum wallboard applied with the long dimension perpendicular to the I-joists with end joints staggered. The base layer is fastened with 1" Type S drywall screws spaced 12" o.c. and the face layer is fastened with 1 5/8" Type S drywall screws spaced 12" o.c. in the field and 8" o.c. on the edges. Face layer edge joints shall not occur on the same I-joist as base layer end joints and edge joints shall be offset 24" from base layer joints. End joints centered on bottom flange of I-joists and offset a minimum of 48" from those of base layer. Face layer to also be attached to base layer with 1 1/2" Type G drywall screws spaced 8" o.c. with a 4" stagger, placed 8" from face layer end joints. Face layer wallboard joints taped and covered with joint compound. Screw heads covered with joint compound.	—	—	Varies	— Varies	—	—	—	— [d]

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m³.

Page: 1

Mod_10859_G1_General_FS83-24 correction of FS100-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

116

F10860 /FS102-21

Date Submitted	03/07/2024	**Section**	722.2.1.4	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The first part of this proposal is to modify the titles of Tables 722.2.1.4 (1) and 722.2.1.4 (2) and add clarifying language that these tables only apply to cast-in-place and precast concrete walls. Second part of this proposal is to add a note to Table 722.2.1.4 (2)

Rationale

See attached

F10860Text Modification

See attached

Page: 1

Mod10860_TextOfModification.pdf

F10860Text Modification

FS102-21

Original Proposal

IBC: TABLE 722.2.1.4(1), TABLE 722.2.1.4(2)

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Revise as follows:

TABLE 722.2.1.4(1) MULTIPLYING FACTOR FOR FINISHES ON NONFIRE-EXPOSED SIDE OF CAST-IN-PLACE OR PRECAST CONCRETE WALL

TYPE OF FINISH APPLIED TO CONCRETE OR CONCRETE MASONRY WALL	TYPE OF AGGREGATE USED IN CONCRETE OR CONCRETE MASONRY			
	Concrete: siliceous or carbonate concrete masonry: siliceous or carbonate; solid claybrick	Concrete: sand-lightweight concrete masonry: clay tile; hollow clay brick; concrete masonry units of expanded shale and < 20% sand	Concrete: lightweight concrete masonry: concrete masonry units of expanded shale, expanded clay, expanded slag, or pumice < 20% sand	Concrete masonry: concrete masonry units of expanded slag, expanded clay, or pumice
Portland cement-sand plaster	1.00	0.75[a]	0.75[a]	0.50[a]
Gypsum-sand plaster	1.25	1.00	1.00	1.00
Gypsum-vermiculite or perlite plaster	1.75	1.50	1.25	1.25
Gypsum wallboard	3.00	2.25	2.25	2.25

For SI: 1 inch = 25.4 mm.

a. For Portland cement-sand plaster $^5/_8$ inch or less in thickness and applied directly to the concrete or concrete masonry on the nonfire-exposed side of the wall, the multiplying factor shall be 1.00.

TABLE 722.2.1.4(2) TIME ASSIGNED TO FINISH MATERIALS ON FIRE-EXPOSED SIDE OF CAST-IN-PLACE OR PRECAST CONCRETE WALL

FINISH DESCRIPTION	TIME[a] (minutes)
Gypsum wallboard	
$^3/_8$ inch	10
$^1/_2$ inch	15
$^5/_8$ inch	20
2 layers of $^3/_8$ inch	25
1 layer of $^3/_8$ inch, 1 layer of $^1/_2$ inch	35
2 layers of $^1/_2$ inch	40
Type X gypsum wallboard	
$^1/_2$ inch	25
$^5/_8$ inch	40
Portland cement-sand plaster applied directly to concrete masonry	See Note a
Portland cement-sand plaster on metal lath	
$^3/_4$ inch	20
$^7/_8$ inch	25
1 inch	30
Gypsum sand plaster on $^3/_8$-inch gypsum lath	
$^1/_2$ inch	35
$^5/_8$ inch	40
$^3/_4$ inch	50
Gypsum sand plaster on metal lath	
$^3/_4$ inch	50
$^7/_8$ inch	60
1 inch	80

For SI: 1 inch = 25.4 mm.

a. The actual thickness of Portland cement-sand plaster, provided that it is $^5/_8$ inch or less in thickness, shall be permitted to be included in determining the equivalent thickness of the masonry for use in Table 722.3.2.

Page: 1

Mod_10860_Text_FS102-21.pdf

F10860Text Modification

b. The time assigned is not a finish rating.

Reason: Design professionals may cite Table 722.2.1.4(2) as justification for the added fire-resistance from one layer of 5/8 inch Type X gypsum wallboard to one side of a wood stud or steel stud wall assembly to increase the overall rating of the assembly by 40 minutes because this is the first table that references gypsum wallboard protection. However, the charging language in Section 722.2.1.4 states these time values are only applicable to cast-in-place or precast concrete walls. Section 722.6 provides more appropriate guidance.
The first part of this proposal is to modify the titles of Tables 722.2.1.4 (1) and 722.2.1.4 (2) and add clarifying language that these tables only apply to cast-in-place and precast concrete walls. This clarification in the title ensures that the reader understands that these time values can only be used for concrete type walls.

The second part of this proposal is to add a note to Table 722.2.1.4 (2) stating that the times found in the table are not associated with the finish ratings, as defined in the front of the UL Fire Resistance Directory. This note was taken directly from Table 722.6.2 (1). UL Designs have shown that the finish rating of 5/8 inch Type X gypsum wallboard is closer to 20-24 minutes rather than the 40 minutes assumed by the client. UL Design U332 states the finish rating of a single layer 5/8 inch Type X gypsum wallboard as 23 minutes.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There will be no cost impact associated with this proposal as these changes are clarification in nature.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee has several concerns with modifying table 722.2.1.4(1) title to include " Cast-in-place or precast concrete". CMU is included in the table but is not included in the proposed table title. The change does not correspond with the material shown in table 722.2.1.4(1). The proposal also creates a disconnect with the text in table 722.2.1.4(1). (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: Daniel Martin, Jensen Hughes, Jensen Hughes (dmartin@jensenhughes.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

TABLE 722.2.1.4(2) TIME ASSIGNED TO FINISH MATERIALS ON FIRE-EXPOSED SIDE OF WALL[a]

FINISH DESCRIPTION	TIME[b] (minutes)
Gypsum wallboard	
3/8 inch	10
1/2 inch	15
5/8 inch	20
2 layers of 3/8 inch	25
1 layer of 3/8 inch, 1 layer of 1/2 inch	35
2 layers of 1/2 inch	40
Type X gypsum wallboard	
1/2 inch	25
5/8 inch	40
Portland cement-sand plaster applied directly to concrete masonry	See Note ~~a~~c
Portland cement-sand plaster on metal lath	
3/4 inch	20
7/8 inch	25
1 inch	30
Gypsum sand plaster on 3/8-inch gypsum lath	

Page: 2

Mod_10860_Text_FS102-21.pdf

F10860Text Modification

FINISH DESCRIPTION	TIME (minutes)
1/2 inch	35
5/8 inch	40
3/4 inch	50
Gypsum sand plaster on metal lath	
3/4 inch	50
7/8 inch	60
1 inch	80

For SI: 1 inch = 25.4 mm.

a. This table applies to precast concrete, cast-in-place concrete, or masonry walls.

b. The time assigned is not a finish rating.

~~a~~c. The actual thickness of Portland cement-sand plaster, provided that it is 5/8 inch or less in thickness, shall be permitted to be included in determining the equivalent thickness of the masonry for use in Table 722.3.2.

Commenter's Reason: The intent of the original proposal attempted to accomplish two things: specify that Tables 722.2.1.4(1) and 722.2.1.4(2) were to only be used for concrete and masonry walls and add a note that the time values in Table 722.2.1.4(2) were not actual finish rating times. This was an attempt to limit confusion with wood stud framed walls membrane protection times which are found Table 722.6.2(1). The committee and opposition speakers did not oppose the addition of the finish rating note to the end of the table. Opposition speakers were in favor of adding in the finish rating note to match Table 722.6.2(1). The committee and opposition stated that the proposed title changes did not successfully capture all applicable concrete and masonry wall materials, specifically concrete masonry type materials. This public comment was developed in cooperation with some of those that spoke in opposition to the original proposal. Instead of changing the titles in both tables, this public comment will only modify Table 722.2.1.4(2) by adding a note to clarify its applicability to concrete and concrete masonry based wall construction. The contents of Table 722.2.1.4(1) clearly show its applicability to concrete and masonry wall types and will not be modified. This new note will successfully capture the wall construction materials that were omitted in the original proposal. The finish rating note will remain the same as what was originally proposed. As a formatting clarification, the Note numbering has also been updated.

I urge your support of overturning the committee action of Disapproval and vote for As Modified by this public comment.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction There will be no cost impact associated with this proposal as these changes are clarification in nature.

Final Hearing Results

FS102-21 AMPC1

Page: 3

Mod_10860_Text_FS102-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

117

F10861 | **/FS103-21**

Date Submitted	03/07/2024	**Section**	722.5.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is one of several proposals to remove Gypsum Board throughout the IBC whenever it reads as “Gypsum Board and Gypsum Panel Product” because the first item is a subset of the second item.

Rationale

See attached

F10861Text Modification

See attached

Page: 1

Mod10861_TextOfModification.pdf

F10861Text Modification

FS103-21

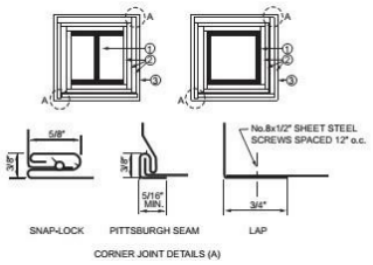
Original Proposal

IBC: FIGURE 722.5.1(2), FIGURE 722.5.1(3), 722.5.1.2.1

Proponents: Tim Earl, GBH International, The Gypsum Association (tearl@gbhinternational.com)

2021 International Building Code

Revise as follows:



CORNER JOINT DETAILS (A)

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm.

1. Structural steel column, either wide flange or tubular shapes.

2. Type X ~~gypsum board or~~ gypsum panel products in accordance with ASTM C1177, C1178, C1278, C1396 or C1658. The total thickness of ~~gypsum board or~~ gypsum panel products calculated as *h* in Section 722.5.1.2 shall be applied vertically to an individual column using one of the following methods:

   1. As a single layer without horizontal joints.

   2. As multiple layers with horizontal joints not permitted in any layer.

   3. As multiple layers with horizontal joints staggered not less than 12 inches vertically between layers and not less than 8 feet vertically in any single layer. The total required thickness of ~~gypsum board or~~ gypsum panel products shall be determined on the basis of the specified fire-resistance rating and the weight-to-heated-perimeter ratio (W/D) of the column. For fire-resistance ratings of 2 hours or less, one of the required layers of ~~gypsum board or~~ gypsum panel product may be applied to the exterior of the sheet steel column covers with 1-inch long Type S screws spaced 1 inch from the wallboard edge and 8 inches on center. For such installations, 0.0149-inch minimum thickness galvanized steel corner beads with $1^1/_2$-inch legs shall be attached to the wallboard with Type S screws spaced 12 inches on center.

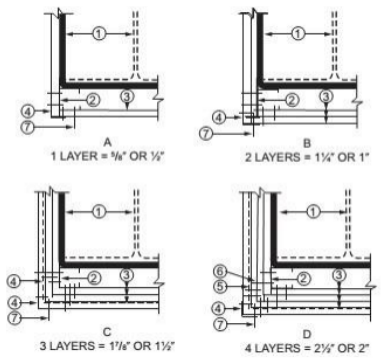
3. For fire-resistance ratings of 3 hours or less, the column covers shall be fabricated from 0.0239-inch minimum thickness galvanized or stainless steel. For 4-hour fire-resistance ratings, the column covers shall be fabricated from 0.0239-inch minimum thickness stainless steel. The column covers shall be erected with the Snap Lock or Pittsburgh joint details. For fire-resistance ratings of 2 hours or less, column covers fabricated from 0.0269-inch minimum thickness galvanized or stainless steel shall be permitted to be erected with lap joints. The lap joints shall be permitted to be located anywhere around the perimeter of the column cover. The lap joints shall be secured with $^1/_2$-inch-long No. 8 sheet metal screws spaced 12 inches on center. The column covers shall be provided with a minimum expansion clearance of $^1/_8$ inch per linear foot between the ends of the cover and any restraining construction.

FIGURE 722.5.1(2) GYPSUM-PROTECTED STRUCTURAL STEEL COLUMNS WITH SHEET STEEL COLUMN COVERS

Page: 1

Mod_10861_Text_FS103-21.pdf

F10861Text Modification



For SI: 1 inch = 25.4 mm, 1 foot = -305 mm.

1. Structural steel column, either wide flange or tubular shapes.
2. $1^{5}/_{8}$-inch deep studs fabricated from 0.0179-inch minimum thickness galvanized steel with $1^{5}/_{16}$ or $1^{7}/_{16}$-inch legs. The length of the steel studs shall be $^{1}/_{2}$ inch less than the height of the assembly.
3. Type X ~~gypsum board or~~ gypsum panel products in accordance with ASTM C1177, C1178, C1278, C1396 or C1658. The total thickness of ~~gypsum board or~~ gypsum panel products calculated as *h* in Section 722.5.1.2 shall be applied vertically to an individual column using one of the following methods:
   1. As a single layer without horizontal joints.
   2. As multiple layers with horizontal joints not permitted in any layer.
   3. As multiple layers with horizontal joints staggered not less than 12 inches vertically between layers and not less than 8 feet vertically in any single layer. The total required thickness of ~~gypsum board or~~ gypsum panel products shall be determined on the basis of the specified fire-resistance rating and the weight-to-heated-perimeter ratio (W/D) of the column.
4. Galvanized 0.0149-inch minimum thickness steel corner beads with $1^{1}/_{2}$- inch legs attached to the ~~gypsum board or~~ gypsum panel products with 1-inch-long Type S screws spaced 12 inches on center.
5. No. 18 SWG steel tie wires spaced 24 inches on center.
6. Sheet metal angles with 2-inch legs fabricated from 0.0221-inch minimum thickness galvanized steel.
7. Type S screws, 1 inch long, shall be used for attaching the first layer of~~gypsum board or~~ gypsum panel product to the steel studs and the third layer to the sheet metal angles at 24 inches on center. Type S screws $1^{3}/_{4}$ inches long shall be used for attaching the second layer of ~~gypsum board or~~ gypsum panel product to the steel studs and the fourth layer to the sheet metal angles at 12 inches on center. Type S screws $2^{1}/_{4}$ inches long shall be used for attaching the third layer of~~gypsum board or~~ gypsum panel product to the steel studs at 12 inches on center.

FIGURE 722.5.1(3) GYPSUM-PROTECTED STRUCTURAL STEEL COLUMNS WITH STEEL STUD/SCREW ATTACHMENT SYSTEM

722.5.1.2.1 Attachment. The ~~*gypsum board or*~~ *gypsum panel products* shall be supported as illustrated in either Figure 722.5.1(2) for *fire-resistance ratings* of 4 hours or less, or Figure 722.5.1(3) for *fire-resistance ratings* of 3 hours or less.

Reason: The IBC definitions for gypsum products were revised last cycle to match the correct terms used in industry publications. The definition of Gypsum Panel Product makes it clear that Gypsum Board is a subset of Gypsum Panel Product. As such, this is one of several proposals to remove Gypsum Board throughout the IBC whenever it reads as “Gypsum Board and Gypsum Panel Product” because the first item is a subset of the second item. This proposal covers all instances of the duplication in Chapter 7.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Page: 2

Mod_10861_Text_FS103-21.pdf

F10861Text Modification

This simply removes redundant wording from the code.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal appropriately fixes the code terms to be consistent with the terms used in industry publications. (Vote: 13-0)

Final Hearing Results

FS103-21 AS

Page: 3

Mod_10861_Text_FS103-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

118

F10862 | **/FS104-21**

Date Submitted	03/07/2024	**Section**	722.6.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal inserts language to clarify the use of Table 722.6.2 (1)

Rationale

See attached

F10862Text Modification

See attached

Page: 1

Mod10862_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

119

F10863 | **/FS105-21**

Date Submitted	03/07/2024	**Section**	722.6.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Table 722.6.2(3). This change adds two additional products, insulated vinyl siding and polypropylene siding, as options for choice as exterior finishes for the fire rating of calculated wood framed wall assemblies.

Rationale

See attached

F10863Text Modification

See attached

Page: 1

Mod10863_TextOfModification.pdf

F10863Text Modification

FS105-21

Original Proposal

IBC: TABLE 722.6.2(3)

Proponents: Matthew Dobson, Vinyl Siding Institute, Vinyl Siding Institute (mdobson@vinylsiding.org)

2021 International Building Code

Revise as follows:

TABLE 722.6.2(3) MEMBRANE[a] ON EXTERIOR FACE OF WOOD STUD WALLS

SHEATHING	PAPER	EXTERIOR FINISH
5/8-inch T & G lumber 5/16-inch exterior glue *wood structural panel* 1/2-inch gypsum wallboard 5/8-inch gypsum wallboard 1/2-inch fiberboard	Sheathing paper	Lumber siding Wood shingles and shakes 1/4-inch *fiber-cement* lap, panel or shingle siding 1/4-inch *wood structural panels*-exterior type 1/4-inch hardboard Insulated Vinyl Siding Metal siding Polypropylene Siding Stucco on metal lath Masonry veneer Vinyl siding
None	—	3/8-inch exterior-grade *wood structural panels*

For SI: 1 inch = 25.4 mm.

a. Any combination of sheathing, paper and exterior finish is permitted.

Reason: This change adds two additional products, insulated vinyl siding and polypropylene siding, as options for choice as exterior finishes for the fire rating of calculated wood framed wall assemblies. Since the code allows any choice of products as noted in footnote a, it's worth listing these products to provide specifiers with additional options.
This list is for products that are on the outside of the assembly and the fire rating is from the inside in this section. So material choice is not necessarily relevant.

As further evidence, both products being proposed for addition have shown to be allowed as part of ASTM E119 rated assemblies and although it is not directly relevant here, it does support that they are safe to use with rated assemblies.

Finally, the acceptance of these code approved products are in line with fire rating performance principals based on Hermathy's Rule that note the addition of layers of materials will not decrease the the fire rating of assemblies.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change simply provides more material choice options.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee based their approval on the proponent's reason statement. (Vote: 10-1)

Page: 1

Mod_10863_Text_FS105-21.pdf

F10863Text Modification

Final Hearing Results

FS105-21 AS

Page: 2

Mod_10863_Text_FS105-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

120

F10864 | **/FS106-21**

Date Submitted	03/07/2024	**Section**	722.6.2	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Table 722.6.2(5). This code change updates the Table to equate the required minimum density for glass fiber and rock and slag wool fiber insulations.

Rationale

See attached

F10864Text Modification

See attached

Page: 1

Mod10864_TextOfModification.pdf

F10864Text Modification

FS106-21

Original Proposal

IBC: TABLE 722.6.2(5)

Proponents: Tony Crimi, A.C. Consulting Solutions Inc., representing North American Insulation Manufacturers Association (NAIMA)

2021 International Building Code

Revise as follows:

TABLE 722.6.2(5) TIME ASSIGNED FOR ADDITIONAL PROTECTION

DESCRIPTION OF ADDITIONAL PROTECTION	FIRE RESISTANCE (minutes)
Add to the fire-resistance rating of wood stud walls if the spaces between the studs are completely filled with glass fiber<u>or</u> mineral wool batts weighing not less than 2 pounds per cubic foot (0.6 pound per square foot of wall surface) <u>or rockwool or slag material wool batts weighing not less than 3.3 pounds per cubic foot (1 pound per square foot of wall surface)</u>o,r cellulose insulation having a nominal density not less than 2.6 pounds per cubic foot.	15

For SI: 1 pound/cubic foot = 16.0185 kg/m^3.

Reason: This code change updates the Table to equate the required minimum density for glass fiber and rock and slag wool fiber insulations. Since both have been included in the design currently, it is not necessary to retain the old minimum density value for rockwool and slag wool batts.
Current rock and slag wool insulation products are available at the 2 pcf density.

Cost Impact: The code change proposal will decrease the cost of construction
The code change will reduce the cost of construction where mineral wool is used.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that the proposal appropriately updates Table 722.6.2(5) to equate the required minimum density for glass fiber and rock and slag wool fiber insulations. (Vote: 12-1)

Final Hearing Results

FS106-21 AS

Page: 1

Mod_10864_Text_FS106-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

121

F10910 /FS154-21

Date Submitted	03/08/2024	**Section**	713.8	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Section 713.2 states that a shaft shall be constructed asfire barriers or horizontal assemblies or both. This change coordinates the penetration requirements with the current language for shaft construction.

Rationale

See attached

F10910Text Modification

See attached

Page: 1

Mod10910_TextOfModification.pdf

F10910Text Modification

FS154-21

Original Proposal

IBC: 713.8

Proponents: Richard Grace, Fairfax County, Virginia, Fairfax County, Virginia (richard.grace@fairfaxcounty.gov)

2021 International Building Code

Revise as follows:

713.8 Penetrations. Penetrations in a *shaft enclosure* shall be protected in accordance with Section 714 as required for*fire barriers* or *horizontal assemblies* or both. Structural elements, such as beams or joists, where protected in accordance with Section 714 shall be permitted to penetrate a *shaft enclosure*.

Reason: Section 713.2 states that a shaft shall be constructed asfire barriers or horizontal assemblies or both. In the 2006 code, "horizontal assemblies" was added to Section 713.2, but was not reflected in the penetrations section of 713.8. This change coordinates the penetration requirements with the current language for shaft construction.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification change which shouldn't effect the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal provides consistency and recognizes that there are other components of the shafts that are horizontal. (Vote: 13-0)

Final Hearing Results

FS154-21 AS

Page: 1

Mod_10910_Text_FS154-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

122

F11066 | **/G183-21 Part II**

Date Submitted	03/14/2024	**Section**	708.4.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal is to clarify lobby protection requirements – which walls are fire barriers, fire partitions or smoke barriers. This will also clarify what requirements are applicable for the elevator hoistway doors vs. the doors in the other walls of the lobby protection.

Rationale

See attached

F11066Text Modification

See attached

Page: 1

Mod11066_TextOfModification.pdf

F11066Text Modification

G183-21 Part II

Original Proposal

PART II - IBC: 708.4.1 (New), 709.4.2, 710.4.1 (New)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

SECTION 708
FIRE PARTITIONS

Add new text as follows:

708.4.1 Fire partition walls enclosing elevator lobbies. Fire partition walls used to enclose elevator lobbies in accordance with Section 3006.3 (elevator hoistway protection), shall form an effective enclosure that terminates at a fire barrier or fire partition having a level of fire-resistance-rating not less than 1 hour, or an outside wall.

SECTION 709
SMOKE BARRIERS

Revise as follows:

709.4.2 Smoke-barrier walls enclosing areas of refuge or elevator lobbies. *Smoke-barrier* walls used to enclose *areas of refuge* in accordance with Section 1009.6.4, or to enclose elevator lobbies in accordance with Section 405.4.3, 3007.6.2, or 3008.6.2, shall form an effective membrane enclosure that terminates at a *fire barrier* wall having a ~~level of~~ *fire* ~~*protection*~~ *resistance rating* not less than 1 hour, another *smoke barrier* wall or an outside wall. A smoke and draft control door assembly as specified in Section 716.2.2.1.1 shall not be required at each elevator hoistway door ~~opening~~ where protected by an elevator lobby, at each exit door opening into a protected lobbyor at each exit doorway between an *area of refuge* and the exit enclosure.

SECTION 710
SMOKE PARTITIONS

Add new text as follows:

710.4.1 Smoke partition walls enclosing elevator lobbies. Smoke partition walls used to enclose elevator lobbies in accordance with Section 3006.3 (elevator hoistway protection), shall form an effective enclosure that terminates at a fire barrier having a level of fire-resistance-rating not less than 1 hour, another smoke partition or an outside wall.

Reason: The intent of this proposal is to clarify lobby protection requirements – which walls are fire barriers, fire partitions or smoke barriers. This will also clarify what requirements are applicable for the elevator hoistway doors vs. the doors in the other walls of the lobby protection. The current language is inconsistent for the locations where elevator lobbies are specified.
This protection of elevator lobbies is a combination of the elevator hoistway and exit stairway (direct access to a stairway is required for fire service an occupant evacuation elevator lobbies) shaft enclosure/fire barriers and the fire partitions or smoke barriers required for lobbies (405.4.3, 3006.3, 3007.6.2 and 3008.6.2) The intent of new 708.4.1 and revised 709.4.2 is to clarify that the fire partitions/smoke barrier criteria is not applicable to all the walls of the elevator lobby since the vertical shaft/fire barrier protections is adequate. Fires typically happen in the occupied portions of the buildings, not within the elevator shaft or the stairway. In addition, in situations where an elevator

Page: 1

Mod_11066_Text_G183-21 Part II.pdf

F11066Text Modification

lobby is provided, the elevator shafts are double protected from smoke intrusion from a fire on the floor.

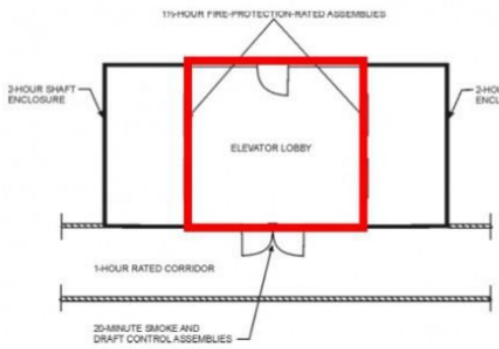


Diagram for elevator lobby

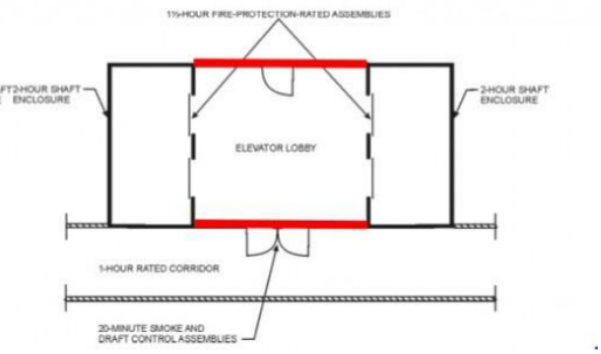


Diagram for which walls are fire partitions, smoke partitions or smoke barriers

Provisions for horizontal continuity are addressed for smoke barriers that surround elevator lobbies or areas of refuge. The same horizontal continuity should be addressed for elevator lobbies enclosed with fire partitions in Section 3006.3 Item 1 or smoke partitions in Section 3006.3 Item 2. The movement of 'smoke barrier wall' just assures a minimum fire resistance rating. The last sentence in 709.4.2 is not needed with the clarification of which walls meet which requirements in Chapter 30.

The reference to sprinklers is not needed in Section 3006.3 Item 2, because this is already a limitation in Section 3006.2. Taking it out makes this item easier to read. In addition, this could currently be read to not allow smoke barriers to form elevator lobbies in non-sprinklered buildings. Smoke barriers provide equal or better protection than fire partitions.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and the ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification for elevator lobby requirements. While technical criteria was added for horizontal continuity for fire partitions and smoke partitions at elevator lobbies, this was implied previously and does not add cost to construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

708.4.1 Fire partition walls enclosing elevator lobbies. Fire partition walls used to enclose elevator lobbies in accordance with Section 3006.3 ~~(elevator hoistway protection),~~ shall form an ~~effective~~ enclosure that terminates at a fire barrier or fire partition having a level of fire-resistance-rating not less than 1 hour, or an outside wall.

710.4.1 Smoke partition walls enclosing elevator lobbies. Smoke partition walls used to enclose elevator lobbies in accordance with Section 3006.3 ~~(elevator hoistway protection),~~ shall form an ~~effective~~ enclosure that terminates at a fire barrier having a level of fire-

Page: 2
Mod_11066_Text_G183-21 Part II.pdf

F11066Text Modification

resistance-rating not less than 1 hour, another smoke partition or an outside wall.

Committee Reason: The committee concluded the modification is a good clean-up of the text and making the proposed text comply with the rest of the code by deleting "elevator hoistway protection" and "effective" in sections 708.4.1 and 710.4.1. The proposal provides clarification for the protection of elevator lobbies and outlines the types of fire resistance where it is required. (Vote: 13-0)

Final Hearing Results

G183-21 Part II AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

123

F11660 | **/FS79-21**

Date Submitted	05/14/2024	**Section**	716.1.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC - B/ Section 716.4.

Summary of Modification

Modifies the text of 716.1.1 "Alternative methods for determining fire protection ratings".

Rationale

See attached

F11660Text Modification

See attached

Page: 1

Mod11660_TextOfModification.pdf

F11660Text Modification

FS79-21

Original Proposal

IBC: 716.1.1

Proponents: William Koffel, Koffel Associates, Inc., Fire Safe North America (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

716.1.1 Alternative methods for determining fire protection ratings. The application of any of the alternative methods specified in this section shall be based on the fire exposure and acceptance criteria specified in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C. The required ~~*fire resistance*~~*fire protection rating* of an opening protective shall be permitted to be established by any of the following methods or procedures:

1. Designs documented in *approved* sources.
2. Calculations performed in an *approved* manner.
3. Engineering analysis based on a comparison of opening protective designs having *fire protection ratings* as determined by the test procedures set forth in NFPA 252, NFPA 257, UL 9, UL 10B or UL 10C.
4. Alternative protection methods as allowed by Section 104.11.

Reason: The paragraph currently uses the generic, defined term of "fire resistance." However, opening protectives are assigned a "fire protection rating." The test methods referenced in the paragraph are used to determine a "fire protection rating." The use of "fire resistance" causes confusion and people don't always understand the different performance characteristics associated with assemblies that have a "fire resistance rating" or a "fire protection rating."

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed change simply clarifies the intent of existing code requirements. If anything, the cost of construction could be decreased by eliminating the confusion associated with the current code text.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this code change brings the proper terminology by replacing "fire resistance" with "fire protection rating". (Vote: 13-0)

Final Hearing Results

FS79-21 AS

Page: 1

Mod_11660_Text_FS79-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

124

F11661 | **/FS97-21 Part I**

Date Submitted	05/14/2024	**Section**	721.1	**Proponent**	Mo Madani
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The term ‘may’ is subjective. The proposal is to bring the text into enforceable language by using the ICC preferred language.as often as possible.

Rationale

See attached

F11661Text Modification

See attached

Page: 1

Mod11661_TextOfModification.pdf

F11661Text Modification

FS97-21 Part I

Original Proposal

IBC: TABLE 721.1(2), FIGURE 722.5.1(2)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

THIS IS A 3 PART CODE CHANGE. PART I WILL BE HEARD BY THE FIRE SAFETY CODE COMMITEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. PART III WILL BE HEARD BY THE PROPERTY MAINTENANCE/ZONING CODE COMMITTEE. COMMITEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

TABLE 721.1(2) RATED FIRE-RESISTANCE PERIODS FOR VARIOUS WALLS AND PARTITIONS[a, o, p]

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE[b] (inches)			
			4 hours	3 hours	2 hours	1 hour
1. Brick of clay or shale	1-1.1	Solid brick of clay or shale.[c]	6	4.9	3.8	2.7
	1-1.2	Hollow brick, not filled.	5.0	4.3	3.4	2.3
	1-1.3	Hollow brick unit wall, grout or filled with perlite vermiculite or expanded shale aggregate.	6.6	5.5	4.4	3.0
	1-2.1	4" nominal thick units not less than 75 percent solid backed with a hat-shaped metal furring channel $^{3}/_{4}$" thick formed from 0.021" sheet metal attached to the brick wall on 24" centers with approved fasteners, and $^{1}/_{2}$" Type X gypsum wallboard attached to the metal furring strips with 1"-long Type S screws spaced 8" on center.	—	—	5[d]	—
2. Combination of clay brick and load-bearing hollow clay tile	2-1.1	4" solid brick and 4" tile (not less than 40 percent solid).	—	8	—	—
	2-1.2	4" solid brick and 8" tile (not less than 40 percent solid).	12	—	—	—
3. Concrete masonry units	3-1.1[f, g]	Expanded slag or pumice.	4.7	4.0	3.2	2.1
	3-1.2[f, g]	Expanded clay, shale or slate.	5.1	4.4	3.6	2.6
	3-1.3[f]	Limestone, cinders or air-cooled slag.	5.9	5.0	4.0	2.7
	3-1.4[f, g]	Calcareous or siliceous gravel.	6.2	5.3	4.2	2.8
4. Solid concrete[h, i]	4-1.1	Siliceous aggregate concrete.	7.0	6.2	5.0	3.5
		Carbonate aggregate concrete.	6.6	5.7	4.6	3.2
		Sand-lightweight concrete.	5.4	4.6	3.8	2.7
		Lightweight concrete.	5.1	4.4	3.6	2.5
5. Glazed or unglazed facing tile, nonload-bearing	5-1.1	One 2" unit cored 15 percent maximum and one 4" unit cored 25 percent maximum with $^{3}/_{4}$" mortar-filled collar joint. Unit positions reversed in alternate courses.	—	6 $^{3}/_{8}$	—	—
	5-1.2	One 2" unit cored 15 percent maximum and one 4" unit cored 40 percent maximum with $^{3}/_{4}$" mortar-filled collar joint. Unit positions side with $^{3}/_{4}$" gypsum plaster. Two wythes tied together every fourth course with No. 22 gage corrugated metal ties.	—	6 $^{3}/_{4}$	—	—
	5-1.3	One unit with three cells in wall thickness, cored 29 percent maximum.	—	—	6	—
	5-1.4	One 2" unit cored 22 percent maximum and one 4" unit cored 41 percent maximum with $^{1}/_{4}$" mortar-filled collar joint. Two wythes tied together every third course with 0.030"(No. 22 galvanized sheet steel gage) corrugated metal ties.	—	—	6	—
	5-1.5	One 4" unit cored 25 percent maximum with $^{3}/_{4}$" gypsum plaster on one side.	—	—	4 $^{3}/_{4}$	—
	5-1.6	One 4" unit with two cells in wall thickness, cored 22 percent maximum.	—	—	—	4
	5-1.7	One 4" unit cored 30 percent maximum with $^{3}/_{4}$" vermiculite gypsum plaster on one side.	—	—	4 $^{1}/_{2}$	—
	5-1.8	One 4" unit cored 39 percent maximum with $^{3}/_{4}$" gypsum plaster on one side.	—	—	—	4 $^{1}/_{2}$
6. Solid gypsum plaster	6-1.1	$^{3}/_{4}$" by 0.055" (No. 16 carbon sheet steel gage) vertical cold-rolled channels, 16" on center with 2.6-pound flat metal lath applied to one face and tied with 0.049" (No. 18 B.W. gage) wire at 6" spacing. Gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-1.2	$^{3}/_{4}$" by 0.05" (No. 16 carbon sheet steel gage) cold-rolled channels 16" on center with metal lath applied to one face and tied with 0.049" (No. 18 B.W. gage) wire at 6" spacing. Perlite or vermiculite gypsum plaster each side. For three-coat work, the plaster mix for the second coat shall not exceed 100 pounds of gypsum to 2 $^{1}/_{2}$ cubic feet of aggregate for the 1-hour system.	—	—	2 $^{1}/_{2}$[d]	2[d]
	6-1.3	$^{3}/_{4}$" by 0.055" (No. 16 carbon sheet steel gage) vertical cold-rolled channels, 16" on center with $^{3}/_{8}$" gypsum lath applied to one face and attached with sheet metal clips. Gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-2.1	Studless with $^{1}/_{2}$" full-length plain gypsum lath and gypsum plaster each side. Plaster mixed 1:1 for scratch coat and 1:2 for brown coat, by weight, gypsum to sand aggregate.	—	—	—	2[d]
	6-2.2	Studless with $^{1}/_{2}$" full-length plain gypsum lath and perlite or vermiculite gypsum plaster each side.	—	—	2 $^{1}/_{2}$[d]	2[d]
	6-2.3	Studless partition with $^{3}/_{8}$" rib metal lath installed vertically adjacent edges tied 6" on center with No. 18 gage wire ties, gypsum plaster each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	2[d]

Mod_11661_Text_FS97-21 Part I.pdf Page: 1

F11661 Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
7. Solid perlite and Portland cement	7-1.1	Perlite mixed in the ratio of 3 cubic feet to 100 pounds of Portland cement and machine applied to stud side of 1/2" mesh by 0.058-inch (No. 17 B.W. gage) paper-backed woven wire fabric lath wire-tied to 4"-deep steel trussed wire[j] studs 16" on center. Wire ties of 0.049" (No. 18 B.W. gage) galvanized steel wire 6" on center vertically.	—	—	3 1/8[d]	—
8. Solid neat wood fibered gypsum plaster	8-1.1	3/4" by 0.055-inch (No. 16 carbon sheet steel gage) cold-rolled channels, 12" on center with 2.5-pound flat metal lath applied to one face and tied with 0.049" (No. 18 B.W.gage) wire at 6" spacing. Neat gypsum plaster applied each side.	—	—	2[d]	—
9. Solid wallboard partition	9-1.1	One full-length layer 1/2" Type X gypsum wallboard[e] laminated to each side of 1" full-length V-edge gypsum coreboard with approved laminating compound. Vertical joints of face layer and coreboard staggered not less than 3".	—	—	2[d]	—
10. Hollow (studless) gypsum wallboard partition	10-1.1	One full-length layer of 5/8" Type X gypsum wallboard[e] attached to both sides of wood or metal top and bottom runners laminated to each side of 1" × 6" full-length gypsum coreboard ribs spaced 2" on center with approved laminating compound. Ribs centered at vertical joints of face plies and joints staggered 24" in opposing faces. Ribs ~~may~~ shall be permitted to be recessed 6" from the top and bottom.	—	—	—	2 1/4[d]
	10-1.2	1" regular gypsum V-edge full-length backing board attached to both sides of wood or metal top and bottom runners with nails or 1 5/8" drywall screws at 24" on center. Minimum width of runners 1 5/8". Face layer of 1/2" regular full-length gypsum wallboard laminated to outer faces of backing board with approved laminating compound.	—	—	4 5/8[d]	—
11. Noncombustible studs–interior partition with plaster each side	11-1.1	3 1/4" × 0.044" (No. 18 carbon sheet steel gage) steel studs spaced 24" on center. 5/8" gypsum plaster on metal lath each side mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	4 3/4[d]
	11-1.2	3 3/8" × 0.055" (No. 16 carbon sheet steel gage) approved nailable[k] studs spaced 24" on center. 5/8" neat gypsum wood-fibered plaster each side over 3/8" rib metal lath nailed to studs with 6d common nails, 8" on center. Nails driven 1 1/4" and bent over.	—	—	5 5/8	—
	11-1.3	4" × 0.044" (No. 18 carbon sheet steel gage) channel-shaped steel studs at 16" on center. On each side approved resilient clips pressed onto stud flange at 16" vertical spacing, 1/4" pencil rods snapped into or wire tied onto outer loop of clips, metal lath wire-tied to pencil rods at 6" intervals, 1" perlite gypsum plaster, each side.	—	7 5/8[d]	—	—
	11-1.4	2 1/2" × 0.044" (No. 18 carbon sheet steel gage) steel studs spaced 16" on center. Wood fibered gypsum plaster mixed 1:1 by weight gypsum to sand aggregate applied on 3/4-pound metal lath wire tied to studs, each side. 3/4" plaster applied over each face, including finish coat.	—	—	4 1/4[d]	—
12. Wood studs—interior partition with plaster each side	12-1.1[l, m]	2" × 4" wood studs 16" on center with 5/8" gypsum plaster on metal lath. Lath attached by 4d common nails bent over or No. 14 gage by 1 1/4" by 3/4" crown width staples spaced 6" on center. Plaster mixed 1:1 1/2 for scratch coat and 1:3 for brown coat, by weight, gypsum to sand aggregate.	—	—	—	5 1/8
	12-1.2[l]	2" × 4" wood studs 16" on center with metal lath and 7/8" neat wood-fibered gypsum plaster each side. Lath attached by 6d common nails, 7" on center. Nails driven 1 1/4" and bent over.	—	—	5 1/2[d]	—
	12-1.3[l]	2" × 4" wood studs 16" on center with 3/8" perforated or plain gypsum lath and 1/2" gypsum plaster each side. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard blued nails, 4" on center. Plaster mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	5 1/4
	12-1.4[l]	2" × 4" wood studs 16" on center with 3/8" Type X gypsum lath and 1/2" gypsum plaster each side. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard blued nails, 5" on center. Plaster mixed 1:2 by weight, gypsum to sand aggregate.	—	—	—	5 1/4
13. Noncombustible studs–interior partition with gypsum wallboard each side	13-1.1	0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 24" on center with one full-length layer of 5/8" Type X gypsum wallboard[e] applied vertically attached with 1"-long No. 6 dry wall screws to each stud. Screws are 8" on center around the perimeter and 12" on center on the intermediate stud. Where applied horizontally, the Type X gypsum wallboard shall be attached to 3 5/8" studs and the horizontal joints shall be staggered with those on the opposite side. Screws for the horizontal application shall be 8" on center at vertical edges and 12" on center at intermediate studs.	—	—	—	2 7/8[d]
	13-1.2	0.018" (No. 25 carbon sheet steel gage) channel-shaped studs 25" on center with two full-length layers of 1/2" Type X gypsum wallboard[e] applied vertically each side. First layer attached with 1"-long, No. 6 drywall screws, 8" on center around the perimeter and 12" on center on the intermediate stud. Second layer applied with vertical joints offset one stud space from first layer using 1 5/8" long, No. 6 drywall screws spaced 9" on center along vertical joints, 12" on center at intermediate studs and 24" on center along top and bottom runners.	—	—	3 5/8[d]	—
	13-1.3	0.055" (No. 16 carbon sheet steel gage) approved nailable metal studs[e] 24" on center with full-length 5/8" Type X gypsum wallboard[e] applied vertically and nailed 7" on center with 6d cement-coated common nails. Approved metal fastener grips used with nails at vertical butt joints along studs.	—	—	—	4 7/8
14. Wood studs—interior partition with gypsum wallboard each side	14-1.1[l, m]	2" × 4" wood studs 16" on center with two layers of 5/8" regular gypsum wallboard[e] each side, 4d cooler[n] or wallboard[n] nails at 8" on center first layer, 5d cooler[n] or wallboard[n] nails at 8" on center second layer with laminating compound between layers, joints staggered. First layer applied full length vertically, second layer applied horizontally or vertically.	—	—	—	5
	14-1.2[l, m]	2" × 4" wood studs 16" on center with two layers 1/2" regular gypsum wallboard[e] applied vertically or horizontally each side[k], joints staggered. Nail base layer with 5d cooler[n] or wallboard[n] nails at 8" on center face layer with 8d cooler[n]r or wallboard[n] nails at 8" on center.	—	—	—	5 1/2
	14-1.3[l, m]	2" × 4" wood studs 24" on center with 5/8" Type X gypsum wallboard[e] applied vertically or horizontally nailed with 6d cooler[n] or wallboard[n] nails at 7" on center with end joints on nailing members. Stagger joints each side.	—	—	—	4 3/4
	14-1.4[l]	2" × 4" fire-retardant-treated wood studs spaced 24" on center with one layer of 5/8" Type X gypsum wallboard[e] applied with face paper grain (long dimension) parallel to studs. Wallboard attached with 6d cooler[n] or wallboard[n] nails at 7" on center.	—	—	—	4 3/4[d]
	14-1.5[l, m]	2" × 4" wood studs 16" on center with two layers 5/8" Type X gypsum wallboard[e] each side. Base layers applied vertically and nailed with 6d cooler[n]r or wallboard[n] nails at 9" on center. Face layer applied vertically or horizontally and nailed with 8d cooler[n]r or wallboard[n] nails at 7" on center. For nail-adhesive application, base layers are nailed 6" on center. Face layers applied with coating of approved wallboard adhesive and nailed 12" on center.	—	—	6	—
	14-1.6[l]	2" × 3" fire-retardant-treated wood studs spaced 24" on center with one layer of 5/8" Type X gypsum wallboard[e] applied with face paper grain (long dimension) at right angles to studs. Wallboard attached with 6d cement-coated box nails spaced 7" on center.	—	—	—	3 5/8[d]
15. Exterior or interior walls	15-1.1[l, m]	Exterior surface with 3/4" drop siding over 1/2" gypsum sheathing on 2" × 4" wood studs at 16" on center, interior surface treatment as required for 1-hour-rated exterior or interior 2" × 4" wood stud partitions. Gypsum sheathing nailed with 1 3/4" by No.11 gage by 7/16" head galvanized nails at 8" on center. Siding nailed with 7d galvanized smooth box nails.	—	—	—	Varies
	15-1.2[l, m]	2" × 4" wood studs 16" on center with metal lath and 3/4" cement plaster on each side. Lath attached with 6d common nails 7" on center driven to 1" minimum penetration and bent over. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	5 3/8
	15-1.3[l, m]	2" × 4" wood studs 16" on center with 7/8" cement plaster (measured from the face of studs) on the exterior surface with interior surface treatment as required for interior wood stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies
	15-1.4	3 5/8" No. 16 gage noncombustible studs 16" on center with 7/8" cement plaster (measured from the face of the studs) on the exterior surface with interior surface treatment as required for interior, nonbearing, noncombustible stud partitions in this table. Plaster mix 1:4 for scratch coat and 1:5 for brown coat, by volume, cement to sand.	—	—	—	Varies[b]

Page: 2

Mod_11661_Text_FS97-21 Part I.pdf

F11661Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
	15-1.5[m]	2 1/4" × 3 3/4" clay face brick with cored holes over 1/2" gypsum sheathing on exterior surface of 2" × 4" wood studs at 16" on center and two layers 5/8" Type X gypsum wallboard[e] on interior surface. Sheathing placed horizontally or vertically with vertical joints over studs nailed 6" on center with 3 1/4" × No. 11 gage by 7/16" head galvanized nails. Inner layer of wallboard placed horizontally or vertically and nailed 8" on center with 6d cooler[n] or wallboard[n] nails. Outer layer of wallboard placed horizontally or vertically and nailed 8" on center with 8d cooler[n] or wallboard[n] nails. Joints staggered with vertical joints over studs. Outer layer joints taped and finished with compound. Nail heads covered with joint compound. 0.035 inch (No. 20 galvanized sheet gage) corrugated galvanized steel wall ties 3/4" by 6 5/8" attached to each stud with two 8d cooler[n] or wallboard[n] nails every sixth course of bricks.	—	—	10	—
	15-1.6[l, m]	2" × 6" fire-retardant-treated wood studs 16" on center. Interior face has two layers of 5/8" Type X gypsum with the base layer placed vertically and attached with 6d box nails 12"on center. The face layer is placed horizontally and attached with 8d box nails 8" on center at joints and 12" on center elsewhere. The exterior face has a base layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by self-furred exterior lath attached with 2 1/2", No. 12 gage galvanized roofing nails with a 3/8" diameter head and spaced 6" on center along each stud. Cement plaster consisting of a 1/2" brown coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat.	—	—	8 1/4	—
	15-1.7[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1" by No. 18 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat, a bonding agent and a 1/2" brown coat and a finish coat is then applied. The scratch coat is mixed in the proportion of 1:3 by weight, cement to sand with 10 pounds of hydrated lime and 3 pounds of approved additives or admixtures per sack of cement. The brown coat is mixed in the proportion of 1:4 by weight, cement to sand with the same amounts of hydrated lime and approved additives or admixtures used in the scratch coat. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of 0.035 inch (No. 20 B.W. gage) woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No. 12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shall not exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.8[l, m]	2" × 6" wood studs 16" on center. The exterior face has a layer of 5/8" Type X gypsum sheathing placed vertically with 6d box nails 8" on center at joints and 12" on center elsewhere. An approved building paper is next applied, followed by 1 1/2" by No. 17 gage self-furred exterior lath attached with 8d by 2 1/2"-long galvanized roofing nails spaced 6" on center along each stud. Cement plaster consisting of a 1/2" scratch coat and a 1/2" brown coat is then applied. The plaster ~~may~~ shall be permitted to be placed by machine. The scratch coat is mixed in the proportion of 1:4 by weight, plastic cement to sand. The brown coat is mixed in the proportion of 1:5 by weight, plastic cement to sand. The interior is covered with 3/8" gypsum lath with 1" hexagonal mesh of No. 20-gage woven wire lath furred out 5/16" and 1" perlite or vermiculite gypsum plaster. Lath nailed with 1 1/8" by No. 13 gage by 19/64" head plasterboard glued nails spaced 5" on center. Mesh attached by 1 3/4" by No.12 gage by 3/8" head nails with 3/8" furrings, spaced 8" on center. The plaster mix shallnot exceed 100 pounds of gypsum to 2 1/2 cubic feet of aggregate.	—	—	8 3/8	—
	15-1.9	4" No. 18 gage, nonload-bearing metal studs, 16" on center, with 1" Portland cement lime plaster (measured from the back side of the 3/4-pound expanded metal lath) on the exterior surface. Interior surface to be covered with 1" of gypsum plaster on 3/4-pound expanded metal lath proportioned by weight–1:2 for scratch coat, 1:3 for brown, gypsum to sand. Lath on one side of the partition fastened to 1/4" diameter pencil rods supported by No. 20 gage metal clips, located 16" on center vertically, on each stud. 3" thick mineral fiber insulating batts friction fitted between the studs.	—	—	6 1/2[d]	—
	15-1.10	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have two layers of 1/2" Type X gypsum wallboard.[e] The first layer of wallboard to be attached with 1"-long Type S buglehead screws spaced 24" on center and the second layer is attached with 1 5/8"-long Type S screws spaced at 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	6 1/2	—
	15-1.11	Steel studs 0.060" thick, 4" deep or 6" at 16" or 24" centers, respectively, with 1/2" glass fiber-reinforced concrete (GFRC) on the exterior surface. GFRC is attached with flex anchors at 24" on center, with 5" leg welded to studs with two 1/2"-long flare-bevel welds, and 4" foot attached to the GFRC skin with 5/8"-thick GFRC bonding pads that extend 2 1/2" beyond the flex anchor foot on both sides. Interior surface to have one layer of 5/8" Type X gypsum wallboard[e], attached with 1 1/4"-long Type S buglehead screws spaced 12" on center. Cavity is to be filled with 5" of 4 pcf (nominal) mineral fiber batts. GFRC has 1 1/2" returns packed with mineral fiber and caulked on the exterior.	—	—	—	6 1/8
	15-1.12[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4′ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	—	6 3/4
	15-1.13[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4′ wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. R-19 mineral fiber insulation installed in stud cavity.	—	—	—	6 3/4
	15-1.14[u]	2" × 6" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard, 4′ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 7" on center.	—	—	—	6 3/4
	15-1.15[u]	2" × 4" wood studs at 16" with double top plates, single bottom plate; interior and exterior sides covered with 5/8" Type X gypsum wallboard and sheathing, respectively, 4′ wide, applied horizontally or vertically with vertical joints over studs, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center. Cavity to be filled with 3 1/2" mineral wool insulation.	—	—	—	4 3/4
	15-1.16[u]	2" × 6" wood studs at 24" centers with double top plates, single bottom plate; interior and exterior side covered with two layers of 5/8" Type X gypsum wallboard, 4′ wide, applied horizontally with vertical joints over studs. Base layer fastened with 2 1/4" Type S drywall screws, spaced 24" on center and face layer fastened with Type S drywall screws, spaced 8" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Cavity to be filled with 5 1/2" mineral wool insulation.	—	—	8	—
	15-2.1[v]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 1 3/4". Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1" long No. 6 drywall screws at 12" on center.	—	—	—	6

Mod_11661_Text_FS97-21 Part I.pdf Page: 3

F11661Text Modification

MATERIAL	ITEM NUMBER	CONSTRUCTION	MINIMUM FINISHED THICKNESS FACE-TO-FACE (inches) 4 hours	3 hours	2 hours	1 hour
	15-2.2[Q]	3 5/8" No. 16 gage steel studs at 24" on center or 2" × 4" wood studs at 24" on center. Metal lath attached to the exterior side of studs with minimum 1" long No. 6 drywall screws at 6" on center and covered with minimum 3/4" thick Portland cement plaster. Thin veneer brick units of clay or shale complying with C1157/C1157M–2017, Grade TBS or better, installed in running bond in accordance with Section 1404.10. Combined total thickness of the Portland cement plaster, mortar and thin veneer brick units shall be not less than 2". Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	6 7/8	—
	15-2.3[Q]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with one layer of 5/8"-thick Type X gypsum wallboard attached to studs with 1"-long No. 6 drywall screws at 12" on center.	—	—	—	7 7/8
	15-2.4[Q]	3 5/8" No. 16 gage steel studs at 16" on center or 2" × 4" wood studs at 16" on center. Where metal lath is used, attach to the exterior side of studs with minimum 1"-long No. 6 drywall screws at 6" on center. Brick units of clay or shale not less than 2 5/8" thick complying with C270–14a installed in accordance with Section 1404.6 with a minimum 1" airspace. Interior side covered with two layers of 5/8"-thick Type X gypsum wallboard. Bottom layer attached to studs with 1"-long No. 6 drywall screws at 24" on center. Top layer attached to studs with 1 5/8"-long No. 6 drywall screws at 12" on center.	—	—	8 1/2	—
16. Exterior walls rated for fire resistance from the inside only in accordance with Section 705.5.	16-1.1[Q]	2" × 4" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally unblocked, and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound. Exterior covered with 3/8" wood structural panels, applied vertically, horizontal joints blocked and fastened with 6d common nails (bright)–12" on center in the field, and 6" on center panel edges. Cavity to be filled with 3 1/2" mineral wool insulation. Rating established for exposure from interior side only.	—	—	—	4 1/2
	16-1.2[Q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plate; interior side covered with 5/8" Type X gypsum wallboard, 4' wide, applied horizontally or vertically with vertical joints over studs and fastened with 2 1/4" Type S drywall screws, spaced 12" on center, wallboard joints covered with paper tape and joint compound, fastener heads covered with joint compound, exterior side covered with 7/16" wood structural panels fastened with 6d common nails (bright) spaced 12" on center in the field and 6" on center along the panel edges. Cavity to be filled with 5 1/2" mineral wool insulation. Rating established from the gypsum-covered side only.	—	—	—	6 9/16
	16-1.3[Q]	2" × 6" wood studs at 16" centers with double top plates, single bottom plates; interior side covered with 5/8" Type X gypsum wallboard, 4'wide, applied vertically with all joints over framing or blocking and fastened with 2 1/4" Type S drywall screws spaced 7" on center. Joints to be covered with tape and joint compound. Exterior covered with 3/8" wood structural panels, applied vertically with edges over framing or blocking and fastened with 6d common nails (bright) at 12" on center in the field and 6" on center on panel edges. R-19 mineral fiber insulation installed in stud cavity. Rating established from the gypsum-covered side only.	—	—	—	6 1/2

For SI: 1 inch = 25.4 mm, 1 square inch = 645.2 mm^2, 1 cubic foot = 0.0283 m^3.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Thickness shown for brick and clay tile is nominal thicknesses unless plastered, in which case thicknesses are net. Thickness shown for concrete masonry and clay masonry is equivalent thickness defined in Section 722.3.1 for concrete masonry and Section 722.4.1.1 for clay masonry. Where all cells are solid grouted or filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, the equivalent thickness shall be the thickness of the block or brick using specified dimensions as defined in Chapter 21. Equivalent thickness shall include the thickness of applied plaster and lath or gypsum wallboard, where specified.

c. For units in which the net cross-sectional area of cored brick in any plane parallel to the surface containing the cores is not less than 75 percent of the gross cross-sectional area measured in the same plane.

d. Shall be used for nonbearing purposes only.

e. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinforced and the entire surface is covered with not less than 1/16-inch gypsum veneer plaster.

f. The fire-resistance time period for concrete masonry units meeting the equivalent thicknesses required for a 2-hour fire-resistance rating in Item 3, and having a thickness of not less than 7 5/8 inches is 4 hours where cores that are not grouted are filled with silicone-treated perlite loose-fill insulation; vermiculite loose-fill insulation; or expanded clay, shale or slate lightweight aggregate, sand or slag having a maximum particle size of 3/8 inch.

g. The fire-resistance rating of concrete masonry units composed of a combination of aggregate types or where plaster is applied directly to the concrete masonry shall be determined in accordance with ACI 216.1/TMS 0216. Lightweight aggregates shall have a maximum combined density of 65 pounds per cubic foot.

Page: 4

Mod_11661_Text_FS97-21 Part I.pdf

F11661Text Modification

h. See Note b. The equivalent thickness shall be permitted to include the thickness of cement plaster or 1.5 times the thickness of gypsum plaster applied in accordance with the requirements of Chapter 25.

i. Concrete walls shall be reinforced with horizontal and vertical temperature reinforcement as required by Chapter 19.

j. Studs are welded truss wire studs with 0.18 inch (No. 7 B.W. gage) flange wire and 0.18 inch (No. 7 B.W. gage) truss wires.

k. Nailable metal studs consist of two channel studs spot welded back to back with a crimped web forming a nailing groove.

l. Wood structural panels shall be permitted to be installed between the fire protection and the wood studs on either the interior or exterior side of the wood frame assemblies in this table, provided that the length of the fasteners used to attach the fire protection is increased by an amount not less than the thickness of the wood structural panel.

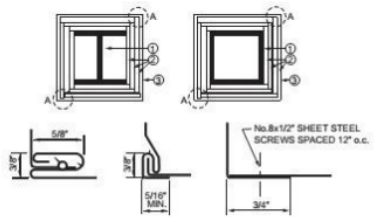
m. For studs with a slenderness ratio, l_e/d, greater than 33, the design stress shall be reduced to 78 percent of allowable F'_c. For studs with a slenderness ratio, l_e/d, not exceeding 33, the design stress shall be reduced to 78 percent of the adjusted stress F'_c calculated for studs having a slenderness ratio l_e/d of 33.

n. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

o. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

p. NCMA TEK 5-8A shall be permitted for the design of fire walls.

q. The design stress of studs shall be equal to not more than 100 percent of the allowable F'_c calculated in accordance with Section 2306.



CORNER JOINT DETAILS (A)

For SI: 1 inch = 25.4 mm, 1 foot = 305 mm.

1. Structural steel column, either wide flange or tubular shapes.

Page: 5
Mod_11661_Text_FS97-21 Part I.pdf

F11661Text Modification

2. Type X gypsum board or gypsum panel products in accordance with ASTM C1177, C1178, C1278, C1396 or C1658. The total thickness of gypsum board or gypsum panel products calculated as *h* in Section 722.5.1.2 shall be applied vertically to an individual column using one of the following methods:
   1. As a single layer without horizontal joints.
   2. As multiple layers with horizontal joints not permitted in any layer.
   3. As multiple layers with horizontal joints staggered not less than 12 inches vertically between layers and not less than 8 feet vertically in any single layer. The total required thickness of gypsum board or gypsum panel products shall be determined on the basis of the specified fire-resistance rating and the weight-to-heated-perimeter ratio (W/D) of the column. For fire-resistance ratings of 2 hours or less, one of the required layers of gypsum board or gypsum panel product ~~may~~ shall be permitted to be applied to the exterior of the sheet steel column covers with 1-inch long Type S screws spaced 1 inch from the wallboard edge and 8 inches on center. For such installations, 0.0149-inch minimum thickness galvanized steel corner beads with $1^1/_2$-inch legs shall be attached to the wallboard with Type S screws spaced 12 inches on center.

3. For fire-resistance ratings of 3 hours or less, the column covers shall be fabricated from 0.0239-inch minimum thickness galvanized or stainless steel. For 4-hour fire-resistance ratings, the column covers shall be fabricated from 0.0239-inch minimum thickness stainless steel. The column covers shall be erected with the Snap Lock or Pittsburgh joint details. For fire-resistance ratings of 2 hours or less, column covers fabricated from 0.0269-inch minimum thickness galvanized or stainless steel shall be permitted to be erected with lap joints. The lap joints shall be permitted to be located anywhere around the perimeter of the column cover. The lap joints shall be secured with $^1/_2$-inch-long No. 8 sheet metal screws spaced 12 inches on center. The column covers shall be provided with a minimum expansion clearance of $^1/_8$ inch per linear foot between the ends of the cover and any restraining construction.

FIGURE 722.5.1(2) GYPSUM-PROTECTED STRUCTURAL STEEL COLUMNS WITH SHEET STEEL COLUMN COVERS

Reason: The term 'may' is subjective. The proposal is to bring the text into enforceable language by using the ICC preferred language.as often as possible. Similar proposals will be submitted for the Group B cycle for IRC, IECC and IEBC.
This is a joint proposal submitted by the ICC Building Code Action Committee (BCAC) and the ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at:
FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These changes are only changing verbiage.

Public Hearing Results

Page: 6

Mod_11661_Text_FS97-21 Part I.pdf

F11661Text Modification

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal provides consistency for the text throughout the code and replaces the current text of "may" with enforceable language. (Vote: 13-0)

Final Hearing Results

FS97-21 Part I AS

Page: 7

Mod_11661_Text_FS97-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

125

F10911 /FS155-21

Date Submitted	03/08/2024	**Section**	803.13	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC - B - Section 803.11.

Summary of Modification

This is a simple editorial change, as referenced in Table 803.13 are not just about flame spread but are also include the smoke developed index, so it should reference the complete classification as defined in Section 803.1.2 (i.e. A, B, C).

Rationale

See attached

F10911Text Modification

See attached

Page: 1

Mod10911_TextOfModification.pdf

F10911Text Modification

FS155-21

Original Proposal

IBC: 803.13

Proponents: Matthew Dobson, Vinyl Siding Institute, Vinyl Siding Institute (mdobson@vinylsiding.org)

2021 International Building Code

Revise as follows:

803.13 Interior finish requirements based on occupancy. *Interior wall and ceiling finish* shall have a classification ~~*flame spread index*~~ not less ~~greater~~ than that specified in Table 803.13 for the group and location designated. *Interior wall and ceiling finish* materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.1.1, shall be permitted to be used where a Class A classification in accordance with ASTM E84 or UL 723 is required.

Reason: This is a simple editorial change, as referenced in Table 803.13 are not just about flame spread but are also include the smoke developed index, so it should reference the complete classification as defined in Section 803.1.2 (i.e. A, B, C).

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simply editorial.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
803.13Interior finish requirements based on occupancy.
Interior wall and ceiling finish shall have a classification such that the flame spread index and smoke developed index values are not higher than those corresponding to the classification ~~not less than that~~ specified in Table 803.13 for the group and location designated. *Interior wall and ceiling finish* materials tested in accordance with NFPA 286 and meeting the acceptance criteria of Section 803.1.1.1, shall be permitted to be used where a Class A classification in accordance with ASTM E84 or UL 723 is required.

Committee Reason: The committee concluded the modification clarifies the intent of the proposal and incorporates the proper terminology. The proposal clarifies the intent of the code. (Vote: 12-0)

Final Hearing Results

FS155-21 AM

Page: 1

Mod_10911_Text_FS155-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

126

F10916 /FS160-21

Date Submitted	03/08/2024	**Section**	806.6.1	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

This is simply an editorial change. This proposal just moves sections around without changing the intended meaning.

Rationale

See attached

F10916Text Modification

See attached

Mod10916_TextOfModification.pdf

Page: 1

F10916Text Modification

FS160-21

Original Proposal

IBC: 603.1, [F] 806.5, [F]806.6, 806.6.1 (New), [F]806.7, [F]806.8, [F]806.9

Proponents: Marcelo Hirschler, GBH International, self (mmh@gbhint.com)

THIS CODE CHANGE WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Delete without substitution:

~~**[F] 806.5 Foam plastic.** Foam plastic used as *trim* in any occupancy shall comply with Section 2604.2~~.

Revise as follows:

[F] ~~806.6~~ 806.5 Pyroxylin plastic. Imitation leather or other material consisting of or coated with a pyroxylin or similarly hazardous base shall not be used in Group A occupancies.

[F] ~~806.7~~ 806.6 Interior trim. Material, other than foam plastic used as interior *trim*, shall have a minimum Class C *flame spread* and *smoke-developed index* when tested in accordance with ASTM E84 or UL 723, as described in Section 803.1.2. Combustible*trim*, excluding handrails and guardrails, shall not exceed 10 percent of the specific wall or ceiling area to which it is attached.

Add new text as follows:

806.6.1 Foam plastic. Foam plastic used as interior trim in any occupancy shall comply with Section 2604.2.

Revise as follows:

[F] ~~806.8~~ 806.7 Interior floor-wall base. *Interior floor-wall base* that is 6 inches (152 mm) or less in height shall be tested in accordance with Section 804.2 and shall be not less than Class II. Where a Class I floor finish is required, the floor-wall base shall be Class I.

Exception: Interior *trim* materials that comply with Section 806.7.

[F] ~~806.9~~ 806.8 Combustible lockers. Where lockers constructed of combustible materials are used, the lockers shall be considered to be *interior finish* and shall comply with Section 803.

Exception: Lockers constructed entirely of wood and noncombustible materials shall be permitted to be used wherever*interior finish* materials are required to meet a Class C classification in accordance with Section 803.1.2.

603.1 Allowable materials. Combustible materials shall be permitted in buildings of Type I or II construction in the following applications and in accordance with Sections 603.1.1 through 603.1.3:

Page: 1

Mod_10916_Text_FS160-21.pdf

F10916Text Modification

1. *Fire-retardant-treated wood* shall be permitted in:
   1.1. Nonbearing partitions where the required *fire-resistance rating* is 2 hours or less except in *shaft enclosures* within Group I-2 occupancies and *ambulatory care facilities*.
   1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
   1.3. Roof construction, including girders, trusses, framing and decking.

   Exceptions:
   1. In buildings of Type IA construction exceeding two *stories above grade plane*, *fire-retardant-treated wood* is not permitted in roof construction where the vertical distance from the upper floor to the roof is less than 20 feet (6096 mm).
   2. Group I-2, roof construction containing *fire-retardant-treated wood* shall be covered by not less than a Class A *roof covering* or roof assembly, and the roof assembly shall have a *fire-resistance rating* where required by the construction type.

   1.4. Balconies, porches, decks and exterior *stairways* not used as required exits on buildings three *stories* or less above grade plane.

2. Thermal and acoustical insulation, other than foam plastics, having a *flame spread index* of not more than 25.

   Exceptions:
   1. Insulation placed between two layers of noncombustible materials without an intervening airspace shall be allowed to have a *flame spread index* of not more than 100.
   2. Insulation installed between a finished floor and solid decking without intervening airspace shall be allowed to have a *flame spread index* of not more than 200.

3. Foam plastics in accordance with Chapter 26.
4. *Roof coverings* that have an A, B or C classification.
5. *Interior floor finish* and floor covering materials installed in accordance with Section 804.
6. Millwork such as doors, door frames, window sashes and frames.
7. *Interior wall and ceiling finishes* installed in accordance with Section 803.
8. *Trim* installed in accordance with Section 806.6 ~~806~~.
9. Where not installed greater than 15 feet (4572 mm) above grade, show windows, nailing or furring strips and wooden bulkheads below show windows, including their frames, aprons and show cases.
10. Finish flooring installed in accordance with Section 805.
11. Partitions dividing portions of stores, offices or similar places occupied by one tenant only and that do not establish a *corridor* serving an *occupant load* of 30 or more shall be permitted to be constructed of *fire-retardant-treated* wood, 1-hour fire-resistance-rated construction or of wood panels or similar light construction up to 6 feet (1829 mm) in height.
12. *Stages* and *platforms* constructed in accordance with Sections 410.2 and 410.3, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14 and Section 705.2.3.1.
14. Blocking such as for handrails, millwork, cabinets and window and door frames.
15. Light-transmitting plastics as permitted by Chapter 26.

Page: 2

Mod_10916_Text_FS160-21.pdf

F10916Text Modification

16. Mastics and caulking materials applied to provide flexible seals between components of *exterior wall* construction.
17. Exterior plastic *veneer* installed in accordance with Section 2605.2.
18. Nailing or furring strips as permitted by Section 803.15.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.4.4 and 705.2.3.1.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.1.2.
21. Sprayed fire-resistant materials and intumescent and mastic fire-resistant coatings, determined on the basis of *fire resistance* tests in accordance with Section 703.2 and installed in accordance with Sections 1705.15 and 1705.16, respectively.
22. Materials used to protect penetrations in fire-resistance-rated assemblies in accordance with Section 714.
23. Materials used to protect *joints* in fire-resistance-rated assemblies in accordance with Section 715.
24. Materials allowed in the concealed spaces of buildings of Types I and II construction in accordance with Section 718.5.
25. Materials exposed within plenums complying with Section 602 of the International Mechanical Code.
26. Wall construction of freezers and coolers of less than 1,000 square feet (92.9 m^2), in size, lined on both sides with noncombustible materials and the building is protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
27. Wood nailers for parapet flashing and roof cants.

Reason: This is simply an editorial change. Presently Section 603.1 item 8 refers "trim" to section 806 but section 806 contains other materials than trim and the definition of trim as "Picture molds, chair rails, baseboards, handrails, door and window frames and similar decorative or protective materials used in fixed applications." might lead users to think that all of that is covered, including items such as decorative materials. In section 806, foam plastic trim is covered in 806.5 and interior trim is covered in 806.7). Foam plastic trim should be a subsection of interior trim and section 603 should refer to the trim section. This proposal just moves sections around without changing the intended meaning.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This simply moves sections around to improve the usability.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee agreed that the foam plastic trim should be a subsection of interior trim and Section 603 should refer specifically to Section 806.6. The proposal clarifies the requirements without technical changes. (Vote: 14-0)

Final Hearing Results

FS160-21 AS

Page: 3

Mod_10916_Text_FS160-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

127

F10926 | **/G3-21 Part II**

Date Submitted	03/08/2024	**Section**	805.2	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

The proposed code change is specific to the IFC. This code is not part of the FBC.

Summary of Modification

Modifies text of Section 805.2. Modifies text of Section 808.1. The intent is to not appear to have two different types of ‘ambulatory care facilities’.

Rationale

See attached

F10926Text Modification

See attached

Mod10926_TextOfModification.pdf

Page: 1

F10926Text Modification

G3-21 Part II

Original Proposal

PART II - IFC: 805.2, 808.1

Proponents: John Williams, Chair, Healthcare Committee (ahc@iccsafe.org)

2021 International Fire Code

Revise as follows:

805.2 Group I-2 and ~~Group B~~ ambulatory care facilities. The requirements in Sections 805.2.1 through 805.2.2 shall apply to Group I-2 occupancies and ~~Group B~~ ambulatory care facilities.

808.1 Wastebaskets and linen containers in Group I-1, I-2 and I-3 occupancies and~~Group B~~ ambulatory care facilities. Wastebaskets, linen containers and other waste containers, including their lids, located in Group I-1, I-2 and I-3 occupancies and~~Group B~~ ambulatory care facilities shall be constructed of noncombustible materials or of materials that meet a peak rate of heat release not exceeding 300 kW/m^2 when tested in accordance with ASTM E1354 at an incident heat flux of 50 kW/m^2 in the horizontal orientation. Metal wastebaskets and other metal waste containers with a capacity of 20 gallons (75.7 L) or more shall be *listed* in accordance with UL 1315 and shall be provided with a noncombustible lid. Portable containers exceeding 32 gallons (121 L) shall be stored in an area classified as a waste and linen collection room and constructed in accordance with Table 509.1 of the International Building Code.

Exception: Recycling containers complying with Section 808.1.2 are not required to be stored in waste and linen collection rooms.

Reason: The term "ambulatory care facility" is currently defined in the IBC and IFC. It should be defined in the other codes where the term is used. When this item was first introduced to the codes, it was believed that it was needed to add 'Group B' in front of the term. This proposal removes it as no longer necessary, and will make this consistent with the numerous other locations throughout the codes where 'Group B' in not included. The intent is to not appear to have two different types of 'ambulatory care facilities'.
There will also be a Group B proposal to IEBC to add the definition and correct the terms in 302.2.1, 503.15 and 805.11.

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 the CHC held several virtual meeting, which included members of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at CHC.

.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This an editorial clarification for consistent terminology

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal is an editorial clarification for consistent terminology and to be consistent with the actions taken on Parts I, III and IV. (Vote: 13-1)

Page: 1

Mod_10926_Text_G3-21 Part II.pdf

F10926Text Modification

Final Hearing Results

G3-21 Part II AS

Page: 2

Mod_10926_Text_G3-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

128

F10722 | **/F31-21**

Date Submitted	03/04/2024	**Section**	911.1.6	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

To clarify that the criteria for when a switch is required is found in ASME A17.1/CSA B44 and that the IBC and IFC requirements are to indicate where the switch is located in the building.

Rationale

See attached

F10722Text Modification

See attached

Page: 1

Mod10722_TextOfModification.pdf

F10722Text Modification

F31-21

Original Proposal

IFC: 508.1.6; IBC: [F] 911.1.6

Proponents: Kevin Brinkman, National Elevator Industry, Inc., National Elevator Industry, Inc. (klbrinkman@neii.org)

2021 International Building Code

Revise as follows:

[F] 911.1.6 Required features. The fire command center shall comply with NFPA 72 and shall contain all of the following features:

1. The emergency voice/alarm communication system control unit.
2. The fire department communications system.
3. Fire detection and alarm system *annunciator*.
4. *Annunciator* unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air distribution systems.
6. The fire fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking *interior exit stairway* doors simultaneously.
8. Sprinkler valve and waterflow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, *means of egress*, fire protection systems, fire fighter air replenishment system, fire-fighting equipment and fire department access and the location of *fire walls, fire barriers, fire partitions, smoke barriers* and *smoke partitions*.

Page: 1

Mod_10722_Text_F31-21.pdf

F10722Text Modification

13. An *approved* Building Information Card that contains, but is not limited to, the following information:
    13.1. General building information that includes: property name, address, the number of floors in the building above and below grade, use and occupancy classification (for mixed uses, identify the different types of occupancies on each floor), and the estimated building population during the day, night and weekend.
    13.2. Building emergency contact information that includes: a list of the building's emergency contacts including but not limited to building manager and building engineer and their respective work phone number, cell phone number, e-mail address.
    13.3. Building construction information that includes: the type of building construction including but not limited to floors, walls, columns, and roof assembly.
    13.4. *Exit access* and *exit stairway* information that includes: number of *exit access* and *exit stairways* in the building, each *exit access* and *exit stairway* designation and floors served, location where each *exit access* and *exit stairway* discharges, *interior exit stairways* that are pressurized, *exit stairways* provided with emergency lighting, each *exit stairway* that allows reentry, *exit stairways* providing roof access; elevator information that includes: number of elevator banks, elevator bank designation, elevator car numbers and respective floors that they serve; location of elevator machine rooms, control rooms and control spaces; location of sky lobby, location of freight elevator banks.
    13.5. Building services and system information that includes: location of mechanical rooms, location of building management system, location and capacity of all fuel oil tanks, location of emergency generator, location of natural gas service.
    13.6. Fire protection system information that includes: location of standpipes, location of fire pump room, location of fire department connections, floors protected by automatic sprinklers, location of different types of *automatic sprinkler systems* installed including, but not limited to, dry, wet and pre-action.
    13.7 Hazardous material information that includes: location of hazardous material, quantity of hazardous material.
14. Work table.
15. Generator supervision devices, manual start and transfer features.
16. Public address system, where specifically required by other sections of this code.
17. Elevator fire recall switch in accordance with ASME A17.1/CSA B44.
18. Elevator emergency or standby power selector switch(es), ~~where emergency or standby power is provided~~ in accordance with ASME A17.1/CSA B44

.

Reason: To clarify that the criteria for when a switch is required is found in ASME A17.1/CSA B44 and that the IBC and IFC requirements are to indicate where the switch is located in the building. This is consistent with the language for the fire recall switch. No switch is needed if the emergency or standby power is sufficient to operate all elevators and associated equipment simultaneously. See also corresponding change to IBC 911.1.6.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The cost does not change since the proposed change is just a clarification of current requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal appropriately provides the necessary reference to ASME A17.1/CSA B44 for the requirements for emergency or standby power selector switches that are required in a fire command center. (Vote: 12-2)

Page: 2

Mod_10722_Text_F31-21.pdf

F10722Text Modification

Final Hearing Results

F31-21 AS

Page: 3

Mod_10722_Text_F31-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

129

F10723	/F32-21				
Date Submitted	03/04/2024	**Section**	918	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text for the proposed code change is not consistent with that of the 2023 FBC - B.

Summary of Modification

The purpose of this proposal is simply to align the terminology in Section 510 with that being used by industry. The revisions shown simply go through and revise that term within IFC Section 510 and 1103.2 and IBC Section 918.

Rationale

See attached

F10723Text Modification

See attached

Page: 1

Mod10723_TextOfModification.pdf

F10723Text Modification

F32-21

Original Proposal

IFC: SECTION 202 (New), CHAPTER 5, SECTION 510, 510.1, 510.2, 510.3, 510.4, 510.4.1, 510.4.1.1, 510.4.1.2, 510.4.1.3, 510.4.2, 510.4.2.1, 510.4.2.2, 510.4.2.3, 510.4.2.4, 510.4.2.5, 510.4.2.6, 510.4.2.7, 510.4.2.8, 510.5, 510.5.1, 510.5.2, 510.5.3, 510.5.4, 510.5.5, 510.6, 510.6.1, 510.6.2, 510.6.3, 510.6.4, 1103.2; IBC: CHAPTER 9, SECTION 918, [F] 918.1

Proponents: Alan Perdue, Safer Buildings Coalition, Safer Buildings Coalition (alan.perdue@saferbuildings.org)

2021 International Building Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

Revise as follows:

SECTION 918
EMERGENCY RESPONDER
COMMUNICATION ~~COVERAGE~~ENHANCEMENT SYSTEMS

[F] 918.1 General. In-building ~~two-way~~ emergency responder communication ~~coverage~~ enhancement systems shall be provided in all new buildings in accordance with Section 510 of the International Fire Code.

Reason: The purpose of this proposal is simply to align the terminology in Section 510 with that being used by industry. The revisions shown simply go through and revise that term within IFC Section 510 and 1103.2 and IBC Section 918.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is to provide clarity on the proper terminology used for in buidling communication systems as used by industry. This proposal therefore will not have an impact on cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal appropriately aligns the terminology for in-building communication systems with that used by the industry. Note that IBC Section 918.1 was editorially revised to add the term "system" to state "In-building emergency responder communication enhancement system." (Vote: 14-0)

Final Hearing Results

F32-21 AS

Page: 1

Mod_10723_Text_F32-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

130

F10725 /F62-21

Date Submitted	03/04/2024	**Section**	903	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is a correlation fix. The "batteries" reference is legacy language that goes back years. Section 903.2 concerning automatic sprinkler systems.

Rationale

See attached

F10725Text Modification

See attached

Page: 1

Mod10725_TextOfModification.pdf

F10725Text Modification

F62-21

Original Proposal

IFC: CHAPTER 9, SECTION 903, 903.1, 903.2; IBC: CHAPTER 9, SECTION 903, [F] 903.1, [F] 903.2

Proponents: Robert Davidson, Davidson Code Concepts, LLC, Tesla, USA (rjd@davidsoncodeconcepts.com)

2021 International Building Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 903
AUTOMATIC SPRINKLER SYSTEMS

[F] 903.1 General. *Automatic sprinkler systems* shall comply with this section.

Revise as follows:

[F] 903.2 Where required. Approved *automatic sprinkler systems* in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.

Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries not required to have fire suppression by Section 1207 of the *International Fire Code* for energy storage systems and standby engines, provided that those spaces or areas are equipped throughout with an*automatic smoke detection system* in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour*fire barriers* constructed in accordance with Section 707 or not less than 2-hour *horizontal assemblies* constructed in accordance with Section 711, or both.

Reason: This is a correlation fix.
The "batteries" reference is legacy language that goes back years, and since then the fire and building codes have had significant upgrades on specific requirements for batteries, i.e., energy storage systems.

The batteries referred to in the existing language were lead-acid and nickel-cadmium battery systems less than 50 V ac, 60 V dc that are in telecommunications facilities for installations of communications equipment under the exclusive control of communications utilities which is a current exemption under Section 1207 of the fire code. The reason this correlation is necessary is because that exception is new and specific to the lead-acid technology, lithium-ion batteries for example would not have the exception.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Since this simply correlates old language with the new requirements for energy storage systems, there is no impact on construction costs. It could save constructions costs by eliminating the confusion of having a project move forward without suppression that is required, then the increased costs to correct the error.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
903.2 Where required. *Approved automatic sprinkler systems* in new buildings and structures shall be provided in the locations described in Sections 903.2.1 through 903.2.12.
Exception: Spaces or areas in telecommunications buildings used exclusively for telecommunications equipment, associated electrical power distribution equipment, batteries not required to have ~~fire suppression~~ an automatic sprinkler system by Section 1207 for energy

Page: 1

Mod_10725_Text_F62-21.pdf

F10725Text Modification

storage systems and standby engines, provided that those spaces or areas are equipped throughout with an automatic smoke detection system in accordance with Section 907.2 and are separated from the remainder of the building by not less than 1-hour *fire barriers* constructed in accordance with Section 707 of the International Building Code or not less than 2-hour*horizontal assemblies* constructed in accordance with Section 711 of the International Building Code, or both.

Committee Reason: The committee stated that the reason for the approval of the modification was that it clarifies the proper terminology to correlate with the requirement by replacing the words fire suppression with automatic sprinkler system. The reason for the approval of the proposal was stated to be that it clarifies that ESS should be in the exempt list for sprinklers. (Vote: 14-0)

Final Hearing Results

F62-21 AM

Page: 2

Mod_10725_Text_F62-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

131

F10726	/F66-21				
Date Submitted	03/04/2024	**Section**	903.2.2	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Correlates Directly

Summary of Modification

To safely and effectively deal with the potential fire involving a thermal runaway involving a lithium-ion or lithium metal battery requires early detection, a mitigation plan and suppression. This proposal is to cover the suppression side of the equation

Rationale

See attached

1st Comment Period History

F10726-G1

Proponent Mo Madani Submitted 5/29/2024 9:34:51 PM Attachments No

Comment:

This should be calcified as "correlate directly"

F10726Text Modification

See attached

Page: 1

Mod10726_TextOfModification.pdf

F10726Text Modification

F66-21

Original Proposal

IFC: CHAPTER 9, SECTION 903, 903.1, 903.2.2 (New), 903.2.2, 903.2.2.2 (New), 903.2.4, 903.2.7, 903.2.7.3 (New), 903.2.9, 903.2.9.1; IBC: CHAPTER 9, SECTION 903, [F] 903.1, 903.2.2 (New), [F] 903.2.2, 903.2.2.2 (New), [F] 903.2.4, [F] 903.2.7, 903.2.7.3 (New), [F] 903.2.9, [F] 903.2.9.1

Proponents: Robert Davidson, Davidson Code Concepts, LLC, Tesla, USA (rjd@davidsoncodeconcepts.com)

2021 International Building Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 903
AUTOMATIC SPRINKLER SYSTEMS

[F] 903.1 General. *Automatic sprinkler systems* shall comply with this section.

Revise as follows:

903.2.2 Group B. An automatic sprinkler system shall be provided for Group B occupancies as follows:

[F] 903.2.2.1 ~~903.2.2~~ Ambulatory care facilities. An *automatic sprinkler system* shall be installed throughout the entire floor containing an *ambulatory care facility* where either of the following conditions exist at any time:

1. Four or more care recipients are *incapable of self-preservation*.
2. One or more care recipients that are *incapable of self-preservation* are located at other than the *level of exit discharge* serving such a facility.

In buildings where ambulatory care is provided on levels other than the *level of exit discharge*, an *automatic sprinkler system* shall be installed throughout the entire floor as well as all floors below where such care is provided, and all floors between the level of ambulatory care and the nearest *level of exit discharge*, the *level of exit discharge*, and all floors below the level of *exit discharge*.

Exception: Floors classified as an *open parking garage* are not required to be sprinklered.

903.2.2.2 Laboratories; testing, research and development. An automatic sprinkler system shall be installed throughout the fire areas utilized for the research and development or testing of lithium-ion or lithium metal batteries.

[F] 903.2.4 Group F-1. An *automatic sprinkler system* shall be provided throughout all buildings containing a Group F-1 occupancy where one of the following conditions exists:

1. A Group F-1 *fire area* exceeds 12,000 square feet (1115 m^2).
2. A Group F-1 *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group F-1 *fire areas* on all floors, including any *mezzanines*, exceeds 24,000 square feet (2230 m^2).
4. A Group F-1 occupancy used to manufacture lithium-ion or lithium metal batteries.
5. A Group F-1 occupancy used to manufacture vehicles, energy storage system or equipment containing lithium-ion or lithium metal batteries.

[F] 903.2.7 Group M. An *automatic sprinkler system* shall be provided throughout buildings containing a Group M occupancy where one of the following conditions exists:

1. A Group M *fire area* exceeds 12,000 square feet (1115 m^2).

Page: 1

Mod_10726_Text_F66-21.pdf

F10726Text Modification

2. A Group M *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group M *fire areas* on all floors, including any *mezzanines*, exceeds 24,000 square feet (2230 m^2).

Revise as follows:

903.2.7.3 Lithium-ion or lithium metal battery storage. An automatic sprinkler system shall be provided in a room or space within a Group M occupancy where required for the storage of lithium-ion or lithium metal batteries by Section 322 or Chapter 32 of the International Fire Code.

[F] 903.2.9 Group S-1. An *automatic sprinkler system* shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 *fire area* exceeds 12,000 square feet (1115 m^2).
2. A Group S-1 *fire area* is located more than three stories above *grade plane*.
3. The combined area of all Group S-1 *fire areas* on all floors, including any *mezzanines*, exceeds 24,000 square feet (2230 m^2).
4. A Group S-1 *fire area* used for the storage of commercial motor vehicles where the *fire area* exceeds 5,000 square feet (464 m^2).
5. A Group S-1 fire area used for the storage of lithium-ion or lithium metal powered vehicles where the fire area exceeds 500 square feet (46.4 m2).

[F] 903.2.9.1 Repair garages. An *automatic sprinkler system* shall be provided throughout all buildings used as *repair garages* in accordance with Section 406, as shown:

1. Buildings having two or more *stories above grade plane*, including basements, with a *fire area* containing a *repair garage* exceeding 10,000 square feet (929 m^2).
2. Buildings not more than one *story above grade plane*, with a *fire area* containing a *repair garage* exceeding 12,000 square feet (1115 m^2).
3. Buildings with *repair garages* servicing vehicles parked in basements.
4. A Group S-1 *fire area* used for the repair of commercial motor vehicles where the *fire area* exceeds 5,000 square feet (464 m^2).
5. A Group S-1 fire area used for the repair of vehicles powered by lithium-ion or lithium metal batteries that exceeds 500 square feet (46.4 m2).

Reason: Over the last few cycles there have been a series of proposals dealing with energy storage systems that have highlighted the fire potential presented by lithium-ion and lithium metal batteries. Systems as small as 21 kWh would require the installation of an automatic sprinkler system. However, we have yet to fill in the blanks concerning these batteries in other occupancies and activities where there is a similar or greater potential for a fire event. This cycle there are additional topics covered by submittals such as battery collection and storage, personal mobility devices and emergency action plans.
To safely and effectively deal with the potential fire involving a thermal runaway involving a lithium-ion or lithium metal battery requires early detection, a mitigation plan and suppression. This proposal is to cover the suppression side of the equation.

903.2.2 is modified to cover Group B as a topic, the ambulatory care language is just renumbered.

903.2.2.2 is intended to capture testing, research and development activities where there can be an increased risk of thermal runaway and where in some cases it is intentional caused.

903.3.2.4 Item 4 captures the manufacture of the batteries; Item 5 captures the manufacture of vehicles, ESS and equipment where the battery is installed as part of the manufacturing process.

903.2.7.3 is a coordinating pointer where an M Group occupancy would require suppression based upon proposed Section 322 and currently by Chapter 32.

903.2.9 Item 5 captures the storage of battery powered vehicles. The 500 square foot correlates with the threshold above which Chapter 32 would require suppression for just lithium-ion battery storage.

Page: 2

Mod_10726_Text_F66-21.pdf

F10726Text Modification

903.2.9.1 Item 5 captures areas used to repair battery powered vehicles. The same 500 square foot threshold is used here.

Cost Impact: The code change proposal will increase the cost of construction
On a straight forward analysis this series of changes increases the cost construction. However, the majority of facilities involved in these activities do have suppression and any new construction of this nature includes suppression. Balanced against the cost of a fire that can not be extinguished routinely the installation of the suppression is ultimately a savings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that this is the added protection that's needed for lithium ion batteries and it covers all the occupancies where they could be used and stored including Group M occupancies. (Vote: 14-0)

Final Hearing Results

F66-21 AS

Page: 3

Mod_10726_Text_F66-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

132

F10728 /F67-21

Date Submitted	03/04/2024	**Section**	903.2.8.3	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes Section 903.2.8.3.

Rationale

See attached

F10728Text Modification

See attached

Page: 1

Mod10728_TextOfModification.pdf

F10728Text Modification

F67-21

Original Proposal

IFC: 903.2.8.3; IBC: [F] 903.2.8.3

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Building Code

Delete without substitution:

~~**[F] 903.2.8.3 Group R-4, Condition 2.** An *automatic sprinkler system* installed in accordance with Section 903.3.1.2 shall be permitted in Group R-4, Condition 2 occupancies.~~

Reason: These sections are unnecessary and are out of place. Group R4, Division 2 occupancies would default to NFPA 13R systems under Section 903.3.1.2, so there's no need to say that NFPA 13R systems are "permitted" in Section 903.2.8.3. Note that all of the subsections in 903.2.8 other than this one allow the use of NFPA 13D systems per Section 903.3.1.3. That is appropriate and necessary because this is the basis for getting some Group R occupancies out of NFPA 13R and into NFPA 13D. The Group R4, Division 2 provision is different in that it essentially "permits" what is otherwise already allowed. Although I am a consultant to NFSA, this proposal is submitted on my own behalf.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Editorial. This change does not impact application of the code.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the sections proposed for deletion are unnecessary to be repeated in the code since they are already covered in the code as stated in the proponent's reason statement. (Vote: 11-3)

Final Hearing Results

F67-21 AS

Page: 1

Mod_10728_Text_F67-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

133

F10730 /F70-21

Date Submitted	03/04/2024	**Section**	903.3.1.1.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is an editorial change to the omitted sprinkler locations. This simplifies the section and clarifies the allowable omittable locations.

Rationale

See attached

F10730Text Modification

See attached

Page: 1

Mod10730_TextOfModification.pdf

F10730Text Modification

F70-21

Original Proposal

IFC: 903.3.1.1.1; IBC: [F] 903.3.1.1.1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis@nfsa.org); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Building Code

Revise as follows:

[F] 903.3.1.1.1 Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an *approved* automatic fire detection system in accordance with Section 907.2 that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from a room merely because it is damp, of fire-resistance-rated construction or contains electrical equipment.

~~1. A room where the application of water, or flame and water, constitutes a serious life or fire hazard~~.

~~2.~~ 1. A room or space where sprinklers are considered undesirable because of the nature of the contents<u>and constitutes a serious life or fire hazard</u>, where *approved* by the fire code official.

~~3.~~ 2. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a *fire-resistance rating* of not less than 2 hours.

~~4.~~ 3. Rooms or areas that are of noncombustible construction with wholly noncombustible contents.

~~5.~~ 4. Fire service access elevator machine rooms and machinery spaces.

~~6.~~ 5. Machine rooms, machinery spaces, control rooms and control spaces associated with occupant evacuation elevators designed in accordance with Section 3008.

Reason: This is an editorial change to the omitted sprinkler locations. The first two locations were essentially the same locations and caused confusion among authorities having jurisdiction. This simplifies the section and clarifies the allowable omittable locations.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is already a requirement and is an editorial clarification.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it eliminates redundant language but keeps the requirement. (Vote: 13-1)

Final Hearing Results

F70-21 AS

Page: 1

Mod_10730_Text_F70-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

134

F10732 /F71-21

Date Submitted	03/04/2024	**Section**	903.3.1.1.3	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Concerning automatic sprinkler systems. to address the potential fire event from lithium-ion and lithium metal batteries.

Rationale

See attached

F10732Text Modification

See attached

Page: 1

Mod10732_TextOfModification.pdf

F10732Text Modification

F71-21

Original Proposal

IFC: CHAPTER 9, SECTION 903, 903.1, 903.3.1.1, 903.3.1.1.3 (New); IBC: CHAPTER 9, SECTION 903, [F] 903.1, [F] 903.3.1.1, [F] 903.3.1.1.3 (New)

Proponents: Robert Davidson, Davidson Code Concepts, LLC, Tesla, USA (rjd@davidsoncodeconcepts.com)

2021 International Building Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 903
AUTOMATIC SPRINKLER SYSTEMS

[F] 903.1 General. *Automatic sprinkler systems* shall comply with this section.

[F] 903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an *automatic sprinkler system* in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Sections 903.3.1.1.1 and 903.3.1.1.2.

Add new text as follows:

[F] 903.3.1.1.3 Lithium-ion or lithium metal batteries. Where sprinkler protection is required by this code for areas containing lithium-ion or lithium metal batteries, the design of the system shall be based upon a series of fire tests conducted or witnessed and reported by an approved testing laboratory involving test scenarios that address the range of variables associated with the intended arrangement of the hazards to be protected.

Reason: For the past few code cycles the IFC and IBC have been upgraded to address the potential fire event from lithium-ion and lithium metal batteries. This cycle there are additional proposals to cover battery storage, personal mobility devices, manufacturing and more. Automatic sprinkler systems are relied upon for fire protection. In the case of ESS the design of the sprinkler system is based upon a large scale fire testing at an approved laboratory because there was recognition that currently there is no guidance in NFPA 13. The same lack of guidance exists for any situation involving lithium-ion or lithium metal batteries. In the commodity classification portion of NFPA 13-2019 this issue is highlighted by "Table A.20.4(a) Examples of Commodities Not Addressed by Classifications in Section 20.4" which specifically lists lithium-ion and lithium metal batteries.
The recognition of the need for the submitted design to be based upon witnessed fire tests is missed by code officials as often as it is by designers and installers. The purpose of this new language is to provide important guidance to ensure that the submitted design is documented to be able to address the potential for a high heat release event.

Page: 1

Mod_10732_Text_F71-21.pdf

F10732Text Modification

Table A.20.4(a) Examples of Commodities Not Addressed by Classifications in Section 20.4

Ammunition Components
- Bulk primers and powder
Batteries
- Lithium and other similar exotic metals
- Lithium-ion and other rechargeable batteries that contain combustible electrolyte
Boat Storage
- Stored on racks
Boxes, Crates
- Empty, wood slatted*
Carpet Rolls
Combustible Metals — unless specifically identified otherwise
Compressed or Liquefied Flammable Gases (i.e., filled propane cylinders) — unless specifically identified otherwise
Explosives
- Blasting primers and similar items
Fertilizers (nitrates)
Fireworks
- Consumer and display
Flammable and Combustible Liquids — unless specifically identified otherwise
- Liquids that contain greater than 20 percent alcohol
Hanging Garments, Bulk Storage
Lighters (butane)
- Loose in large containers (Level 3 aerosol)
Storage Container
- Large container storage of household goods

*Should be treated as idle pallets.

Bibliography: NFPA 13-2019 "Table A.20.4(a) Examples of Commodities Not Addressed by Classifications in Section 20.4"

Cost Impact: The code change proposal will not increase or decrease the cost of construction
In reality, this should be occurring now based upon the IFC/IBC use of NFPA 13 as the standard. In that case there would be no increase in cost. But for those designers, installers and property owners that were not aware of this issue there could be an increased cost for the necessary compliance.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
2021 International Fire Code

903.3.1.1.3 Lithium-Ion or lithium metal batteries. Where ~~sprinkler protection is~~ automatic sprinkler systems are required by this code for areas containing lithium-ion or lithium metal batteries, the design of the system shall be based upon a series of fire tests conducted or witnessed and reported by an approved testing laboratory involving test scenarios that address the range of variables associated with the intended arrangement of the hazards to be protected.

2021 International Building Code

[F] 903.3.1.1.3 Lithium-ion or lithium metal batteries. Where ~~sprinkler protection is~~ automatic sprinkler systems are required by this code for areas containing lithium-ion or lithium metal batteries, the design of the system shall be based upon a series of fire tests conducted or witnessed and reported by an approved testing laboratory involving test scenarios that address the range of variables associated with the intended arrangement of the hazards to be protected.

Committee Reason: The committee stated that the reason for the approval of the modification was that it clarifies the intent by including the term automatic sprinkler systems. The stated reason for the approval of the proposal was that it adds the requirements for sprinkler protection needed for lithium batteries. (Vote: 14-0)

Page: 2

Mod_10732_Text_F71-21.pdf

F10732Text Modification

Final Hearing Results

F71-21 AM

Page: 3

Mod_10732_Text_F71-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

135

F10734 /F72-21

Date Submitted	03/04/2024	**Section**	903.3.1.2	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of the proposed code change is not consistent with that of the 2023 FBC - B.

Summary of Modification

Previous code cycle in four story Group R occupancies, the height limit from fire department vehicle access to the floor level of the highest story was changed to only 30'. Proposal to change this to 35'.

Rationale

See attached

F10734Text Modification

See attached

Page: 1

Mod10734_TextOfModification.pdf

F10734Text Modification

F72-21

Original Proposal

IFC: 903.3.1.2; IBC: [F] 903.3.1.2

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association; Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org); Paula Cino, National Multifamily Housing Council, National Multifamily Housing Council (pcino@nmhc.org); Dan Buuck, National Association of Home Builders, National Association of Home Builders (dbuuck@nahb.org); Margo Thompson, Newport Ventures, National Multifamily Housing Council (mthompson@newportventures.net)

2021 International Building Code

Revise as follows:

[F] 903.3.1.2 NFPA 13R sprinkler systems. *Automatic sprinkler systems* in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

1. Four stories or fewer above *grade plane*.
2. The floor level of the highest *story* is ~~30~~ 35 feet (~~9144~~10668 mm) or less above the lowest level of fire department vehicle access.
3. The floor level of the lowest *story* is ~~30~~ 35 feet (~~9144~~10668 mm) or less below the lowest level of fire department vehicle access.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from grade plane.

Reason: During the previous code development cycle, an issue of significant concern was rectified with respect to NFPA 13R sprinklers in Group R occupancies in podium-style buildings and allowance for as many as four stories up to 60’ in height above grade to be constructed on top of the horizontal building separation. However, while continuing to allow for NFPA 13R systems in four story Group R occupancies, the height limit from fire department vehicle access to the floor level of the highest story was changed to only 30’. In most cases, this height limit will not allow for NFPA 13R sprinklers in a four-story apartment building.
According to feedback from contractors, developers, and design professionals, typical height of floor assembly framing in multifamily buildings is slightly less than twelve inches. A four-story apartment building with 8’-6” ceiling heights and the necessary 8” to 12” foundation exposure above grade, would exceed this 30’ limit. Likewise, a very common mixed use building type of three stories of residential occupancy above ground level retail space would also exceed the 30’ limit. The current 30’ limit is at the very low end of fourth-story floor level height and offers little flexibility for floor-to-ceiling heights greater than 8’-0”. With the current 30’ limitation, NFPA 13R sprinkler systems are essentially limited to three-story buildings: The NFPA 13R standard was specifically created to permit these systems in buildings up to four stories. This proposal will allow the use of NFPA 13R sprinkler systems as envisioned by the standard.

It is also important to understand that the floor level measurement is not taken from the grade adjacent to the building but from the lowest level of fire department vehicle access, which can be up to 150 feet away. The difference in elevation over that distance can be significant, further limiting the number of buildings which can meet this section. Below is an example of a 4-story multifamily building. The 4th floor is at a height of 32' above grade. However, the dimension used as the threshold for a 13R system increases where the lowest level of fire department vehicle access is below the level of grade at the building.

Page: 1

Mod_10734_Text_F72-21.pdf

F10734Text Modification



The dimension of 35' was selected as the limit because it allows more flexibility for building design and floor-to-ceiling height while still remaining well within the 75' reach of typical fire truck ladders. It is also significantly lower than the 60' height limit which had been in place prior to the code change in 2021.

NFPA 13R systems have been extremely effective in protecting human lives as well as preventing significant property damage from fire in low-rise residential buildings since the NFPA 13R Standard was first published in 1989. A 2016 issue of the NFPA Journal published the findings of a workshop attended by subject matter experts that focused on the adequacy of 13R sprinklers. Overarching conclusions were 1) that major fires in 13R-protected buildings were the exception – not the rule and 2) that there was not sufficient evidence to indicate that 13R sprinklers have not been effective in protecting human life and reducing property damage. To quote the June 2016 NFPA Report describing the outcomes of the workshop:

- *"NFPA 13R/13D are effective standards that reduces loss of life and building damage due to a fire event."*
- *"To consider or make any changes to NFPA 13R/13D, better (more refined) data needs to be identified as well as collected on a consistent basis. A national database that describes fire events with information on building type/codes would assist in making intelligent changes to any sprinkler standards."*

Essentially limiting the use of NFPA 13R sprinkler systems to Group R buildings three-stories or less does not recognize other significant changes in the codes in recent cycles that offer increased fire protection. Furthermore, there may be some unintended consequences with respect to the current language. Recent cycles have seen changes such as sprinkler requirements for balconies in buildings where 13R sprinklers are used, increased attic protection if it is not sprinklered such as construction of the attic using fire retardant wood or non-combustible materials, and the recent 2021 requirement for special inspections of sealing fire penetrations and draft stopping. All of these ancillary provisions have increased fire protection and stringency of the fire code. Furthermore, by reducing the use of NFPA 13R systems in R-2 occupancies, requirements for sprinkler protection of balconies in these buildings have also been reduced – historically, an issue of significant concern. By extending requirements for NFPA 13 sprinklers in R-2 occupancies, sprinkler requirements for balconies are fewer or non-existent when compared to the absolute mandate of sprinklers on balconies for NFPA 13R systems through the IBC.

Census data reports that of the 13,000 multifamily buildings completed in 2019, more than 10,000 (77%) of these buildings were four stories or less. By reducing the percentage of multifamily buildings where NFPA 13R sprinklers are permitted, the code language as it currently stands will significantly impact housing affordability. The National Multifamily Housing Council estimates that moving from NFPA 13R to NFPA 13 sprinkler systems would carry an incremental installed cost increase of approximately $1.00/sq. ft. to $2.00/sq. ft. of overall building area on average across the US.

NFPA 13R sprinklers are a very effective means of assuring life safety and property protection in Group R buildings four stories and less

Page: 2

Mod_10734_Text_F72-21.pdf

F10734Text Modification

while maintaining housing affordability. An increase in height to 35' above or below the lowest level of fire department vehicle access is reasonable and modest and can easily be reached by the typical fire truck ladder.' This proposal recognizes the long-standing effectiveness of 13R life safety systems, which have been allowed since the early years of the I-codes as well as the legacy codes.

Cost Impact: The code change proposal will decrease the cost of construction

Costs associated with requirements for attic protection in NFPA 13 systems not only includes the additional sprinklers and piping but also costs associated with increased hydraulic demand and water supply as well as necessary freeze protection in cold and even moderate climates. Greater density and spacing of sprinklers, larger pipe diameter, sprinklers in concealed spaces, and especially, requirements for attic protection (with some exceptions) all contribute to the added cost. This cost increase does not include the final cost with markup to the building owner or the potential need to add a fire pump in the NFPA 13 system. Moving from a 13R system to a 13 system for a $9,342,688, four-story, 48-unit apartment building increased construction costs by $102,255 or a little over $2,100/unit. (Home Innovation Research Labs, *Cost Analysis of Proposed Group A Code Changes (2018-2019 ICC Code Development Cycle)* – October 2018). This would have a substantial impact on both tenant rental rates and owner-occupied units. The detailed cost analysis is shown below.

Four-Story Building on Grade, 48 Units & Common Areas



[ELEVATION]

Table F117-A. Cost of NFPA 13 Sprinkler System Compared to NFPA 13R System

Component	Unit	Material	Labor	Total	w/O&P	Qty	Cost
Residential sprinkler heads	EA	16	21.50	37.5	53	292	15,476
3/4" diameter CPVC piping (NFPA 13R)	LF	7	6.90	13.9	19.05	4292	81,763
Wet standpipe riser, schedule 20, 4" diameter pipe	FL	5800	2875	--	8675	4	34,700
						Total NFPA 13R System	**131,939**
Additional sprinkler heads (attic)	EA	16	21.50	37.5	53	44	2,332
Additional sprinkler heads (non-exempt bathrooms)	EA	16	21.50	37.5	53	2	106
3/4" diameter CPVC piping (NFPA 13R)	LF	7	6.90	13.9	19.05	(4292)	(81,763)
1-1/2" CPVC piping (NFPA 13)	LF	18.55	9.75	28.3	36.50	4292	156,658
Additional 1-1/2" CPVC piping for new sprinkler heads (NFPA 13)	LF	18.55	9.75	28.3	36.50	618	22,557
Additional floor, wet standpipe riser, schedule 20, 4" diameter pipe	FL	1475	890	--	2365	1	2,365
						Total NFPA 13 System	**234,194**
						Total to Builder	**102,255**

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee stated that the reasons for disapproval were that during the last code cycle there was a very lengthy

Page: 3

Mod_10734_Text_F72-21.pdf

F10734Text Modification

conversation and discussion regarding this requirement where it went to the floor and it went through the process and the members were able to speak. The past testimony about lowering it to 30 feet was regarding ladder access as most fire engines today per the NFPA standard carry 35-foot ladders which will reach 30 feet high and will reach a window. As noted, there is a need to stay at the current requirement until there is proof otherwise since it hasn't even been used yet. Additionally, there was concern about going lower below grade as it was brought up in the testimony and it was questioned why it's even being considered. (Vote: 9-5)

Public Comments

Public Comment 3

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Replace as follows:

2021 International Fire Code

903.3.1.2 NFPA 13R sprinkler systems . *Automatic sprinkler systems* in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

1. Four stories or less above *grade plane*.
2. For other than Group R-2 occpancies, ~~T~~the floor level of the highest story is 30 feet (9144 mm) or less above the lowest level of fire department vehicle access.For Group R-2 occupancies, the roof assembly is less than 45 feet (13716 mm) above the lowest level of fire department vehicle access. The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance.
3. The floor level of the lowest story is 30 feet (9144 mm) or less below the lowest level of fire department vehicle access.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 of the International Building Code shall be measured from *grade plane*.

2021 International Building Code

[F] 903.3.1.2 NFPA 13R sprinkler systems . *Automatic sprinkler systems* in Group R occupancies shall be permitted to be installed throughout in accordance with NFPA 13R where the Group R occupancy meets all of the following conditions:

1. Four stories or fewer above *grade plane*.
2. For other than Group R2 occupancies, ~~T~~ the floor level of the highest *story* is 30 feet (9144 mm) or less above the lowest level of fire department vehicle access.For Group R-2 occupancies, the roof assembly is less than 45 feet (13716 mm) above the lowest level of fire department vehicle access. The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance.
3. The floor level of the lowest *story* is 30 feet (9144 mm) or less below the lowest level of fire department vehicle access.

The number of stories of Group R occupancies constructed in accordance with Sections 510.2 and 510.4 shall be measured from grade plane.

Commenter's Reason: When Proposal F117-18 was considered and approved last cycle, changing the limit for NFPA 13R systems to the current 30-foot value, the justification provided in the proponent's reason statement was entirely oriented towards addressing concerns with pedestal style buildings, and the chosen 30-foot threshold for triggering NFPA 13 protection was justified based on correlation with the trigger value for requiring standpipes. The logic offered was that standpipes require larger supply and riser piping, so the cost of upgrading to NFPA 13 protection would already be partially offset. While that's true, the piping cost offset versus the overall cost of increasing to NFPA 13 protection is insignificant. No specific life-safety or property protection basis or loss data justified the 30-foot threshold versus a

Page: 4

Mod_10734_Text_F72-21.pdf

few feet in either direction. Nevertheless, the approach of simply changing the current value to 35 feet doesn't address a bigger issue with the current provisions.
What was overlooked in selecting the current threshold is the common use of mezzanines in upper levels of Group R2 occupancies. From the exterior, a mezzanine level in the 4th story would appear to be a 5th story, and such mezzanines often include a sleeping area. Yet, the current threshold would allow a NFPA 13R system to be used if the floor level of the 4th floor does not exceed the 30-foot limit. Meanwhile, a building not having mezzanine levels with a slightly higher 4th floor level, perhaps due to a slightly sloping lot and a lower fire-department access road, would be forced into using NFPA 13. The requirement to use a higher level of fire protection for a lesser risk condition makes no sense and is not justified.

This public comment offers a different approach modeled after what has already been approved by the ICC membership to address attic protection in NFPA 13R buildings in Section 903.3.1.2.3 in the 2018 edition. The approach triggers NFPA 13 protection based on the height of the attic, set at a threshold of 45 feet to reasonably allow a typical 4-story apartment building with 9-foot ceilings and 1-foot floor ceiling assemblies. The additional 5 feet accommodates the height of a grade-level slab and downward slope away from a building on a nearly-flat lot to accommodate drainage in the distance between the building and a fire access road, from which the lowest level of fire department vehicle access is measured.

In summary, this public comment will close the loophole that currently exists in the text that was added to the code in the 2021 edition, permitting a 13R protected building to have a 55-foot attic height with a tall 4th floor mezzanine without attic protection as long as the floor level of the highest occupied floor isn't over 30 feet above the lowest level of fire department vehicle access. In approving this proposal, the code will still strictly limit the permissible use of NFPA 13R to R2 occupancies that don't exceed 4 stories and which cannot include a combination of tall ceilings and upper level mezzanines. The proposal has been limited to R2 occupancies recognizing the different operational, occupant and architectural attributes of R2 vs. R1 occupancies.

Although I am a consultant to NFSA and NFSA supported the original proposal, this public comment is my own, based on having been involved in developing ICC's fire protection requirements for multifamily buildings for over 20 years, and it is not submitted on NFSA's behalf.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal cannot be specifically tied to increasing or decreasing the cost of construction, as its application is dependent on architectural choices that may or may not lead to a change in cost vs. the cost of compliance with the 2021 edition. In some cases, such as tall buildings with mezzanines, a cost increase could be experienced. In other cases, a cost reduction could be experienced, the proposal may have no impact on cost.

Final Hearing Results

F72-21 AMPC3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

136

F10736 /F73-21

Date Submitted	03/04/2024	**Section**	903.4.2	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

It is appropriate to provide an audible alarm for NFPA 13 and NFPA 13R systems, however, NFPA 13D (903.3.1.3) does not require such a device. Proposal to address this.

Rationale

See attached

F10736Text Modification

See attached

Page: 1

Mod10736_TextOfModification.pdf

F10736Text Modification

F73-21

Original Proposal

IFC: 903.4.2; IBC: [F] 903.4.2

Proponents: Chase Browning, Medford Fire Department, Medford Fire Department

2021 International Building Code

Revise as follows:

[F] 903.4.2 Alarms. For *automatic sprinkler systems* installed in accordance with Section 903.3.1.1 or 903.3.1.2, ~~A~~an approved audible device, located on the exterior of the building in an approved location, shall be connected to each *automatic sprinkler system*. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

Reason: It is appropriate to provide an audible alarm for NFPA 13 and NFPA 13R systems, however, NFPA 13D (903.3.1.3) does not require such a device.

Cost Impact: The code change proposal will decrease the cost of construction
Not including the exterior bell will reduce costs.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee stated that the reason for disapproval was that an exception already exists in the section charging text and all the other sections are subsections to that charging text. Additionally, it was noted that NFPA 13D systems are allowed for some structures that are not single family dwellings, which could be historic resources, and not having a bell that is going to tell you that there's a water flow going on inside is potentially going to damage those structures beyond repair. (Vote: 8-7)

Public Comments

Public Comment 1

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com); Chase Browning, Medford Fire Department, Medford Fire Department requests As Modified by Public Comment

Replace as follows:

2021 International Fire Code

903.4 Sprinkler system supervision and alarms . *Automatic sprinkler system* supervision and alarms shall comply with Sections 903.4.1 through 903.4.3.

~~**903.4**~~ **903.4.1 Electronic supervision** ~~**Sprinkler system supervision and alarms .**~~ Valves controlling the water supply for *automatic sprinkler systems*, pumps, tanks, water levels and temperatures, critical air pressures and waterflow switches on all sprinkler systems shall

Page: 1

Mod_10736_Text_F73-21.pdf

F10736Text Modification

be electrically supervised by a *listed* fire alarm control unit.

Exceptions:

1. *Automatic sprinkler systems* protecting one- and two-family *dwellings*.
2. Limited area sprinkler systems in accordance with Section 903.3.8, provided that backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position unless supplying an occupancy required to be equipped with a fire alarm system, in which case the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.
3. *Automatic sprinkler systems* installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the *automatic sprinkler system*, and a separate shutoff valve for the *automatic sprinkler system* is not provided.
4. Jockey pump control valves that are sealed or locked in the open position.
5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.
6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
7. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.
8. Underground key or hub gate valves in roadway boxes.

~~**903.4.1**~~ **903.4.2 Monitoring .** Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an *approved* supervising station or, where *approved* by the *fire code official*, shall sound an audible signal at a constantly attended location.

~~**Exception:** Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.~~

~~**903.4.2**~~ **903.4.3 Alarms .** An *approved* audible and visual sprinkler waterflow alarm device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system*. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a water flow switch is required by Section 903.4.1 to be electrically supervised, such sprinkler waterflow alarm devices shall be powered by a fire alarm control unit or, where provided, a fire alarm system. Where a fire alarm system is provided ~~installed~~, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

Exception: *Automatic sprinkler systems* protecting one- and two-family dwellings.

903.3.9 ~~**903.4.3**~~ **High-rise building floor** ~~**Floor**~~ **control valves .** *Approved* supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.

2021 International Building Code

903.4 Sprinkler system supervision and alarms.
Automatic sprinkler system supervision and alarms shall comply with Sections 903.4.1 through 903.4.3.

[F] ~~**903.4**~~ **903.4.1 Electronic supervision** ~~**Sprinkler system supervision and alarms**~~ **.** Valves controlling the water supply for *automatic sprinkler systems*, pumps, tanks, water levels and temperatures, critical air pressures, and waterflow switches on all sprinkler systems shall be electrically supervised by a *listed* fire alarm control unit.

Exceptions:

1. *Automatic sprinkler systems* protecting one- and two-family *dwellings*.

Page: 2

Mod_10736_Text_F73-21.pdf

F10736Text Modification

2. Limited area sprinkler systems in accordance with Section 903.3.8, provided that backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position unless supplying an occupancy required to be equipped with a fire alarm system, in which case the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.
3. *Automatic sprinkler systems* installed in accordance with NFPA 13R where a common supply main is used to supply both domestic water and the *automatic sprinkler system*, and a separate shutoff valve for the *automatic sprinkler system* is not provided.
4. Jockey pump control valves that are sealed or locked in the open position.
5. Control valves to commercial kitchen hoods, paint spray booths or dip tanks that are sealed or locked in the open position.
6. Valves controlling the fuel supply to fire pump engines that are sealed or locked in the open position.
7. Trim valves to pressure switches in dry, preaction and deluge sprinkler systems that are sealed or locked in the open position.
8. Underground key or hub gate valves in roadway boxes.

[F] ~~903.4.1~~ 903.4.2 Monitoring . Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an *approved* supervising station or, where *approved* by the fire code official, shall sound an audible signal at a *constantly attended location*.

Exception: ~~Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.~~

[F] ~~903.4.2~~ 903.4.3 Alarms . An *approved* audible and visual sprinkler waterflow alarm device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system*. Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a water flow switch is required by Section 903.4.1 to be electrically supervised, such sprinkler waterflow alarm devices shall be powered by a fire alarm control unit or, where provided, a fire alarm system. Where a fire alarm system is provided ~~installed~~, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

Exception: *Automatic sprinkler systems* protecting one- and two-family dwellings.

[F] ~~903.4.3~~ 903.3.9 High-rise building floor ~~Floor~~ control valves . *Approved* supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.

Commenter's Reason: Discussion at the committee hearing and the 8:7 vote clearly demonstrated varying interpretations of how Section 903.4 should be applied and that the section needs a more comprehensive rewrite to fix the existing issues. This public comment does the following to address all points of concern:

1. Creates a scoping section. Some interpret the existing exceptions in 903.4 as applying to the subsections under Section 903.4, while others do not. The revision clarifies scoping and that the exceptions in 903.4 of the 2021 edition only apply to that section, and not the subsections that followed.
2. Moves/merges the exception currently under 903.4.1 (monitoring) into the retitled section above (electronic supervision). The exception primarily relates to the need for electronic supervision, not monitoring by a supervising station or constantly attended location. Thereby, it was misplaced. Further, the current exception #2 in 903.4 exempted ALL limited area systems from any electronic supervision, so one could have argued that the exception under "monitoring" never applied. Merging the exceptions fixes that conflict in a way that clarifies logical application of the current code provisions.
3. Incorporates the committee recommendation on F74 but with improved text vs. the floor amendment that was accepted by the committee. The intent of F74 is to add visual alarm devices where audible devices are currently required. As modified by the committee, F74 also clarified that water flow switches required to be electrically supervised have to be be powered by a fire alarm control unit or a fire alarm system. If this public comment is approved, it is intended to replace the committee action on F74 since this will be the last action on this section in the 2024 edition cycle.
4. Section 903.4.3 is being relocated to Section 903.3 (installation). The requirement is more appropriately co-located with installation provisions because it is requiring floor control valves.
5. The original F73 proposed exception for one- and two-family dwellings is being added to Section 903.4.3. There was general

Page: 3

Mod_10736_Text_F73-21.pdf

agreement at the hearing that one- and two-family dwellings should not require exterior water flow alarms, but some felt that the original proposal was unnecessary (per the scoping misinterpretation issue discussed in #1 above). Others did not support extending an outdoor water flow alarm exception to all 13D installations, as originally proposed, so this public comment only applies the exception to one- and two-family dwellings.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
Outside alarm will now clearly not be required for one- and two-family dwelling sprinkler systems. Remainder of the proposal is cleanup of existing text and new provisions added by F74.

Final Hearing Results

F73-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

137

F10743 /F77-21

Date Submitted	03/04/2024	**Section**	904.13.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 904.12.1 of the FBC-B.

Summary of Modification

The purpose of this proposal is to allow the fire code official to accept a location for the manual actuation device for the suppression system of commercial cooking appliances at a location that may be closer or further than the 10 feet to 20 feet range currently prescribed in the code.

Rationale

See attached

F10743Text Modification

See attached

Page: 1

Mod10743_TextOfModification.pdf

F10743Text Modification

F77-21

Original Proposal

IFC: 904.13.1; IBC: [F] 904.13.1

Proponents: Stephen DiGiovanni, Clark County, Self (sdigiovanni@clarkcountynv.gov)

2021 International Building Code

Revise as follows:

[F] 904.13.1 Manual system operation. A manual actuation device shall be located at or near a *means of egress* from the cooking area not less than 10 feet (3048 mm) and not more than 20 feet (6096 mm) from the kitchen exhaust system. The manual actuation device shall be installed not more than 48 inches (1200 mm) or less than 42 inches (1067 mm) above the floor and shall clearly identify the hazard protected. The manual actuation shall require a maximum force of 40 pounds (178 N) and a maximum movement of 14 inches (356 mm) to actuate the fire suppression system.

Exceptions:

1. *Automatic sprinkler systems* shall not be required to be equipped with manual actuation means2. . Where locating the manual actuation device between 10 feet (3048 mm) to 20 feet (6096 mm) from the cooking area is not feasible, the fire code official is permitted to accept a location at or near a means of egress from the cooking area, where the manual actuation device is unobstructed and in view from the means of egress.

Reason: The purpose of this proposal is to allow the fire code official to accept a location for the manual actuation device for the suppression system of commercial cooking appliances at a location that may be closer or further than the 10 feet to 20 feet range currently prescribed in the code. During recent reviews of large A-4 and A-5 facilities, it was apparent that strict conformance of these distances could not be readily achieved. In some instances, the cooking appliance is a self-contained device that is mobile and can be rolled around to various locations of a concourse. There appliances have built-in suppression systems, and the manual actuation device is mounted on the appliance. In other instances, the kitchens are so large that there is no available wall space within 20 feet of the cooking area for the mounting of the actuation device.

It is useful to look at other code provisions that address protection for cooking appliances. First, there is an allowance for Class K extinguishers to be placed up to 30 feet from commercial cooking equipment (Section 906). It would be reasonable to assume that colocation of the Class K extinguisher with the manual actuation device of automatic suppression may be advantageous. Second, the 2017 edition of NFPA 96 was changed to entirely remove the distance range of 10 ft to 20 ft. Instead, the 2021 edition of NFPA 96, Section 10.5.1.1, reads as follows: "At least one manual actuation device shall be located in a means of egress or at a location acceptable to the authority having jurisdiction".

The intent of this proposal is to maintain the 10 feet to 20 feet range in the main code section, as this provides initial guidance to both the code user and the AHJ as to an acceptable location for installation of the manual actuation device, and provides good consistency with the many existing installations. As an AHJ, it is very useful to have the code provide that initial guidance, rather than entirely eliminating that guidance from the text. While there may be good justification to change the 20 feet limit to an upper limit of 30 feet to correlate with the location of the Class K extinguisher, this proposal does not include that change, and only references that difference to justify the potential fo longer distance to the manual actuation device. The proposal is offered as an added exception, so that only where locating the device in the currently prescribed 10 feet to 20 feet range is not feasible, can a location outside of that range be accepted.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal does not change the required equipment that needs to be provided, so component and installation costs are expected to be essentially the same. There may be a cost benefit associated with a more lenient approach prescribing the location of the manual actuation device, however those savings are difficult to predict and thus are not relied on as justification for this proposal.

F10743Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that maintaining the current requirement provides good guidance and the exception provides a jurisdiction the authority to accept alternate locations based on the individual unique situation. (Vote: 13-1)

Final Hearing Results

F77-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

138

F10745 /F78-21

Date Submitted	03/04/2024	**Section**	905.3	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

It is not the intent of the code to require standpipes in individual townhouse units, but there are cases where townhouses might exceed the story or height thresholds in Section 905.3.1, which introduces a conflict. This proposal fixes that issue and brings clarity to the code.

Rationale

See attached

F10745Text Modification

See attached

Page: 1

Mod10745_TextOfModification.pdf

F10745Text Modification

F78-21

Original Proposal

IFC: 905.3; IBC: [F] 905.3

Proponents: Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Building Code

Revise as follows:

[F] 905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.8. Standpipe systems are allowed to be combined with *automatic sprinkler systems*.

~~**Exception**~~ **Exceptions:**

1. Standpipe systems are not required in Group R-3 occupancies.
2. Standpipe systems are not required in Group R-2 townhouses.

Reason: This proposal doesn't technically change the code, recognizing that there are no locations in a townhouse that would require hose connections in accordance with Sections 905.4, 905.5, or 905.6. Regardless of whether a standpipe is technically required by Section 905.3, you would not install such a system if hose connections are never required. Clearly, it is not the intent of the code to require standpipes in individual townhouse units, but there are cases where townhouses might exceed the story or height thresholds in Section 905.3.1, which introduces a conflict. This proposal fixes that issue and brings clarity to the code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal doesn't change how the code applies and is intended to simply bring clarity to the existing requirements. Accordingly, there is no cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated the reason for approval was that it makes sense not providing the standpipe hose connections in a townhouse as there is no practical place to provide them and this clarifies that standpipes are not required for tall townhouses. (Vote: 13-1)

Final Hearing Results

F78-21 AS

Page: 1

Mod_10745_Text_F78-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

139

F10753 /F81-21

Date Submitted	03/04/2024	**Section**	905.4	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Previous change to the code resulted in an unintended and unjustified technical change. Modifies text of 905.4, concerning interior exit stairway and exterior exit stairway.

Rationale

See attached

F10753Text Modification

See attached

Page: 1

Mod10753_TextOfModification.pdf

F10753Text Modification

F81-21

Original Proposal

IFC: 905.4; IBC: [F] 905.4

Proponents: Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Building Code

Revise as follows:

[F] 905.4 Location of Class I standpipe hose connections. Class I standpipe hose connections shall be provided in all of the following locations:

1. In every required *interior exit stairway* or *exterior exit stairway*, a hose connection shall be provided for each story above and below *grade plane*. Hose connections shall be located at the main floor landing unless otherwise *approved* by the fire code official.

   Exception: A single hose connection shall be permitted to be installed in the open corridor or open breezeway between open *stairs* that are not greater than 75 feet (22 860 mm) apart.

2. On each side of the wall adjacent to the exit opening of a *horizontal exit*.

   Exception: Where floor areas adjacent to a *horizontal exit* are reachable from an *interior exit stairway* or *exterior exit stairway* hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the *horizontal exit*.

3. In every *exit passageway*, at the entrance from the *exit passageway* to other areas of a building.

   Exception: Where floor areas adjacent to an *exit passageway* are reachable from an *interior exit stairway* or *exterior exit stairway* hose connection by a 30-foot (9144 mm) hose stream from a nozzle attached to 100 feet (30 480 mm) of hose, a hose connection shall not be required at the entrance from the *exit passageway* to other areas of the building.

4. In covered mall buildings, adjacent to each exterior public entrance to the mall and adjacent to each entrance from an exit *passageway* or exit *corridor* to the mall. In *open mall buildings*, adjacent to each public entrance to the mall at the perimeter line and adjacent to each entrance from an exit *passageway* or *exit* corridor to the mall.

5. Where the roof has a slope less than 4 units vertical in 12 units horizontal (33.3-percent slope), a hose connection shall be located to serve the roof or at the highest landing of an *interior exit stairway* with access to the roof provided in accordance with Section 1011.12.

6. Where the most remote portion of a nonsprinklered floor or *story* is more than 150 feet (45 720 mm) from a hose connection or the most remote portion of a sprinklered floor or *story* is more than 200 feet (60 960 mm) from a hose connection, the fire code official is authorized to require that additional hose connections be provided in *approved* locations.

Reason: This proposal corrects an error that first appeared in the 2015 IFC. Proposal E2-12, submitted by ICC-CTC, went through the codes to separate "exit stairway" references into either "interior exit stairway" or "exterior exit stairway" wherever the term appeared. Unfortunately, the revision to Section 905.4, Item 1 mistakenly added "interior" but not "exterior." This resulted in an unintended and unjustified technical change; whereby, Class I hose connection locations were no longer specified for exterior exit stairways, even if a building exceeds the height thresholds requiring installation of a standpipe system. Although tall buildings don't often have exterior exit stairways, they sometimes do, and the code needs to be fixed to address these instances.

Cost Impact: The code change proposal will increase the cost of construction

From a literal perspective, this proposal might be viewed as increasing the cost of construction in that it technically adds a requirement for additional hose connections in buildings with exterior exit stairways and which require standpipes. However, the change to the 2015 edition that eliminated this requirement was done in error, with no disclosure or substantiation. The intent is to return the code to where it should have been all along.

Page: 1

Mod_10753_Text_F81-21.pdf

F10753Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The reason for approval was based on the proponent's reason statement. (Vote: 14-0)

Final Hearing Results

F81-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

140

F10754 **/F83-21**

Date Submitted	03/04/2024	**Section**	905.5.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Delete “each tier of dressing rooms” because the arrangement of dressing rooms in tiers at the sides of the stage was abandoned.

Rationale

See attached

F10754Text Modification

See attached

Page: 1

Mod10754_TextOfModification.pdf

F10754Text Modification

F83-21

Original Proposal

IFC: 905.5.1; IBC: [F] 905.5.1

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

2021 International Building Code

Revise as follows:

[F] 905.5.1 Groups A-1 and A-2. In Group A-1 and A-2 occupancies with occupant loads of more than 1,000, hose connections shall be located on each side of any stage, on each side of the rear of the auditorium, and on each side of the balcony ~~and on each tier of dressing rooms~~.

Reason: Delete “each tier of dressing rooms” because the arrangement of dressing rooms in tiers at the sides of the stage was abandoned before World War II.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No change - just deleting archaic requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it recognizes that the designs in this requirement are not currently used, outdated and should not be required. (Vote: 13-1)

Final Hearing Results

F83-21 AS

Page: 1

Mod_10754_Text_F83-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

141

F10756 | **/F85-21**

Date Submitted	03/04/2024	**Section**	906.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Table 906.1 does not exist in the 2023 FBC - B.

Summary of Modification

This proposal introduces a missing reference to a portable extinguisher requirement for on-demand mobile fueling.

Rationale

See attached

F10756Text Modification

See attached

Mod10756_TextOfModification.pdf

Page: 1

F10756Text Modification

F85-21

Original Proposal

IFC: TABLE 906.1; IBC: TABLE 906.1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] TABLE 906.1 ADDITIONAL REQUIRED PORTABLE FIRE EXTINGUISHERS IN THE INTERNATIONAL FIRE CODE

IFC SECTION	SUBJECT
303.5	Asphalt kettles
307.5	Open burning
308.1.3	Open flames–torches
309.4	Powered industrial trucks
1204.10	Portable Generators
2005.2	Aircraft towing vehicles
2005.3	Aircraft welding apparatus
2005.4	Aircraft fuel-servicing tank vehicles
2005.5	Aircraft hydrant fuel-servicing vehicles
2005.6	Aircraft fuel-dispensing stations
2007.7	Heliports and helistops
2108.4	Dry cleaning plants
2305.5	Motor fuel-dispensing facilities
2310.6.4	Marine motor fuel-dispensing facilities
2311.6	Repair garages
2404.4.1	Spray-finishing operations
2405.4.2	Dip-tank operations
2406.4.2	Powder-coating areas
2804.3	Lumberyards/woodworking facilities
2808.8	Recycling facilities
2809.5	Exterior lumber storage
2903.5	Organic-coating areas
3006.3	Industrial ovens
3107.9	Tents and membrane structures
3206.10	High-piled storage
3315.1	Buildings under construction or demolition
3318.3	Roofing operations
3408.2	Tire rebuilding/storage
3504.2.6	Welding and other hot work
3604.4	Marinas
3703.6	Combustible fibers
5703.2.1	Flammable and combustible liquids, general
5704.3.3.1	Indoor storage of flammable and combustible liquids
5704.3.7.5.2	Liquid storage rooms for flammable and combustible liquids
5705.4.9	Solvent distillation units
5706.2.7	Farms and construction sites–flammable and combustible liquids storage
5706.4.10.1	Bulk plants and terminals for flammable and combustible liquids
5706.5.4.5	Commercial, industrial, governmental or manufacturing establishments–fuel dispensing
5706.6.4	Tank vehicles for flammable and combustible liquids
5707.5.4	On-demand mobile fueling
5906.5.7	Flammable solids
6108.2	LP-gas

Reason: This proposal introduces a missing reference to a portable extinguisher requirement for on-demand mobile fueling.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted

F10756Text Modification

on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal merely inserts a missing cross reference.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal adds a missing cross reference. (Vote: 14-0)

Final Hearing Results

F85-21 AS

Page: 2

Mod_10756_Text_F85-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

142

F10758 /F86-21

Date Submitted	03/04/2024	**Section**	907.2.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds Exceptions to Section 907.2.1 "Group A". Exception 2, 2.1-2.4, 3, 3.1-3.3. Manual fire alarm boxes.

Rationale

See attached

F10758Text Modification

See attached

Page: 1

Mod10758_TextOfModification.pdf

F10758Text Modification

F86-21

Original Proposal

IFC: 907.2.1; IBC: [F] 907.2.1

Proponents: Deborah Ohler, P.E., Ohio Board of Building Standards, Ohio Board of Building Standards, Staff Engineer (dohler@com.state.oh.us)

2021 International Building Code

Revise as follows:

[F] 907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the *occupant load* due to the assembly occupancy is 300 or more, or where the Group A*occupant load* is more than 100 persons above or below the*lowest level of exit discharge*. Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Exceptions:

1. Manual fire alarm boxes are not required where the building is equipped throughout with an*automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.
2. Manual fire alarm boxes and the associated occupant notification system or emergency voice/alarm communication system are not required for Group A-5 outdoor bleacher-type seating having an occupant load of greater than or equal to 300 and less than 15,000 occupants provided all of the following are met:
   2.1. A public address system with standby power is provided;
   2.2. Enclosed spaces attached to or within 5 ft (1.5 m) of the outdoor bleacher-type seating comprise, in the aggregate, a maximum of 10 percent or less of the overall area of the outdoor bleacher-type seating or 1000 ft2 (92.9 m2), whichever is less;
   2.3. Enclosed accessory spaces under or attached to the outdoor bleacher-type seating shall be separated from the bleacher-type seating in accordance with Section 1030.1.1.1 of this code;
   2.4. All means of egress from the bleacher-type seating are open to the outside.
3. Manual fire alarm boxes and the associated occupant notification system or emergency voice/alarm communication system are not required for temporary Group A-5 outdoor bleacher-type seating provided all of the following are met:
   3.1. There are no enclosed spaces under or attached to the outdoor bleacher-type seating;
   3.2. The bleacher-type seating is erected for a period of less than 180 days; and
   3.3. Evacuation of the bleacher-type seating is included in an approved fire safety plan.

Reason: According to the IBC Section 303.6, outdoor bleacher-type seating is classified as Group A-5. Although not a typical building with walls and ceilings easily allowing for the installation of manual fire alarm boxes and occupant notification appliances, the outdoor bleacher-type seating structure, as a Group A-5 classification, results in a requirement for a manual fire alarm system with occupant notification appliances when the occupant load is 300 or more. According to Section 907.2.1.1, when the occupant load is 1000 or more, this triggers the initiation of an emergency voice/alarm communication system instead of the typical horn/strobe alarm notification appliances used for occupant notification.

The IBC Section 907.4.2 requirements for manual fire alarm boxes do not fit very well when trying to apply the requirements to outdoor bleacher-type seating. For example, let's consider a typical high school football or track field with outdoor bleacher-type seating. According

Page: 1

Mod_10758_Text_F86-21.pdf

to the code, the manual fire alarm box shall be located not more than 5 feet from the entrance to each exit. In this case, where is the exit and where should the boxes be mounted. Additional structures would likely need to be constructed in order to mount the manual fire alarm boxes and they would need to be weather-resistant and tamper-proof. A similar problem occurs when trying to apply the IBC Section 907.5.2 code requirements for the occupant notification devices (audible and visual alarm notification appliances). The ambient noise level at a football game could possibly far exceed 105 dBA. If this happens, the OBC Section 907.5.2.1.2 would allow the elimination of the audible alarm notification appliances provided that visible alarm notification appliances are installed. Where should the visible notification devices be mounted so that those sitting in the bleachers could see them without having to create additional mounting structures that may block the view? Given that the events are outside and sometimes occur during the daylight, it would be possible that the visible notification appliances may not even be effective at alerting those in attendance. It seems to be a huge expense, without much guaranteed benefit, especially for small outdoor bleacher-type seating structures.

After discussing this with several architects and code officials, I discovered a lot of inconsistency in the design and enforcement of this requirement for a manual fire alarm system and notification appliances for bleachers. Many designers are not providing the system and many code officials are approving the structure without the fire alarm system.

After researching the NFPA standards 101 (Life Safety Code), 102 (Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures), and 5000 (Building Construction and Safety Code), I discovered that the requirement for a fire alarm system seems to be consistent. However, the NFPA standards offer an exception that allows an alternative to the visible alarm signals such as using the scoreboard, message board, or other electronic device as a notification means. There is no such exception in the IBC.

It wasn't until after reviewing the code forum blogs that I thought to look at the ICC standard 300 which is referenced from the IBC Chapter 10, Section 1030. Section 309.1 of the ICC 300 standard offers a few exceptions to the emergency voice/alarm communication systems. I fail to understand why this exception is hidden in the standard which is referenced only from the IBC means of egress chapter and it is not clear whether the exception was also intended to apply to the manual fire alarm system with notification appliances. I contacted the proponent of the ICC 300 Section 309.1, Gene Boecker, and the author of the public comment, Greg Nicholls, to get their input regarding the intent. Both told me that they believe the exception in the ICC 300 standard is intended to exempt the required fire alarm systems from the outdoor bleacher-type seating structures in addition to exempting the emergency voice/alarm communication system.

Therefore, I am proposing to bring the ICC 300 exceptions into the fire protection system chapter of the IBC and the IFC where it is more appropriately located and more likely to be seen. I have also proposed a few modifications to the ICC 300 exceptions to remove the subjectivity and add clarity.

Bibliography: 1. ICC 300 Standard on Bleachers, Folding and Telescopic Seating and Grandstands; 2017 edition, International Code Council (ICC), Washington, DC; Section 309.1
2. NFPA 101 Life Safety Code, 2021 edition, National Fire Protection Association (NFPA), Quincy, MA, Sections 9.6 and 12.3.4

3. NFPA 102 Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures; 2016 edition; National Fire Protection Association (NFPA); Quincy, MA; Section 9.6.3.5

4. NFPA 5000 Building Construction Safety Code; 2021 edition; National Fire Protection Association (NFPA); Quincy, MA; Sections 16.3.4, 16.4.9, 32.7, and 55.2

Cost Impact: The code change proposal will decrease the cost of construction
This proposal is intended to bring into the IBC and the IFC a few exceptions for fire alarm systems and emergency voice alarm communication systems. These exceptions are buried in a standard that is not referenced from Chapter 9 of the IBC or the IFC. As a result, designers and code officials may not be aware that the exception already exists.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reasons for approval were that it addresses a situation not previously anticipated for Group A-5 occupancies, includes information contained in ICC 300 that has not previously been introduced and it adds reasonable exemptions for manual fire alarm boxes serving a Group A-5 outdoor bleacher type seating. Additionally, it was noted that is does not

F10758Text Modification

burden the end user with buying another standard when it could easily be put into the body of the code and it is probably already being done. (Vote: 9-5)

Final Hearing Results	
F86-21	AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

143

F10759	/F88-21				
Date Submitted	03/04/2024	**Section**	907.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 907.2.10.

Summary of Modification

To safely and effectively deal with the potential fire involving a thermal runaway involving a lithium-ion or lithium metal battery requires early detection, a mitigation plan and suppression. This proposal is to cover the detection side of the equation.

Rationale

See attached

F10759Text Modification

See attached

Mod10759_TextOfModification.pdf

Page: 1

F10759Text Modification

F88-21

Original Proposal

IFC: CHAPTER 9, SECTION 907, 907.1, 907.2.2, 907.2.2.2 (New), 907.2.4, 907.2.4.1 (New), 907.2.7 (New), 907.2.7, 907.2.7.1, 907.2.7.2 (New), 907.2.10 (New), 907.2.10, 907.2.10.2 (New); IBC: CHAPTER 9, SECTION 907, [F] 907.1, [F] 907.2.2, [F] 907.2.2.2 (New), [F] 907.2.4 , [F] 907.2.4.1 (New), [F] 907.2.7 (New), [F] 907.2.7, [F] 907.2.7.1, [F] 907.2.7.2 (New), [F] 907.2.10 (New), [F] 907.2.10, [F] 907.2.10.2 (New)

Proponents: Robert Davidson, Davidson Code Concepts, LLC, Tesla, USA (rjd@davidsoncodeconcepts.com)

2021 International Building Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 907
FIRE ALARM AND DETECTION SYSTEMS

[F] 907.1 General. This section covers the application, installation, performance and maintenance of fire alarm systems and their components.

[F] 907.2.2 Group B. A manual fire alarm system, which activates the occupant notification system in accordance with Section 907.5, shall be installed in Group B occupancies where one of the following conditions exists:

1. The combined Group B *occupant load* of all floors is 500 or more.
2. The Group B *occupant load* is more than 100 persons above or below the lowest*level of exit discharge*.
3. The *fire area* contains an *ambulatory care facility*.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Add new text as follows:

[F] 907.2.2.2 Laboratories; research and development or testing. A fire alarm system activated by an air sampling-type smoke detection system or a radiant energy-sensing detection system shall be installed throughout the entire fire area utilized for the research and development or testing of lithium-ion or lithium metal batteries.

[F] 907.2.4 Group F. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group F occupancies where both of the following conditions exist:

1. The Group F occupancy is two or more *stories* in height.
2. The Group F occupancy has a combined *occupant load* of 500 or more above or below the lowest*level of exit discharge*.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Add new text as follows:

[F] 907.2.4.1 Manufacturing involving, lithium-ion or lithium metal batteries. A fire alarm system activated by an air sampling-type smoke detection system or a radiant energy-sensing detection system shall be installed throughout the entire fire area where lithium-ion or lithium metal batteries are manufactured; and where the manufacturer of vehicles, energy storage systems or equipment containing lithium-

Page: 1

Mod_10759_Text_F88-21.pdf

F10759Text Modification

ion or lithium metal batteries when the batteries are installed as part of the manufacturing process.

[F] 907.2.7 Group M. A fire alarm system shall be in a Group M occupancy as required by the following sections:

Revise as follows:

[F] 907.2.7.1 ~~907.2.7 Group M~~ Occupant load. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group M occupancies where one of the following conditions exists:

1. The combined Group M *occupant load* of all floors is 500 or more persons.
2. The Group M *occupant load* is more than 100 persons above or below the lowest *level of exit discharge*.

Exceptions:

1. A manual fire alarm system is not required in *covered or open mall buildings* complying with Section 402.
2. Manual fire alarm boxes are not required where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 and the occupant notification appliances will automatically activate throughout the notification zones upon sprinkler water flow.

[F] 907.2.7.1.1 ~~907.2.7.1~~ Occupant notification. During times that the building is occupied, the initiation of a signal from a manual fire alarm box or from a waterflow switch shall not be required to activate the alarm notification appliances when an *alarm signal* is activated at a *constantly attended location* from which evacuation instructions shall be initiated over an emergency voice/alarm communication system installed in accordance with Section 907.5.2.2.

Add new text as follows:

[F] 907.2.7.2 Storage of lithium-ion or lithium metal batteries. A fire alarm system activated by an air sampling-type smoke detection system or a radiant energy-sensing detection system shall be installed in a room or space within a Group M occupancy where required for the storage of lithium-ion or lithium metal batteries by Section 321.

[F] 907.2.10 Group S. A fire alarm system shall be in a Group S occupancy as required by the following sections:

Revise as follows:

[F] 907.2.10.1 ~~907.2.10 Group S~~ Public- and self-storage occupancies. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group S public- and self-storage occupancies three stories or greater in height for interior corridors and interior common areas. Visible notification appliances are not required within storage units.

Exception: Manual fire alarm boxes are not required where the building is equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, and the occupant notification appliances will activate throughout the notification zones upon sprinkler water flow.

Add new text as follows:

[F] 907.2.10.2 Storage of lithium-ion or lithium metal batteries. A fire alarm system activated by an air sampling-type smoke detection system or a radiant energy-sensing detection system shall be installed throughout the entire fire area where required for the storage of lithium-ion batteries or lithium metal batteries By Section 321of the International Fire Code.

Reason: Over the last few cycles there have been a series of proposals dealing with energy storage systems that have highlighted the fire potential presented by lithium-ion and lithium metal batteries. Systems as small as 20 kWh or less would require the installation of a detection system. However, we have yet to fill in the blanks concerning these batteries in other occupancies and activities where there is a similar or greater potential for a fire event. This cycle there are additional topics covered by submittals such as battery collection and storage, personal mobility devices and emergency action plans.
To safely and effectively deal with the potential fire involving a thermal runaway involving a lithium-ion or lithium metal battery requires early

Page: 2

Mod_10759_Text_F88-21.pdf

F10759Text Modification

detection, a mitigation plan and suppression. This proposal is to cover the detection side of the equation.

907.2.2.2 is intended to capture testing, research and development activities where there can be an increased risk of thermal runaway and where in some cases it is intentional caused.

907.2.4.1 captures the manufacture of the batteries; and also captures the manufacture of vehicles, ESS and equipment where the battery is installed as part of the manufacturing process.

907.2.7.2 is a coordinating pointer where an M Group occupancy would require detection. based upon proposed Section 321.

907.2.10.2 is a coordinating pointer where a S Group would require detection based upon proposed Section 321.

Cost Impact: The code change proposal will increase the cost of construction
On a straight forward analysis this series of changes increases the cost construction. However, the majority of the medium to large size facilities involved in these activities do have detection and any new construction of this nature includes detection. Balanced against the cost of a fire that can not be extinguished routinely the installation of the early detection is ultimately a savings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal ties up a lot of the issues that were looked at already with lithium batteries and brings in the detection part which is a very important aspect of the early detection in these types of fires. (Vote: 14-0)

Final Hearing Results

F88-21 AS

Page: 3

Mod_10759_Text_F88-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

144

F10784		/F100-21			
Date Submitted	03/06/2024	**Section**	915.5	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

This Proposal replaces references to NFPA 720 with NFPA 72

Rationale

See attached

F10784Text Modification

See attached

Page: 1

Mod10784_TextOfModification.pdf

F10784Text Modification

F100-21

Original Proposal

IFC: 915.5, 915.5.1, 915.5.2, 915.6, NFPA Chapter 80; IBC: [F] 915.5, [F] 915.5.2, [F] 915.5.1, NFPA Chapter 35; IPMC: [F] 705.2, NFPA Chapter 08

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 915.5 Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through 915.5.3.

[F] 915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2. These locations supersede the locations specified in NFPA ~~720~~ 72.

[F] 915.5.1 General. Carbon monoxide detection systems shall comply with NFPA ~~720~~ 72. Carbon monoxide detectors shall be*listed* in accordance with UL 2075.

Delete without substitution:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

~~720–15~~ ~~Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment~~

Reason: In August 2015, the NFPA Standards Council voted to relocate the material in the 2015 edition of NFPA 720,*Standard for the Installation of Carbon Monoxide (CO) Detection and Warning Equipment*, into the 2019 edition of NFPA 72,*National Fire Alarm and Signaling Code*. This Proposal replaces references to NFPA 720 with NFPA 72.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal only updates the standard.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal is necessary to reference the correct standard. (Vote: 14-0)

Page: 1

Mod_10784_Text_F100-21.pdf

F10784Text Modification

Final Hearing Results

F100-21 AS

Mod_10784_Text_F100-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

145

F10785 /F102-21

Date Submitted	03/06/2024	**Section**	915	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal seeks to establish uniform baseline requirements for CO detection in all occupancies with permanently installed fuel-burning appliances, fuel-burning fireplaces or attached garages.

Rationale

See attached

F10785Text Modification

See attached

Page: 1

Mod10785_TextOfModification.pdf

F10785Text Modification

F102-21

Original Proposal

IFC: CHAPTER 9, SECTION 915, 915.1, 915.1.1, 915.1.2, 915.1.3, 915.1.4, 915.1.5, 915.1.6, 915.2, 915.2.1, 915.2.2, 915.2.3 (New), 915.2.34, 915.3, 915.4, 915.4.1, 915.4.2, 915.4.3, 915.4.4, 915.4.5 (New), 915.5, 915.5.1, 915.6, 915.5.2, 915.6.1, 915.5.3;

IBC: CHAPTER 9, SECTION 915 (All [F]), 915.1, 915.1.1, 915.1.2, 915.1.3, 915.1.4, 915.1.5, 915.1.6, 915.2, 915.2.1, 915.2.2, 915.2.3 (New), 915.2.34, 915.3, 915.4, 915.4.1, 915.4.2, 915.4.3, 915.4.4, 915.4.5 (New), 915.5, 915.5.1, 915.6, 915.5.2, 915.6.1, 915.5.3

Proponents: Kris Hauschildt, self (krishauschildt@yahoo.com)

Reason: This proposal seeks to establish uniform baseline requirements for CO detection in all occupancies with permanently installed fuel-burning appliances, fuel-burning fireplaces or attached garages. CO poisoning incidents resulting in deaths and injuries continue to happen with alarming regularity in occupancies not covered by the current IFC as well as those that are, demonstrating that current code requirements are not adequately inclusive and are not effectively targeting problem areas within specific occupancies.
The suggested revisions contained in this proposal are based on *"Development of a Technical Basis for CO Detector Siting," "Diffusion of CO Through Gypsum Wallboard,"* the New York State Fire Code which has required CO detection in all commercial occupancies since 2015, and data from individual case examples (see attachment and bibliography).

Requiring CO detection in all occupancies that contain known CO hazards will prevent an untold number of deaths and injuries.

Substantiation for Uniform Baseline Requirements for CO detection in All Occupancies

The lethality of CO is undisputed. The severity of poisoning injury depends not only on the level and duration of CO exposure, but also on the individual. Those most at risk from the effects of CO: infants and children, older people, pregnant women/unborn babies, and those with underlying health conditions. There is no formula that can accurately predict how CO will impact a particular person nor what level or duration of exposure can be tolerated without suffering prolonged harm, irreversible brain damage, or death. For many victims who survive a CO exposure, the effects do not end with the poisoning incident. They can be severe enough to cause death weeks to months later. They can also cause irreversible effects, including life-altering brain injury.

"In addition to the immediate onset effects of exposure, delayed-onset development of neuropsychiatric impairment typically occurs from several days to approximately 3–4 weeks after exposure, with symptoms including inappropriate euphoria, impaired judgment, poor concentration, memory loss, cognitive and personality changes, psychosis, and Parkinsonism. Symptoms of acute carbon monoxide poisoning in children are the same as those in adults. Acute carbon monoxide poisoning during pregnancy has been associated with spontaneous abortion and fetal death."

- Agency for Toxic Substances & Disease Registry, CDC

The lifesaving value of CO detection is undisputed. CO detection has been commercially available for at least 30 years and has proven reliability. There is no substitute for the early detection that these devices provide, alerting to danger before conditions escalate to a level of causing harm. In the absence of detection, it is the building occupants who are providing the alert to CO leaks, becoming ill or dying before building staff are even aware there is a problem. Some examples:

2013, North Carolina: My parents both died in a**hotel** room from a CO leak while they were on vacation. They lost consciousness and lay helpless all night, inhaling poison for over 14 hours until they died. No one in the building was even aware they were in danger. There was no CO detection onsite despite there being gas fireplaces in the guest rooms, a gas pool heater, gas dryers and gas water heaters. First responders (EMS, police, fire dept) suspected CO but thought it was more likely they both died of heart attacks so didn't bother to test the room, opting instead to wait weeks for autopsy toxicology results. The leak continued for another seven weeks, killing an 11-year-old boy and causing permanent injury to his mother in the same room before it was finally detected. Multiple people were ill at the hotel during those seven weeks, including guests and a repairman servicing the elevator which was located next to the leaking exhaust system.

2017, Michigan: A 13-year-old boy at a spring break swim party with his friends died on the deck of a**swimming pool** from CO leaking from a pool heater in an adjacent room. His friends suffered CO injury as well as head injuries when they lost consciousness and fell onto the concrete pool deck. An employee along with multiple firefighters suffered CO injuries responding to the incident.

** There is specific concern over the number of incidents in**indoor swimming pool areas** that have resulted in poisoning injuries to

Page: 1

Mod_10785_Text_F102-21.pdf

F10785Text Modification

children. CO exposure in a pool also leads to an increased risk of drowning. These incidents are detailed on the attached spreadsheet.

2014, New York: A **restaurant** manager died from CO leaking from a fuel burning appliance in the room adjacent to his office. The assistant manager lost consciousness and suffered CO injury when she went looking for him. Multiple rescue personnel became injured as well when they rushed in to render aid, unaware they were entering a CO contaminated environment. 24 people were hospitalized including restaurant patrons. The manager had reportedly been ill for weeks prior, but neither he nor his doctors suspected it as being CO-related.

1995, California: A woman and her husband were poisoned in a **hotel** room, not found until 36 hours later – he died, she survived with permanent injury to her brain, so severe she was prevented from ever being able to work or live independently again. 25 years later, she lives in a specialized group home.

2006, Maryland: 20 **restaurant** workers suffered long term brain injury after being exposed to a CO leak that had gone unnoticed for weeks and progressed to a level of 700ppm in the dining area before problem was discovered.

2019, Ohio: CO leak at **correctional facility** caused poisoning injuries to 4 staff and 29 inmates

2019, Illinois: CO leak at a **dry cleaners**, 3 people taken to the hospital including a police officer

2019, Utah: 60 people were poisoned at a **church** from CO leaking from a boiler, having spent several hours breathing in CO levels measured at 200-500ppm. Many were projected to have long term health effects.

2021, Nebraska: 10 people poisoned at a **bowling alley**, 4 hospitalized.

According to NFIRS (National Fire Incident Reporting System) data, there were a total of 10,715 CO incidents in hotels/motels, churches, restaurants/cafeterias, bars/taverns, and K-12 schools between 1999 and 2018. This is a minimum number. Participation in the NFIRS system is voluntary and not all fire departments participate.

Further, deaths and injuries are occurring even in buildings equipped with CO detection, demonstrating the need for occupancy specific focus for future improvements beyond a baseline requirement:

2017, Texas: A couple was poisoned and found unconscious in their hotel room from CO leaking from a pool heater. The hotel was equipped with unmonitored CO detection. A couple staying a few doors down had removed the batteries from the CO alarm in their room after it had gone off multiple times during the night. The couple found unconscious later died of their CO related injuries.

2018, Tennessee: Several people were poisoned in a hotel exercise room, located on a floor with a pool but no guest rooms. The hotel reportedly had CO detection, but only on floors with guest rooms.

2019, Illinois: A couple was poisoned in their hotel room equipped with a CO alarm that was alarming, but a hotel maintenance worker told them to disregard the alarm. They ended up calling the fire department themselves and were treated at a hospital for CO poisoning.

As a homeowner it is a reasonable expectation to be aware of the hazards of CO and take responsibility to install CO detection to protect yourself. However, as an occupant of a building that is under someone else's charge, there is no way to know of equivalent hazards nor whether action has been taken to install safeguards. Combined with no human ability to detect CO, this leaves occupants critically vulnerable during any type of CO exposure incident. Their life safety is entirely at the mercy of circumstances they have no knowledge of and no control over, assuming a risk they did not choose to take.

Building and business owners rely on guidance from this code to provide basic life safety provisions for occupants. States rely on guidance from this code to pass safety legislation. People rely on this code to stay safe and keep their families safe from preventable death and harm. Emergency responders rely on this code to keep them safe from unnecessary risk in performing their already hazardous jobs.

Please act to protect people from unnecessary death and injury by approving this proposal to provide a baseline level of safety from carbon monoxide danger in all occupancies.

2021 IFC – Chapter 1 Scope and Administration

101.3 Intent.

The purpose of this code is to establish the minimum requirements consistent with nationally recognized good practice for providing a reasonable level of life safety and property protection from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures and premises, and to provide a reasonable level of safety to fire fighters and emergency responders during emergency operations.

Page: 2

Mod_10785_Text_F102-21.pdf

F10785Text Modification

Bibliography: **SUPPORT DOCUMENTS FOUND AT THE FOLLOWING LINK**

- **https://thejenkinsfoundation.com/category/ifc-2024-proposal-support-do** cuments/

- Swimming Pool CO Incident Log
- Toxicological Profile for Carbon Monoxide - Agency for Toxic Substances & Disease Registry, CDC
- Development of a Technical Basis for Carbon Monoxide Detector Siting, NFPA Fire Protection Research Foundation, 2007
- 2020 Fire Code New York State
- Diffusion of Carbon Monoxide Through Gypsum Wallboard, Neil Hampson, MD
- Carbon Monoxide Poisoning, Lindell Weaver, MD, 2020
- Hotel/Motel CO Incident Log 1967-to date, Jenkins Foundation
- Commercial Building CO Incidents, Jenkins Foundation
- CO Detection and Alarm Requirements: Literature Review, NFPA Fire Protection Research Foundation, 2021
- Cost of Accidental Carbon Monoxide Poisoning: A Preventable Expense, Preventive Medicine Reports, 2016
- CO Incidents - NFIRS (National Fire Incident Reporting System) Data - REM Risk
- Carbon Monoxide Poisonings in Hotels and Motels: The Problem Silently Continues, Prev. Medicine Reports, 2019
- Carbon Monoxide Poisoning at Hotels, Motels and Resorts, Amer. Journal of Prev. Medicine, 2007
- NEMA - Life Fire Safety - Carbon Monoxide

Cost Impact: The code change proposal will increase the cost of construction
This code change proposal will increase the cost of construction but is crucial for life safety.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee stated that the reason for disapproval was that it is proposing an all-encompassing requirement to put carbon monoxide alarms everywhere without statistical data for all these other occupancies than what is currently covered in the code. Additionally, it was noted that the expansion of carbon monoxide detection throughout all the different occupancies will have very little impact to the majority of the deaths due to carbon monoxide poisoning since 54% of carbon monoxide deaths occurred in a home and over 60% of carbon monoxide poisoning deaths were due to suicide. The current minimum requirements in the IFC and IBC are helping to continue to reduce these incidents, but the leading cause is in education of the general public, increasing the cost of construction requiring these devices is not going to provide much benefit as increasing education will. An apology was given to everybody who spoke about their losses and as stated it is an awful thing to happen but the incidents that were presented were in occupancies that, the overwhelming majority, are already required by the IBC and IFC to have these devices and in existing buildings which are also already required to have these devices. Several states, including New Jersey and Washington, were discussed by the committee as examples of jurisdictions that already had specific requirements in place. In closing it was stated that this proposal is a good start in a good direction, and the committee applauded the proponents that put the proposal together. (Vote: 12-0)

Public Comments

Public Comment 1

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

Page: 3

Mod_10785_Text_F102-21.pdf

F10785Text Modification

2021 International Fire Code

CHAPTER 9 FIRE PROTECTION AND LIFE SAFETY SYSTEMS

SECTION 915 CARBON MONOXIDE DETECTION .

915.1 General . Carbon monoxide detection shall be installed in new buildings in accordance with ~~Sections~~ Section 915.1.1. ~~through 915.6~~ . Carbon monoxide detection shall be installed in existing buildings in accordance with Section 1103.9.

Exception: Carbon monoxide detection is not required in Group S, Group F and Group U occupancies that are not normally occupied.

915.1.1 Where required . Carbon monoxide detection shall be installed ~~provided in Group A, B, E, F, H, I, M, and R occupancies~~ in the locations specified in Section 915.2 where any of the following conditions ~~in Sections 915.1.2 through 915.1.6~~ exist.

1. In buildings that contain a CO source.
2. In buildings that contain or are supplied by a CO producing forced-air furnace
3. In buildings with attached *private garages*
4. In buildings that have a CO producing vehicle that is used within the building

~~**915.1.2 Fuel-burning fireplaces.** Carbon monoxide detection shall be provided in rooms, areas, *dwelling units*, *sleeping units* and classrooms in Group E occupancies that contain a fuel-burning fireplace.~~

~~**915.1.3 Fuel-burning forced-air furnaces.** Carbon monoxide detection shall be provided in the following locations served by a fuel-burning, forced-air furnace:~~

1. ~~In a central or otherwise approved location in each HVAC zone on every floor level that is served by a fuel-burning forced-air furnace.~~
2. ~~In dwelling units, sleeping units, classrooms in Group E occupancies and areas containing a swimming pool that are served by a fuel-burning forced-air furnace.~~

~~**Exception:** Carbon monoxide detection shall not be required to be installed in accordance with Section 915.1.3, Items 1 or 2, where a carbon monoxide detector is provided in the first room or area served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an *approved* onsite location or to an approved off-premises location in accordance with NFPA 72.~~

~~**915.1.4 Fuel-burning appliances.**. Carbon monoxide detection shall be provided in the following locations in buildings that contain fuel-burning appliances:~~

1. ~~In rooms, areas, dwelling units, sleeping units and classrooms in Group E occupancies that contain a fuel-burning appliance.~~
2. ~~In rooms, areas, dwelling units, sleeping units and classrooms in Group E occupancies that have communicating openings between the fuel-burning appliance and the room, area, dwelling unit, sleeping unit or classroom; or in an approved location between the fuel-burning appliance and the room, area dwelling unit, sleeping unit or classroom.~~
3. ~~In dwelling units, sleeping units, classrooms in Group E occupancies, and areas containing a swimming pool.~~

-

~~**Exception:** Carbon monoxide detection shall not be required to be installed in accordance with Section 915.1.4, Item 3, where a carbon monoxide detector is provided in each room, area, dwelling unit, sleeping unit, or classroom in Group E occupancies that shares a common wall, ceiling or floor with the room or area containing the fuel-burning appliance, and the carbon monoxide alarm signals are automatically transmitted to an approved onsite location or to an off-premises location in accordance with NFPA 72.~~

Page: 4

Mod_10785_Text_F102-21.pdf

F10785Text Modification

915.1.5 ~~Private garages~~. ~~Carbon monoxide detection shall be provided in rooms, areas, *dwelling units*, *sleeping units* and classrooms in Group E occupancies in buildings with attached private garages.~~

~~Exceptions:~~

1. ~~Carbon monoxide detection shall not be required in rooms, areas, *dwelling units*, *sleeping units* and classrooms in Group E occupancies without communicating openings between the private garage and the room, area, *dwelling unit*, *sleeping unit* or classroom.~~
2. ~~Carbon monoxide detection shall not be required in rooms, areas, *dwelling units*, *sleeping units* and classrooms in Group E occupancies located more than one story above or below a private garage.~~
3. ~~Carbon monoxide detection shall not be required where the private garage connects to the building through an *open-ended corridor*.~~
4. ~~Where a carbon monoxide detector is provided in an *approved* location between openings to a private garage and rooms, areas, *dwelling units*, *sleeping units* or classrooms in Group E occupancies~~.

915.1.6 ~~Exempt garages~~. ~~For determining compliance with Section 915.1.5, an open parking garage complying with Section 406.5 of the International Building Code or an enclosed parking garage complying with Section 406.6 of the International Building Code shall not be considered a private garage.~~

915.2 Locations . ~~Where required by Section 915.1.1, carbon~~ Carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.6 ~~915.2.~~.

915.2.1 Dwelling units . Carbon monoxide detection shall be installed in *dwelling units* outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a ~~fuel-burning appliance~~ CO source is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.2.2 Sleeping units . Carbon monoxide detection shall be installed in *sleeping units*.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the *sleeping unit* where the *sleeping unit* or its attached bathroom does not contain a ~~fuel-burning appliance~~ CO source and is not served by a carbon monoxide producing forced-air furnace.

915.2.3 ~~Areas containing a swimming pool~~. ~~Carbon monoxide detection shall be installed in areas containing a swimming pool~~.

~~Exception:~~ ~~Where there is a conflict between the requirements of this code and the manufacturer's installation instructions, the manufacturer's installation instructions shall govern.~~

915.2.4 915.2.3 Group E occupancies . A ~~Carbon~~ carbon monoxide system that utilizes carbon monoxide detectors shall be installed in ~~classrooms~~ in Group E occupancies. Alarm signals from ~~Carbon~~ carbon monoxide detectors ~~alarm signals~~ shall be automatically transmitted to an on-site location that is staffed by school personnel.

Exception: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an *occupant load* of 30 or less.

915.2.4 CO producing forced-air furnace . Carbon monoxide detection, complying with Item 2 of Section 915.1.1 shall be installed in all enclosed rooms and spaces served by a fuel-burning, forced-air furnace.

Exceptions:

1. Where a carbon monoxide detector is provided in the first room or space served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.
2. Dwelling units that comply with Section 915.2.1.

Page: 5

Mod_10785_Text_F102-21.pdf

F10785Text Modification

915.2.5 Private garages . Carbon monoxide detection, complying with Item 3 of Section 915.1.1, shall be installed within enclosed occupiable rooms or spaces that are contiguous to the attached private garage.

Exceptions:

1. In buildings without communicating openings between the private garage and the building.
2. In rooms or spaces located more than one story above or below a private garage.
3. Where the private garage connects to the building through an open-ended corridor.
4. An open parking garage complying with Section 406.5 of the International Building Code or an enclosed parking garage complying with Section 406.6 of the International Building Code shall not be considered a private garage.
5. Dwelling units that comply with Section 915.2.1.

915.2.6 All other occupancies . For locations other than those specified in Section 915.2.1 through 915.2.5, carbon monoxide detectors shall be installed on the ceiling of enclosed rooms or spaces containing CO producing devices or served by a CO source forced-air furnace.

Exception: Where environmental conditions prohibit the installation of carbon monoxide detector in an enclosed room or space, carbon monoxide detectors shall be installed in an approved contiguous enclosed location to the room or space that contains a CO source.

915.3 Carbon monoxide detection . Carbon monoxide detection required by Sections 915.1 through ~~915.2.4~~ 915.2.6 shall be provided by carbon monoxide alarms complying with Section 915.4 or carbon monoxide detection systems complying with Section 915.5.

915.3.1 Alarm limitations. . Carbon monoxide alarms shall only be installed in dwelling units and in sleeping units. They shall not be installed in locations where the code requires carbon monoxide detectors to be used.

915.3.2 Fire alarm system required . New buildings that are required by Section 907.2 to have a fire alarm system and where carbon monoxide detectors are required by Section 915.2, they shall be connected to the fire alarm system in accordance with NFPA 72.

915.3.3 Fire alarm systems not required . New buildings that are not required by Section 907.2 to have a fire alarm system, carbon monoxide detection shall be provided by one of the following:

1. Carbon monoxide detectors connected to an approved carbon monoxide detection system in accordance with NFPA 72.
2. Carbon monoxide detectors connected to an approved combination system in accordance with NFPA 72.
3. Carbon monoxide detectors connected to an approved fire alarm system in accordance with NFPA 72.
4. Where approved by the fire code official, carbon monoxide alarms are permitted to be installed where maintained in accordance with the manufacturer's instructions.

915.3.4 Installation . Carbon monoxide detection shall be installed in accordance with NFPA 72 and the manufacturer's instructions.

915.4 Carbon monoxide alarms . Carbon monoxide alarms shall comply with Sections 915.4.1 through ~~915.4.5~~ 915.4.4.

915.4.1 Power source . Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery-powered carbon monoxide alarms ~~powered by a 10-year battery~~ shall be an acceptable alternative.

915.4.2 Listings . Carbon monoxide alarms shall be *listed* in accordance with UL 2034.

Page: 6

Mod_10785_Text_F102-21.pdf

F10785Text Modification

915.4.3 ~~Locations.~~ ~~Carbon monoxide alarms shall only be installed in *dwelling units* and in *sleeping units*. They shall not be installed in locations where the code requires carbon monoxide detectors to be used.~~

~~915.4.4~~915.4.3 Combination alarms . Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be *listed* in accordance with UL 217 and UL 2034.

915.4.4 Interconnection . Where more than one carbon monoxide alarm is required to be installed, carbon monoxide alarms shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms. Physical interconnection of carbon monoxide alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

915.4.5 ~~Installation requirements~~. ~~Where required by Sections 915.1.1 through 915.5.3, carbon monoxide alarms shall be installed in accordance with Sections 915, NFPA 72, and the manufacturer's installation instructions. Where there is a conflict between the requirements of this code, NFPA 72, and the manufacturer's installation instructions, the manufacturer's installation instructions shall govern.~~

915.5 Carbon monoxide detection systems . Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through 915.5.3.

915.5.1 General . ~~Carbon monoxide detection systems shall comply with NFPA 720.~~Carbon monoxide detectors shall be *listed* in accordance with UL 2075.

915.5.2 Locations . Carbon monoxide detectors shall be installed in the locations specified in Section 915.2. These locations supersede the locations specified in NFPA 72 ~~.~~

915.5.3 Combination detectors . Combination carbon monoxide/smoke detectors ~~installed in carbon monoxide detection systems~~ shall be an acceptable alternative to carbon monoxide detectors, provided that they are *listed* in accordance with UL 268 and UL 2075.

915.5.4 Occupant Notification . Activation of a carbon monoxide detector shall annunciate at the control unit and shall initiate audible and visible alarm notification throughout the building.

Exception: Occupant notification is permitted to be limited to the area where the carbon monoxide alarm signal originated and other signaling zones in accordance with the fire safety plan provided the alarm signal from an activated carbon monoxide detector is automatically transmitted to an *approved* on-site location or off-premises location.

915.6 Maintenance . Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA72 ~~720~~. Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.

915.6.1 Enclosed parking garages . Carbon monoxide and nitrogen dioxide detectors installed in enclosed parking garages in accordance with Section 404.1 of the International Mechanical Code shall be maintained in accordance with the manufacturer's instructions and their listing. Detectors that become inoperable or begin producing end-of-life signals shall be replaced.

Commenter's Reason: This is the first of three related public comments encompassing proposal F102-21 and proposal F116-21. This first public comment is meant to reorder the original proposed change, and address language concerns expressed by the committee.
The intent of the public comment is to require CO detection anywhere that a Carbon Monoxide Producing Device is present. The public comment will allow for either a CO detection system, or CO alarms. The proponent realizes that the cost of a full system might be cost prohibitive. In this vein, the intent is to allow for the following alternatives.

1. Permit the use of standalone CO alarms where there is no fire alarm system present
2. The addition of CO detectors (With notification) in places where a Fire Alarm System is already present
3. The addition of CO detectors attached to security systems that an occupant may have. (As allowed by NFPA 72)

This public comment reorders section 915 so that it first addresses under what circumstances CO detection is needed. The public comment is designed to cover permanent CO sources, including regularly used vehicles, and not temporary conditions such as floor cleaners that are brought in periodically, or the use of appliances such as BBQ grills that were never intended for indoor use. Similarly, the public comment is not intended to apply to things like candles or gelled alcohol cans used in chaffing dishes. The next part of the public

Page: 7

Mod_10785_Text_F102-21.pdf

F10785Text Modification

comment specifies where CO detection devices are placed to provide the best protection. The next section deals with the installations themselves, including that the devices must comply with NFPA 72, that they need to be hardwired, and that they are interconnected.

This public comment is needed to address occupant notification because many system designers and code authorities are uncertain if carbon monoxide notification appliances (horns and strobes) are required to be installed throughout the building, like fire alarm notification appliances, or if occupant notification can be limited to specific rooms, areas, or spaces. The public comment provides clear language in the Code that carbon monoxide notification appliances are permitted, but not required, to be installed throughout the building and specifies the selective occupant notification locations. The proposed revisions are consistent with similar requirements included in Section 23.8.6.1.2 of the 2019 edition of NFPA 72.

In discussions with opponents, the cost of installation is a concern. The total installed cost of a CO detector in a commercial occupancy that already has an alarm system is approximately $325 per detector. This includes the device, a sounder base, conduit, conductors and the installation labor. A larger occupancy not already required to have CO detection under current code might require 5-6 devices, whereas smaller occupancies might only require 1 or 2. On the other hand, lawsuits from deaths and injuries due to CO poisoning have routinely settled in the millions of dollars. For example, a 2010 settlement with employees of Ruth's Chris Steakhouse cost the company $34 million. 2 devices installed for less than $1000 would have saved them the settlement, and more importantly would have prevented the injury to begin with. This also doesn't cover the lost business time from the original incident or the cost of defending the lawsuit. CO detectors and alarms are an effective way to alert occupants to the presence of CO before they become sick, or die from the exposure and is relatively inexpensive compared to other fire protection systems and the associated costs of having an incident.

Another point of contention is that CO alarms are not listed for use in all occupancies, and thispublic comment allows for Fire Code Official to allow their use. Currently, the scope of the UL product standard for CO alarms does not list CO alarms for use outside of dwelling units/sleeping units. However, putting a requirement in the code should not be predicated upon a UL product standard allowing it. Rather, the UL standard should test to what the code requires. An implementation several years out, UL will be able to adjust their standard, or create a new one to address the issue. The fact of the matter is that a CO alarm will detect CO regardless of the occupancy class, and a procedural issue does not change that.

We know that these devices are extremely effective at preventing CO injuries and deaths. We also know that this is something that the code can have an immediate effect on, and many states, including New York and New Jersey already have laws requiring CO detection in all occupancies where CO can accumulate.

Lastly, it is not the intent of this public comment to address temporary situations like equipment brought in for a specific maintenance task, nor is it intended to address temporary conditions like heating in tents or other special event structures that do not have permanent CO producing devices. This will be addressed in a future code change proposal in another cycle.

To avoid confusion, what follows is how the text would appear if approved:

SECTION 915 CARBON MONOXIDE DETECTION.

915.1 General. Carbon monoxide detection shall be installed in new buildings in accordance with Sections 915.1.1. Carbon monoxide detection shall be installed in existing buildings in accordance with Section 1103.9.

Exception: Carbon monoxide detection is not required in Group S, Group F and Group U occupancies that are not normally occupied.

915.1.1 Where required. Carbon monoxide detection shall be installed in the locations specified in Section 915.2 where any of the following conditions exist.

1. In buildings that contain a CO source.
2. In Buildings that contain or are supplied by a CO producing forced-air furnace
3. In buildings with attached *private garages*
4. In buildings that have a CO producing vehicle that is used within the building

915.2 Locations. Carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.6.

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in *dwelling units* outside of each separate sleeping area in the immediate vicinity of the bedrooms. Where a CO source is located within a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in *sleeping units*.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the *sleeping unit* where the *sleeping unit* or its attached bathroom does not contain a CO source and is not served by a carbon monoxide producing forced-air furnace.

915.2.3 Group E occupancies. A carbon monoxide system that utilizes carbon monoxide detectors shall be installed in in Group E occupancies. Alarm signals from carbon monoxide detectors shall be automatically transmitted to an on-site location that is staffed by

Page: 8

Mod_10785_Text_F102-21.pdf

F10785Text Modification

school personnel.

Exception: Carbon monoxide alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an *occupant load* of 30 or less.

915.2.4 CO producing forced-air furnace. Carbon monoxide detection, complying with Item 2 of Section 915.1.1 shall be installed in all enclosed rooms and spaces served by a fuel-burning, forced-air furnace.

Exceptions:

1. Where a carbon monoxide detector is provided in the first room or space served by each main duct leaving the furnace, and the carbon monoxide alarm signals are automatically transmitted to an approved location.

2. Dwelling units that comply with Section 915.2.1.

915.2.5 Private garages. Carbon monoxide detection, complying with Item 3 of Section 915.1.1, shall be installed within enclosed occupiable rooms or spaces that are contiguous to the attached private garage.

Exceptions:

1. In buildings without communicating openings between the private garage and the building.

2. In rooms or spaces located more than one story above or below a private garage. 3 . Where the private garage connects to the building through an open-ended corridor. 4. An open parking garage complying with Section 406.5 of the International Building Code or an enclosed parking garage complying with Section 406.6 of the International Building Code shall not be considered a private garage. 5. Dwelling units that comply with Section 915.2.1.

915.2.6 All other occupancies. For locations other than those specified in Section 915.2.1 through 915.2.5, carbon monoxide detectors shall be installed on the ceiling of enclosed rooms or spaces containing CO producing devices or served by a CO source forced-air furnace.

Exception: Where environmental conditions prohibit the installation of carbon monoxide detector in an enclosed room or space, carbon monoxide detectors shall be installed in an approved contiguous enclosed location to the room or space that contains a CO source.

915.3 Carbon monoxide detection. Carbon monoxide detection required by Sections 915.1 through 915.2.6 shall be provided by carbon monoxide alarms complying with Section 915.4 or carbon monoxide detection systems complying with Section 915.5.

915.3.1 Alarm limitations. Carbon monoxide alarms shall only be installed in dwelling units and in sleeping units. They shall not be installed in locations where the code requires carbon monoxide detectors to be used.

915.3.2 Fire alarm system required. New buildings that are required by Section 907.2 to have a fire alarm system, where carbon monoxide detectors are required by Section 915.2 they shall be connected to the fire alarm system in accordance with NFPA 72.

915.3.3 Fire alarm systems not required. New buildings that are not required by Section 907.2 to have a fire alarm system, carbon monoxide detection shall be provided by one of the following:

1. Carbon monoxide detectors connected to an approved carbon monoxide detection system in accordance with NFPA 72.

2. Carbon monoxide detectors connected to an approved combination system in accordance with NFPA 72.

3. Carbon monoxide detectors connected to an approved fire alarm system in accordance with NFPA 72.

4. Where approved by the fire code official, carbon monoxide alarms are permitted to be installed where maintained in accordance with the manufacturer's instructions.

Page: 9

Mod_10785_Text_F102-21.pdf

F10785Text Modification

915.3.4 Installation. Carbon monoxide detection shall be installed in accordance with NFPA 72 and the manufacturer's instructions.

915.4 Carbon monoxide alarms. Carbon monoxide alarms shall comply with Sections 915.4.1 through 915.4.4.

915.4.1 Power source. Carbon monoxide alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than that required for overcurrent protection.

Exception: Where installed in buildings without commercial power, battery-powered carbon monoxide alarms shall be an acceptable alternative.

915.4.2 Listings. Carbon monoxide alarms shall be *listed* in accordance with UL 2034.

915.4.3 Combination alarms. Combination carbon monoxide/smoke alarms shall be an acceptable alternative to carbon monoxide alarms. Combination carbon monoxide/smoke alarms shall be *listed* in accordance with UL 217 and UL 2034.

915.4.4 Interconnection. Where more than one carbon monoxide alarm is required to be installed, carbon monoxide alarms shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual dwelling unit. Physical interconnection of carbon monoxide alarms shall not be required where listed wireless alarms are installed and all alarms sound upon activation of one alarm.

915.5 Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through 915.5.3.

915.5.1 General. Carbon monoxide detectors shall be *listed* in accordance with UL 2075.

915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2. These locations supersede the locations specified in NFPA 72

915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors shall be an acceptable alternative to carbon monoxide detectors, provided that they are *listed* in accordance with UL 268 and UL 2075.

915.5.4 Occupant Notification. Activation of a carbon monoxide detector shall annunciate at the control unit and shall initiate audible and visible alarm notification throughout the building.

Exception: Occupant notification is permitted to be limited to the area where the carbon monoxide alarm signal originated and other signaling zones in accordance with the fire safety plan provided the alarm signal from an activated carbon monoxide detector is automatically transmitted to an *approved* on-site location or off-premises location.

915.6 Maintenance. Carbon monoxide alarms and carbon monoxide detection systems shall be maintained in accordance with NFPA 72 . Carbon monoxide alarms and carbon monoxide detectors that become inoperable or begin producing end-of-life signals shall be replaced.**915.6.1 Enclosed parking garages.** Carbon monoxide and nitrogen dioxide detectors installed in enclosed parking garages in accordance with Section 404.1 of the International Mechanical Code shall be maintained in accordance with the manufacturer's instructions and their listing. Detectors that become inoperable or begin producing end-of-life signals shall be replaced.

This Public Comment is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction The overall proposal

Page: 10

Mod_10785_Text_F102-21.pdf

F10785Text Modification

will increase the cost of construction but it is hoped that this Public Comment will make it more clear where such protection is needed and may reduce the overall cost.
In occupancies not already required to have CO detection, the cost of installing new devices attached to a system is approximately $325 per device, with many occupancies only requiring 4-6 devices for larger occupancies, and 1-2 devices for smaller occupancies.

In places where a stand-alone alarms are allowed by the proposal, the cost of a new device will cost between $25 and $60 per device.

Public Comment 2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Fire Code

CARBON MONOXIDE SOURCE . A piece of commonly used equipment or permanently installed appliance, fireplace or process that produces or emits carbon monoxide gas.

2021 International Building Code

CARBON MONOXIDE SOURCE . A piece of commonly used equipment or permanently installed appliance, fireplace or process that produces or emits carbon monoxide gas.

Commenter's Reason: This is the second of 3 related proposals. This proposal simply adds a definition for Carbon Monoxide Source. This will clarify that only permanently installed or used sources in a building such as gas fired heaters or propane powered forklifts that are part of the daily operations of a space are included, and that things like candles and floor polishers are not intended to be captured. Additionally, this shortens the code language so that not every iteration of something that produces CO is written in several places in the code.
This Public Comment is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction
The overall proposal will increase the cost of construction. This PC is merely adding a new definition to the IFC and IBC to clarify how the provisions are intended to apply. This PC in and of itself does not further impact cost as it is only a definition.

Final Hearing Results	
F102-21	AMPC1,2

Page: 11

Mod_10785_Text_F102-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

146

F10786		/F104-21			
Date Submitted	03/06/2024	**Section**	915	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 - B.

Summary of Modification

This Proposal seeks to prevent a potential life safety issue by prohibiting duct mounted carbon monoxide (CO) detectors from being installed in lieu of “open area” CO detectors or alarms

Rationale

See attached

F10786Text Modification

See attached

Mod10786_TextOfModification.pdf

Page: 1

F10786Text Modification

F104-21

Original Proposal

IFC: 915.5, 915.5.1, 915.5.2, 915.5.3, 915.5.4 (New); IBC: [F] 915.5, [F] 915.5.1, [F] 915.5.2, [F] 915.5.3, [F] 915.5.4 (New)

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 915.5 Carbon monoxide detection systems. Carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide alarms and shall comply with Sections 915.5.1 through ~~915.5.3~~ 915.5.4.

[F] 915.5.1 General. Carbon monoxide detection systems shall comply with NFPA 720. Carbon monoxide detectors shall be *listed* in accordance with UL 2075.

[F] 915.5.2 Locations. Carbon monoxide detectors shall be installed in the locations specified in Section 915.2. These locations supersede the locations specified in NFPA 720.

[F] 915.5.3 Combination detectors. Combination carbon monoxide/smoke detectors installed in carbon monoxide detection systems shall be an acceptable alternative to carbon monoxide detectors, provided that they are listed in accordance with UL 268 and UL 2075.

Add new text as follows:

[F] 915.5.4 Duct detection. Carbon monoxide detectors placed in environmental air ducts or plenums shall not be used as a substitute for the required protection in Section 915 of the Code.

Reason: This Proposal seeks to prevent a potential life safety issue by prohibiting duct mounted carbon monoxide (CO) detectors from being installed in lieu of “open area” CO detectors or alarms. This change is needed for the following reasons:

1. Duct mounted CO detectors are commercially available, but we are not aware of any that are listed to UL 2075 or UL 2034, or that can comply with those standards.
2. Duct mounted CO detectors have been proposed for use in applications where CO detection is needed, which has created confusion for designers and code officials.
3. When the HVAC system is not moving significant quantities of air duct mounted CO detectors cannot accurately detect potentially hazardous levels of CO in the rooms served by the HVAC system.
4. This proposal should remove confusion about duct mounted CO detectors being used as the required means of providing code mandated protection.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal just restricts the use of a technology not covered by referenced standards such as UL 2075/UL 2034.

F10786Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that carbon monoxide levels really need to be measured in the area of human occupancy since that is what we're trying to determine and what initiates an alarm if there's a problem. Additionally, it was noted that it avoids a life safety issue that could be created by the substitution. (Vote: 13-0)

Final Hearing Results

F104-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

147

F10787 /F105-21

Date Submitted	03/06/2024	**Section**	917.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

This proposal is needed to enhance public life safety in Group E occupancies from all emergencies, but most importantly from a significant increase in human-caused incidents in recent years. Proposal is requiring a mass notification risk analysis to be performed.

Rationale

See attached

F10787Text Modification

See attached

Page: 1

Mod10787_TextOfModification.pdf

F10787Text Modification

F105-21

Original Proposal

IFC: 917.1, 917.2 (New); IBC: [F] 917.1, [F] 917.2 (New)

Proponents: Richard Roberts, Honeywell, Automatic Fire Alarm Association (AFAA) (richard.roberts@systemsensor.com)

2021 International Building Code

Revise as follows:

[F] 917.1 College and university campuses. Prior to construction of a new building requiring a fire alarm system on a multiple-building college or university campus having a cumulative building *occupant load* of 1,000 or more, a mass notification risk analysis shall be conducted in accordance with NFPA 72. Where the risk analysis determines a need for mass notification, an *approved* mass notification system shall be provided in accordance with the findings of the risk analysis.

Add new text as follows:

[F] 917.2 Group E Occupancies. Priorto construction of a new building containing a Group E occupancy requiring a fire alarm system having an occupant load of 500 or more, a mass notification risk analysis shall be conducted in accordance with NFPA 72. Where the risk analysis determines a need for mass notification, an approved mass notification system shall be provided in accordance with the findings of the risk analysis.

Reason: Reason:

This proposal seeks to reduce the number of injuries and fatalities in new schools from all types of emergencies including but not limited to fire, human-caused events (accidental and intentional), other dangerous situations, accidents, and natural disasters. This proposal is needed to enhance public life safety in Group E occupancies from all emergencies, but most importantly from a significant increase in human-caused incidents in recent years. According to a FBI Report, titled that details the active shooter incidents from 2000 to 2018, 171 people killed in education occupancies. Another FBI Report provides a list of incidents during the 2000-2018 time period showing other incidents. The Proposal is ***only*** requiring a mass notification risk analysis to be performed. If, and only if the findings of the risk analysis conclude a mass notification system is needed, then a mass notification system shall be provided.

Every facility is unique and has specific risks. A risk analysis is a process to determine the likelihood, vulnerability, and magnitude of all potential emergencies. The complexity of the risk analysis should be commensurate to the complexity of the building(s) and hazards being considered. The risk analysis will determine if a mass notification system is needed and the type of a mass notification system that best meets the specific needs of the building. This is important because mass notification is defined as "a technology capable of sending different layers of messaging that provides real-time information to groups of individuals within buildings, campus settings, geographic regions, or entire nations by using one or a combination of the following technologies:

Layer 1:

- Voice messages
- Visible notification appliances
- Digital signage

Layer 2:

- Wide-area outdoor mass notification systems

Layer 3:

- Text messages
- Emails

Page: 1

Mod_10787_Text_F105-21.pdf

F10787Text Modification

- Tactile devices
- Computer pop-ups

Layer 4:

- Social networks
- Radio broadcast
- Television broadcast
- Weather radios

Moreover, the key to determine if a mass notification system is required is to review Fire Safety and Evacuation Plan in-conjunction with the mass notification risk analysis. The risk analysis may identify hazards that are facility specific that lead to specific response plans with specific communication system requirements for that facility.

It should be noted that an in-building fire alarm emergency voice alarm communication (EVAC) system is one type of a mass notification system that provides on-way voice messages to people inside buildings. The IFC currently requires a fire alarm system that uses EVAC speakers for occupant notification instead of horns to be installed in new schools with an occupant load greater than 100. If the risk analysis determines a mass notification system is needed, there may be no additional cost for the control unit because many EVAC systems are listed for mass notification in accordance with UL 2572, *Standard for Mass Notification Systems*.

However, most mass notification systems do not support all the technologies listed under Layers 1-4. For example, in a school for the deaf, a risk analysis would tend to identify a greater than usual risk for occupants due to a higher than average deaf population, leading to emergency response plans requiring digital signage. EVAC systems or MNS systems that did not support digital signage capabilities should not be approved for this facility.

Requiring a risk analysis will result in a more comprehensive emergency response plan that is customized for the specific hazards and risks associated with the building or campus. The risk analysis and emergency response plan can be as elaborate or as basic as the Fire Code Official and building owner determines it needs to be. In some cases, other types of one-way communications may be needed to provide effective protection. Section 403 of the Code requires a Fire Safety and Evacuation Plan be developed for educational occupancies and Section 404 requires that when a Lockdown Plan is developed, it must be approved by the Fire Code Official. These sections require communication of the emergency to the building occupants be included in the plan. This Proposal ***only*** emphasizes the need to document how communicating with the occupants of the building and possibly occupants that are outside the building will be accomplished. It will encourage the use of the EVAC system that is already required as a part of the fire alarm construction.

This proposal ***is not automatically*** requiring the installation of any mass notification systems. Rather, it***only*** requires a risk analysis be conducted for a new building containing a Group E occupancy having an occupant load of 500 or more. Furthermore, the risk analysis for a new building that is part of a campus with existing buildings may determine the existing buildings are not required to be upgraded with a mass notification system. The responsibility for the risk analysis rests on the building owner who may employ the necessary professionals to satisfy the requirements.

Bibliography: FBI Reports

- Active Shooter Incidents: Topical One-Pagers, 2000 - 2018
- 2000 to 2018 Active Shooter Incidents

Cost Impact: The code change proposal will increase the cost of construction
The cost of the risk analysis will be based on the complexity of the facility, and in many cases, there will be no additional costs as the emergency planning is already required. In extreme cases, the risk analysis may cost thousands of dollars to produce an expansive report of risks and strategies to mitigate those risks. When the EVAC system is identified as the only means of mass communication needed, there will be no increased cost of construction. If the conclusion of the risk analysis identifies the need for messages beyond one-way EVAC systems such as visible, digital, or text messages there will be some additional expense for those systems. It must be noted an EVAC system is already required by the Code for Group E occupancies and many EVAC systems are listed for mass notification in accordance with UL 2572, *Standard for Mass Notification Systems.*

Page: 2

Mod_10787_Text_F105-21.pdf

F10787Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it only requires that a risk assessment be performed to determine if a mass notification system is needed. By providing this requirement, it will allow for ample consideration for the inclusion of such a system in facilities where small children and youth will be regularly present. Additionally, it was noted that this has already been put this in the code for colleges and universities, so it makes sense to provide it for younger children as well. (Vote: 13-0)

Final Hearing Results

F105-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

148

F10788 /F162-21

Date Submitted	03/06/2024	**Section**	415.11.1.1.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Table 415.11.1.1.1.

Summary of Modification

Proposal increasing densities of liquids in column of Table 415.11.1.1.1.

Rationale

See attached

F10788Text Modification

See attached

Page: 1

Mod10788_TextOfModification.pdf

F10788Text Modification

F162-21

Original Proposal

IFC: TABLE 2704.2.2.1; IBC: TABLE 415.11.1.1.1

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

TABLE 415.11.1.1.1 QUANTITY LIMITS FOR HAZARDOUS MATERIALS IN A SINGLE FABRICATION AREA IN GROUP H-5[a]

HAZARD CATEGORY		SOLIDS (pounds per square foot)	LIQUIDS (gallons per square foot)	GAS (cubic feet @ NTP/square foot)
PHYSICAL-HAZARD MATERIALS				
Combustible dust		Note b	Not Applicable	Not Applicable
Combustible fiber	Loose	Note b	Not Applicable	Not Applicable
	Baled	Notes b and c		
Combustible liquid	II	Not Applicable	~~0.01~~ 0.02	Not Applicable
	IIIA		~~0.02~~ 0.04	
	IIIB		Not Limited	
Combination Class	I, II and IIIA		~~0.04~~ 0.08	
Cryogenic gas	Flammable	Not Applicable	Not Applicable	Note d
	Oxidizing			~~1.25~~ 2.5
Explosives		Note b	Note b	Note b
Flammable gas	Gaseous	Not Applicable	Not Applicable	Note d
	Liquefied			Note d
Flammable liquid	IA	Not Applicable	~~0.0025~~ 0.005	Not Applicable
	IB		~~0.025~~ 0.05	
	IC		~~0.025~~ 0.05	
Combination Class	IA, IB and IC		~~0.025~~ 0.05	
Combination Class	I, II and IIIA		~~0.04~~ 0.08	
Flammable solid		~~0.001~~ 0.002	Not Applicable	Not Applicable
Organic peroxide	Unclassified detonable	Note b	~~Not Applicable~~ Note b	Not Applicable
	Class I	Note b	Note b	
	Class II	~~0.025~~ 0.05	0.0025	
	Class III	~~0.1~~ 0.2	.02	
	Class IV	Not Limited	Not Limited	

Page: 1

Mod_10788_Text_F162-21.pdf

F10788Text Modification

HAZARD	CATEGORY	SOLIDS (pounds per square foot)	LIQUIDS (gallons per square foot)	GAS (cubic feet @ NTP/square foot)
	Class V	Not Limited	Not Limited	
Oxidizing gas	Gaseous	Not Applicable	Not Applicable	1.25 2.5
	Liquefied			1.25 2.5
Combination of gaseous and liquefied				1.25 2.5
Oxidizer	Class 4	Note b	Note b	Not Applicable
	Class 3	0.003 0.006	0.03 0.06	
	Class 2	0.003 0.006	0.03 0.06	
	Class 1	0.003 0.006	0.03 0.06	
Combination Class	1, 2, 3	0.003 0.006	0.03 0.06	
Pyrophoric materials		0.01 Note b	0.00125 0.0025	Notes d and e
Unstable (reactive)	Class 4	Note b	Note b	Note b
	Class 3	0.025 0.05	0.0025 0.005	Note b
	Class 2	0.1 0.2	0.01 0.02	Note b
	Class 1	Not Limited	Not Limited	Not Limited
Water reactive	Class 3	0.01 0.02[f]	0.00125 0.0025	Not Applicable
	Class 2	0.25 0.5	0.025 0.05	
	Class 1	Not Limited	Not Limited	
HEALTH-HAZARD MATERIALS				
Corrosives		Not Limited	Not Limited	Not Limited
Highly toxic		Not Limited	Not Limited	Note d
Toxics		Not Limited	Not Limited	Note d

For SI: 1 pound = 0.454 kg, 1 pound per square foot = 4.882 kg/m^2, 1 gallon per square foot = 40.7 L/m^2, 1 cubic foot @ NTP/square foot = 0.305 m^3 @ NTP/m^2, 1 cubic foot = 0.02832 m^3.

a. Hazardous materials within piping shall not be included in the calculated quantities.

b. Quantity of hazardous materials in a single fabrication shall not exceed the maximum allowable quantities per control area in Tables 307.1(1) and 307.1(2).

c. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.

d. The aggregate quantity of flammable, pyrophoric, toxic and highly toxic gases shall not exceed the greater of 0.2 cubic feet at NTP/square foot or 9,000 cubic feet at NTP.

e. The aggregate quantity of pyrophoric gases in the building shall not exceed the amounts set forth in Table 415.6.5.

f. Quantity of Class 3 water-reactive solids in a single tool shall not exceed 1 pound.

Reason: The proposed changes are consistent with the limits identified in Table 5.5.2, NFPA 318. The proposed higher densities are needed to meet current manufacturing needs. In addition, advances in technology have resulted in reducing the fire risk associated with workstations and tools both with respect to the materials used and operationally (less hand pouring). The higher densities have been in NFPA 318 since 2002 and there have not been any documented problems associated with increased densities.

Page: 2

Mod_10788_Text_F162-21.pdf

F10788Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposed changes are not likely to impact the cost of construction. The proposed changes are primarily operational limits.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal appropriately aligns quantity limits in a single fabrication area with NFPA 418. (Vote: 14-0)

Final Hearing Results

F162-21 AS

Page: 3

Mod_10788_Text_F162-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

149

F10794 | **/F89-21**

Date Submitted	03/06/2024	**Section**	907.2.11	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC -B - 907.2.11.

Summary of Modification

This proposal removes the outdated requirements related to specifying ionization or photoelectric smoke alarm technologies because all smoke alarms will be listed for resistance to common nuisance sources from cooking when the 2024 edition of the IFC, IBC and IPMC are published.

Rationale

See attached

F10794Text Modification

See attached

Page: 1

Mod10794_TextOfModification.pdf

F10794Text Modification

F89-21

Original Proposal

IFC: 907.2.11, 907.2.11.3; IBC: [F] 907.2.11, [F] 907.2.11.3; IPMC: [F] 704.6, [F] 704.6.1.3

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 907.2.11 Single- and multiple-station smoke alarms. *Listed* single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.7, ~~and~~ NFPA 72 and the manufacturer's published instructions.

[F] 907.2.11.3 Installation near cooking appliances. Smoke alarms shall ~~not~~ be installed a minimum of 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance. ~~in the following locations unless this would prevent placement of a smoke alarm in a location required by Section 907.2.11.1 or 907.2.11.2:~~

Exception: Smoke alarms shall be permitted to be installed between 6 ft. (1.8 m) and 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance where necessary to comply with Section 907.2.11.1 or 907.2.11.2.

1. ~~Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking appliance.~~
2. ~~Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking appliance.~~
3. ~~Photoelectric smoke alarms shall not be installed less than 6 feet (1829 mm) horizontally from a permanently installed cooking appliance.~~

Reason: This proposal simply aligns the code requirements in IFC, IBC and IPMC with the current edition of NFPA 72 and the 8th Edition of UL 217. This proposal removes the outdated requirements related to specifying ionization or photoelectric smoke alarm technologies because all smoke alarms will be listed for resistance to common nuisance sources from cooking when the 2024 edition of the IFC, IBC and IPMCare published.

NFPA 72 Section 29.11.3.4(4)(2) requires smoke alarms to be listed for resistance to common nuisance sources from cooking in accordance with the 8th Edition of UL 217 or subsequent editions.The reason UL smoke alarm and detector standards have new performance tests is to reduce the frequency of unwanted alarm activation from normal cooking activities such as pan-frying, sauteing or baking. The new cooking resistance tests are necessary because normal cooking activities are he leading cause of unwanted alarm activations that result in homeowners removing or deactivating their smoke alarms. Therefore, the technology specific requirement for devices installed between 6 and 20 feet are now longer relevant.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal simply aligns the IBC and IFC with NFPA 72 and UL 217

Mod_10794_Text_F89-21.pdf

F10794Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
2021 International Fire Code

907.2.11 Single- and multiple-station smoke alarms.
Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.7, NFPA 72 and the manufacturer's ~~published~~ instructions.

907.2.11.3 Installation near cooking appliances.
Smoke alarms shall be installed a minimum of 10 ft (3.0 m) horizontally from a permanently installed cooking appliance.

Exception: Smoke alarms shall be permitted to be installed~~between~~ a minimum of 6 ft. (1.8 m) ~~and 10 ft. (3.0 m)~~ horizontally from a permanently installed cooking appliance where necessary to comply with Section 907.2.11.1 or 907.2.11.2.

2021 International Building Code

[F] 907.2.11 Single- and multiple-station smoke alarms.
Listed single- and multiple-station smoke alarms complying with UL 217 shall be installed in accordance with Sections 907.2.11.1 through 907.2.11.7, NFPA 72 and the manufacturer's ~~published~~ instructions.

[F] 907.2.11.3 Installation near cooking appliances.
Smoke alarms shall be installed a minimum of 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance.

Exception: Smoke alarms shall be permitted to be installed~~between~~ a minimum of 6 ft. (1.8 m) ~~and 10 ft. (3.0 m)~~ horizontally from a permanently installed cooking appliance where necessary to comply with Section 907.2.11.1 or 907.2.11.2.

2021 International Property Maintenance Code

[F]704.6 Single- and multiple-station smoke alarms.
Single- and multiple-station smoke alarms shall be installed in existing Group I-1 and R*occupancies* in accordance with Sections 704.6.1 through 704.6.3.

[F]704.6.1.3Installation near cooking appliances.
Smoke alarms shall be installed a minimum of 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance .

Exception: Smoke alarms shall be permitted to be installed~~between~~ a minimum of 6 ft. (1.8 m) ~~and 10 ft. (3.0 m)~~ horizontally from a permanently installed cooking appliance where necessary to comply with Section 704.6.1 or 704.6.2.

Committee Reason: The committee stated that the reason for the approval of the modification and the proposal was that it aligns the codes: IFC, IBC, IPMC and the referenced standard, NFPA 72, and removes some outdated requirements. (Vote: 14-0)

Final Hearing Results

F89-21 AM

Page: 2

Mod_10794_Text_F89-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

150

F10795 /F92-21

Date Submitted	03/06/2024	**Section**	907.5.2.1.3	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This Proposal seeks to enhance the ability of residents in and I-1 Occupancies to be awakened by the fire alarm system or smoke alarm by requiring the 520 Hz low frequency audible alarm signal.

Rationale

See attached

F10795Text Modification

See attached

Page: 1

Mod10795_TextOfModification.pdf

F10795Text Modification

F92-21

Original Proposal

IFC: 907.5.2.1.3, 907.5.2.1.3.1, 907.5.2.1.3.2; IBC: [F] 907.5.2.1.3, [F] 907.5.2.1.3.1, [F] 907.5.2.1.3.2

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Revise as follows:

[F] 907.5.2.1.3 Audible alarm signal frequency in Group R-1, ~~and~~ R-2 and I-1 sleeping rooms. Audiblealarm signal frequency in Group R-1, ~~and~~ R-2 and I-1 occupancies shall be in accordance with Sections 907.5.2.1.3.1 and 907.5.2.1.3.2.

[F] 907.5.2.1.3.1 Fire alarm system audible signal. In sleeping rooms of Group R-1, ~~and~~ R-2, and I-1 occupancies, the audible alarm signal activated by a fire alarm system shall be a 520-Hz low-frequency signal complying with NFPA 72.

[F] 907.5.2.1.3.2 Smoke alarm signal in sleeping rooms. In sleeping rooms of Group R-1, ~~and~~ R-2, and I-1 occupancies that are required by Section 907.2.8 or 907.2.9 to have a fire alarm system, the audible *alarm signal* activated by single- or multiple-station smoke alarms in the *dwelling unit* or *sleeping unit* shall be a 520-Hz signal complying with NFPA 72. Where a sleeping room smoke alarm is unable to produce a 520-Hz signal, the 520-Hz *alarm signal* shall be provided by a *listed* notification appliance or a smoke detector with an integral 520-Hz sounder.

Reason: This Proposal seeks to enhance the ability of residents in and I-1 Occupancies to awakened by the fire alarm system or smoke alarm by requiring the 520 Hz low frequency audible alarm signal. This proposal is needed because residents in I-1 Occupancies do not rely on trained staff to wake them and they are able to self-evacuate the building. Another FPRF Report, Waking Effectiveness of Alarms for Adults Who Are Hard of Hearing, concludes the 520 Hz low frequency is six times more effective than the standard 3 KHz signal at waking high risk segments of the population (people over 65, people who are hard of hearing, school age children and people who are alcohol impaired). The standard 3 KHz audible alarm signal has been used in all fire alarm horns and smoke alarms for the past 30 years.
This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will increase the cost of construction
Cost Impact: The code change will increase cost of construction. The total installation cost will only increase in new R-1, R-2 and I-1 occupancies where a fire alarm system is required by Section 907 by requiring the use of the 520 Hz low frequency audible fire alarm signal in sleeping rooms of these occupancies. In accordance with the included cost analysis the “estimated” price increase is $57 per sleeping room for occupancies that are not required to utilize an emergency voice alarm communication (EVAC) system for occupant notification and approximately $107 per sleeping room for occupancies that are required to utilize an (EVAC) system for occupant notification.

For non-EVAC systems, the solution utilizes a currently available smoke detector with an integral low frequency sounder base instead of installing a smoke alarm and low frequency horn. For EVAC systems, the solution utilizes a currently available fire alarm system speaker and a smoke detector with an integral low frequency sounder base.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_10795_Text_F92-21.pdf

F10795Text Modification

Committee Reason: The committee stated that the reason for the approval was that the proposal increases the reduction of hazards for Group I-1 occupancies and they deserve to have low frequency alarms just as well as Groups R-1 and R-2. (Vote: 14-0)

Final Hearing Results

F92-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

151

F10796 /F96-21

Date Submitted	03/06/2024	**Section**	909.18.3	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adding reference to the appropriate NFPA standards for dampers clarifies and reinforces the applicable acceptance testing requirements.

Rationale

See attached

F10796Text Modification

See attached

Page: 1

Mod10796_TextOfModification.pdf

F10796Text Modification

F96-21

Original Proposal

IFC: 909.18.3; IBC: [F] 909.18.3

Proponents: William Koffel, Koffel Associates, Inc., Air Movement and Control Association (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

[F] 909.18.3 Dampers. *Dampers* shall be tested for function in their installed conditionin accordance with NFPA 80 and NFPA 105.

Reason: Adding this reference to the appropriate NFPA standards for dampers clarifies and reinforces the applicable acceptance testing requirements. The statement as written in the 2021 IFC seems to omit some of the practices and requirements involved with damper acceptance testing. The clarification made by this proposal helps to detail these requirements.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not increase cost since it does not make technical changes to damper acceptance testing requirements, but rather clarifies and aligns this section with other damper requirements, such as in 2021 IFC Section 706, where NFPA 80 and NFPA 105 are already mentioned.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was based on the proponent's reason statement. Additionally, it was noted by the committee that the reference to these standards is specifically regarding the testing aspect of the requirement because the section states dampers shall be tested for function in their installed condition in accordance with those standards. (Vote: 14-0)

Final Hearing Results

F96-21 AS

Page: 1

Mod_10796_Text_F96-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

152

F10798 /F99-21

Date Submitted	03/06/2024	**Section**	912.5	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Currently both the IBC section 905.2 and IFC section 905.2 require the signage for fire department connection to meet the requirements found in NFPA 14 Standard for the Installation of Standpipes and Hose Systems. Proposal to put those requirements into the IFC and IBC

Rationale

See attached

F10798Text Modification

See attached

Page: 1

Mod10798_TextOfModification.pdf

F10798Text Modification

F99-21

Original Proposal

IFC: 912.5, 912.5.1 (New), 912.5.2 (New), 912.5.3 (New), 912.5.4 (New); IBC: [F] 912.5, [F] 912.5.2 (New), [F] 912.5.3 (New), [F] 912.5.1 (New), [F] 912.5.4 (New)

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis@nfsa.org); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Building Code

Revise as follows:

[F] 912.5 Signs. A metal sign ~~with raised letters not less than 1 inch (25 mm) in size~~shall be mounted on all fire department connections serving automatic sprinklers, standpipes or fire pump connections. Such signs shall read: "AUTOMATIC SPRINKLERS," "STANDPIPES," or "TEST CONNECTION," or "STANDPIPE AND AUTOSPKR or AUTOSPK AND STANDPIPE," or a combination thereof as applicable. ~~Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.~~

Add new text as follows:

[F] 912.5.2 Serving Multiple Buildings. Where a fire department connection (FDC) services multiple buildings, structures or location, a sign shall be provided indicating the building, structures or locations served. Where the fire department connection does not serve the entire building, a sign shall be provided indicating the portions of the building served.

[F] 912.5.3 Multiple or combined systems. Where combination or multiple systems types are supplied by the fire department connection, the sign or combination of signs shall indicate both designated services.

[F] 912.5.1 Lettering. Each fire department connection (FDC) shall be designated by a sign with raised letters at least 1 inch (25.4mm) in height. For manual standpipe systems, the sign shall also indicate that the system is manual and that it is either wet or dry.

[F] 912.5.4 Indication of pressure. The sign also shall indicate the pressure required at the outlets to deliver the standpipe system demand.

Exception: The requirements of section 912.5.4 shall not be required where the pressure required is 150 psi (10.3 bar) or less.

Reason: Currently both the IBC section 905.2 and IFC section 905.2 require the signage for fire department connection to meet the requirements found in NFPA 14 Standard for the Installation of Standpipes and Hose Systems. This amendment simply pulls those requirements into the IFC and IBC for quick identification.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is already a requirement and is an editorial clarification.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that it is already a requirement in NFPA 14 and it is a good

Page: 1

Mod_10798_Text_F99-21.pdf

F10798Text Modification

pointer to include for the inspectors as a clarification. (Vote: 14-0)

Final Hearing Results

F99-21 AS

Page: 2

Mod_10798_Text_F99-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

153

F10865 | **/FS110-21**

Date Submitted	03/07/2024	**Section**	909.20.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposed code change seeks to clarify the dimensional requirements in vestibules used to access stairway doors in smoke proof enclosures.

Rationale

See attached

F10865Text Modification

See attached

Mod10865_TextOfModification.pdf

Page: 1

F10865Text Modification

FS100-21

Original Proposal

IBC: TABLE 721.1(3)

Proponents: David Tyree, AWC (dtyree@awc.org); Jason Smart, American Wood Council, AWC (jsmart@awc.org)

2021 International Building Code

Revise as follows:

TABLE 721.1(3) MINIMUM PROTECTION FOR FLOOR AND ROOF SYSTEMS[a, q]

Portions of table not shown remain unchanged.

31. Wood I-joist (minimum I-joist depth 9 1/4" with a minimum flange thickness of 1 1/2" and a minimum flange cross-sectional area of 2.25 square inches; minimum web thickness of 3/8") @ 24" o.c.	31-1.1	Two layers of 1/2" Type C gypsum wallboard applied with the long dimension perpendicular to the I-joists with end joints staggered. The base layer is fastened with 1" Type S drywall screws spaced 12" o.c. and the face layer is fastened with 1 5/8" Type S drywall screws spaced 12" o.c. in the field and 8" o.c. on the edges. Face layer edge joints shall not occur on the same I-joist as base layer end joints and edge joints shall be offset 24" from base layer joints. End joints centered on bottom flange of I-joists and offset a minimum of 48 inches from those of base layer. Face layer to also be attached to base layer with 1 1/2" Type G drywall screws spaced 8" o.c. with a 4" stagger, placed 6" from face layer end joints. Face layer wallboard joints taped and covered with joint compound. Screw heads covered with joint compound.	Varies	-	-

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.454 kg, 1 cubic foot = 0.0283 m^3,

1 pound per square inch = 6.895 kPa, 1 pound per linear foot = 1.4882 kg/m.

a. Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.

b. Where the slab is in an unrestrained condition, minimum reinforcement cover shall be not less than 1 5/8 inches for 4 hours (siliceous aggregate only); 1 1/4 inches for 4 and 3 hours; 1 inch for 2 hours (siliceous aggregate only); and 3/4 inch for all other restrained and unrestrained conditions.

c. For all of the construction with gypsum wallboard described in this table, gypsum base for veneer plaster of the same size, thickness and core type shall be permitted to be substituted for gypsum wallboard, provided that attachment is identical to that specified for the wallboard, and the joints on the face layer are reinfoa.

   Staples with equivalent holding power and penetration shall be permitted to be used as alternate fasteners to nails for attachment to wood framing.rced and the entire surface is covered with not less than 1/16-inch gypsum veneer plaster.

d. Slab thickness over steel joists measured at the joists for metal lath form and at the top of the form for steel form units.

e. (a) The maximum allowable stress level for H-Series joists shall not exceed 22,000 psi.

   (b) The allowable stress for K-Series joists shall not exceed 26,000 psi, the nominal depth of such joist shall be not less than 10 inches and the nominal joist weight shall be not less than 5 pounds per linear foot.

f. Cement plaster with 15 pounds of hydrated lime and 3 pounds of approved additives or admixtures per bag of cement.

g. Gypsum wallboard ceilings attached to steel framing shall be permitted to be suspended with 1 1/2-inch cold-formed carrying channels spaced 48 inches on center, that are suspended with No. 8 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with No. 18 SWG galvanized wire hangers spaced 48 inches on center. Cross-furring channels are tied to the carrying channels with No. 18 SWG galvanized wire (double strand) and spaced as required for direct attachment to the framing. This alternative is applicable to those steel framing assemblies recognized under Note q.

h. Six-inch hollow clay tile with 2-inch concrete slab above.

i. Four-inch hollow clay tile with 1 1/2-inch concrete slab above.

Page: 1

Mod_10865_Text_FS100-21.pdf

F10865Text Modification

j. Thickness measured to bottom of steel form units.

k. Five-eighths inch of vermiculite gypsum plaster plus $^{1}/_{2}$ inch of approved vermiculite acoustical plastic.

l. Furring channels spaced 12 inches on center.

m. Double wood floor shall be permitted to be either of the following:

(a) Subfloor of 1-inch nominal boarding, a layer of asbestos paper weighing not less than 14 pounds per 100 square feet and a layer of 1-inch nominal tongue-and-groove finished flooring.

(b) Subfloor of 1-inch nominal tongue-and-groove boarding or $^{15}/_{32}$-inch wood structural panels with exterior glue and a layer of 1-inch nominal tongue-and-groove finished flooring or $^{19}/_{32}$-inch wood structural panel finish flooring or a layer of Type I Grade M-1 particleboard not less than $^{5}/_{8}$-inch thick.

n. The ceiling shall be permitted to be omitted over unusable space, and flooring shall be permitted to be omitted where unusable space occurs above.

o. For properties of cooler or wallboard nails, see ASTM C514, ASTM C547 or ASTM F1667.

p. Thickness measured on top of steel deck unit.

q. Generic fire-resistance ratings (those not designated as PROPRIETARY* in the listing) in the GA 600 shall be accepted as if herein specified.

Reason: Fire-resistance-rated wood-frame assemblies can be found in a number of sources including the*IBC*, Underwriters Laboratories (UL) *Fire Resistance Directory*, Intertek Testing Services' *Directory of Listed Products*, and the Gypsum Association's *Fire Resistance Design Manual*. The American Wood Council (AWC) and its members have tested a number of wood-frame fire-resistance-rated assemblies. This proposal is adding another tested assembly which is popular among designers and is being provided for the convenience of the building official. It is the same as Assembly WIJ-1.5 in the American Wood Council's publication titled DCA3 - *Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, which may be downloaded from the AWC website. Similar descriptions of successfully tested I-joist floor assemblies are provided in Table 721.1(3) for one-hour and two-hour fire-resistance-rated floor/ceiling assemblies. I-joists are required to comply with ASTM D5055, *Standard Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-Joists*.

Bibliography: DCA3 - *Fire-Resistance-Rated Wood-Frame Wall and Floor/Ceiling Assemblies*, American Wood Council, 2020, https://awc.org/pdf/codes-standards/publications/dca/AWC_DCA3_20200401_AWCWebsite.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal provides the IBC with another tested floor assembly for use by designers and building department personnel.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded the proposal provides the designer another option for minimum protection for floor and roof systems. (Vote: 11-0)

Final Hearing Results

FS100-21 AS

Page: 2

Mod_10865_Text_FS100-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

154

F10866 /FS112-21

Date Submitted	03/07/2024	**Section**	909.20	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal will eliminate the mechanical ventilation alternative. Although the mechanical ventilation alternative has been in the IBC since inception, it seems unlikely this option is used very often, if at all

Rationale

See attached

F10866Text Modification

See attached

Page: 1

Mod10866_TextOfModification.pdf

F10866Text Modification

FS112-21

Original Proposal

IBC: 909.20, 909.20.4, 909.20.4.1, 909.20.4.2, 909.20.4.2.1, 909.20.4.3, 909.20.4.4, 909.20.7; IFC: [BF] 909.20, [BF] 909.20.4, [BF] 909.20.4.1, [BF] 909.20.4.2, [BF] 909.20.4.2.1, [BF] 909.20.4.3, [BF] 909.20.4.4

Proponents: Valarie Evans, SNICC, SNBO (evansv@cityofnorthlasvegas.com)

2021 International Building Code

Revise as follows:

909.20 Smokeproof enclosures. Where required by Section 1023.12, a*smokeproof enclosure* shall be constructed in accordance with this section. A *smokeproof enclosure* shall consist of an *interior exit stairway* or *ramp* that is enclosed in accordance with the applicable provisions of Section 1023 and an open exterior balcony, ~~ventilated vestibule~~ or pressurized *stair* and pressurized entrance vestibule meeting the requirements of this section. Where access to the roof is required by the *International Fire Code*, such access shall be from the *smokeproof enclosure* where a *smokeproof enclosure* is required.

Delete without substitution:

~~**909.20.4 Mechanical ventilation alternative.** The provisions of Sections 909.20.4.1 through 909.20.4.4 shall apply to ventilation of *smokeproof enclosures* by mechanical means.~~

~~**909.20.4.1 Vestibule doors.** The door assembly from the building into the vestibule shall be a*fire door assembly* complying with Section 716.2.2.1. The door assembly from the vestibule to the *stairway* or *ramp* shall not have less than a 20-minute*fire protection rating* and shall meet the requirements for a smoke door assembly in accordance with Section 716.2.2.1. The door shall be installed in accordance with NFPA 105.~~

~~**909.20.4.2 Vestibule ventilation.** The vestibule shall be supplied with not less than one air change per minute and the exhaust shall be not less than 150 percent of supply. Supply air shall enter and exhaust air shall discharge from the vestibule through separate, tightly constructed ducts used only for that purpose. Supply air shall enter the vestibule within 6 inches (152 mm) of the floor level. The top of the exhaust register shall be located at the top of the smoke trap but not more than 6 inches (152 mm) down from the top of the trap, and shall be entirely within the smoke trap area. Doors in the open position shall not obstruct duct openings. Duct openings with controlling *dampers* are permitted where necessary to meet the design requirements, but *dampers* are not otherwise required.~~

~~**909.20.4.2.1 Engineered ventilation system.** Where a specially engineered system is used, the system shall exhaust a quantity of air equal to not less than 90 air changes per hour from any vestibule in emergency operation mode and shall be sized to handle three vestibules simultaneously. Smoke detectors shall be located at the floor-side entrance to each vestibule and shall activate the system for the affected vestibule. Smoke detectors shall be installed in accordance with Section 907.3.~~

~~**909.20.4.3 Smoke trap.** The vestibule ceiling shall be not less than 20 inches (508 mm) higher than the door opening into the vestibule to serve as a smoke and heat trap and to provide an upward-moving air column. The height shall not be decreased unless *approved* and justified by design and test.~~

~~**909.20.4.4 Stairway or ramp shaft air movement system.** The *stairway* or *ramp shaft* shall be provided with a dampered relief opening and supplied with sufficient air to maintain a minimum positive pressure of 0.10 inch of water (25 Pa) in the *shaft* relative to the vestibule with all doors closed.~~

Revise as follows:

909.20.7 Ventilating equipment. The activation of ventilating equipment required by the alternatives in Sections ~~**909.20.4,**~~ 909.20.5 and

Page: 1

Mod_10866_Text_FS112-21.pdf

F10866Text Modification

909.20.6 shall be by smoke detectors installed at each floor level at an *approved* location at the entrance to the *smokeproof enclosure*. When the closing device for the *stairway* and *ramp shaft* and vestibule doors is activated by smoke detection or power failure, the mechanical equipment shall activate and operate at the required performance levels. Smoke detectors shall be installed in accordance with Section 907.3.

Reason: This proposal will eliminate the mechanical ventilation alternative. Although the mechanical ventilation alternative has been in the IBC since inception, it seems unlikely this option is used very often, if at all. This is due to the complexity of the design and the additional equipment necessary to achieve the specified results.
There are two primary approaches to meet the mechanical ventilation option. One approach requires large supply and exhaust fans, as well as the associated ducts to serve all vestibules simultaneously. A second approach requires not only the supply and exhaust ducts, but also one supply and one exhaust damper in each vestibule. With this approach, each damper in every vestibule will have to properly configure for the system to function, as well as be monitored to confirm status.

Section 909.20.4.2 requires the vestibule exhaust to be at least 150 percent of supply. This means the vestibule is negative relative to the adjacent floor and smoke can be drawn into the vestibule. As such, this design concept actually contradicts the intent, which is to limit smoke intrusion into the exit enclosure.

Section 909.20.4.3 requires a minimum ceiling height of 20 inches above the door. With a minimum door opening height of 80 inches as required by Section 1010.1.1, these constraints dictate a minimum of 8 feet 4 inches from the top of one slab to the bottom of the slab above. Adding another 6 inches for a reasonable slab thickness gives almost 9 foot slab-to-slab height. Although this may not be a hardship for most multi-story buildings, this will impact some designs.

Cost Impact: The code change proposal will decrease the cost of construction
Due to the complexity of this option, it is more expensive to design, construction, commission, and maintain than other recognized approaches for smokeproof enclosures.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: As stated in the reason statement, the committee determined the proposal eliminates the mechanical ventilation alternative due to the complexity of the design and the additional equipment necessary to achieve the specified results. (Vote: 13-0)

Final Hearing Results

FS112-21 AS

Page: 2

Mod_10866_Text_FS112-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

155

F10867 | **/FS115-21**

Date Submitted	03/07/2024	**Section**	909.20.6.4	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Section 909.21.4.2 for elevator pressurization systems requires a smoke detector that will automatically shut down the fans when smoke is detected within the system

Rationale

See attached

F10867Text Modification

See attached

Page: 1

Mod10867_TextOfModification.pdf

F10867Text Modification

FS115-21

Original Proposal

IBC: 909.20.6.4 (New); IFC: [FS] 909.20.6.4 (New)

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Add new text as follows:

909.20.6.4 Smoke Detection. The fan system shall be equipped with a smoke detector that will automatically shut down the fan system when smoke is detected within the system.

Reason: Section 909.21.4.2 for elevator pressurization systems requires a smoke detector that will automatically shut down the fans when smoke is detected within the system. The ICC Commentary to this section states:
The airflow must be free of smoke or it will only increase the likelihood of smoke spreading through-out the building. The smoke detector required by this section should be located on the intake side of the blower fan.

NFPA 92, Sections 6.4.6.2 states:

6.4.6.2.1 A smoke detector shall be provided in the air supply to the pressurized stairwell.

6.4.6.2.2 On detection of smoke in the air supply, the supply fan(s) shall be stopped.

The intent of stair pressurization systems is to maintain a tenable environment within the stair enclosures to exit discharge. A fire on the roof or in the fan, can result in smoke entering the stair enclosure.

To maintain consistency with NFPA 92, smoke detection should be provided that at the stair pressurization system.

Cost Impact: The code change proposal will increase the cost of construction
The Cost impact will be nominal per stair pressurization fan, consisting of one duct mounted smoke detector or area detector at the top of the enclosure, and controls.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded that the proposal provides consistency in the code regarding smoke detection requirements for pressurization systems. (Vote: 13-0)

Final Hearing Results

FS115-21 AS

Page: 1

Mod_10867_Text_FS115-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

156

F10868 /FS116-21

Date Submitted	03/07/2024	**Section**	909.21	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of Section 909.21 "Elevator hoistway pressurization alternative".

Rationale

See attached

F10868Text Modification

See attached

Page: 1

Mod10868_TextOfModification.pdf

F10868Text Modification

FS116-21

Original Proposal

IBC: 909.21; IFC: [BF] 909.21

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Revise as follows:

909.21 Elevator hoistway pressurization alternative. Where elevator hoistway pressurization is provided in lieu of required enclosed elevator lobbies, the pressurization system shall comply with Sections 909.21.1 through 909.21.11. The design shall consider the interaction effects of the operation of multiple smoke control systems for all design scenarios in accordance with Section 909.4.7. All components/systems associated with the means of mitigating adverse interaction shall comply with the applicable Sections of 909.

Reason: Multiple published papers identify how elevator hoistway pressurization systems will impact other smoke controls systems serving high-rise buildings, including stair pressurization. Due to the high leakage factors of both open and closed elevator doors, a large volume of airflow must be introduced into the elevator hoistway to maintain the prescribed +0.10 inches of water (25 Pa) for elevator pressurization systems on all levels. As documented in the referenced papers, unless, the air introduced into the building by the elevator pressurization is relieved to the exterior, the prescribed pressures cannot be maintained to the pressurized stair enclosures With the low exterior leakage factor of modern buildings to meet energy code requirements, this issue is further compounded.
The means of relieving the air can either mechanical systems or relief dampers at the exterior of the building. The volume of air must be calculated using smoke control models such as CONTAM.

While Section 909.4.7 specifically requires the engineer to consider the interaction of multiple systems, the need should be emphasized when the building is the building utilizes elevator pressurization to protect the hoistway. As the components/systems utilized to mitigate the impact are critical to the functionality of the system, the language simply clarifies the entire system must comply with the provisions of Section 909.

Bibliography: D.C. Bowers, J.R. Ellison, D.E. Beasley and R.S. Miller: Department of Mechanical EngineeringClemson University. The 8th International Conference on Performance-Based Codes and FireSafety Design Methods, Society of Fire Protection Engineers, Numerical Study of Elevator and Stairwell Pressurization Systems Using Detailed Building Models: Lund, Sweden; , June 16-18, 2010
Miller, R.S. and Beasley, D.E., Smoke Control by Pressurization in Stairwells and Elevator Shafts, The Singapore Engineer, 6-11, February 2009

Miller, R.S. and Beasley, D.E., On Stairwell and Elevator Shaft Pressurization for Smoke

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are number of variables that determine the relief required and the method of providing the relief is dependent upon the architectural features of the building. This proposed change is only intended to provide clarification to other provisions of the Code

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined that the proposal provides an appropriate pointer to section 909.4.7 and considers all design scenarios. (Vote: 13-0)

Page: 1

Mod_10868_Text_FS116-21.pdf

F10868Text Modification

Final Hearing Results

FS116-21 AS

Page: 2

Mod_10868_Text_FS116-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

157

F10869 /FS118-21

Date Submitted	03/07/2024	**Section**	909.21.6	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes text from Section 909.21.6 "Activation of pressurization system".

Rationale

See attached

F10869Text Modification

See attached

Mod10869_TextOfModification.pdf

Page: 1

F10869Text Modification

FS118-21

Original Proposal

IBC: 909.21.6; IFC: [BF] 909.21.6

Proponents: Jeffrey Grove, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Building Code

Revise as follows:

909.21.6 Activation of pressurization system. The elevator pressurization system shall be activated upon activation of ~~either the building fire alarm system or~~ the elevator lobby smoke detectors. ~~Where both a building fire alarm system and elevator lobby smoke detectors are present, each shall be independently capable of activating the pressurization system.~~

Reason: 1. Section 909.21.1 of the IBC requires the elevator hoistways to be pressurized to*maintain a minimum positive pressure of 0.10 inch of water (25 Pa) and a maximum positive pressure of 0.25 inch of water (67 Pa) with respect to adjacent occupied space on all floors. This pressure shall be measured at the midpoint of each hoistway door, with all elevator cars at the floor of recall and all hoistway doors on the floor of recall open and all other hoistway doors closed*. Section 909.21.1 requires the opening and closing of hoistway doors at each level to be demonstrated as part of the testing process.
Section 3003.2 of the IBC states: *Elevators shall be provided with Phase I emergency recall operation and Phase II emergency in-car operation in accordance with ASME A17.1/CSA B44*.

ANSI/ASME A17.1, Section 2.27.3.2.1 (2013 and 2016 Editions) states:

In jurisdictions not enforcing the NBCC, smoke detectors or other automatic fire detectors in environments not suitable for smoke detectors (fire alarm initiating devices) used to initiate Phase I Emergency Recall Operation shall be installed in conformance with the requirements of NFPA 72, and shall be located

(a) at each elevator lobby served by the elevator

(b) In the associated elevator machine room, machinery space containing a motor controller or driving machine, control space, or control room

(c) In the elevator hoistway, when sprinklers are located in those hoistways

2. Section 21.3.3 of NFPA 72 (2013 through 2019 Editions) states: *Unless otherwise required by the authority having jurisdiction, only the elevator lobby, elevator hoistway, and elevator machine room smoke detectors, or other automatic fire detection as permitted by 21.3.7, and initiating devices used to initiate shutdown of elevator power in accordance with Section 21.4 shall be used to recall elevators for fire fighters' service*.

As 909.21.1 states the pressures are to be measured when the elevators cars are open on the floor of recall, and 909.21.6 requires both lobby smoke detectors and any building alarm to activate the elevator pressurization, this would suggest that any alarm would be required to recall the elevators. As noted above, ASME A17.1 and NFPA 72 only permits elevator recall upon activation of elevator lobby smoke detector, elevator machine room smoke detector, or a smoke detector located within the elevator hoistway.

3. Open elevator doors on the floor of recall can discharge approximately 6,000 cfm per door which can equate up to a 24,000-cfm loss for a four-car elevator hoistway. As IBC Section 909.21 requires the pressures to be measured when the elevators are on the floor of recall, this loss of air must be considered when calculating the fan size to maintain the pressures as prescribed in Section 909.21.

When the elevator pressurization system activates upon receipt of an alarm signal from a fire alarm initiating device that does not activate recall operations, the pathway to relieve the air is significantly restricted and will result in over-pressurizing the hoistway, thereby exceeding the prescribed pressure differentials. In addition, when an elevator door is opened to load or unload occupants, the open door provides a pathway that can cause an opposing force on the elevator door, thereby preventing the door from re-closing. In all cases, the variance between recall and non-recall operation will adversely impact the performance of the elevator pressurization system. The severity

Page: 1

Mod_10869_Text_FS118-21.pdf

F10869Text Modification

of the impact is dependent upon a number of variables. These include the following:· The size of the pressurization fan.· The height of the hoistway.· The size of the hoistway (number of cars).· The location of the elevator cars at the time of alarm.· The number of elevator cars open and closed. When elevators are not in recall operation, they are generally constantly moving throughout the building with doors opening and closing. There is not an effective or repeatable method of designing the elevator pressurization to consider all of these variables. 4. Depending on the occupancy type, the quantity of manual or automatic fire alarm initiating devices that will recall the elevators can represent a small percentage of the total number devices. 5. When hoistway opening protection is provided utilizing an enclosed elevator lobby in accordance with Section 3006.3, the elevator lobby doors are generally provided with automatic closing devices (magnetic hold-open devices) that release in accordance with Section 907.3. Section 907.3 references NFPA 72 for the requirements to release the doors. NFPA 72 Section 17.7.5.6 (*Smoke Detectors for Door Release Service)* only requires the detector to be within 5 feet of the respective door to release the door. The Code does not require any building alarm to release all of the doors on all floors. The requirement for activating the elevator pressurization should be the same as the other means of providing opening protection for the hoistway.

The fundamental intent of elevator hoistway pressurization is to provide an alternate means of opening protection for the elevator shaft enclosure to prevent smoke migration. The smoke detector in the lobby will activate prior to any significant amount of smoke entering into the hoistway. When these detectors initiate an alarm, the elevators will recall, and elevator pressurization system will activate to mitigate smoke migration in the hoistway.

Cost Impact: The code change proposal will decrease the cost of construction

Implementing this code change will reduce cost to design and construct a means of attempting to mitigate the impact of the elevators in recall and normal operation.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined that the elevator lobby smoke detector alone can activate the elevator pressurization system. The deletion is consistent with ANSI/ASME A17.1. (Vote: 12-1)

Final Hearing Results

FS118-21 AS

Page: 2

Mod_10869_Text_FS118-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

158

F10870 /FS119-21

Date Submitted	03/07/2024	**Section**	910.2.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposal will provide additional language to section 910.2.1 that clarifies the requirements of what constitutes a divided area by putting requirements on draft curtain depth and the other passive systems found in Chapter 7.

Rationale

See attached

F10870Text Modification

See attached

Page: 1

Mod10870_TextOfModification.pdf

F10870Text Modification

FS119-21

Original Proposal

IBC: 910.2.1; IFC: 910.2.1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis@nfsa.org); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

2021 International Building Code

Revise as follows:

[F] 910.2.1 Group F-1 or S-1. Smoke and heat vents installed in accordance with Section 910.3 or a mechanical smoke removal system installed in accordance with Section 910.4 shall be installed in buildings and portions thereof used as a Group F-1 or S-1 occupancy having more than 50,000 square feet (4645 m^2) of ~~undivided~~ area undivided by draft curtains 4 feet (1.8 m) or greater in depth or walls constructed in accordance with Sections 706, 707, 708, 709, or 710. In occupied portions of a building equipped throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.1 where the upper surface of the*story* is not a roof assembly, a mechanical smoke removal system in accordance with Section 910.4 shall be installed.

Exception: Group S-1 aircraft repair hangars.

Reason: Per the commentary for 910.2.1, "The code is not clear on what is meant by the term “undivided area.” However, the intent is to provide the ability to manage the smoke in large spaces. Draft curtains or potentially any physical separation (regardless of rating) would provide such division." The commentary goes on to specify what constitutes construction that bounds smoke and the passage of smoke and it states that draft curtains are typically 6-feet in depth. NFPA 204, the Standard for Smoke and Heat Venting requires draft curtains to be 20% of the total ceiling height. For example, a 40 ft. ceiling would have an 8 ft. draft curtain, 30 ft. = 6 ft. draft curtain, 20 ft. = 4 ft. draft curtain. Having construction requirements in the commentary is a clear indication that the code text needs some prescriptive requirements. The proposal will provide additional language to section 910.2.1 that clarifies the requirements of what constitutes a divided area by putting requirements on draft curtain depth and the other passive systems found in Chapter 7.

Cost Impact: The code change proposal will increase the cost of construction
This proposal brings clarification to the issue the commentary raises. It could increase the cost of construction where the current code applied undivided area lacks a separation. This proposal provides a prescriptive method to divide the area with code recognized boundaries for smoke and heat vent installations.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee approval is based on that the proposal clarifies the section requirements. The addition to the section provides the criteria for how the undivided area is to be determined. (Vote: 13-1)

Final Hearing Results

FS119-21 AS

Page: 1

Mod_10870_Text_FS119-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

159

F10915 | **/FS159-21**

Date Submitted	03/08/2024	**Section**	901.6	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

The deleted text is sourced from material added to IFC Section 901.6 in 2021. However, while the IBC and IFC both include sections numbered as 901.6, IBC Section 901.6 is a different topic. Related editorial changes.

Rationale

See attached

F10915Text Modification

See attached

Mod10915_TextOfModification.pdf Page: 1

F10915Text Modification

FS159-21

Original Proposal

IBC: 901.6, 901.6.1, [F] 901.6.2, [F] 901.6.2.1, [F] 901.6.2.2, 901.6.3, 901.6.4

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

THIS PROPOSAL WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

901.6 Supervisory service. Where required, *fire protection systems* shall be monitored by an approved supervising station in accordance with NFPA 72.

901.6.1 Automatic sprinkler systems. *Automatic sprinkler systems* shall be monitored by an *approved* supervising station.

Exceptions:

1. A supervising station is not required for *automatic sprinkler systems* protecting one- and two-family dwellings.
2. Limited area systems in accordance with Section 903.3.8.

Delete without substitution:

~~**[F] 901.6.2 Integrated testing.** Where two or more fire protection or *life safety systems* are interconnected, the intended response of subordinate fire protection and *life safety systems* shall be verified when required testing of the initiating system is conducted. In addition, integrated testing shall be performed in accordance with Sections 901.6.2.1 and 901.6.2.2.~~

~~**[F] 901.6.2.1 High-rise buildings.** For high-rise buildings, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.~~

~~**[F] 901.6.2.2 Smoke control systems.** Where a fire alarm system is integrated with a smoke control system as outlined in Section 909, integrated testing shall comply with NFPA 4, with an integrated test performed prior to issuance of the certificate of occupancy and at intervals not exceeding 10 years, unless otherwise specified by an integrated system test plan prepared in accordance with NFPA 4. If an equipment failure is detected during integrated testing, a repeat of the integrated test shall not be required, except as necessary to verify operation of fire protection or life safety functions that are initiated by equipment that was repaired or replaced.~~

Revise as follows:

901.6.2 ~~901.6.3~~ Fire alarm systems. Fire alarm systems required by the provisions of Section 907.2 of this code and Sections 907.2 and 907.9 of the International Fire Code shall be monitored by an *approved* supervising station in accordance with Section 907.6.6 of this code.

Exceptions:

1. Single- and multiple-station smoke alarms required by Section 907.2.11.
2. Smoke detectors in Group I-3 occupancies.
3. Supervisory service is not required for *automatic sprinkler systems* in one- and two-family dwellings.

901.6.3 ~~901.6.4~~ Group H. Supervision and monitoring of emergency alarm, detection and automatic fire-extinguishing systems in Group H occupancies shall be in accordance with the *International Fire Code*.

Page: 1

Mod_10915_Text_FS159-21.pdf

F10915Text Modification

Reason: Editorial. The deleted text is sourced from material added to IFC Section 901.6 in 2021. However, while the IBC and IFC both include sections numbered as 901.6, IBC Section 901.6 is a different topic, and the IFC text for the same section number should not have been duplicated in the IBC, which is not scoped to include ITM.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Editorial. No cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal clarifies the appropriate place for inspection testing and maintenance of existing systems. The IFC, which is the maintenance code, is more relevant than the IBC construction code. (Vote: 14-0)

Final Hearing Results

FS159-21 AS

Page: 2

Mod_10915_Text_FS159-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

160

F10961 | **/G20-21 Part II**

Date Submitted	03/08/2024	**Section**	903.2.1.6	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This code proposal both adds a definition for “occupiable roof”and changes terminology throughout the code to be consistent with use of “occupiable roof” rather than “occupied roof”. The definition is intended to parallel the existing code definition for occupiable space

Rationale

See attached

F10961Text Modification

See attached

Page: 1

Mod10961_TextOfModification.pdf

F10961Text Modification

G20-21 Part II

Original Proposal

PART II - IFC: SECTION 202 (New), 903.2.1.6 (IBC[F] 903.2.1.6)

Proponents: Mike Nugent, Chair, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Fire Code

Add new definition as follows:

OCCUPIABLE ROOF

.

An exterior space on a roof that is designed for human occupancy, other than maintenance, and which is equipped with a means of egress system meeting the requirements of this code.

Revise as follows:

903.2.1.6 Assembly occupancies on roofs. Where an ~~occupied~~ occupiable roof has an assembly occupancy with an*occupant load* exceeding 100 for Group A-2 and 300 for other Group A occupancies, all floors between the ~~occupied~~ occupiable roof and the *level of exit discharge* shall be equipped with an*automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.

Exception: Open parking garages of Type I or Type II construction.

Reason: Over the last several cycles, code provisions have been added to address issues related to occupied/occupiable, vegetative and landscaped roofs. In some cases, the terms have been used interchangeably, in others applying to specific types of roof systems. With the increasing number of provisions, a definition is needed. A proposal last cycle (G7-19) attempted to add a definition for occupiable roof but was disapproved for several reasons including the fact it did not correlate with the fact the code uses "occupied roof" in some sections and "occupiable roof" in others.

This code proposal both adds a definition for "occupiable roof"and. changes terminology throughout the code to be consistent with use of "occupiable roof" rather than "occupied roof". The definition is intended to parallel the existing code definition for occupiable space:

[BG] OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

The proposed definition is different in a few key ways: The laundry list of uses is left out, and the one clarification made that access for maintenance of rooftop mechanical equipment or other maintenance does not trigger assembly live load requirements or other provisions related to occupiable roofs. The references to light and ventilation are left out as occupiable roofs are exterior spaces. No mechanical ventilation is necessary, and the code does not require lighting for exterior spaces other than portions of the means of egress.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Page: 1

Mod_10961_Text_G20-21 Part II.pdf

F10961Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change is purely editorial and does not affect how occupiable roofs are designed or constructed.

Staff Note: G20-21, G21-21 and G22-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
OCCUPIABLE ROOF. An exterior space on a roof that is designed for human occupancy, other than maintenance or repair, and which is equipped with a means of egress system meeting the requirements of this code.

Committee Reason: The committee stated that the reason for the approval of the modification was that the inclusion of the term repairs is important to the language of the definition. The reason for the approval of the proposal is that it provides a definition for a needed clarification of an occupiable roof. (Vote: 11-0)

Final Hearing Results

G20-21 Part II AM

Page: 2

Mod_10961_Text_G20-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

161

F10587 /E15-21

Date Submitted	03/01/2024	**Section**	1006.2.2.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Section 1006.2.2.3.

Summary of Modification

This proposal is designed to correlate and clarify the egress requirements for refrigerated rooms and associated machinery rooms. Modifies Section 1006.2.2.2 and 1006.2.2.3.

Rationale

See attached

F10587Text Modification

See attached

Mod10587_TextOfModification.pdf

Page: 1

F10587Text Modification

E15-21

Original Proposal

IBC: 1006.2.2.2, 1006.2.2.3 (IFC:[BE] 1006.2.2.2, 1006.2.2.3)

Proponents: Kevin Scott, KH Scott & Associates LLC, KH Scott & Associates LLC (khscottassoc@gmail.com)

2021 International Building Code

Revise as follows:

1006.2.2.2 Refrigeration machinery rooms. Machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two *exits* or exit access doorways. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.
All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. ~~An increase in *exit access* travel distance is permitted in accordance with Section 1017.1.~~

Exit and *exit access doorways* shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the *occupant load* served. Exit and *exit access doorways* shall be tight fitting and *self-closing*.

1006.2.2.3 Refrigerated rooms or spaces.
Rooms or spaces having a floor area larger than 1,000 square feet (93 m^2), containing a refrigerant evaporator and maintained at a temperature below 68°F (20°C), shall have access to not less than two *exits* or *exit access doorways*.
Exit access travel distance shall be determined as specified in Section 1017.1. ~~1017.1 but all~~All portions of a refrigerated room or space shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway* leading to a nonrefrigerated area where such rooms are not protected by an *approved automatic sprinkler system*. ~~Egress is allowed through adjoining refrigerated rooms or spaces~~.

> **Exception:** Where using refrigerants in quantities limited to the amounts based on the volume set forth in the *International Mechanical Code*.

Egress is allowed through adjoining refrigerated rooms or spaces.

Reason: This proposal is designed to correlate and clarify the egress requirements for refrigerated rooms and associated machinery rooms.
In Section 1006.2.2.2, the second paragraph refers to a travel distance increase for refrigeration machinery rooms that is allowed in Section 1017.1. However, Section 1017.1 does not provide any increase in exit access travel distance for refrigeration machinery rooms; and in fact, Footnote a refers back to Section 1006.2.2.2 for distance limitations in refrigeration machinery rooms. This creates a circular reference and therefore this sentence is proposed to be deleted to eliminate the confusion.

In Section 1006.2.2.3, the second paragraph contains a requirement for nonsprinklered refrigerated rooms or spaces. This paragraph is revised to clarify that there are separate egress requirements.

- Exit access travel distance which is limited by Table 1017.1
- The travel distance within a nonsprinklered refrigerated room, which is limited to 150'

Additionally, language is added to clarify that the travel distance of 150' is to reach an area outside of the refrigerated portion of the building.

The last sentence is moved to after the exception so it is a separate paragraph since it does not affect the exit access travel distance. This clarifies that the egress path can pass through intervening refrigerated rooms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This revision resolves correlation issues and clarifies the application of the requirements

Page: 1

Mod_10587_Text_E15-21.pdf

F10587Text Modification

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved based on proponent's request. There is a problem with the wording in Section 1006.2.2.3. (Vote: 14-0)

Public Comments

Public Comment 1

Proponents: Jeffrey Shapiro, International Code Consultants, IIAR (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1006.2.2.2 Refrigeration machinery rooms . Machinery rooms larger than 1,000 square feet (93 m^2) shall have not less than two *exits* or exit access doorways. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

Exit access travel distance shall be determined as specified in Section 1017.1, but all portions of a refrigeration machinery room shall be within 150 feet (45 720 mm) of an exit or exit access doorway where such rooms are not protected by an approved automatic sprinkler system. Egress is allowed through adjoining refrigeration machinery rooms or adjoining refrigerated rooms or spaces.

~~All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in *exit access* travel distance is permitted in accordance with Section 1017.1.~~

Exit and *exit access doorways* shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the *occupant load* served. Exit and *exit access doorways* shall be tight fitting and *self-closing*.

Commenter's Reason: The proponent of the original proposal correctly identified an issue with the circular reference in Section 1006.2.2.2, but a better fix is simply using identical text in Section 1006.2.2.2 and 1006.2.2.3, which does not have the same problem. The intent of both sections, which was clearly conveyed in the 2000 IBC and diminished in later editions as unrelated changes were made, is to restrict travel distance to 150 feet when sprinklers are not provided and to allow the occupancy classification associated travel distance when sprinklers are provided.

The unsprinklered condition is more restrictive than the general occupancy-related travel distance limit for unsprinklered occupancies in 1017.1. Hence the inclusion of special provisions in these sections, but only for unsprinklered conditions.

The suggested changes to 1006.2.2.3 were determined to be unnecessary. Any exit or exit access doorway will ultimately lead to a nonrefrigerated area, so adding that text accomplished nothing. And, moving the last sentence to after the exception wasn't necessary because egress is technically allowed through adjoining refrigerated rooms or spaces even if that text weren't present. There is nothing in the code that otherwise prohibits it.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Editorial clarification of existing requirements.

Final Hearing Results

E15-21 AMPC1

Page: 2

Mod_10587_Text_E15-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10588	/E17-21				162
Date Submitted	03/01/2024	**Section**	1006.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

Proposal to address that occupants on a story or occupied roof have access to the minimum number of required exits.

Rationale

See attached

1st Comment Period History

F10588-G1

Proponent Mo Madani Submitted 5/21/2024 4:03:18 PM Attachments No

Comment:

Original text of mod is not consistent with that of the 2023 FBC-B.

F10588Text Modification

See attached

Page: 1

Mod10588_TextOfModification.pdf

F10588Text Modification

E17-21

Original Proposal

IBC: 1006.3 (IFC:[BE]1006.3)

Proponents: Stephen Thomas, Colorado Code Consulting dba Shums Coda Associates, Inc., Colorado Chapter ICC (sthomas@coloradocode.net)

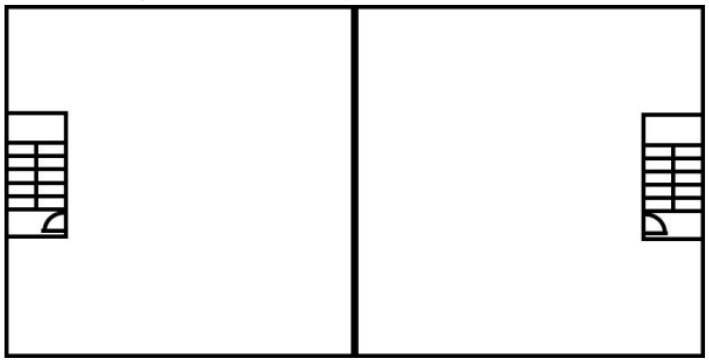
2021 International Building Code

Revise as follows:

1006.3 Egress from stories or occupied roofs.

~~The *means of egress* system serving any *story* or occupied roof shall be provided with the~~ All spaces located on a story or occupied roof shall have access to the required number of separate and distinct *exits* or access to *exits* based on the aggregate *occupant load* served in accordance with this section.

Reason: As this section was revised over the past couple of cycles, the intent was lost. It has always been intended that occupants on a story or occupied roof have access to the minimum number of required exits. The existing language does not say that. It just says that you have to have the minimum number of exits. Therefore, you could have a story that has two exits and if it is split into separate spaces, the occupants may not have access to the minimum number of exits. An interior exit stairway may only be accessed from a single tenant space and you are not permitted to exit through an adjacent tenant to get to an exit. The drawing below shows what the current language permits. The story has two exits on each end of the building. However, if the story is split in two, the occupants from either side do not access to the other interior exit stairway. This proposal clarifies the intent of the code and requires access to the minimum number of exits from a story. Therefore, the layout below would not be permitted.



Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is intended to just clarify the intent of the code.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as this will clarify that all spaces on a story or an occupied roof have to have access to the required number of exits. (Vote: 12-1)

Page: 1

Mod_10588_Text_E17-21.pdf

F10588Text Modification

Final Hearing Results

E17-21 AS

Page: 2

Mod_10588_Text_E17-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

F10589 | **/E18-21** | 163

Date Submitted	03/01/2024	**Section**	1006.3.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

This proposal clarifies that exit access travel distance requirements of Section 1030.7 apply to smoke-protected assembly seating and that path of egress travel can pass through more than one adjacent story similar to open air assembly seating.

Rationale

See attached

1st Comment Period History

F10589-G1

Proponent Mo Madani Submitted 5/21/2024 4:06:01 PM Attachments No

Comment:

Original text of mod is not consistent with that of the 2023 FBC-B.

F10589Text Modification

See attached

Mod10589_TextOfModification.pdf

Page: 1

F10589Text Modification

E18-21

Original Proposal

IBC: 1006.3.2 (IFC:[BE]1006.3.2)

Proponents: Ed Roether, Ed Roether Consulting (ed@edroetherconsulting.com)

2021 International Building Code

Revise as follows:

1006.3.2 Path of egress travel. The path of egress travel to an*exit* shall not pass through more than one adjacent*story*.

Exception: The path of egress travel to an*exit* shall be permitted to pass through more than one adjacent*story* in any of the following:

1. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual dwelling unit, sleeping unit or live/work unit.
2. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility.
3. *Exit access stairways* and *ramps* within an *atrium* complying with Section 404.
4. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
5. *Exit access stairways* and *ramps* serving smoke-protected assembly seating and *open-air assembly seating* complying with the exit access travel distance requirements of Section 1030.7.
6. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
7. Exterior *exit access stairways* and *ramps* between occupied roofs.

Reason: Smoke-protected assembly seating in many facilities span across multiple stories similar to many facilities with open air seating. This proposal clarifies that exit access travel distance requirements of Section 1030.7 apply to smoke-protected assembly seating and that path of egress travel can pass through more than one adjacent story similar to open air assembly seating. Allowing exit access through more than one story from smoke-protected assembly seating is crucial for these large facilities.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposed change essentially coordinates the building code with how these large facilities have been designed and built for many years.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as a clarification. Smoke-protected assembly seating and open-air assembly seating have the same requirements for means of egress. (Voter: 12-1)

Final Hearing Results

E18-21 AS

Page: 1

Mod_10589_Text_E18-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

164

F10590 /E21-21

Date Submitted	03/01/2024	**Section**	1006.3.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposal to add modifications to Section 1006 integrating phrase ‘occupied roofs’.

Rationale

See attached

F10590Text Modification

See attached

Page: 1

Mod10590_TextOfModification.pdf

F10590Text Modification

E21-21

Original Proposal

IBC: TABLE 1006.3.3, TABLE 1006.3.4(1), TABLE 1006.3.4(2) [IFC:[BE] TABLE 1006.3.3, TABLE 1006.3.4(1), TABLE 1006.3.4(2)]

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

1006.3.3 Egress based on occupant load. Each *story* and occupied roof shall have the minimum number of separate and distinct *exits*, or access to *exits*, as specified in Table 1006.3.3. A single *exit* or access to a single *exit* shall be permitted in accordance with Section 1006.3.4. The required number of *exits*, or *exit access stairways* or *ramps* providing access to *exits*, from any *story* or occupied roof shall be maintained until arrival at the *exit discharge* or a *public way*.

Revise as follows:

TABLE 1006.3.3 MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS PER STORY OR OCCUPIED ROOF

OCCUPANT LOAD PER STORY OR OCCUPIED ROOF	MINIMUM NUMBER OF EXITS OR ACCESS TO EXITS FROM PER STORY OR OCCUPIED ROOF
1-500	2
501-1,000	3
More than 1,000	4

1006.3.4 Single exits. A single *exit* or access to a single *exit* shall be permitted from any *story* or occupied roof where one of the following conditions exists:

1. The *occupant load*, number of *dwelling units* and exit access travel distance do not exceed the values in Table 1006.3.4(1) or 1006.3.4(2).
2. Rooms, areas and spaces complying with Section 1006.2.1 with *exits* that discharge directly to the exterior at the *level of exit discharge*, are permitted to have one *exit* or access to a single *exit*.
3. Parking garages where vehicles are mechanically parked shall be permitted to have one *exit* or access to a single *exit*.
4. Group R-3 and R-4 occupancies shall be permitted to have one *exit* or access to a single *exit*.
5. Individual single-story or multistory *dwelling units* shall be permitted to have a single *exit* or access to a single *exit* from the *dwelling unit* provided that both of the following criteria are met:
   5.1. The *dwelling unit* complies with Section 1006.2.1 as a space with one *means of egress*.
   5.2. Either the exit from the *dwelling unit* discharges directly to the exterior at the *level of exit discharge*, or the *exit access* outside the *dwelling unit's* entrance door provides access to not less than two *approved* independent *exits*.

Revise as follows:

TABLE 1006.3.4(1) STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY OR OCCUPIED ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE
Basement, first, second or third story above grade plane and occupied roofs over the first or second story above grade plane	R-2[a, b, c]	4 dwelling units	125 feet
Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

Page: 1

Mod_10590_Text_E21-21.pdf

F10590Text Modification

a. Buildings classified as Group R-2 equipped throughout with an*automatic* sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1031.

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2).

c. This table is for occupied roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupied roofs that are not access through and serving individual units, use Table 1006.3.4(2).

TABLE 1006.3.4(2) STORIES AND OCCUPIED ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY AND OCCUPIED ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY AND OCCUPIED ROOF	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane and occupied roofs over the first story above grade plane	A, B[b], E, F[b], M, U	49	75
	H-2, H-3	3	25
	H-4, H-5, I, R-1, R-2[a, c]	10	75
	S[b, d]	29	75
Second story above grade plane	B, F, M, S[d]	29	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2 equipped throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with *emergency escape and rescue openings* in accordance with Section 1031.

b. Group B, F and S occupancies in buildings equipped throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.1 or on the roof of such buildings shall have a maximum *exit access* travel distance of 100 feet.

c. This table is used for Group R-2 occupancies consisting of *sleeping units*. For Group R-2 occupancies consisting of *dwelling units*, use Table 1006.3.4(1).

d. The length of *exit access* travel distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

Reason: The change to the title and heading in Table 1006.3.3 is for consistency with the text.
The proposed modifications to Section 1006 includes adding 'occupied roofs' to Table 1006.3.4(1) to clarify the conditions in which one exit or access to one exit is allowed for rooftop decks or balconies for individual units in Group R-2 occupancies. Footnote c sends you to other occupancies for shared roof decks because you are now a mixed use occupancy. While the occupied roof is not a story for height and area, the allowance for a single exit is set at the 3rd story.Similarly this proposal adds 'occupied roofs' to Table 1006.3.4(2) to clarify the conditions in which one exit or access to one exit is allowed for the other occupancies, including a shared occupied roof on an apartment building. While Group A, E, H, I, R-1, R-2 and S are limited to a first story with a single exit, allowing for one exit from the roof of these buildings is comparable, and probably safer, to being able to travel up from the basements (which is currently permitted). A proposed modification to footnote b or the table clarifies that the allowable increase in exit access travel distance from 75 feet to 100 feet for properly sprinklered Group B, F and S occupancies also includes the roof area for these uses.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal provides clarification to a subject that was not previously addressed. The changes to the single occupant tables could allow

Page: 2

Mod_10590_Text_E21-21.pdf

F10590Text Modification

for one exit stairway from an occupied roof instead of two.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as an occupied roof is not a story, so the number of exits from the occupied roof needs to be clarified. The location of the occupied roof allowance in Table 1006.3.4(2) is appropriate as the occupied roof over the 1st floor is the same vertical travel as from the basement level. This is a good correlation with the occupied roof requirements in the code. (Vote: 10-4)

Final Hearing Results

E21-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

165

F10591 | **/E24-21**

Date Submitted	03/01/2024	**Section**	1008	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal is to split section 1008 into requirements for general means of egress illumination (1008.2) and emergency lighting (1008.3).

Rationale

See attached

F10591Text Modification

See attached

Page: 1

Mod10591_TextOfModification.pdf

F10591Text Modification

E24-21

Original Proposal

IBC: 1008.1, 1008.3, 1008.3.1 (IFC:[BE] 1008.1, 1008.3, 1008.3.1)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

SECTION 1008
MEANS OF EGRESS ILLUMINATION

Revise as follows:

1008.1 Means of egress illumination. Illumination shall be provided in the *means of egress* in accordance with Section 1008.2. ~~Under emergency power~~ In the event of power supply failure, *means of egress* illumination shall comply with Section 1008.3.

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

1008.2.1 Illumination level under normal power. The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).
2. Steps, landings and the sides of *ramps* shall be permitted to be marked with *self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1008.2.2 Group I-2. In Group I-2 occupancies where two or more *exits* are required, on the exterior landings required by Section 1010.1.5, means of egress illumination levels for the exit discharge shall be provided such that failure of a single lamp in a luminaire shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

1008.2.3 Exit discharge. Illumination shall be provided along the path of travel for the exit discharge from each exit to the *public way*.

Exception: Illumination shall not be required where the path of the exit discharge meets both of the following requirements:

1. The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

Revise as follows:

Page: 1

Mod_10591_Text_E24-21.pdf

F10591Text Modification

~~1008.3~~ **1008.2.4** ~~**Emergency power**~~ **Power for illumination.** The power supply for *means of egress* illumination shall normally be provided by the premises' electrical supply.

~~1008.3.1~~ **1008.3** ~~**General**~~ **Illumination required with the emergency electrical system.** In the event of power supply failure in rooms and spaces that require two or more *exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Aisles*.
2. *Corridors*.
3. *Exit access stairways* and *ramps*.

~~1008.3.2~~ **1008.3.1 Buildings.** In the event of power supply failure in buildings that require two or more*exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:

1. *Interior exit access stairways* and *ramps*.
2. *Interior* and *exterior exit stairways* and *ramps*.
3. *Exit passageways*.
4. Vestibules and areas on the level of discharge used for*exit discharge* in accordance with Section 1028.2.
5. Exterior landings as required by Section 1010.1.5 for *exit doorways* that lead directly to the *exit discharge*.

~~1008.3.3~~ **1008.3.2 Rooms and spaces.** In the event of power supply failure, an emergency electrical system shall automatically illuminate all of the following areas:

1. Electrical equipment rooms.
2. Fire command centers.
3. Fire pump rooms.
4. Generator rooms.
5. Public restrooms with an area greater than 300 square feet (27.87 m^2).

~~1008.3.4~~ **1008.3.3 Duration.** The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

~~1008.3.5~~ **1008.3.4 Illumination level under emergency power.** Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of a single lamp in a luminaire shall not reduce the illumination level to less than 0.2 footcandle (2.2 lux).

Reason: The intent of this proposal is to split this section into requirements for general means of egress illumination (1008.2) and emergency lighting (1008.3). To truly accomplish this, the sections should be re-arranged as indicated.
Section 1008.3 is currently titled '*Emergency power for illumination*.' However, that section really deals with general MOE lighting requirements, not emergency lighting requirements. Emergency lighting power requirements are addressed Sections 1008.3.3 and 1008.3.4. So we relocated it from 1008.3 to 1008.2.3 to group the lighting requirements appropriately.

The text change in Section 1008.1 will match the scoping phrase used in 1008.3, 1008.3.1 and 1008.3.2.Title changes in Section 1008.2.3 and 1008.3 will reinforce the idea of two different requirements – one for regular lighting and one for emergency lighting.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in

Page: 2

Mod_10591_Text_E24-21.pdf

F10591Text Modification

July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a reorganization of existing text.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as an editorial grouping of means of egress and emergency lighting equipment. (Vote: 9-4)

Public Comments

Public Comment 1

Proponents: Jonathan Siu, Self requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

SECTION 1008 MEANS OF EGRESS ILLUMINATION .

1008.1 Means of egress illumination . Illumination shall be provided in the *means of egress* in accordance with Section 1008.2. In the event of power supply failure, *means of egress* illumination shall comply with Section 1008.3.

1008.2 Illumination required . The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. *Aisle accessways* in Group A.
3. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
4. *Sleeping units* of Group I occupancies.

1008.2.1 Illumination level under normal power . The *means of egress* illumination level shall be not less than 1 footcandle (11 lux) at the walking surface. Along *exit access stairways*, exit stairways and at their required landings, the illumination level shall not be less than 10 footcandles (108 lux) at the walking surface when the *stairway* is in use.

Exception: For auditoriums, theaters, concert or opera halls and similar assembly occupancies, the illumination at the walking surface is permitted to be reduced during performances by one of the following methods provided that the required illumination is automatically restored upon activation of a premises' *fire alarm system*:

1. Externally illuminated walking surfaces shall be permitted to be illuminated to not less than 0.2 footcandle (2.15 lux).

Page: 3

Mod_10591_Text_E24-21.pdf

F10591Text Modification

2. Steps, landings and the sides of *ramps* shall be permitted to be marked with*self-luminous* materials in accordance with Sections 1025.2.1, 1025.2.2 and 1025.2.4 by systems *listed* in accordance with UL 1994.

1008.2.2 Group I-2 . In Group I-2 occupancies where two or more *exits* are required, on the exterior landings required by Section 1010.1.5, means of egress illumination levels for the exit discharge shall be provided such that failure of a single lamp in a luminaire shall not reduce the illumination level on that landing to less than 1 footcandle (11 lux).

1008.2.3 Exit discharge . Illumination shall be provided along the path of travel for the exit discharge from each exit to the*public way*.

Exception: Illumination shall not be required where the path of the exit discharge meets both of the following requirements:

1. The path of exit discharge is illuminated from the exit to a safe dispersal area complying with Section 1028.5.
2. A dispersal area shall be illuminated to a level not less than 1 footcandle (11 lux) at the walking surface.

1008.2.4 Power for illumination . The power supply for *means of egress* illumination shall normally be provided by the premises' electrical supply.

1008.3 Illumination required by an emergency electrical system. An emergency electrical system shall be provided to automatically illuminate the following areas in the event of a power supply failure:

1. In rooms or spaces that require two or more exits or access to exits:
   - 1.1. Aisles.
   - 1.2. Corridors.
   - 1.3. Exit access stairways and ramps.
2. In buildings that require two or more exits or access to exits:
   - 2.1. Interior exit access stairways and ramps.
   - 2.2. Interior and exterior exit stairways and ramps.
   - 2.3. Exit passageways
   - 2.4. Vestibules and areas on the level of discharge used for exit discharge in accordance with Section 1028.2.
   - 2.5. Exterior landings as required by Section 1010.1.5 for exit doorways that lead directly to the exit discharge.
3. In other rooms and spaces:
   - 3.1. Electrical equipment rooms.
   - 3.2. Fire command centers.
   - 3.3. Fire pump rooms.
   - 3.4. Generator rooms.
   - 3.5. Public restrooms with an area greater than 300 square feet (27.87 m^2).

~~**1008.3 Illumination required with the emergency electricalsystem system .** In the event of power supply failure in rooms and spaces that require two or more *exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas: an emergency an emergency~~

~~1. *Aisles.*~~

~~2. *Corridors.*~~

~~3. *Exit access stairways* and *ramps.*~~

~~**1008.3.1 Buildings .** In the event of power supply failure in buildings that require two or more*exits* or access to exits, an emergency electrical system shall automatically illuminate all of the following areas:~~

Page: 4

Mod_10591_Text_E24-21.pdf

F10591Text Modification

~~1. *Interior exit access stairways* and *ramps*.~~

~~2. *Interior* and *exterior exit stairways* and *ramps*.~~

~~3. *Exit passageways*.~~

~~4. Vestibules and areas on the level of discharge used for *exit discharge* in accordance with Section 1028.2.~~

~~5. Exterior landings as required by Section 1010.1.5 for *exit doorways* that lead directly to the *exit discharge*.~~

~~**1008.3.2 Rooms and spaces .** In the event of power supply failure, anemergency electrical system shall automatically illuminate all of the following areas:~~

~~1. Electrical equipment rooms.~~

~~2. Fire command centers.~~

~~3. Fire pump rooms.~~

~~4. Generator rooms.~~

~~5. Public restrooms with an area greater than 300 square feet (27.87 m²).~~

~~**1008.3.3**~~ **1008.3.1 Duration .** The emergency power system shall provide power for a duration of not less than 90 minutes and shall consist of storage batteries, unit equipment or an on-site generator. The installation of the emergency power system shall be in accordance with Section 2702.

~~**1008.3.4**~~ **1008.3.2 Illumination level under emergency power .** Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of 1 footcandle (11 lux) and a minimum at any point of 0.1 footcandle (1 lux) measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 footcandle (6 lux) average and a minimum at any point of 0.06 footcandle (0.6 lux) at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. In Group I-2 occupancies, failure of a single lamp in a luminaire shall not reduce the illumination level to less than 0.2 footcandle (2.2 lux).

Commenter's Reason: This proposed reorganization of Section 1008.3 does not improve the code, and in fact, makes it more difficult to enforce. This public comment is intended to clarify the application of the code provisions, while preserving the intent of the original code change proposal.

Under the current organization, each subsection in Section 1008.3 stands by itself--the requirements in the subsection are charged within that subsection. However, with the proposed code change, the old subsections 1008.3.2 and 1008.3.3 are now subsections to 1008.3. The problem is that the language in 1008.3 is not being changed to provide charging language for the new 1008.3.1 or 1008.3.2.

Referring to the section numbering in the proposal, 1008.3 says aisles, corridors, and exit access stairways and ramps need to have emergency illumination. However, 1008.3.1 and 1008.3.2 require illumination for buildings, rooms, and spaces that are not aisles, corridors, or exit access stairways/ramps. If they are subsections to 1008.3, how do you get to them? 1008.3 isn't providing any sort of charging language for 1008.3.1 or 1008.3.2, and subsection numbering is not a substitute for charging language.

This public comment charges all the provisions for where an emergency electrical system for means of egress illumination is required in the text of Section 1008.3 ("...shall be provided...in all of the following areas....") It also simplifies the code by removing repetitive code text and replacing the subsections with a single list.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The cost impact statement for original proposal said it is a reorganization of the existing text. This public comment is merely a further reorganization of the proposed text.

Final Hearing Results

E24-21 AMPC1

Page: 5

Mod_10591_Text_E24-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

166

F10592 **/E25-21**

Date Submitted	03/01/2024	**Section**	1008.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds exception to Section 1008.2. Concerning Self-service storage units.

Rationale

See attached

F10592Text Modification

See attached

Page: 1

Mod10592_TextOfModification.pdf

F10592Text Modification

E25-21

Original Proposal

IBC: 1008.2 (IFC:[BE]1008.2)

Proponents: Andrew Klein, Self Storage Association (andrew@asklein.com)

2021 International Building Code

Revise as follows:

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. Self-service storage units accessed directly from the exterior.
3. ~~2.~~ *Aisle accessways* in Group A.
4. ~~3.~~ *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
5. ~~4.~~ *Sleeping units* of Group I occupancies.

Reason: Although classified as Group S, exterior-access self storage facilities (those with rolling doors that open up for each unit) are similar in nature to Group U occupancies in the fact they are small, easily navigable, and have short dwell times. Many jurisdictions already do not require lighting inside of such units because they are not considered occupiable, and the safety concern of tenants unsing electricity for personal use and unregulated activities. This code change codifies for all jurisdictons that providing light inside of such units is unnecessary from a safety perspective and therefore not required.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Most jurisdictions already interpret the code to not require illumination in self-service storage units that are accessible from the exterior. For jurisdictions that do require illumination, this code change will decrease the cost of construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because the proposal did not limit the size of the self-storage facility that could use this exception. The proposal would be better if it also added "of the building" after "exterior." (Vote: 14-0)

Public Comments

Public Comment 1

Proponents: Andrew Klein, Self Storage Association (andrew@asklein.com) requests As Modified by Public Comment

Further modify as follows:

Page: 1

Mod_10592_Text_E25-21.pdf

F10592Text Modification

2021 International Building Code

1008.2 Illumination required. The *means of egress* serving a room or space shall be illuminated at all times that the room or space is occupied.

Exceptions:

1. Occupancies in Group U.
2. Self-service storage units 400 ft^2 (37.16 m^2) or less in area andaccessed directly from the exterior of the building.
3. *Aisle accessways* in Group A.
4. *Dwelling units* and *sleeping units* in Groups R-1, R-2 and R-3.
5. *Sleeping units* of Group I occupancies.

Commenter's Reason: This PC address the concerns of the committee. A maximum area of 400 SF was determined by the industry to be the maximum unit size to allow sufficient day light or exterior site lighting into all areas of the unit when the door is open.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
This PC will decrease the cost of construction where interior lighting would otherwise be required within self-storage units.

Final Hearing Results	
E25-21	AMPC1

Page: 2

Mod_10592_Text_E25-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

167

F10599 /E38-21

Date Submitted	03/01/2024	**Section**	1010.1.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Intent of this proposal is to remove some confusing text. Modifies text of Section 1010.1.1, 1010.1.1.1 exception, 1003.3.1 exception.

Rationale

See attached

F10599Text Modification

See attached

Mod10599_TextOfModification.pdf

Page: 1

F10599Text Modification

E38-21

Original Proposal

IBC: 1003.3.1, 1010.1.1, 1010.1.1.1 (IFC:[BE]1003.3.1, 1010.1.1, 1010.1.1.1)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the frame stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width of 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41 1/2 inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited.
6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
7. In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be Accessible, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal.
11. Doors serving nonaccessible single-user shower or sauna compartments, toilet stalls or dressing, fitting or changing rooms shall have a minimum clear opening width of 20 inches (508 mm).

1010.1.1.1 Projections into clear opening. There shall not be projections into the required clear opening width lower than 34 inches (864 mm) above the floor or ground. Projections into the clear opening width between 34 inches (864 mm) and 80 inches (2032 mm) above the floor or ground shall not exceed 4 inches (102 mm).

Exception: Door closers, overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the door opening height not lower than ~~be~~ 78 inches (1980 mm) minimum above the floor.

Page: 1

Mod_10599_Text_E38-21.pdf

F10599Text Modification

1003.3.1 Headroom. Protruding objects are permitted to extend below the minimum ceiling height required by Section 1003.2 where a minimum headroom of 80 inches (2032 mm) is provided over any circulation paths, including walks, *corridors*, *aisles* and passageways. Not more than 50 percent of the ceiling area of a *means of egress* shall be reduced in height by protruding objects.

Exception: ~~Door closers and stops shall not reduce headroom to less than 78 inches (1981 mm).~~Door closers, overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the door opening height not lower than 78 inches (1980 mm) minimum above the floor.

A barrier shall be provided where the vertical clearance above a *circulation path* is less than 80 inches (2032 mm) high above the finished floor. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the finished floor.

Reason: The intent of this proposal is to remove some confusing text. The last sentence of main paragraph, was changed (E47-15 by BCAC) for consistent terminology. However, by changing the door height to "clear opening" instead of "opening", now has code officials asking if the threshold and overhead stop need to be considered in the 80" height or not? (Door stops are excluded for the width of door openings in the 2nd sentence of Section 1010.1.1.) With the clarification in Section 1010.1.1.1 as part of E41-18, door stops at the top are permitted into the opening height.
The proposed revision in Section 1003.3.1 correlation with Section 1010.1.1.1.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of requirement, not a change in door size or door opening size.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because this clarifies the intent of the height of the door opening and what can project into that opening. (Vote: 14-0)

Final Hearing Results

E38-21 AS

Page: 2

Mod_10599_Text_E38-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

168

F10600 /E39-21

Date Submitted	03/01/2024	**Section**	1010.1.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modification of Section 1010.1.1 "Size of doors". Deleting exception 4,5, and 10. Removes section 1010.4. There's no need to limit the size of doors for power-operated doors or power-operated revolving doors per E39-18

Rationale

See attached

F10600Text Modification

See attached

Page: 1

Mod10600_TextOfModification.pdf

F10600Text Modification

E39-21

Original Proposal

IBC: 1010.1.1, 1010.4 (IFC:[BE]1010.1.1, 1010.4)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width o 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41 1/2 inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. ~~The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited~~.
5. ~~The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited~~.
4.~~6.~~ Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
5.~~7.~~ In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
6.~~8.~~ In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be Accessible, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
7.~~9.~~ Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
~~10.~~ ~~Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal.~~
8.~~11.~~ Doors serving nonaccessible single-user shower or sauna compartments, toilet stalls or dressing, fitting or changing rooms shall have a minimum clear opening width of 20 inches (508 mm).

1010.4 Gates. Gates serving the *means of egress* system shall comply with the requirements of this section. Gates used as a component in a *means of egress* shall conform to the applicable requirements for doors.

Exception: ~~Horizontal sliding or swinging gates exceeding the 4-foot (1219 mm) maximum leaf width limitation are permitted in fences and walls surrounding a stadium.~~

Reason: E39-18 deleted the maximum width requirements from the base provisions, therefore Exceptions 4 and 5 are no longer needed. There's no need to limit the size of doors for power-operated doors or power-operated revolving doors. The standards referenced for power-operated doors and and power-operated revolving doors require safety features for all these doors.

Page: 1

Mod_10600_Text_E39-21.pdf

F10600Text Modification

The only exception remaining that deals with the maximum door size is Exception 10. With the maximum size deleted from the base paragraph, this exception is technically no longer an exception to the main text, so it should be deleted for both technical reasons and consistency. If the doors do not have a maximum width, the size limit for gates is not needed in the exception.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no technical changes to requirements for power operated or revolving doors because this is regulated by the standard. This may allow additional design options for walk-in coolers and freezers.

Public Hearing Results

Committee Action	**As Submitted**

Committee Reason: The proposal was approved as it coordinates the exceptions with the removal of the requirements for maximum door width in E39-18. (Vote: 14-0)

Final Hearing Results

E39-21	AS

Page: 2

Mod_10600_Text_E39-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

169

F10601 | **/E40-21**

Date Submitted	03/01/2024	**Section**	1010.1.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal clarify which spaces the exception applies to, and remove a conflict for shower compartments with sliding shower compartment doors.

Rationale

See attached

F10601Text Modification

See attached

Page: 1

Mod10601_TextOfModification.pdf

F10601Text Modification

E40-21

Original Proposal

IBC: 1010.1.1 (IFC:[BE] 1010.1.1)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1010.1.1 Size of doors. The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width o 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41 1/2 inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited.
6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
7. In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be Accessible, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal.
11. Doors serving ~~nonaccessible single-user shower or~~ sauna compartments, toilet ~~stalls~~ compartments or dressing, fitting or changing ~~rooms~~ compartments that are not required to be accessible shall have a minimum clear opening width of 20 inches (508 mm).
12. Door serving shower compartments in other than Accessible units or Type A units are not required to provide a minimum clear opening width.

Reason: The intent of this proposal clarify which spaces the exception applies to, and remove a conflict for shower compartments with sliding shower compartment doors.

Page: 1

Mod_10601_Text_E40-21.pdf

F10601Text Modification

E40-18 was a proposal that added an exception for non-accessible dressing rooms or fitting rooms. This was Disapproved during the Committee Action Hearings because it could be applied to a large changing room that accommodates several individuals, such as a bridal fitting room where the 32" clear width door opening is necessary. The revision to Exception #11 would clarify that this applies to compartments, not rooms.The Proponent submitted a Public Comment revising and combining some of the exceptions into one exception for doors serving non-accessible single-user showers, toilet stalls, and dressing rooms, and allowed for a minimum clear opening width of 20". The Reason Statement stated that the 20" width came from research to address doors serving these types of individual uses, and that it would address the needs of non-accessible dressing rooms, single-use toilet rooms, and shower compartments — all for single-person use rooms.
Exception #11 currently requires a 20" minimum clear opening for doors serving non-accessible single shower compartments. But that minimum clear opening width would conflict with the width of a sliding door on a standard 36"x36" shower compartments.

Revising exception #11 would remove shower compartments from the list of spaces where a 20" clear width opening requirement would apply to the door opening and move that to exception #12. Shower compartments in Accessible and Type A units would comply with 2017 ICC A117.1 requirements in Section 608.7. Type B units do not have a requirement for an opening width of the shower compartment door (2017 ICC A117.1 Section 1104.5.2 and 1004.11.3.1.3.3). This change to the exceptions in this section would protect remodelers who do work on Type B or non-accessible bathrooms with limited space and without having to make adjustments such as moving the walls of a shower unit to accommodate a 20" clear width door opening or to change to enclosure to a swinging instead of a sliding door. This would be an unnecessary additional cost. This width has never been identified as a safety hazard.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will decrease the cost of construction
This will allow for standard sliding shower doors instead of requiring swinging doors on shower compartments. Swinging doors typically also need a larger room size.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because the added exception 12 allowed for sliding doors on standard 36 inch wide showers. These showers cannot make the 20" minimum width in exception 11. There was concern that this needs to be coordinated with IPC Section 421.4.2. (Vote: 10-4)

Public Comments

Public Comment 1

Proponents: Richard Williams, CWA Consultants, Washington Association of Building Officials Technical Code Development Committee (richard@cwaconsultants.net); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

Page: 2

Mod_10601_Text_E40-21.pdf

F10601Text Modification

2021 International Building Code

1010.1.1 Size of doors . The required capacity of each door opening shall be sufficient for the *occupant load* thereof and shall provide a minimum clear opening width of 32 inches (813 mm). The clear opening width of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees (1.57 rad). Where this section requires a minimum clear opening width of 32 inches (813 mm) and a door opening includes two door leaves without a mullion, one leaf shall provide a minimum clear opening width o 32 inches (813 mm). In Group I-2, doors serving as means of egress doors where used for the movement of beds shall provide a minimum clear opening width of 41 1/2 inches (1054 mm). The minimum clear opening height of doors shall be not less than 80 inches (2032 mm).

Exceptions:

1. In Group R-2 and R-3 *dwelling and sleeping units* that are not required to be an *Accessible unit*, *Type A unit* or *Type B unit*, the minimum width shall not apply to door openings that are not part of the required *means of egress*.
2. In Group I-3, door openings to resident *sleeping units* that are not required to be an *Accessible unit* shall have a minimum clear opening width of 28 inches (711 mm).
3. Door openings to storage closets less than 10 square feet (0.93 m^2) in area shall not be limited by the minimum clear opening width.
4. The maximum width of door leaves in revolving doors that comply with Section 1010.3.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.3.2 shall not be limited.
6. Door openings within a *dwelling unit* or *sleeping unit* shall have a minimum clear opening height of 78 inches (1981 mm).
7. In *dwelling and sleeping units* that are not required to be *Accessible*, Type A or *Type B units*, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Groups I-1, R-2, R-3 and R-4, in *dwelling and sleeping units* that are not required to be Accessible, Type A or *Type B units*, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* within *Type B units* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Doors to walk-in freezers and coolers less than 1,000 square feet (93 m^2) in area shall have a maximum width of 60 inches (1524 mm) nominal.
11. Doors serving sauna compartments, toilet compartments or dressing, fitting or changing compartments that are not required to be accessible shall have a minimum clear opening width of 20 inches (508 mm).
12. Door serving shower compartments ~~in other than Accessible units or Type A units are not required to provide a minimum clear opening widthwidth.~~ shall comply with Section 421.4.2 of the International Plumbing Code.

Commenter's Reason: This proposal attempts to clarify requirements for shower doors by removing them from Exception 11 and adding a new exception specific to shower compartments. In doing so, it creates confusion by including Accessible units and Type A units found in R occupancies to a section that previously only addressed accessible spaces in commercial buildings. In fact it now only addresses Accessible units and Type A units. Because of the the way it is worded, this proposal removes door opening width requirements for shower doors in some accessible shower areas. **This means that this section now indicates there is no minimum width requirement for shower doors in single user shower compartments - whether they are accessible or not – and this is clearly not correct.**
One reason cited for revising exception 11 is that because a 20" minimum clear opening is currently required for doors serving non-accessible single shower compartments, that minimum width requirement would conflict with a sliding door on a standard 36"x36" shower compartment. This is not necessarily a conflict, it merely means that it is not possible to install a sliding door where a 36" width is provided because it will not provide the minimum required width. In these situations, a hinged door would be required in order to provide the minimum width. This is no different than any other area of the building where a sliding door is allowed: if there is not enough physical space to install the sliding door to allow for the required clear width, then a hinged door would instead be required.

Exception 12 also does not include Type B units along with Accessible units and Type A units. This means a minimum width requirement would not apply to Type B units. The reason statement claims Type B units do not have a requirement for an opening width of the shower door compartment, per sections 1104.5.2 and 1004.11.3.1.3.3, but this is not entirely accurate. Section 1104.5.2 contains an exception that

Page: 3

Mod_10601_Text_E40-21.pdf

F10601Text Modification

states doors that are part of a shower door assembly shall not be required to comply with minimum width requirements. Section 1104.11.3.1.3.3 sets a minimum opening width of 36" for shower compartments, but it allows for shower door assemblies to be installed in shower compartments as long as these assemblies can be removed without removal or replacement of the surrounding walls and floor to which it is affixed. This is an important distinction from other shower areas that would allow for any framed opening width less than 36" to accommodate a shower door and the author of this proposal does not seem to acknowledge this:

"...This change to the exceptions in this section would protect remodelers who do work on Type B or non-accessible bathrooms with limited space and without having to make adjustments such as moving the walls of a shower unit to accommodate a 20"clear width door opening or to change to enclosure to a swinging instead of a sliding door. This would be an unnecessary additional cost. This width has never been identified as a safety hazard."

The reference will indicate the minimum width requirement for most shower doors in the IPC. Also, while we certainly do not think it was the intent of the author of this proposal, exception 12 eliminates the minimum width requirement for shower doors in ACCESSIBLE SHOWER COMPARTMENTS other than those in Accessible units and Type A units. This is clearly not permitted.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
No change to code.

Final Hearing Results

E40-21 AMPC1

Page: 4

Mod_10601_Text_E40-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

170

F10602 | **/E43-21**

Date Submitted	03/01/2024	**Section**	1010.2.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal offers four definitions, and revises sections of the IBC, regarding dead bolts, manual bolt locks, and automatic flush bolts. Adds definitions. Adds Table 1010.2.4 "MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS".

Rationale

See attached

F10602Text Modification

See attached

Mod10602_TextOfModification.pdf

Page: 1

F10602Text Modification

E43-21

Original Proposal

IBC: SECTION 202 (New), 1010.2.1, 1010.2.4, Table 1010.2.4 (New), 1010.2.5 (IFC:[BE] SECTION 202 (New), 1010.2.1, 1010.2.4, Table 1010.2.4 (New), 1010.2.5)

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Add new definition as follows:

AUTOMATIC FLUSH BOLT

.

Door locking hardware, installed on the inactive leaf of a pair of doors, which has a bolt that is extended automatically into the door frame or floor when the active leaf is closed after the inactive leaf, and which holds the inactive leaf in a closed position. When the active leaf is opened, the automatic flush bolt retracts the bolt or rod allowing the inactive leaf to be opened (see CONSTANT LATCHING BOLT, DEAD BOLT, MANUAL BOLT).

CONSTANT LATCHING BOLT

.

Door locking hardware installed on the inactive leaf of a pair of doors, which has a bolt that automatically latches into the door frame or the floor, and which holds the inactive leaf in a closed position. The latch bolt is retracted manually to allow the inactive leaf to be opened.

DEAD BOLT

.

Door locking hardware with a bolt which is extended and retracted by action of the lock mechanism (see AUTOMATIC FLUSH BOLT, CONSTANT LATCHING BOLT, MANUAL BOLT).

MANUAL BOLT

.

Door locking hardware operable from one side of the door, or from the edge of a door leaf, with a bolt or rod extended and retracted by manual movement of the bolt or rod, such as a manual flush bolt or manual surface bolt (see AUTOMATIC FLUSH BOLT, CONSTANT LATCHING BOLT, DEAD BOLT).

Revise as follows:

1010.2.1 Unlatching. The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all locking devices. *Manual bolt* locks are not permitted.

Exceptions:

1. Places of detention or restraint.
2. Where ~~manually operated~~ *manual bolt* locks are permitted by Section ~~1010.2.5.~~ 1010.2.4 Item 4.
3. Doors with *automatic flush bolts* as permitted by Section 1010.2.4, Item 4.
4. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.

1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.

Page: 1

Mod_10602_Text_E43-21.pdf

F10602Text Modification

2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an*occupant load* of 300 or less, Groups B, F, M and S, and in*places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The locking device is readily distinguishable as locked.
   3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.3. The use of the key-operated locking device is revocable by the*building official* for due cause.
4. ~~Where egress doors are used in pairs,*approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.~~ *Manual bolt* locks, *automatic flush bolts*, and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided the inactive leaf having a *manual bolt* lock, *automatic flush bolt*, or *constant latching bolt* does not have a doorknob, panic hardware, or similar operating hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an*occupant load* of 10 or less are permitted to be equipped with a night latch, *dead bolt*, *manual bolt*, or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with*listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for*means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shll not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

Add new text as follows:

TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS

Page: 2

Mod_10602_Text_E43-21.pdf

F10602Text Modification

APPLICATION WHERE A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF SERVE THE FOLLOWING:	OCCUPANT LOAD OF SPACE SERVED BY THE PAIR OF DOORS	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLT LOCKS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.		
			Manual flush bolts or manual surface bolts with manual extension and retraction of bolt.	Automatic flush bolts with automatic extension and retraction of bolt by action of active leaf.	Constant latching bolts with automatic latching and manual retraction of bolt or latch.
Group B, F, or S occupancy	Less than 50	NO	P	P	P
		YES	NP	P[b]	P
Group B,F, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, and where the inactive leaf is not needed to meet egress capacity requirements.	Occupant load served by the active leaf.	NO	P	P	P
		YES	NP	P[b]	P
Patient care rooms in Group I-2 occupancies, and where the inactive leaf is not needed to meet egress capacity requirements.	Occupant load served by the active leaf.	NO	NP	P[b]	P
		YES	NP	P[b]	P
Occupancies where panic hardware is not required, the egress doors are used in pairs, and where both the active and inactive leafs are required to meet egress capacity requirements.	Occupant load served by both leafs.	NO	NP	P	NP
		YES	NP	P[b]	NP
Storage or equipment rooms.	Occupant load served by the active leaf.	NO	P[a]	P	P
		YES	P[a]	P	P

P - Permitted; NP - Not permitted.

a. Not permitted in Group I-2 where corridor doors are required to be positive latching, and the storage or equipment room door is in the corridor.

b. Permitted where both doors are self-closing or automatic-closing, and have a coordinator that causes the inactive leaf to be closed prior to the active leaf.

Delete without substitution:

~~**1010.2.5 Bolt locks.** Manually operated flush bolts or surface bolts are not permitted.~~

~~**Exceptions:**~~

~~1. On doors not required for egress in individual *dwelling units* or *sleeping units*.~~

~~2. Where a pair of doors serves a storage or equipment room, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf.~~

~~3. Where a pair of doors serves an *occupant load* of less than 50 persons in a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf. The inactive leaf shall not contain doorknobs, *panic* bars or similar operating hardware.~~

~~4. Where a pair of doors serves a Group B, F or S occupancy, manually operated edge- or surface-mounted bolts are permitted on the inactive leaf provided that such inactive leaf is not needed to meet egress capacity requirements and the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1. The inactive leaf shall not contain doorknobs, *panic* bars or similar operating hardware.~~

~~5. Where a pair of doors serves patient care rooms in Group I-2 occupancies, self-latching edge- or surface-mounted bolts are permitted on the inactive leaf provided that the inactive leaf is not needed to meet egress capacity requirements and the inactive leaf shall not contain doorknobs, *panic* bars or similar operating hardware.~~

Reason: The IBC is rather confusing regarding dead bolts, manual bolt locks, and automatic flush bolts leading to significant variability in interpretations and application of the code.
This proposal offers four definitions, and revises sections of the IBC where these hardware items are addressed with requirements.

The most significant revision is to incorporate all the requirements of Section 1010.2.5 into Sections 1010.2.1 and 1010.2.4.

Here's what happened with requirements and exceptions of 1010.2.5:

- The charging language that "manually operated flush bolts and surface bots are not permitted" is revised based on the proposed definition of "manual bolt" and included in the charging language of 1010.2.1. Exception 2 of 1010.2.1 was also revised based on the

Page: 3

Mod_10602_Text_E43-21.pdf

F10602Text Modification

definition of “manual bolt”.

- Exception 1 of 1010.2.5 is included in revised 1010.2.4 Item 5 with inserting “manual bolt” in that item.
- Exceptions 2 through 5 of 1010.2.5 are included in proposed Table 1010.2.4. Item 4 of 1010.2.4 is revised to reference Table 1010.2.4.

The applications in Exceptions 2 through 5 of 1010.2.5 are incorporated into proposed Table 1010.2.4. Also included in this table is Item 4 of 1010.2.4, which is an application where automatic flush bolt are acceptable: Spaces served by egress doors in pairs where the doors are not required to be equipped with panic hardware, and both door leafs are used for egress capacity.

Also, doors required to comply with IBC Section 716 (opening protectives) are also required to be self-latching or automatic latching. Proposed Table 1010.2.4 includes this determining factor as to what hardware may be used.

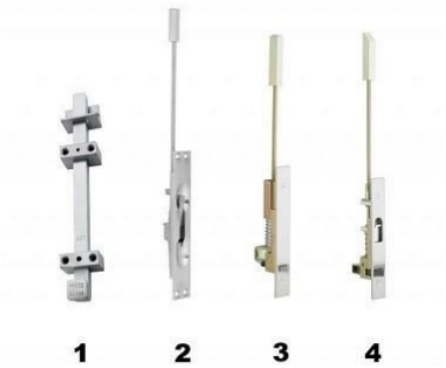
Several technical changes were incorporated in proposed Table 1010.2.4 that are not currently in these sections:·

- For Group I-2, the table clarifies manual bolt locks are not appropriate for use on patient care room doors where the door is required to be positive latching.
- The current requirements don’t differentiate between doors required to be fire-rated or not. That is, required to comply with Section 716 or not.
- For I-2 patient care rooms, Exception 5 of 1010.2.5 permitted what are called constant latching bolts. But the code was silent on other applications where these door hardware items may be desired and appropriate (where the inactive leaf is not needed for egress).
- Didn’t address using automatic flush bolts on the inactive leaf of patient care rooms, if the doors have closers and a coordinator which causes the inactive leaf to close prior to the active leaf.
- For storage and equipment rooms, manual bolts have been permitted, but automatic flush bolts and constant latching bolts would also be considered acceptable on the inactive leaf of storage and equipment rooms.

Manual bolt locks are typically located on the egress side of a door and have no operating parts on the other side of the door. Manual bolt are typically installed on the surface of the door panel, or installed flush with the edge or surface of the door

A dead bolt is manually extended from the egress side of the door by turning a thumb turn, or by manually pushing a button causing spring action to extend the lock bolt. Dead bolts are typically retracted (unlocked) from the egress side of the door by a thumb turn, or operation of the handle or lever. In very limited applications dead bolts may be extended and retracted by use of a key (see IBC Section 1010.2.4 Exception 3). On the ingress side of the door (the access side), dead bolts are typically extended (locked) and retracted (unlocked) by use of a key. Dead bolts are not considered to be manual bolt locks (see the definition for manual bolts).

The image below illustrates two manual bolts, an automatic flush bolt, and a constant latching (flush) bolt.



1 - Manual bolt mounted on the face of the door; the bolt is operated manually.

2 - Manual bolt mounted flush on the door edge; the bolt is projected and retracted manually using a small lever.

3 - Automatic flush bolt installed on the inactive leaf, and projected automatically when the active leaf closes, and retracted when the active leaf opens.

Page: 4

Mod_10602_Text_E43-21.pdf

4 - Constant-latching (flush) bolt has a self-latching bolt which is retracted manually.



Dead bolt. Courtesy Allegion

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal provides updated guidance on “shall be permitted” locking hardware, and is an attempt to bring clarity to the requirements in the IBC.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal was disapproved, however the committee felt that cleanup of the language for bolts is needed. In Table 1010.2.4, it is recommended to take out "inactive leaf is not needed to meet egress capacity requirements." Would this be confused with Group I-2 constant latching? (Vote : 10-3)

Public Comments

Public Comment 1

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1010.2.1 Unlatching. The unlatching of any door or ~~leaf for egress shall require not more than one motion in~~ leaf for egress shall require not more than one motion in a single linear or rotational direction to release all latching and all~~ocking devices. l~~ocking devices. *Manual ~~bolt locks~~bolts* are not permitted.

Exceptions:

1. Places of detention or restraint.
2. ~~Where *manual bolt* locks are permitted by Section 1010.2.4 Item 4.~~
3. ~~Doors with *automatic flush bolts* as permitted by Section 1010.2.4, Item 4.~~

2.~~4.~~ Doors with *manual bolts*, *automatic flush bolts* and *constant latching bolts* as permitted by Section 1010.2.4, Item 4.

3.~~4.~~ Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.2.4, Item 5.

F10602Text Modification

1010.2.4 Locks and latches . Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an*occupant load* of 300 or less, Groups B, F, M and S, and in*places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The locking device is readily distinguishable as locked.
   3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.3. The use of the key-operated locking device is revocable by the*building official* for due cause.
4. *Manual* ~~*bolt* locks~~ *bolts*, *automatic flush bolts,* and *constant latching bolts* on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided the inactive leaf ~~having a *manual bolt* lock, *automatic flush bolt*, or *constant latching bolt*~~ does not have a doorknob, panic hardware, or similar operating hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an*occupant load* of 10 or less are permitted to be equipped with a night latch, *dead bolt*, *manual bolt*, or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with*listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for*means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shll not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

~~TABLE 1010.2.4 MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS~~

~~APPLICATION WHERE A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF SERVE THE FOLLOWING:~~	~~OCCUPANT LOAD OF SPACE SERVED BY THE PAIR OF~~	~~THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH~~	~~PERMITTED USES OF MANUAL BOLT LOCKS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.~~

Page: 6

Mod_10602_Text_E43-21.pdf

	~~DOORS~~	~~SECTION 716~~	~~Manual flush bolts or manual surface bolts with manual extension and retraction of bolt.~~	~~Automatic flush bolts with automatic extension and retraction of bolt by action of active leaf.~~	~~Constant latching bolts with automatic latching and manual retraction of bolt or latch.~~
~~Group B, F, or S occupancy.~~	~~Less than 50.~~	NO	~~P~~	~~P~~	~~P~~
		YES	NP	~~P[b]~~	~~P~~
~~Group B,F, or S occupancies where the building is equipped with an automatic sprinkler system in accordance with Section 903.3.1.1, and where the inactive leaf is not needed to meet egress capacity requirements.~~	~~Occupant load served by the active leaf.~~	NO	~~P~~	~~P~~	~~P~~
		YES	NP	~~P[b]~~	~~P~~
~~Patient care rooms in Group I-2 occupancies, and where the inactive leaf is not needed to meet egress capacity requirements.~~	~~Occupant load served by the active leaf.~~	NO	NP	~~P[b]~~	~~P~~
		YES	NP	~~P[b]~~	~~P~~
~~Occupancies where panic hardware is not required, the egress doors are used in pairs, and where both the active and inactive leafs are required to meet egress capacity requirements.~~	~~Occupant load served by both leafs.~~	NO	NP	~~P~~	NP
		YES	NP	~~P[b]~~	NP
~~Storage or equipment rooms.~~	~~Occupant load served by the active leaf.~~	NO	~~P[a]~~	~~P~~	~~P~~
		YES	~~P[a]~~	~~P~~	~~P~~

~~P - Permitted; NP - Not permitted~~.

~~a. Not permitted in Group I-2 where corridor doors are required to be positive latching, and the storage or equipment room door is in the corridor.~~

~~b. Permitted where both doors are self-closing or automatic-closing, and have a coordinator that causes the inactive leaf to be closed prior to the active leaf.~~

MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF

TABLE 1010.2.4 **OF A PAIR OF DOORS**

APPLICATION WITH A PAIR OF DOORS WITH AN ACTIVE LEAF AND INACTIVE LEAF	THE PAIR OF DOORS ARE REQUIRED TO COMPLY WITH SECTION 716	PERMITTED USES OF MANUAL BOLTS, AUTOMATIC FLUSH BOLTS, AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF OF A PAIR OF DOORS.		
		Surface or flush mounted manual bolts	Automatic flush bolts	Constant latching bolts
Group B, F, or S occupancies with occupant load less than 50.	No	P	P	P
	Yes	NP	NP[b]	P
Group B,F, or S occupancies where the building is equipped with automatic sprinkler system in accordance with Section 903.3.1.1 and the inactive leaf is not needed to meet egress capacity requirements.	No	P	P	P
	Yes	NP	NP[b]	P
Group I-2 patient care and sleeping rooms where inactive leaf is not needed to meet egress capacity requirements.	No	NP	NP[b]	P
	Yes	NP	NP[b]	P
Any occupancy where panic hardware is not required, egress doors are used in pairs, and where both leafs are required to meet egress capacity requirements.	No	NP	P	NP
	Yes	NP	NP[b]	NP
Storage or equipment rooms where the inactive leaf is not needed to meet egress capacity requirements.	No	P[a]	P	P
	Yes	P[a]	P	P

P - Permitted; NP - Not permitted.

a. Not permitted on corridor doors in Group I-2 occupancies where corridor doors are required to be positive latching.

b. Permitted where both doors are self-closing or automatic-closing, and are provided with a coordinator that causes the inactive leaf to be closed prior to the active leaf.

Commenter's Reason: This public comment proposes in 1010.2.1, revisions to combine Exception 2 with Exception 3. And revisions in 1010.2.1 and 1010.2.4 for consistent use of the proposed defined term “manual bolt”.

This public comment also deletes and replaces proposed Table 1010.2.4 with a simpler table with minor revisions:

1. The left two columns of the originally proposed Table 1010.2.4 were combined into a single column to remove redundant text.
2. Also, where footnote “b” is used in the 2nd column from the right, the “P [b]” was revised to “NP [b]” for consistency with how footnote “a” is

F10602Text Modification

used in the table.

3. Editing of column and row headings for simplicity and better consistency with the proposed definitions and text.

During the committee action hearing, there was discussion that manual bolts (manual bolt locks) may not be permitted by the proposed revisions as they are currently permitted by the IBC (e.g. on a single door). An explanation of how the proposal permit manual bolts:

1. The proposal deletes, from 1010.2.5, the current prohibition of manually operated flush bolts and surface bolts, and inserts this prohibition with minor revisions in 1010.2.1 stating "*Manual bolt* locks are not permitted.

2. However, there are three (was four) exceptions to 1010.2.1.

a. Exception 2 (was Exception 3), for individual dwelling units and sleeping units of Group R occupancies, sends the reader to Section 1010.2.4 Item 5.

b. Item 5 of 1010.2.4 permits installation of a night latch, dead bolt, or security chains on doors from individual dwelling units or sleeping units of Group R occupancies having an occupant load of 10 or less. This proposal, E43-21, adds "manual bolt" to this list of hardware items (see the original E43-21 proposal as Item 5 is not proposed for revisions with this public comment).

c. The net effect is manual bolts would be permitted on doors from individual dwelling units or sleeping units of Group R occupancies with an occupant load of 10 or less in the same applications where a dead bolt or night latch have been permitted.

d. Note the 2021 IBC in 1010.2.5 permits manually operated flush bolts or surface bolts on doors not required for egress in individual dwelling units or sleeping units. The revisions in this proposal permit manual bolts on doors – not required, or required, for egress – in individual dwelling units.

3. Note: The proposed definition for manual bolts indicates manual bolts can be either flush or surface mounted.

Also during the CAH, there was discussion about permitting / not permitting manual bolts, automatic flush bolts, and constant latching bolts on doors in the means of egress per proposed Table 1010.2.4. Perhaps an explanation of where the provisions in proposed Table 1010.2.4 came from may be helpful.

1. Item 4 in 1010.2.4 (revised in E43-21) permits manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with (proposed) Table 1010.2.4 provided the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

a. Do note Item 4 applies only to the inactive leaf of a pair of doors.

2. Proposed Table 1010.2.4, in the title of the table and in the heading of the right three columns, identifies the permitted uses of manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors.

3. In proposed Table 1010.2.4,

a. Starting with the right-hand column of Table 1010.2.4, constant latching bolts, which have automatic latching and manual retraction of the bolt or latch, are proposed to be permitted:

i. On the inactive leaf where that inactive leaf is not required for egress capacity in B, F, and S occupancy groups (see deleted Exception 4 of Section 1010.2.5).

ii. On the inactive leaf of group I-2 patient care room doors (see deleted Exception 5 of Section 1010.2.5).

iii. On the inactive leaf of storage and equipment room doors where the occupant load is served by the active leaf (see deleted Exception 2 of Section 1010.2.5 – constant latching bolts release manually similar to manual bolts).

b. Automatic flush bolts, which are installed on the inactive leaf have automatic extension and have automatic retraction of the bolt by action of the active leaf, are proposed to be permitted

i. On the inactive leaf of a pair of doors in B, F, and S occupancy groups where the doors are not required to comply with IBC Section 716 for opening protectives (see deleted Exception 4 of Section 1010.2.5).

ii. For doors required to comply with 716 which are required elsewhere in the IBC to be positive latching, automatic flush bolts are not permitted on the inactive leaf unless the pair of doors meet the requirements of proposed footnote "b" requiring a coordinator to ensure the inactive leaf is closed prior to the active leaf.

iii. On doors to I-2 patient care rooms where the inactive leaf is not needed for egress capacity (see deleted

Page: 8

Mod_10602_Text_E43-21.pdf

F10602Text Modification

Exception 4 of Section 1010.2.5).

iv. For storage or equipment rooms, wherever a manual bolt would be permitted on the inactive leaf, an automatic flush bolt should also be permitted (see deleted Exception 2 of Section 1010.2.5).

c. Surface or flush mounted manual bolts are permitted

i. On the inactive leaf in B, F, and S occupancy groups only where the inactive leaf is not needed for egress capacity (see deleted Exception 4 of Section 1010.2.5).

ii. On the inactive leaf of storage and equipment room doors where the occupant load is served by the active leaf (see deleted Exception 2 of Section 1010.2.5).

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal provides updated guidance on “shall be permitted” locking hardware, and is an attempt to bring clarity to the requirements in the IBC.

Final Hearing Results

E43-21 AMPC1

Page: 9

Mod_10602_Text_E43-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

171

F10603 /E45-21

Date Submitted	03/01/2024	**Section**	1010.2.4	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal attempts to clarify Item 3 of 1010.2.4. That Item 3 is limited to the main exterior doors a space, or the main doors to the tenant space.

Rationale

See attached

F10603Text Modification

See attached

Mod10603_TextOfModification.pdf

Page: 1

F10603Text Modification

E45-21

Original Proposal

IBC: 1010.2.4 (IFC:[BE]1010.2.4)

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Revise as follows:

1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an*occupant load* of 300 or less, Groups B, F, M and S, and in*places of religious worship*, the main ~~door or~~ doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.

   3.2.3.1. The locking device is readily distinguishable as locked.

   3.3~~.2~~. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.

   3.4~~.3~~. The use of the key-operated locking device is revocable by the*building official* for due cause.
4. Where egress doors are used in pairs,*approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an*occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with*listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.

Page: 1

Mod_10603_Text_E45-21.pdf

F10603Text Modification

8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

Reason: What is now Item 3 in 2021 IBC Section 1010.2.4 permits doors to be locked not allowing ingress or egress from certain occupancies while the space is not occupied. Item 3 was revised per proposal E63-12 to recognize the main doors to a space may not be exterior doors – for example doors to a tenant space from an indoor shopping mall corridor. Unfortunately, removing the word “exterior” in what is now Item 3 has resulted in BHMA members seeing interpretations that the “main doors” can be just about any door to a space within a building. Our understanding is that this broad interpretation and application of the provisions in Item 3 are not as intended with the revisions approved in proposal.
This proposal attempts to clarify Item 3 is limited to the main exterior doors a space, or the main doors to the tenant space

Cost Impact: The code change proposal will increase the cost of construction
The code proposal may increase the cost of construction if doors which were capable of being locked with a key-operated lock on the egress side would not be permitted to be locked, and a different, higher cost, lock was needed. On the other hand, this proposal may decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved. The proposed text as written appears to not be applicable to spaces with one means of egress. There was a question as to if there could be more than one door in the path of egress travel - from the tenant and then again from the building. (Vote: 9-4)

Public Comments

Public Comment 1

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Page: 2

Mod_10603_Text_E45-21.pdf

F10603Text Modification

Modify as follows:

2021 International Building Code

1010.2.4 Locks and latches . Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an*occupant load* of 300 or less, Groups B, F, M and S, and in*places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The doors are the main exterior doors to the building, or the doors are the main doors to the tenant space.
   3.2. The locking device is readily distinguishable as locked.
   3.3. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.4. The use of the key-operated locking device is revocable by the*building official* for due cause.
4. Where egress doors are used in pairs,*approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies having an*occupant load* of 10 or less are permitted to be equipped with a night latch, dead bolt or security chain, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with*listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.
8. Other than egress *courts*, where occupants must egress from an exterior space through the building for*means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shall not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

Page: 3

Mod_10603_Text_E45-21.pdf

F10603Text Modification

Commenter's Reason: Item 3 in 1010.2.4 permits the main doors of a space to be locked with a key operated lock preventing egress (and ingress) when locked. Traditionally, this provision was applied to the main exterior doors to a business or restaurant, and the main doors would be locked all times other than business hours. Employees of the business or restaurant would know to enter or leave by one of the other doors, or a few employees would have the key needed to unlock the doors for egress.
Prior to the 2015 IBC, the applicability of Item 3 was limited to the**main exterior doors** of a building for the listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN **THIS BUILDING** IS OCCUPIED.

However, for the 2015 IBC, proposal E63-12, as modified by the committee, revised item 3 to be applicable to the**main doors** to a space for the same listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN **THIS SPACE** IS OCCUPIED. The proponent's intent of E63-12 was to permit the provisions of Item 3 to be applicable to, for example, where the main doors to a restaurant open into a mall.

Unfortunately, over the last several years, we have been observing that Item 3 is being interpreted as broadly as written: any doors that could be described as the main doors, to any space in the listed occupancies, regardless of the size or use of the space and regardless of how far into the bowels of the building, could be locked with a key operated lock preventing ingress **and / or egress**.

This proposal is intended to bring the scope of the applicability of Item 3 to be more closely aligned to the proponents stated intent of E63-12. Item 3 would be applicable to the **main exterior doors to the building**, **or** the doors are the **main doors to the tenant space**.

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction
This code proposal may increase the cost of construction if doors which were capable of being locked with a key-operated lock on the egress side would not be permitted to be locked, and a different, higher cost lock was needed. On the other hand, this proposal may decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease.

Final Hearing Results	
E45-21	AMPC1

Page: 4

Mod_10603_Text_E45-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

172

F10606 /E46-21

Date Submitted	03/01/2024	**Section**	1010.2.4	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this provision is to coordinate with the change in Table 1006.2 for single exit dwelling units in E17-15 which changed R-2, R-3 and R-4 requirements for single exit dwelling units from 10 to 20 occupants.

Rationale

See attached

F10606Text Modification

See attached

Mod10606_TextOfModification.pdf

Page: 1

F10606Text Modification

E46-21

Original Proposal

IBC: 1010.2.4 (IFC:[BE]1010.2.4)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1010.2.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an*occupant load* of 300 or less, Groups B, F, M and S, and in*places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
   3.1. The locking device is readily distinguishable as locked.
   3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
   3.3. The use of the key-operated locking device is revocable by the*building official* for due cause.
4. Where egress doors are used in pairs,*approved* automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts does not have a doorknob or surface-mounted hardware.
5. Doors from individual *dwelling* or *sleeping units* of Group R occupancies ~~having an *occupant load* of 10 or less~~ permitted to have a single exit in accordance with Section 1006.2.1 or 1006.3.4 are permitted to be equipped with a night latch, dead bolt or security chain, that require a second releasing motion, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with*listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.

Page: 1

Mod_10606_Text_E46-21.pdf

F10606Text Modification

8. Other than egress *courts*, where occupants must egress from an exterior space through the building for *means of egress*, exit access doors shall be permitted to be equipped with an approved locking device where installed and operated in accordance with all of the following:
   8.1. The maximum *occupant load* shall be posted where required by Section 1004.9. Such signage shall be permanently affixed inside the building and shall be posted in a conspicuous space near all the exit access doorways.
   8.2. A weatherproof telephone or two-way communication system installed in accordance with Sections 1009.8.1 and 1009.8.2 shall be located adjacent to not less than one required exit access door on the exterior side.
   8.3. The egress door locking device is readily distinguishable as locked and shall be a key-operated locking device.
   8.4. A clear window or glazed door opening, not less than 5 square feet (0.46 m^2) in area, shall be provided at each exit access door to determine if there are occupants using the outdoor area.
   8.5. A readily visible, durable sign shall be posted on the interior side on or adjacent to each locked required exit access door serving the exterior area stating, "THIS DOOR TO REMAIN UNLOCKED WHEN THE OUTDOOR AREA IS OCCUPIED." The letters on the sign shall be not less than 1 inch (25.4 mm) high on a contrasting background.
   8.6. The *occupant load* of the occupied exterior area shll not exceed 300 occupants in accordance with Section 1004.
9. Locking devices are permitted on doors to balconies, decks or other exterior spaces serving individual dwelling or sleeping units.
10. Locking devices are permitted on doors to balconies, decks or other exterior spaces of 250 square feet (23.23 m^2) or less serving a private office space.

Reason: The intent of this provision is to coordinate with the change in Table 1006.2 for single exit dwelling units in E17-15 which changed R-2, R-3 and R-4 requirements for single exit dwelling units from 10 to 20 occupants. This was essentially moving an existing exception for sprinklered dwelling units into the table since all Group R are sprinklered. It is appropriate to coordinate Section 1010.2.4 with this allowance to allow deadbolts to be installed for security on these doors. In order to not have a conflict in the future if this changes again, rather than change the number of occupant for individual dwelling units it is more appropriate to reference the section. The reference to Section 1006.3.4 is to allow for the individual dwelling units addressed in Exceptions 4 and 5.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a coordination of current requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because it coordinated with E17-15 and Table 1006.2. (Vote 13-0)

Final Hearing Results

Page: 2

Mod_10606_Text_E46-21.pdf

F10606Text Modification

E46-21 AS

Mod_10606_Text_E46-21.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

173

F10607 /E47-21

Date Submitted	03/01/2024	**Section**	1010.2.7	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Concerning exception dealing with locked stairway doors from the side opposite to the side from which egress is sought. Modifies Section 1010.2.7, exception 3.

Rationale

See attached

F10607Text Modification

See attached

Page: 1

Mod10607_TextOfModification.pdf

F10607Text Modification

E47-21

Original Proposal

IBC: 1010.2.7 (IFC:[BE]1010.2.7)

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Building Code

Revise as follows:

1010.2.7 Stairway doors. Interior *stairway* means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. *Stairway* discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. *Stairway* exit doors are permitted to be locked from the side opposite the egress side, provided that they are openable from the egress side and capable of being unlocked simultaneously without unlatching upon one of the following:
   3.1. A a signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
   3.2. Activation of a fire alarm signal when a fire alarm system is present in an area served by the stairway.
   3.3. Failure of the power supply.
4. *Stairway exit* doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.4.
5. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single exit *stairway* where permitted in Section 1006.3.4.

Reason: This is an important code change for non-high rise buildings that propose to lock stairway doors from the side opposite to the side from which egress is sought. It is not unusual during an emergency or power outage that building occupants need to access other stories of a building through the stairways. The IBC seems to include provisions for unlocking of locked stairway doors by fire fighting personnel when they arrive at the scene of the incident and assess the situation. that might be quite some time for someone trapped in a vertical exit way that may for example blocked at the bottom.

Frequently door locking systems are connected to emergency backup power sources or batter systems and as a result door do not unlock during an emergency. For example, during a power outage, fire department personnel may need to access floors from stairways to perform rescue or evacuation operations for elderly persons who may have difficulty evacuating the building. My jurisdiction had a vandalism incident where hose valves for standpipes serving an 8 level plus two basement building were simultaneously opened, and the fire department was not able to access stories from the stairwell side. The remote unlocking location was not accessible due to flooding and water flow put the building into alarm and evacuation was initiated. Occupants were trapped in the stairways due to rising water level at the discharge level. While not common, this incident highlights that there may be cases where occupants may require options prior to the arrival of fire rescue personnel at a fire command center or other central location in a building.

The proposed code change does not intend to trigger a fire alarm system and is purposefully vague on whether the locking system is power by local battery backup or an emergency power circuit. This code change was adapted based on a local amendment adopted in Clark County Nevada that is attached for reference."

Page: 1

Mod_10607_Text_E47-21.pdf

F10607Text Modification

Section 1010.1.9.12

Amend Section 1010.1.9.12 to read as follows:

1010.1.9.12 Stairway doors. Interior *stairway means of egress* doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. *Unchanged*
2. *Unchanged*
3. *Stairway* exit doors are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side, unlocked simultaneously without unlatching upon a signal from the *fire command center*, if present, or a signal by emergency personnel from a location inside to the building.
4. Unchanged
5. Unchanged
6. Upon approval of the *building official*, *stairway* doors opening directly into *sleeping units*, *dwelling units* or tenant spaces are permitted to be locked from the side opposite the egress side, provided they are openable from the egress side. The doors are permitted to unlock without unlatching only upon signal from the *fire command center*, if present, or a signal by emergency personnel from an *approved* location inside the building.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The cost impact should be minimal since the stairway doors are controlled remotely and therefore require an additional signal. Backup power is usually at the lock so when power is lost it unlocks if the battery is depeltd..

Staff Note: Proposals E47-21, G60-21 and G61-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
1010.2.7Stairway doors. Interior *stairway* means of egress doors shall be openable from both sides without the use of a key or special knowledge or effort.

Exceptions:

1. *Stairway* discharge doors shall be openable from the egress side and shall only be locked from the opposite side.
2. This section shall not apply to doors arranged in accordance with Section 403.5.3.
3. *Stairway* exit doors are permitted to be locked from the side opposite the egress side, provided that they are openable from the egress side and capable of being unlocked simultaneously without unlatching when ~~upon~~ any ~~one~~ of the following conditions occur:
   - 3.1. Shall be capable of being unlocked individually or simultaneously upon a ~~A~~ signal from the fire command center, if present, or a signal by emergency personnel from a single location inside the main entrance to the building.
   - 3.2. ~~Shall unlock simultaneously upon activation~~ ~~Activation~~ of a fire alarm signal when a fire alarm system is present in an area served by the stairway.
   - 3.3. Shal unlock upon failure ~~Failure~~ of the power supply to the electric lock or the locking system.
4. *Stairway exit* doors shall be openable from the egress side and shall only be locked from the opposite side in Group B, F, M and S occupancies where the only interior access to the tenant space is from a single *exit stairway* where permitted in Section 1006.3.4.

Page: 2

Mod_10607_Text_E47-21.pdf

F10607Text Modification

5. *Stairway* exit doors shall be openable from the egress side and shall only be locked from the opposite side in Group R-2 occupancies where the only interior access to the *dwelling unit* is from a single exit *stairway* where permitted in Section 1006.3.4.

Committee Reason: The modification was approved because it makes the locks failsafe. This proposal address non-high-rise buildings and adds 3 options for compliance. (Vote: 10-2)

Final Hearing Results	
E47-21	AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

174

F10608 | **/E48-21**

Date Submitted	03/01/2024	**Section**	1010.2.9	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 1010.2.9, Exception 2. Deleting reference to 1010.2.12.

Rationale

See attached

F10608Text Modification

See attached

Mod10608_TextOfModification.pdf

Page: 1

F10608Text Modification

E48-21

Original Proposal

IBC: 1010.2.9 (IFC:[BE]1010.2.9)

Proponents: Daniel Willham, Fairfax County, Fairfax County (daniel.willham@fairfaxcounty.gov)

2021 International Building Code

Revise as follows:

1010.2.9 Panic and fire exit hardware. Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an *occupant load* of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than*panic hardware* or *fire exit hardware*.

Exceptions:

1. A main exit of a Group A occupancy shall be permitted to have locking devices in accordance with Section 1010.2.4, Item 3.
2. Doors provided with *panic hardware* or *fire exit hardware* and serving a Group A or E occupancy shall be permitted to be electrically locked in accordance with Section 1010.2.11~~ or 1010.2.12~~.
3. Exit access doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.
4. Courtrooms shall be permitted to be locked in accordance with Section 1010.2.13, Item 3.

Reason: A recent change added sensor released doors to be used where panic hardware is required. Some have understood this section to not require panic hardware when sensor released locks are used, despite it explicitly stating that it applies to doors provided with panic hardware. Section 1010.2.12 of the code recognizes that motion sensors are not reliable when it comes to life-safety since a wall mounted push-button release is required adjacent to the door for use when the motion detector fails to release the door. This is not functionally equivalent to the reliability of listed panic hardware and is not a suitable a substitute.

Cost Impact: The code change proposal will increase the cost of construction
A significant increase or decrease in cost is not expected since listed hardware is required either way. This change would revert the code to the 2015 language.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because it simplifies operation and addresses hazards other than fire. (Vote: 9-3)

Final Hearing Results

E48-21 AS

Page: 1

Mod_10608_Text_E48-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

175

F10609 /E49-21

Date Submitted	03/01/2024	**Section**	1010.2.10	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new section, Section 1010.2.10 "Access control door locking systems".

Rationale

See attached

F10609Text Modification

See attached

Mod10609_TextOfModification.pdf

Page: 1

F10609Text Modification

E49-21

Original Proposal

IBC: 1010.2.10 (New) [IFC:[BE]1010.2.10 (New)]

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Add new text as follows:

1010.2.10 Access control door locking systems.

Where electrical door locking systems that prevent or control ingress to a space are incorporated in a locking system of a door in the means of egress, the locking system shall comply with Section 1010.2.12, 1010.2.13, 1010.2.14, 1010.2.15, or 1010.2.16, or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Reason: Modeled from and similar to current 2021 IBC Section 1010.2.10 Monitored or recorded egress, this proposed section describes how access control systems – ingress control systems – may be incorporated into the locking system of a door in the means of egress. This proposed section of the IBC is technically not necessary in the IBC as the IBC is essentially silent regarding requirements for ingress control systems (access control systems). In other words, what is not prohibited by the code is, by default, permitted.

However, BHMA members are being drawn into conversations and debates with code officials as to what section(s) of the IBC with requirements for door locking arrangements are applicable to electrical locking systems which control or prevent **ingress** to a space (access control systems). This proposed new section is intended to prevent these debates by requiring doors in the means of egress which incorporate ingress control systems (access control systems) to require, on the egress side of the door, the door to be readily openable without the use of a key or special knowledge or effort, or comply with any one of the "shall be permitted" electrical locking systems.

FYI: with relatively few exceptions, the code does not regulate ingress control / access control into a building or room. For most doors, the building owner / occupant can do as desired regarding ingress control (access control) as long as all the requirements for egress are satisfied. The code does have requirements for stairway re-entry into the building (IBC Section 1010.2.7 Stairway doors), for authorized personnel access into locked occupied rooms (IBC Section 1010.2.8 Locking arrangements in educational occupancies), and for access to pools (IBC Section 1010.2.3, and ISPSC).

Cost Impact: The code change proposal will increase the cost of construction
This proposal would not increase the cost of construction as ingress control systems are not required by the IBC.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because Chapter 10 is for means of egress and this proposal is about entering, not exiting. (Vote: 11-3)

Public Comments

Page: 1

Mod_10609_Text_E49-21.pdf

F10609Text Modification

Public Comment 1

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

1010.2.10 Monitored or recorded egress, and access control systems. Where electrical systems that monitor or record egress activity are incorporated, or where the door has an access control system, the locking system on the egress side of the door shall comply with Section 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 or 1010.2.15 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Commenter's Reason: The proposed revisions to 2021 IBC Section 1010.2.10 adds access control systems to this section of the code, and how monitored egress systems and access control systems must “play nice” with door hardware and locking systems on the egress side of a door in the means of egress.
The proposed revisions address doors which incorporate access control systems to require, on the egress side, the door to be readily openable without the use of a key or special knowledge or effort, or comply with any one of the “shall be permitted” electrical locking systems of 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.14 or 1010.2.15.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Since access control systems are not required by the code, this proposal would not be expected to increase the cost of construction.

Final Hearing Results	
E49-21	AMPC1

Page: 2

Mod_10609_Text_E49-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

176

F10635 /E51-21

Date Submitted	03/04/2024	**Section**	1010.2.11	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposing editorial revisions to the four “shall be permitted” electrical locking systems to improve the grammar of these sections, and clarify the requirements of each system. Section 1010.2.11 - 1010.2.14.

Rationale

See attached

F10635Text Modification

See attached

Page: 1

Mod10635_TextOfModification.pdf

F10635Text Modification

E51-21

Original Proposal

IBC: 1010.2.11, 1010.2.12, 1010.2.13, 1010.2.13.1, 1010.2.14 (IFC:[BE]1010.2.11, 1010.2.12, 1010.2.13, 1010.2.13.1, 1010.2.14)

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Revise as follows:

1010.2.11 Door hardware release of electrically locked egress doors. Door hardware release ~~of electric~~ electrical locking systems shall be permitted on doors in the *means of egress* in any occupancy except Group H where installed and operated in accordance with all of the following:

1. The door hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The door hardware is capable of being operated with one hand and shall comply with Section 1010.2.1.
3. Operation of the door hardware directly interrupts the power to the electric lock and unlocks the door immediately.
4. Loss of power to the electrical locking system automatically unlocks the ~~door~~ electric lock.
5. Where *panic* or *fire exit hardware* is required by Section 1010.2.9, operation of the *panic* or *fire exit hardware* also releases the electric lock.
6. The locking system units shall be *listed* in accordance with UL 294.

1010.2.12 Sensor release of electrically locked egress doors. Sensor release ~~of electric~~ electrical locking systems shall be permitted on doors located in the *means of egress* in any occupancy except Group H where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the electric al locking system to unlock the electric lock.
2. ~~The electric locks shall be arranged to unlock by a signal from or loss of power to the sensor~~. Upon a signal from a sensor or loss of power to the sensor, the electrical locking system shall unlock the electric lock.
3. Loss of power to the electric lock or electrical locking system shall automatically unlock the electric locks.
4. The doors shall be arranged to unlock the electric lock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads “PUSH TO EXIT.” When operated, the manual unlocking device shall result in direct interruption of power to the electric lock–independent of other electronics–and the electric lock shall remain unlocked for not less than 30 seconds.
5. Activation of the building *fire alarm system*, where provided, shall automatically unlock the electric lock, and the electric lock shall remain unlocked until the *fire alarm system* has been reset.
6. Activation of the building *automatic sprinkler system* or fire detection system, where provided, shall automatically unlock the electric lock. The electric lock shall remain unlocked until the *fire alarm system* has been reset.
7. Emergency lighting shall be provided on the egress side of the door.
8. The door locking system units shall be *listed* in accordance with UL 294.

1010.2.13 Delayed egress. Delayed egress electrical locking systems shall be permitted ~~to be installed~~ on doors in the means of egress

Page: 1

Mod_10635_Text_E51-21.pdf

F10635Text Modification

serving the following occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke* or *heat detection system* installed in accordance with Section 907.

1. Group B, F, I, M, R, S and U occupancies.
2. Group E classrooms with an *occupant load* of less than 50.
3. In courtrooms in Group A-3 and B occupancies, delayed egress electrical locking systems shall be permitted to be installed on exit or *exit access* doors, other than the main exit or *exit access* door, in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

1010.2.13.1 Delayed egress locking system. The delayed egress electrical locking system shall be installed and operated in accordance with all of the following:

1. The delay ~~electronics~~ of the delayed egress electrical locking system shall deactivate upon actuation of the *automatic sprinkler system* or *automatic fire detection system*, allowing immediate free egress.
2. The delay ~~electronics~~ of the delayed egress electrical locking system shall deactivate upon loss of power ~~controlling~~ to the ~~lock~~ electrical locking system or electric lock ~~mechanism~~, allowing immediate free egress.
3. The delay of the delayed egress electrical locking system shall have the capability of being deactivated at the *fire command center* and other *approved* locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay ~~electronics have~~ has been deactivated, rearming the delay electronics shall be by manual means only.

   Exception: Where *approved*, a delay of not more than 30 seconds is permitted on a delayed egress door.
5. The egress path from any point shall not pass through more than one delayed egress locking system.

   Exceptions:

   1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds.
   2. In Group I-1, Condition 1 or Group I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware.

   Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

   1. For doors that swing in the direction of egress, the sign shall read, "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."
   2. For doors that swing in the opposite direction of egress, the sign shall read, "PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."
   3. The sign shall comply with the visual character requirements in ICC A117.1.
7. Emergency lighting shall be provided on the egress side of the door.
8. The delayed egress locking system units shall be *listed* in accordance with UL 294.

1010.2.14 Controlled egress doors in Groups I-1 and I-2. ~~Electric~~ Controlled egress electrical locking systems, ~~including electro-mechanical locking systems and electromagnetic locking systems,~~ where egress is controlled by authorized personnel, shall be permitted ~~to be locked~~ on doors in the *means of egress* in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved automatic smoke detection system* installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:

Page: 2

Mod_10635_Text_E51-21.pdf

F10635Text Modification

1. The door's electric locks shall unlock on actuation of the *automatic sprinkler system* or *automatic smoke detection system*, allowing immediate free egress.
2. The door's electric locks shall unlock on loss of power ~~controlling~~ to the ~~lock~~ electrical locking system or to the electric lock ~~mechanism~~, allowing immediate free egress.
3. The ~~door~~ electrical locking system shall be installed to have the capability of ~~being unlocked~~ unlocking the electric locks by a switch located at the *fire command center*, a nursing station or other *approved* location. The switch shall directly break power to the electric lock.
4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an *exit*.
5. The procedures for unlocking the doors shall be described and *approved* as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code.
6. All clinical staff shall have the keys, codes or other means necessary to operate the controlled egress electrical locking systems.
7. Emergency lighting shall be provided at the door.
8. The door locking system units shall be *listed* in accordance with UL 294.

Exceptions:

1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric or cognitive treatment area.
2. Items 1 through 4 shall not apply to doors to areas where a *listed* egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 *hospital*.

Reason: Proposing editorial revisions to the four “shall be permitted” electrical locking systems to to improve the grammar of these sections, and clarify the requirements of each system.
Some of the revisions were made from this grammar perspective:

Electrical means of or relating to electricity, such as an electrical system or an electrical fault.

Electric is typically used when referring to devices which run on electricity, such as an electric lock.

Other revisions are intended to reduce ambiguity of the requirements of these electrical locking systems.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There's a possibility this proposal may decrease the cost of construction if it helps with consistency of interpretation, application, and enforcement of these electrical door locking provisions. This proposal is intended to not change the technical requirements of these electrical locking systems.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal adds a technical clarification and provides consistent locking mechanism terminology. (Vote: 14-0)

Final Hearing Results

E51-21 AS

Page: 3

Mod_10635_Text_E51-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

177

F10636 /E52-21

Date Submitted	03/04/2024	**Section**	1010.2.11	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Reference standards.

Summary of Modification

This code change proposal will add an additional listing option to these four “shall be permitted” electrical locking systems for UL 1034. Sections 1010.2.11 - 1010.2.14

Rationale

See attached

F10636Text Modification

See attached

Mod10636_TextOfModification.pdf Page: 1

F10636Text Modification

E52-21

Original Proposal

IBC: 1010.2.11, 1010.2.12, 1010.2.13.1, 1010.2.14, UL Chapter 35 (New) [IFC:[BE]1010.2.11, 1010.2.12, 1010.2.13.1, 1010.2.14, UL Chapter 80 (New)]

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Revise as follows:

1010.2.11 Door hardware release of electrically locked egress doors. Door hardware release of electric locking systems shall be permitted on doors in the *means of egress* in any occupancy except Group H where installed and operated in accordance with all of the following:

1. The door hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The door hardware is capable of being operated with one hand and shall comply with Section 1010.2.1.
3. Operation of the door hardware directly interrupts the power to the electric lock and unlocks the door immediately.
4. Loss of power to the electric locking system automatically unlocks the door.
5. Where *panic* or *fire exit hardware* is required by Section 1010.2.9, operation of the *panic* or *fire exit hardware* also releases the electric lock.
6. The ~~locking system units~~ electro-mechanical or electromagnetic locking device shall be *listed* in accordance with either UL 294 or UL 1034.

1010.2.12 Sensor release of electrically locked egress doors. Sensor release of electric locking systems shall be permitted on doors located in the *means of egress* in any occupancy except Group H where installed and operated in accordance with all of the following criteria:

1. The sensor shall be installed on the egress side, arranged to detect an occupant approaching the doors, and shall cause the electric locking system to unlock.
2. The electric locks shall be arranged to unlock by a signal from or loss of power to the sensor.
3. Loss of power to the lock or locking system shall automatically unlock the electric locks.
4. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016 mm to 1219 mm) vertically above the floor and within 5 feet (1524 mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads “PUSH TO EXIT.” When operated, the manual unlocking device shall result in direct interruption of power to the electric lock–independent of other electronics–and the electric lock shall remain unlocked for not less than 30 seconds.
5. Activation of the building *fire alarm system*, where provided, shall automatically unlock the electric lock, and the electric lock shall remain unlocked until the *fire alarm system* has been reset.
6. Activation of the building *automatic sprinkler system* or fire detection system, where provided, shall automatically unlock the electric lock. The electric lock shall remain unlocked until the *fire alarm system* has been reset.
7. Emergency lighting shall be provided on the egress side of the door.
8. The ~~door locking system units~~ electro-mechanical or electromagnetic locking device shall be *listed* in accordance with either UL 294 or UL 1034.

Page: 1

Mod_10636_Text_E52-21.pdf

F10636Text Modification

1010.2.13.1 Delayed egress locking system. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The delay electronics of the delayed egress locking system shall deactivate upon actuation of the*automatic sprinkler system* or *automatic fire detection system*, allowing immediate free egress.
2. The delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The delayed egress locking system shall have the capability of being deactivated at the*fire command center* and other *approved* locations.
4. An attempt to egress shall initiate an irreversible process that shall allow such egress in not more than 15 seconds when a physical effort to exit is applied to the egress side door hardware for not more than 3 seconds. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the delay electronics have been deactivated, rearming the delay electronics shall be by manual means only.

   Exception: Where *approved*, a delay of not more than 30 seconds is permitted on a delayed egress door.
5. The egress path from any point shall not pass through more than one delayed egress locking system.

   Exceptions:

   1. In Group I-1, Condition 2, Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided that the combined delay does not exceed 30 seconds.
   2. In Group I-1, Condition 1 or Group I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the door exit hardware.

   Exception: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

   6.1. For doors that swing in the direction of egress, the sign shall read, "PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."

   6.2. For doors that swing in the opposite direction of egress, the sign shall read, "PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS."

   6.3. The sign shall comply with the visual character requirements in ICC A117.1.
7. Emergency lighting shall be provided on the egress side of the door.
8. The ~~delayed egress locking system units~~electro-mechanical or electromagnetic locking device shall be *listed* in accordance with either UL 294 or UL 1034.

1010.2.14 Controlled egress doors in Groups I-1 and I-2. Electric locking systems, including electro-mechanical locking systems and electromagnetic locking systems, shall be permitted to be locked in the *means of egress* in Group I-1 or I-2 occupancies where the clinical needs of persons receiving care require their containment. Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an*approved automatic smoke detection system* installed in accordance with Section 907, provided that the doors are installed and operate in accordance with all of the following:

1. The door locks shall unlock on actuation of the *automatic sprinkler system* or *automatic smoke detection system*.
2. The door locks shall unlock on loss of power controlling the lock or lock mechanism.

Page: 2

Mod_10636_Text_E52-21.pdf

F10636Text Modification

3. The door locking system shall be installed to have the capability of being unlocked by a switch located at the *fire command center*, a nursing station or other *approved* location. The switch shall directly break power to the lock.
4. A building occupant shall not be required to pass through more than one door equipped with a controlled egress locking system before entering an *exit*.
5. The procedures for unlocking the doors shall be described and *approved* as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code.
6. All clinical staff shall have the keys, codes or other means necessary to operate the locking systems.
7. Emergency lighting shall be provided at the door.
8. The ~~door locking system units~~ electro-mechanical or electromagnetic locking device shall be *listed* in accordance with either UL 294 or UL 1034.

Exceptions:

1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric or cognitive treatment area.
2. Items 1 through 4 shall not apply to doors to areas where a *listed* egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 *hospital*.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

UL 1034-2011 Burglary-Resistant Electric Locking Mechanisms – with revisions through June 2020

Reason: This code change proposal will add an additional listing option to these four “shall be permitted” electrical locking systems for UL 1034. Listing to UL 1034 will provide an additional safety and performance certification option for the electro-mechanical or electromagnetic lock devices that typically is part of an electrical locking system.
These sections have created confusion for building designers specifying electric locking systems and for code officials approving systems for this application. The proposed revisions will help eliminate that confusion by allowing what is already available and commonly utilized for these applications. The addition of UL 1034 is also intended to provide clarity as to allow these code sections to match the certified products in use and available in the market.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
It provides an additional standard by which to certify components already required to be listed. This may reduce the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because it provides better terminology. (Vote: 14-0)

Final Hearing Results

E52-21 AS

Page: 3

Mod_10636_Text_E52-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

178

F10637 | **/E56-21**

Date Submitted	03/04/2024	**Section**	1010.2.15	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

1016.2, 3006.4

Summary of Modification

Proposal concerning an effort to see if a consensus can be developed permitting electrical locking of exit access doors in elevator lobbies. Section 1010.2.15, 1016.2, 3006.4.

Rationale

See attached

F10637Text Modification

See attached

Page: 1

Mod10637_TextOfModification.pdf

F10637Text Modification

E56-21

Original Proposal

IBC: 1010.2.15 (New), 1016.2, 3006.4; (IFC:[BE]1010.2.15 (New), 1016.2)

Proponents: John Woestman, Kellen Company, Codes Director, Builders Hardware Manufacturers Assoc. (BHMA) (jwoestman@kellencompany.com)

2021 International Building Code

Add new text as follows:

1010.2.15 Elevator lobby exit access doors. Electrically locked exit access doors providing egress from elevator lobbies shall be permitted where all the following conditions are met:

1. For all occupants of the floor, the path of exit access travel to not less than two exits is not required to pass through the elevator lobby.
2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and an approved automatic smoke detection system in accordance with Section 907.
3. Activation of either the automatic sprinkler system or automatic smoke detection system shall automatically unlock the electric lock providing exit access from the elevator lobby, and the electric lock shall remain unlocked until the systems are reset.
4. The electric locks shall unlock on loss of power to the electric lock or electrical locking system.
5. The electric locks shall have the capability of being unlocked by a switch located at the fire command center, security station, or other approved location.
6. A two-way communication system connected to an approved constantly attended station installed in accordance with Sections 1009.8.1 and 1009.8.2, shall be located in the elevator lobby adjacent to the electrically locked exit access door. This constantly attended station shall have the capability of unlocking the electric locks of the elevator lobby exit access doors.
7. Emergency lighting shall be provided in the elevator lobby on both sides of the electrically locked door.
8. The door locking system units shall be listed in accordance with UL 294.

Revise as follows:

1016.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. *Exit access* through an enclosed elevator lobby is permitted. Where access to two or more exits or exit access doorways is required in Section 1006.2.1, access to not less than one of the required *exits* shall be provided without travel through the enclosed elevator lobbies required by Section 3006. Where the path of *exit access* travel passes through an enclosed elevator lobby, the level of protection required for the enclosed elevator lobby is not required to be extended to the *exit* unless direct access to an*exit* is required by other sections of this code.
2. Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.

   Exception: *Means of egress* are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy where the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.

Page: 1

Mod_10637_Text_E56-21.pdf

F10637Text Modification

3. An *exit access* shall not pass through a room that can be locked to prevent egress.

   Exception: An electrically locked exit access door providing egress from an elevator lobby shall be permitted in accordance with Section 1010.2.15.

4. *Means of egress* from *dwelling units* or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

5. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

   Exceptions:

   1. *Means of egress* are not prohibited through a kitchen area serving adjoining rooms constituting part of the same*dwelling unit* or *sleeping unit*.

   2. *Means of egress* are not prohibited through stockrooms in Group M occupancies where all of the following are met:
      2.1. The stock is of the same hazard classification as that found in the main retail area.

      2.2. Not more than 50 percent of the*exit access* is through the stockroom.

      2.3. The stockroom is not subject to locking from the egress side.

      2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) *aisle* defined by full- or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

3006.4 Means of egress. Elevator lobbies shall be provided with not less than one*means of egress* complying with Chapter 10 and other provisions in this code. Egress through an enclosed elevator lobby shall be permitted in accordance with Item 1 of Section 1016.2. Electrically locked exit access doors providing egress from elevator lobbies shall be permitted in accordance with Section 1010.2.15.

Reason: A number of jurisdictions across the country are including modifications in their building code to permit locking of exit access doors in elevator lobbies. These jurisdictions include California, Massachusetts, Houston, and Seattle. We're bringing this proposal forward in an effort to see if a consensus can be developed permitting electrical locking of exit access doors in elevator lobbies. The provisions proposed were developed through reviewing currently adopted provisions of other codes.
This proposal presents an alterative to the long-standing requirement that each elevator lobby has access to at least one exit complying with Chapter 10.

Proposed new Section 1010.2.15 includes specific requirements for where electrically locked exit access doors providing egress from elevator lobbies could be permitted.

The new exception in Section 1016.2, Item 3, is intended to address a potential internal conflict in the IBC.

The revision in Section 3006.4 provides the proposed alternative to requiring one means of egress from elevator lobbies. It should be noted that providing egress from an elevator lobby through tenant space(s) would typically provide access to two exits - because most tenant spaces would be required to have access to two exits.

The options presented by this proposal may be applicable to new buildings, and to build-out of floors in existing buildings, and may be most desirable where exit stairways are remote from the elevator lobby.

Cost Impact: The code change proposal will increase the cost of construction
This may increase the cost of construction. There would be an increase in cost of construction to comply with these requirements for exit access doors in elevator lobbies. On the other hand, adding this provision to the IBC may result in a decrease in the cost of construction by allowing alternative layouts of the floor.

Public Hearing Results

Committee Action **As Modified**

Page: 2

Mod_10637_Text_E56-21.pdf

F10637Text Modification

Committee Modification:

1010.2.15 Elevator lobby exit access doors. Electrically locked exit access doors providing egress from elevator lobbies shall be permitted where all the following conditions are met:

1. For all occupants of the floor, the path of exit access travel to not less than two exits is not required to pass through the elevator lobby.
2. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, and a fire alarm system in accordance with Section 907. Elevator lobbies shall be provided with an ~~approved~~ automatic smoke detection system in accordance with Section 907.
3. Activation of ~~either the automatic sprinkler system or automatic smoke detection~~the building fire alarm system by other than a manual fire alarm box shall automatically unlock the electric ~~lock~~ locks providing exit access from the elevator ~~lobby~~ lobbies, and the electric ~~lock~~ locks shall remain unlocked until the fire alarm system is ~~are~~ reset.
4. The electric locks shall unlock on loss of power to the electric lock or electrical locking system.
5. The electric locks shall have the capability of being unlocked by a switch located at the fire command center, security station, or other approved location.
6. A two-way communication system ~~connected to an approved constantly attended station installed in accordance~~complying with Sections 1009.8.1 and 1009.8.2, shall be located in the elevator lobby adjacent to the electrically locked exit access door and connected to an approved constantly attended station. This constantly attended station shall have the capability of unlocking the electric locks of the elevator lobby exit access doors.
7. Emergency lighting shall be provided in the elevator lobby on both sides of the electrically locked door.
8. The door locking system units shall be listed in accordance with UL 294.

Committee Reason: The modification to Item 2 and 3 corrects the language to remove the activation of the sprinklers and just requires an alarm. The modification to Item 6 is rearranged for clarity. The proposal was approved as it is a good solution to a common design. The is a good solution for mixed occupancy, multi-tenant buildings. This proposal combines several state modifications that allow this option. This solution also addressed emergencies other than fire. (Vote: 12-2)

Final Hearing Results	
E56-21	AM

Page: 3

Mod_10637_Text_E56-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

179

F10638 | **/E58-21**

Date Submitted	03/04/2024	**Section**	1011.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal to make the terminology consistent between Section 1011.2 and the referenced Section 1009.3.

Rationale

See attached

F10638Text Modification

See attached

Page: 1

Mod10638_TextOfModification.pdf

F10638Text Modification

E58-21

Original Proposal

IBC: 1011.2 (IFC:[BE] 1011.2)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

1011.2 Width and capacity. The required capacity of *stairways* shall be determined as specified in Section 1005.1, but the minimum width shall be not less than 44 inches (1118 mm). ~~See Section 1009.3 for *accessible means of egress stairways.*~~ The minimum width for stairways that serve as part of the accessible means of egress shall comply with Section 1009.3.

Exceptions:

1. *Stairways* serving an *occupant load* of less than 50 shall have a width of not less than 36 inches (914 mm).
2. *Spiral stairways* as provided for in Section 1011.10.
3. Where an incline platform lift or *stairway* chairlift is installed on *stairways* serving occupancies in Group R-3, or within *dwelling units* in occupancies in Group R-2, a clear passage width not less than 20 inches (508 mm) shall be provided. Where the seat and platform can be folded when not in use, the distance shall be measured from the folded position.

Reason: The revised language would make the terminology consistent between this reference and the referenced Section 1009.3. Stairways are never considered to be part of an accessible route. They can serve as part of an accessible means of egress with assistance by emergency responders. As it is currently written the language could be interpreted to be read as if the stairway is expected to be accessible. Adding "minimum width' would clarify why you need to go to Section 1009.3 – which could require 48" between handrails.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This a terminology clarification.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it is consistent with the terminology for accessible means of egress (Vote: 13-1)

Final Hearing Results

E58-21 AS

Page: 1

Mod_10638_Text_E58-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

180

F10639 /E59-21

Date Submitted	03/04/2024	**Section**	1011.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal is to clarify and correct the references to the leading edge of treads and landings through out sections 1011 Stairways, 1014 Handrails, and 1015 Guards by substitution and/or corrected use of the defined term NOSING

Rationale

See attached

F10639Text Modification

See attached

Mod10639_TextOfModification.pdf Page: 1

F10639Text Modification

E59-21

Original Proposal

IBC: 1011.3, 1011.5.5.1, 1011.5.5.2, 1014.2, 1015.3 (IFC:[BE]1011.3, 1011.5.5.1, 1011.5.5.2, 1014.2, 1015.3)

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1011.3 Headroom. *Stairways* shall have a headroom clearance of not less than 80 inches (2032 mm) measured vertically from a line connecting ~~the edge of~~ the *nosings*. Such headroom shall be continuous above the *stairway* to the point where the line intersects the landing below, one tread depth beyond the bottom riser. The minimum clearance shall be maintained the full width of the *stairway* and landing.

Exceptions:

1. *Spiral stairways* complying with Section 1011.10 are permitted a 78-inch (1981 mm) headroom clearance.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; where the *nosings* of treads at the side of a *flight* extend under the edge of a floor opening through which the *stair* passes, the floor opening shall be allowed to project horizontally into the required headroom not more than $4^{3}/_{4}$ inches (121 mm).

1011.5.5.1 Nosing projection size. The ~~leading edge (*nosings*) of treads~~nosings shall project not more than $1^{1}/_{4}$ inches (32 mm) beyond the tread below.

1011.5.5.2 Nosing projection uniformity. *Nosing* projections ~~of the leading edges~~ shall be of uniform size, including the projections of the ~~*nosing's* leading edge~~ nosings of the floor or landing at the top of a *flight*.

1014.2 Height. *Handrail* height, measured above ~~*stair* tread~~ the *nosings* of flights of stairs or finish surface of *ramp* slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). *Handrail* height of *alternating tread devices* and ships ladders, measured above ~~tread~~ the *nosings*, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

Exceptions:

1. Where *handrail* fittings or bendings are used to provide continuous transition between flights, the fittings or bendings shall be permitted to exceed the maximum height.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are associated with a Group R-3 occupancy or associated with individual *dwelling units* in Group R-2 occupancies; where *handrail* fittings or bendings are used to provide continuous transition between flights, transition at *winder* treads, transition from *handrail* to guard, or where used at the start of a *flight*, the *handrail* height at the fittings or bendings shall be permitted to exceed the maximum height.
3. *Handrails* on top of a *guard* where permitted along stepped *aisles* and ramped *aisles* in accordance with Section 1030.16.

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the ~~leading edges of the tread~~ *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Page: 1

Mod_10639_Text_E59-21.pdf

F10639Text Modification

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the nosings ~~leading edges of the treads~~.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the nosings ~~leading edges of the treads~~.
4. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
5. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from a line connecting the leading edge of the treads ~~device tread *nosing*~~.
6. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the nosings ~~leading edges of the treads~~.

Reason: The intent of this proposal is to clarify and correct the references to the leading edge of treads and landings through out sections 1011 Stairways, 1014 Handrails, and 1015 Guards by substitution and/or corrected use of the defined term NOSING. The term Nosing(s) is defined in Chapter 2 of the IBC as:

"**NOSING.** The leading edge of treads of stairs and of landings at the top of stairway flights."
Understanding the definition, it is clear that the text marked for deletion in each of these code sections is redundant, confusing and unnecessary if the defined term is used properly.

In **1011.3 Headroom** "the edge of the nosing" would read as "the edge of the leading edge" when the definition of nosing is substituted. This is the most simple example. Where similar the substitutions/corrections in other parts of the code have been made, the need to eliminate such redundancy and provide clarification becomes more obvious.

This becomes painfully obvious in **1011.5.5.1 Nosing projection size.** The current text should be interpreted to read *"The leading edge (the leading edge of treads of stairway and of landings at the top of stairway flights) of treads shall project...".* At best it is confusing to those who understand the defined term. Worst case scenario, the current language is misunderstood to not include the nosings at landings.

The addition of "or landing" to 1011.5.5.2 is important to clarify that landings at the top of a flight but not at a just a"floor" level must also comply and be included. Although a floor at the top of a flight provides the required landing, it is possible to have an intermediate landing that is not at a "floor"level.

Similar substitutions/corrections have been made to both the handrail height and guard height sections. In Exception 5 of 1015.3 related to Alternating Tread Devices, the term "a line connecting" has been added to accurately describe where to measure from however the reference to treads is used because alternating tread devices are not considered a flight of stairs and the term nosing has been correctly deleted.

As an editorial note "nosing" should be in italics throughout the published code text to conform with the current formatting practice.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change does not affect a material change that will change the cost of construction.

Page: 2

Mod_10639_Text_E59-21.pdf

F10639Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

1014.2 Height. *Handrail* height, measured ~~above~~ from a line connecting the *nosings* of flights of stairs or finish surface of *ramp* slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). *Handrail* height of *alternating tread devices* and ships ladders, measured ~~above~~ from a line connecting the *nosings*, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

Exceptions:

1. Where *handrail* fittings or bendings are used to provide continuous transition between flights, the fittings or bendings shall be permitted to exceed the maximum height.
2. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies; and in Group U occupancies that are associated with a Group R-3 occupancy or associated with individual *dwelling units* in Group R-2 occupancies; where *handrail* fittings or bendings are used to provide continuous transition between flights, transition at *winder* treads, transition from *handrail* to guard, or where used at the start of a *flight*, the *handrail* height at the fittings or bendings shall be permitted to exceed the maximum height.
3. *Handrails* on top of a *guard* where permitted along stepped *aisles* and ramped *aisles* in accordance with Section 1030.16.

Committee Reason: The modification is a clarification for the handrail height measurement. This would provide a consist line for measurement instead of stepping. The proposal was approved as it cleans up the language by being more specific and technically accurate. This should improve enforcement because this is easier to understand. (Vote: 14-0)

Final Hearing Results

E59-21 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

181

F10642 /E60-21

Date Submitted	03/04/2024	**Section**	1011.5.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Exception 3 for Section 1011.5.2 "Riser height and tread depth". Adding reference to Chapter 11 and dwelling or sleeping units.

Rationale

See attached

F10642Text Modification

See attached

Page: 1

Mod10642_TextOfModification.pdf

F10642Text Modification

E60-21

Original Proposal

IBC: 1011.5.2 (IFC:[BE]1011.5.2)

Proponents: Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, United Spinal Association (mmazz@accessibility-services.com); Gene Boecker, Code Consultants, Inc., Code Consultants, Inc. (geneb@codeconsultants.com)

2021 International Building Code

Revise as follows:

1011.5.2 Riser height and tread depth. *Stair* riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the *nosings* of adjacent treads or between the *stairway* landing and the adjacent tread. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's *nosing*. *Winder* treads shall have a minimum tread depth of 11 inches (279 mm) between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline and a minimum tread depth of 10 inches (254 mm) within the clear width of the stair.

Exceptions:

1. *Spiral stairways* in accordance with Section 1011.10.
2. *Stairways* connecting stepped *aisles* to cross *aisles* or concourses shall be permitted to use the riser/tread dimension in Section 1030.14.2.
3. In Group R-3 occupancies; within *dwelling units* in Group R-2 occupancies not required by Chapter 11 to be Accessible or Type A dwelling or sleeping units; and in Group U occupancies that are accessory to a Group R-3 occupancy or accessory to individual *dwelling units* in Group R-2 occupancies; the maximum riser height shall be $7^3/_4$ inches (197 mm); the minimum tread depth shall be 10 inches (254 mm); the minimum *winder* tread depth at the walkline shall be 10 inches (254 mm); and the minimum *winder* tread depth shall be 6 inches (152 mm). A *nosing* projection not less than $^3/_4$ inch (19.1 mm) but not more than $1^1/_4$ inches (32 mm) shall be provided on *stairways* with solid risers where the tread depth is less than 11 inches (279 mm).
4. See Section 503.1 of the International Existing Building Code for the replacement of existing *stairways*.
5. In Group I-3 facilities, *stairways* providing access to guard towers, observation stations and control rooms, not more than 250 square feet (23 m^2) in area, shall be permitted to have a maximum riser height of 8 inches (203 mm) and a minimum tread depth of 9 inches (229 mm).

Reason: The 2010 ADA Standards, he Uniform Federal Accessibility Standards, and the Architectural Barriers Act (ABA) Accessibility Standard all require all stairs that are a part of a means of egress in accessible buildings and facilities to comply with provisions for stair geometry that are the same as those in the main paragraph of Section 1011.5.2. There is no exception in these documents for stairs within dwelling units or sleeping units that must be accessible. .

Cost Impact: The code change proposal will increase the cost of construction
This code change will increase costs where Accessible or Type A dwelling or sleeping units are required by the code, but are not also required by Federal laws such as, the Americans with Disabilities Act, the Architectural Barriers Act, or Section 504 of the Rehabilitation Act of 1973, as amended.

Public Hearing Results

Committee Action **Disapproved**

Page: 1

Mod_10642_Text_E60-21.pdf

F10642Text Modification

Committee Reason: The proposal was disapproved because stairways are never part of an accessible route, therefore, there should not be different requirements for stairways within Accessible or Type A units. (Vote: 14-0)

Public Comments

Public Comment

Proponents: Marsha Mazz, Director Accessibility Codes and Standards, United Spinal Association, Accessibility Services, United Spinal Association (mmazz@accessibility-services.com) requests As Submitted

Commenter's Reason: The Committee disapproved this proposal because "stairways are never part of an accessible route" and "therefore, there should not be different requirements for stairways within Accessible or Type A units.".

- Federal Rules: The committee correctly recognized that stairs are not part of an accessible route. However, the Federal ADA requirements (see bibliography) regarding what the IBC calls "Accessible" and "Type A" units require all stairs that are part of a means of egress to comply with the 7/11 stair geometry.
- Stairs used for egress: While not all people with mobility disabilities can use stairs, some can, particularly in an emergency. There are many reasons why anyone, particularly a person with a mobility disability might be better off not using the dwelling unit elevator, even if it is working, during an evacuation.
- No opposition: During the hearing, the Stairway Manufacturers agreed with this interpretation and there was no opposition.
- Flats recognized as equivalent: Nothing in the IBC, the ICC A117.1, or the ADA requires Accessible and Type A dwelling units to be multistory units. In fact, the ADA clearly recognizes single-story units to be equivalent to multi-story units provided they have the same living spaces.

Bibliography: 2010 ADA Standards (https://www.access-board.gov/ada/#ada-210). Section 210.1 requires the following: "210.1 Stairways. Interior and exterior stairs that are part of a means of egress shall comply with 504".
2010 ADA Standards Section 504.2 (https://www.access-board.gov/ada/#ada-504). Section 504.2 requires the following: "All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (100 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum."

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Because there is no requirement for multistory Accessible or Type A units, any cost impact related to making the stairs accessible can be attributed to a design choice - the choice to design a multi-story unit instead of a flat unit.

Final Hearing Results

E60-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

182

F10643 /E62-21

Date Submitted	03/04/2024	**Section**	1011.5.4.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The text "leading edges of treads" has been deleted as it is not only redundant and unnecessary it erroneously only referencing the nosings of treads. This code specifically intends to regulate non uniform risers at landings.

Rationale

See attached

F10643Text Modification

See attached

Page: 1

Mod10643_TextOfModification.pdf

F10643Text Modification

E62-21

Original Proposal

IBC: 1011.5.4.1 (IFC:[BE]1011.5.4.1)

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1011.5.4.1 Nonuniform height risers. Where the bottom or top riser adjoins a sloping *public way*, walkway or driveway having an established grade and serving as a landing, the bottom or top riser is permitted to be reduced along the slope to less than 4 inches (102 mm) in height, with the variation in height of the bottom or top riser not to exceed one unit vertical in 12 units horizontal (8-percent slope) of *stair* width. The *nosings* ~~or leading edges of treads~~ at such nonuniform height risers shall have a distinctive marking stripe, different from any other *nosing* marking provided on the *stair flight*. The distinctive marking stripe shall be visible in descent of the *stair* ~~and shall have a slip-resistant surface~~. Marking stripes shall have a width of not less than 1 inch (25 mm) but not more than 2 inches (51 mm).

Reason: The text "leading edges of treads" has been deleted as it is not only redundant and unnecessary it erroneously only referencing the nosings of treads. This code specifically intends to regulate non uniform risers at **landings**. The use of Nosing alone is accurate and sufficient. NOSING is a defined term and also applies to landings. Use of the defined term resolves the erroneous language.
From Chapter 2 Definitions

NOSING. The leading edge of treads of stairs and of landings at the top of stairway flights.

A marking stripe at nonuniform height risers is needed however the reference to slip resistance, as used here is a last bastion of a long ago assumption that a slip resistant surface at the nosings increased safety. In fact, the entire tread surface and all the treads in a flight should be of uniform slip resistance. A rough surface at the nosing causes the foot to drag and can cause a unexpected loss of balance in ascent or descent that can result in a fall. Furthermore enforcement of this subjective term has proven controversial at best. The term "slip resistant" should be eliminated as referenced in this requirement for nonuniform risers that are already enough of an issue to require special marking for identification.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
A marking stripe is still required to be applied or incorporated in the walking surface the cost of which is unlikely to change due to this change.

F10643Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because the committee felt that the marking stripe on the stairway had to have the same slip resistance as the rest of the stairway. The marking stripe can be on the edge of a landing as well as a tread. (Vote: 12-2)

Final Hearing Results

E62-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

183

F10646 **/E64-21**

Date Submitted	03/04/2024	**Section**	1011.5.5.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds an Exception to Section 1011.5.5.1 "Nosing projection size".

Rationale

See attached

F10646Text Modification

See attached

Page: 1

Mod10646_TextOfModification.pdf

F10646Text Modification

E64-21

Original Proposal

IBC: 1011.5.5.1 (IFC:[BE] 1011.5.5.1)

Proponents: Thomas Zuzik Jr, Railingcodes.com, the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1011.5.5.1 Nosing projection size. The leading edge (*nosings*) of treads shall project not more than 1 1/4 inches (32 mm) ~~beyond~~ over the required depth of the tread below.

Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection limit over the tread below.

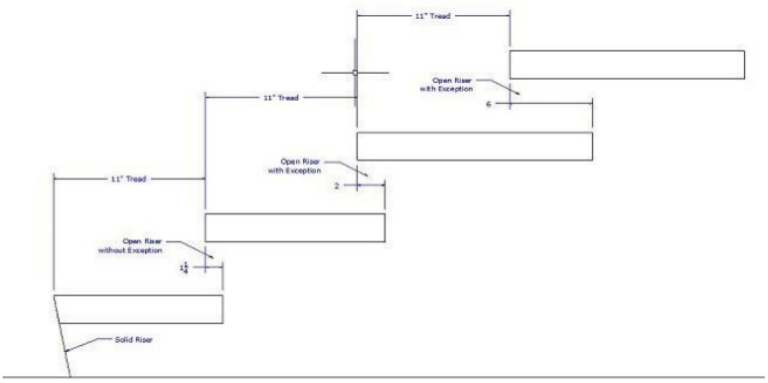
1011.5.5.2 Nosing projection uniformity. *Nosing* projections of the leading edges shall be of uniform size, including the projections of the *nosing's* leading edge of the floor at the top of a *flight*.

1011.5.5.3 Solid risers. Risers shall be solid.

Exceptions:

1. Solid risers are not required for *stairways* that are not required to comply with Section 1009.3, provided that the opening between treads does not permit the passage of a sphere with a diameter of 4 inches (102 mm).
2. Solid risers are not required for occupancies in Group I-3 or in Group F, H and S occupancies other than areas accessible to the public. The size of the opening in the riser is not restricted.
3. Solid risers are not required for *spiral stairways* constructed in accordance with Section 1011.10.

Reason: When open risers are allowed per exceptions 1, 2 or 3 of Section 1011.5.5.3 Solid risers; limiting the depth of the nosing projection over the tread below does not limit or prevent how far a foot or other object may project under the tread above. The new exception to Section 1011.5.5.1 removes the maximum limit on the nosing projection allowing for the option of a deeper tread under the tread above when open risers are allowed and present.
The sketch below is provided for reference.



Page: 1

Mod_10646_Text_E64-21.pdf

F10646Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change proposal only allows for the possibility for the treads to be larger, but does not require them to be larger nor allow for the treads to be smaller. Thus, it adds no cost to a project, unless the project designer elects to add cost.

Staff note: Proposals E61-21, E63-21 and E64-21 addresses requirements for nosing in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
1011.5.5.1 Nosing projection size. The leading edge (*nosings*) of treads shall project not more than 1¼ inches (32 mm) beyond ~~over the required depth of~~ the tread below.
Exception: When solid risers are not required, the nosing projection is permitted to exceed the maximum projection~~limit over the tread below~~.

Committee Reason: The modification removed a conflict with tread depth. The proposal was approved as it clarified that the controlling dimension is the location of the riser. The full tread depth is from nosing to nosing and does not change where the horizontal piece if larger than the tread. (Vote: 8-6)

Final Hearing Results

E64-21 AM

Page: 2

Mod_10646_Text_E64-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

184

F10648 **/E69-21**

Date Submitted	03/04/2024	**Section**	1013.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Deletes Section 1013.2 "Low-level exit signs in Group R-1". This proposal deletes a code requirement that provides a negligible fire safety benefit in fully-sprinklered R-1 occupancies.

Rationale

See attached

F10648Text Modification

See attached

Page: 1

Mod10648_TextOfModification.pdf

F10648Text Modification

E69-21

Original Proposal

IBC: 1013.2 (IFC:[BE] 1013.2)

Proponents: Carl Baldassarra, Wiss Janney Elstner Associates, Inc, Self (cbaldassarra@wje.com)

2021 International Building Code

Delete without substitution:

~~**1013.2 Low-level exit signs in Group R-1.** Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5. The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 18 inches (455 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.~~

Reason: This proposal deletes a code requirement that provides a negligible fire safety benefit in fully-sprinklered R-1 occupancies. The requirement is no longer necessary in consideration of the substantial changes made in the legacy codes and the IBC to improve the level of safety in R-1 occupancies, as demonstrated by the fire record.
Interest in low-level exit signage for hotels was generated as a result of the MGM Grand Hotel fire in 1980 and other hotel fires in that era. While many people died as a result of that fire, the building is widely recognized as a "case study" of design deficiencies and code violations. The design and construction of that building bears no resemblance to buildings designed in accordance with the current or previous editions of the IBC.

Brief History of Requirement

The requirement for low-level exit signage in R-1 occupancies was proposed a number of times between 1980 and the last edition of the three legacy codes (1999) and was generally disapproved due to the lack of a perceived need. Only one of the three codes adopted such a provision, first adopted in 1994.

The early editions of the IBC did not have a requirement for low-level exit signage. It was first adopted into the 2012 edition of the IBC, the stated reason being that R-1 occupancies have transient occupants who are not familiar with their surroundings and because exit signs installed in the traditional locations would not be visible when occupants are forced to crawl on the floor to reach the exits. This is a false premise.

In fact, the code change proposal was initially rejected by the Code Development Committee on the basis that there was no technical justification. During the public comment period, the proponent stated, "Over the years, thousands have died from smoke inhalation while attempting to flee the burning building." Again, this statement is grossly lacking a technical basis; there is no substantiation whatsoever that buildings designed and constructed in accordance with the IBC have ever performed in such a manner. The proponent addressed a number of other minor issues cited by the Committee, but never addressed the main issue for the initial Disapproval – the lack of a technical justification. Nevertheless, it was adopted.

Page: 1

Mod_10648_Text_E69-21.pdf

F10648Text Modification

Current Fire Safety Features in R-1

The fact is that R-1 occupancies designed and constructed in accordance with the fire safety features in the IBC provide a*very high* degree of life safety, as demonstrated by the "systems concept" performance-based analysis per NFPA 550, and as supported by the fire record.

The fire safety features of R-1 occupancies included in the IBC are based upon long-established, fundamental principles of fire safety and, working together, provide a high degree of redundancy should any one feature fail.

The analysis using the principles in NFPA 550 and the fire safety features in R-1 occupancies include:

Managing the fire by controlling the fuel

- o Noncombustible construction (as required by building geometry)
- o Control of interior finish
- o Control of furnishings (varies with fire code)
- o Control of decorations

Limiting the fire by construction

- o Fire resistance rated construction (as required by building geometry)
- o Fire-rated guest rooms (sleeping units)
- o Rated corridor construction and opening protectives
- o Rated egress paths
- o Manage smoke intrusion into guest rooms and the means of egress system (smoke control)

Limiting fire by suppression

- o Automatic sprinkler protection
- o Quick-response sprinkler technology
- o Manual suppression (standpipe systems) for multi-story buildings
- o Redundant water supplies in very tall buildings
- o Automatic notification to fire department
- o Electrical supervision of automatic sprinkler system components

Moving occupants to safety

- o Redundant, protected means of egress system for building evacuation
- § Number of exits
- § Exit capacity
- § Exit travel distance
- § Dead-end corridor limitations
- § Exit signage
- § Exit path lighting
- § Early detection and occupant notification within sleeping rooms and suites
- § General building-wide occupant notification by automatic and manual means (as required by building geometry)
- § Manage smoke intrusion into means of egress system (smoke control)
- o Alternatively, a defend-in-place strategy for very tall buildings (using fire resistive construction and the other features above)

Page: 2

Mod_10648_Text_E69-21.pdf

F10648Text Modification

The above represents the major features required by the 2021 IBC that contribute to the safety of R-1 occupancies. One of the most important and fundamental of these features is the compartmentation of guest rooms, employing rated construction and opening protectives, including self-closing doors to the corridor. That feature alone provides a high-degree of limiting guest room fires to the room of origin. The NFPA reports that 90% of hotel and motel fires are limited to the room of origin ["Structure Fires in Hotels and Motels," Richard Campbell, NFPA; September 2015].

Another significant feature is automatic sprinkler protection. Following the fires that occurred in the late 1970s and early 1980s, the hotel industry responded with an aggressive campaign to include automatic sprinkler systems, and fire detection and alarm systems. Significant improvement in the fire safety record soon followed. Moreover, the development of quick response sprinkler technology significantly improved the level of fire safety for people in the room of origin, with sprinklers that operate early in the fire growth period to reduce the quantities of smoke, carbon monoxide and temperatures, keeping the room of origin tenable for survival. Of course, if the condition of the room is survivable afforded by quick response sprinklers, the tenability of the corridor, even in the event of an open guest room door, will be similar and, likely, much better.

Do low-level exit signs have a benefit? Perhaps, such as when the occupants' path to egress the structure is entirely within the room of origin. As an example, we have seen low-level exit signs required in Special Amusement Buildings by the legacy codes beginning in 1990 and included in the IBC today. That makes sense where the exit path is not clear, occupants are restrained on a conveyance or confused by the sights and sounds of the entertainment and, therefore, people are expected to be in the fire environment for all or a large portion of their egress. We also see another example of such a practical use by the installation of floor lighting and low-level exit signs in aircraft where occupants are within the "room" of origin. Again, that is not the case in R-1 occupancies; the corridor is separated from the room of origin.

This same approach is included in the NFPA Life Safety Code. Low-level exit signs are required in Special Amusement Buildings, not in R-1 occupancies.

The Fire Safety Record

As previously stated, the facts about the high level of fire safety in R-1 occupancies resulting from meeting the current requirements of the IBC are demonstrated by their fire safety record.

NFPA data shows that, for the period 2009 to 2013, U.S. fire departments responded to an estimated average of 3,520 structure fires in hotels and motels each year. These fires resulted in annual losses of 9 civilian deaths, 120 civilian injuries, and $84 million in direct property damage [Campbell]. This represent a substantial reduction in fatalities from previous annual average of 12,000 fires and 100 fatalities in 1980. The leading area of origin of fatal hotel fires was reported to be the bedroom (68%). Nothing in the fire record cites low-level exit signs as a contributing factor to the fatalities and injuries.

NFPA also reported that "sprinklers provide effective fire protection in hotel and motel properties" [Campbell]. According to the most recent NFPA report on the U.S. experience with automatic extinguishing systems at the time of the report, deaths per thousand reported fires were "100% lower when wet pipe sprinklers were present, compared to fires with no automatic extinguishing equipment" [Campbell]. In other words, there were essentially no reported deaths in sprinklered hotels and motels in the study period.

There has been such a dramatic decline in the number of fire fatalities and injuries in hotel and motel occupancies over the last 40 years that NFPA no longer breaks out the loss experience for hotels and motels as a category, instead aggregating the data into "Residential – Other."

It is generally true that providing a high degree of fire safety for building occupants enhances the safety of first responders. In another study, "A Review of the Validity of Estimates of Hotel and Motel Fire Deaths," prepared by Tri-Data Corporation, December, 1994, there were no reported fire fighter fatalities in hotel and motel fires in the study period of 1988 to1992.

Conclusion

Page: 3

Mod_10648_Text_E69-21.pdf

An analysis of the fire safety requirements in the IBC demonstrates that a robust and redundant strategy is employed and is responsible for an exemplary fire safety record for R-1 occupancies. The recently added requirement for low-level exit signs in R-1 occupancies does not have a technical basis and reduces important fire safety resources that can be better applied in another manner.

In summary, I am hopeful that we can all agree that, by complying with the requirements of the IBC, we do not expect that occupants will need to crawl out of the building in the event of a fire. Therefore, there is no reason to design the building in that manner.

***

Cost Impact: The code change proposal will decrease the cost of construction
The cost impact will vary based upon the size and configuration of the building.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: Replace the proposal with the following:
1013.2 Low-level exit signs in Group R-1. Where exit signs are required in Group R-1 occupancies by Section 1013.1, additional low-level exit signs shall be provided in all areas serving guest rooms in Group R-1 occupancies and shall comply with Section 1013.5. The bottom of the sign shall be not less than 10 inches (254 mm) nor more than 18 inches (455 mm) above the floor level. The sign shall be flush mounted to the door or wall. Where mounted on the wall, the edge of the sign shall be within 4 inches (102 mm) of the door frame on the latch side.

Exception: Low-level exit signs are not required in Group R-1 occupancies when the building is equipped throughout with an automatic sprinkler system installed in accordance with Sections 903.3.1.1 or 903.3.1.2

Committee Reason: The modification was approved because the exception would be valid for older hotels that were not fully sprinklered, however, the word 'additional' was removed from the proposed modification as not necessary. The committee stated that the research for the reason statement was exceptional. As technology has advances the codes should allow for removal of antiquated requirements. (Vote: 13-0)

Final Hearing Results

E69-21 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

185

F10649 /E71-21

Date Submitted	03/04/2024	**Section**	1013.5	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds section 1013.5.1 "Photoluminescent exit signs installation".

Rationale

See attached

F10649Text Modification

See attached

Page: 1

Mod10649_TextOfModification.pdf

F10649Text Modification

E71-21

Original Proposal

IBC: 1013.5, 1013.5.1 (New) [IFC:[BE]1013.5, 1013.5.1 (New)]

Proponents: Traci Harvey, Spokane County Washington, Washington State Association of Fire Marshals

2021 International Building Code

Revise as follows:

1013.5 Internally illuminated exit signs. Electrically powered, *self-luminous* and *photoluminescent* exit signs shall be *listed* and labeled in accordance with UL 924 and shall be installed in accordance with the manufacturer's instructions and Chapter 27. Exit signs shall be illuminated at all times. Exit signs shall be easily discernable and legible at all times.

Add new text as follows:

1013.5.1 Photoluminescent exit signs installation. . Photoluminescent exit signs shall be installed in locations where normal operating lighting conditions is sufficient to adequately charge the sign.

Reason: This section addresses a pervasive problem the working group has tried to address in photoluminescent exit signs. Photoluminescence is a process whereby luminescence is induced by the absorption of visible light. The use of photoluminescent exit signage in a low light areas [ie: movie theatres] has presented a problem where minimal or no ambient light is available to recharge the sign. The code lacks adequate means to address photoluminescent exit signs.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal would not directly increase construction costs as it clarifies that exit signs need to be seen to perform the intended function.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved. The additional language to Section 1030.5 is already addressed in exit sign requirements in Section 1030.1. UL924 already addressed requirements for charging photoluminescent exit signs. The suggested language in Section 1030.5.1 is vague – how could a code official determine 'adequate'? The reason statement talks about movie theaters but lights turn on and off in these venues, so the proposed language does not work for those locations. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: Traci Harvey, Spokane County Washington, Washington State Association of Fire Marshals (harveyt@spokanevalleyfire.com) requests As Modified by Public Comment

Replace as follows:

2021 International Building Code

Page: 1

Mod_10649_Text_E71-21.pdf

F10649Text Modification

1013.5.1 Photoluminescent exit signs . Photoluminescent exit signs shall be provided with an illumination source to charge the exit sign in accordance with the manufacturers instructions.

Commenter's Reason: The intent of this PC is clarify the original intent of the proposal that photoluminescent exiting signs are installed only in locations where they receive enough light to be able to function appropriately. This new language replacing the original proposal refers to the manufacturers instructions as that will better define what operating lighting is considered sufficient to charge the sign. The revision initially submitted to Section 1013.5 was removed as such language is already addressed in Section 1013.1.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This is a clarification that is ensuring these signs work appropriately as intended.

Final Hearing Results

E71-21 AMPC1

Page: 2

Mod_10649_Text_E71-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

186

F10650 /E73-21

Date Submitted	03/04/2024	**Section**	1014.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The code does not currently regulate the lateral distance that a handrail can be located away from the edge of the walking surface of a stair, ramp or aisle. Proposal to address. Adds Section 1014.3 "Lateral Location".

Rationale

See attached

F10650Text Modification

See attached

Page: 1

Mod10650_TextOfModification.pdf

F10650Text Modification

E73-21

Original Proposal

IBC: 1014.3 (New) [IFC:[BE]1014.3 (New)]

Proponents: Lee Kranz, City of Bellevue, WA, Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Add new text as follows:

1014.3 Lateral location. Handrails located outward from the edge of the walking surface of flights of stairways, ramps, stepped aisles and ramped aisles shall be located within 6 inches (152.4 mm) measured horizontally from the edge of the walking surface. Handrails projecting into the width of the walking surface shall comply with Section 1014.8.

Reason: Surprisingly, the code does not currently regulate the lateral distance that a handrail can be located away from the edge of the walking surface of a stair, ramp or aisle. If an architect wanted to locate a handrail 24 or even 36 inches away from the walking surface, there is currently no code provision to prevent that from happening. Most building officials would not permit that design but there is no code backing to support them. The substantive data provided as part of this code change provides the justification for limiting the lateral distance of the handrail to be not more than 6" from the edge of the walking surface. This code change is needed to insure that handrails will be located close enough to the edge of the walking surface to provide adequate support for pedestrians with limited reach capabilities. Handrails that protrude into the required width of the stairway, ramp or aisle are currently regulated in Section 1014.8
See the reason statement for E72-21 for additional anthropometric data.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change will not increase the cost of construction. The intent is to improve the safety for those needing to use a handrail while traversing on stairways, ramps and aisles.

Staff Note: E72-21, E73-21 and E79-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee disapproved this proposal based on their action on E72 and for the same reasons. (Vote 7-6)

Public Comments

Public Comment 2

Proponents: Richard Williams, CWA Consultants, Washington Association of Building Officials Technical Code Development Committee (richard@cwaconsultants.net); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Submitted

Commenter's Reason: Many building officials are surprised when they learn that the building code does not limit how far away a handrail can be from the edge of a stair or ramp walking surface. E73 would limit how far a handrail can be located away from the edge of the

Page: 1

Mod_10650_Text_E73-21.pdf

walking surface of a stairway tread or a ramp. The anthropometric data submitted with E72-21 (E72 and E73 were submitted together) shows that a handrail located within 6" of the edge of the walking surface of a stair or ramp is reasonable and is a vast improvement over what we have now.

The Means of Egress Committee raised the following issues. Our response to them follows each point.

1. **Issue:** The proposal would create the option to have a 6" opening between the edge of the walking surface and the guard.

Response: You are still required to comply with the guard requirements in Section 1015.4, which only allows a 4" space. See Figure 1 below.

2. **Issue:** Related to #1 above, someone could place their foot in the gap between the edge of the walking surface and the guard.

Response: While current edge protection requirements for ramps would prohibit this, the current code does not prohibit creation of a 4" gap between the edge of the walking surface and the guard for stairs. This proposal does not change anything regarding how much space is allowed at the edge of a stair tread or ramp in relation to the bottom of a guard. Again, see Figure 1 below.

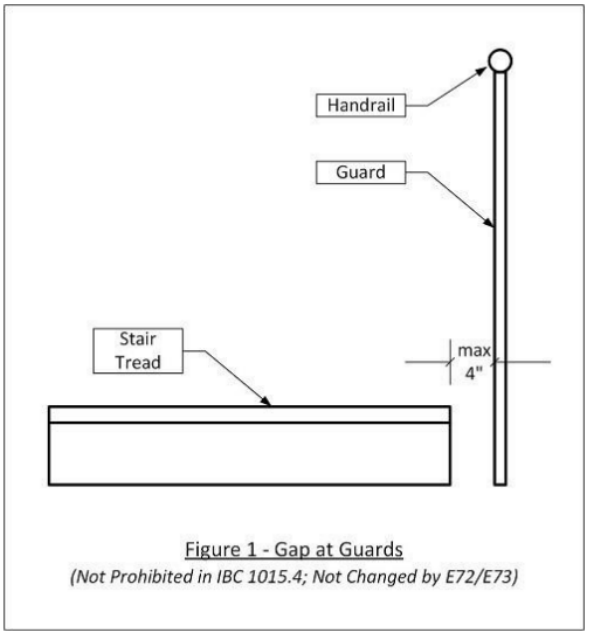


Figure 1 - Gap at Guards
(Not Prohibited in IBC 1015.4; Not Changed by E72/E73)

3. **Issue:** The anthropometric data did not include individuals with physical disabilities or sight impairments.

Response: The data was collected from the Stair Builders and Manufacturer's Association (SMA) and includes data on how an older person, a young child, a woman carrying a baby and a healthy person would use a handrail. There are also links to videos showing persons with difficulty walking and how they rely on the use of the handrail for stabilization and support. After studying the data, limiting the handrail to be within 6" of the edge of the walking surface of a stair or ramp was determined to be the most reasonable distance for the handrail location.

Photographic Examples. Photos 1, 2 and 3 below show the difficulty using a handrail that is 15 ½" away from the edge of the walking surface. In all the photos, the person's arm is already fully- or over-extended, which is not comfortable for the user, nor is it safe if the person were to trip. You can see that this is an extreme example of what the code currently allows (i.e. not regulated). It's not a safe design but without language in the code that limits the handrail reach range, it's legal for the design professional to design it this way.

Photo 4 shows how the same child in Photo 3 can easily reach a handrail located 6" from the edge of the walking surface (note the bent elbow). The wood handrail in this photo is at approximately the same height as the handrail that is in the background, which is 15-1/2 inches from the edge of the stair. This shows 6" is a reasonable and safer limitation for the handrail placement, even for a small child.









During testimony at the CAH, a question was raised as to the applicability of the figure in the reason statement showing the escalator. Our response is that this was included only to demonstrate the viability of the 6" lateral distance, since escalators are allowed to have up to 9-1/2" from the edge of the tread to the handrail.

E72 also proposes a 6" lateral distance. The only difference between E72 and E73 is how they are formatted in the code; there are no substantive differences. We would note that one of the people who spoke in opposition to this proposal at the CAH submitted a public comment to an ultimately unsuccessful proposal last cycle on the same topic (E76-18), in an attempt to set the lateral distance to zero (no offset allowed). This public comment did not get onto the ballot for the online vote. It is also worth noting that the egress committee final vote on E73 (and E72) was very close.

F10650Text Modification

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This code change simply limits the distance that a handrail can be located away from the edge of the walking surface of a stair or ramp. There will be no impact to the cost of construction.

Final Hearing Results

E73-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

187

F10651 /E74-21

Date Submitted	03/04/2024	**Section**	1014.4	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change clarifies the intent of the exception is not to allow the use of newel posts at a turn or landing, but to allow the interruption of handrail continuity by a newel post at a turn or landing.

Rationale

See attached

F10651Text Modification

See attached

Page: 1

Mod10651_TextOfModification.pdf

F10651Text Modification

E74-21

Original Proposal

IBC: 1014.4; (IFC:[BE] 1014.4)

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1014.4 Continuity. *Handrail* gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.

Exceptions:

1. ~~*Handrails* within~~Within a *dwelling unit* ~~*units*~~, ~~are permitted~~ the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.
2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.
3. Handrail brackets or balusters attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within 1 1/2 inches (38 mm) of the bottom of the *handrail* shall not be considered obstructions. For each 1/2 inch (12.7 mm) of additional *handrail* perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1 1/2 inches (38 mm) shall be permitted to be reduced by 1/8 inch (3.2 mm).
4. Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the *handrail* gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper *guards*.
5. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

Reason: This change clarifies the intent of the exception is not to allow the use of newel posts at a turn or landing, but to allow the interruption of handrail continuity by a newel post at a turn or landing. The use of newels is not prohibited in the code and does not require an exception. This correlates with a similar approved change to the IRC due to conflicting interpretations offered by staff in Birmingham and Chicago. In addition we have changed the reference to "dwelling units" to "a dwelling unit" to match the language in exception 2.

Cost Impact: The code change proposal will decrease the cost of construction
Current interpretations vary across the country making frequency impossible to predict. Newels vary greatly in design, cost and material, making this impossible to fairly calculate. However the difference will likely be no less than several hundred dollars when continuous rails are required at a turn or landing compared to the additional cost of a typical post to post system without fittings and less installation labor. If the entire stair system is to match, the price could conservatively escalate to more than a thousand dollars for the most simple commodity stairs.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
1014.4 Continuity. *Handrail* gripping surfaces shall be continuous, without interruption by newel posts or other obstructions.
Exceptions:

1. Within a *dwelling unit* , that is not an Accessible unit or Type A unit,the continuity of handrail gripping surfaces is allowed to be interrupted by a newel post at a turn or landing.

Page: 1

Mod_10651_Text_E74-21.pdf

F10651Text Modification

2. Within a *dwelling unit*, the use of a volute, turnout, starting easing or starting newel is allowed over the lowest tread.

3. Handrail brackets or balusters attached to the bottom surface of the *handrail* that do not project horizontally beyond the sides of the *handrail* within 1 1/2 inches (38 mm) of the bottom of the *handrail* shall not be considered obstructions. For each 1/2 inch (12.7 mm) of additional *handrail* perimeter dimension above 4 inches (102 mm), the vertical clearance dimension of 1 1/2 inches (38 mm) shall be permitted to be reduced by 1/8 inch (3.2 mm).

4. Where *handrails* are provided along walking surfaces with slopes not steeper than 1:20, the bottoms of the *handrail* gripping surfaces shall be permitted to be obstructed along their entire length where they are integral to crash rails or bumper *guards*.

5. *Handrails* serving stepped *aisles* or ramped *aisles* are permitted to be discontinuous in accordance with Section 1030.16.1.

Committee Reason: The modification coordinates this proposal with the federal accessibility requirements in the ADA, ABA and Section 504. This is needed in units geared more towards persons with mobility impairments. The committee also suggested a public comment to add the same modification to Exception 2. The proposal was approve as it clarifies the exception for handrail continuity. (Vote: 10-4)

Final Hearing Results

E74-21 AM

Page: 2

Mod_10651_Text_E74-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

188

F10652 /E76-21

Date Submitted	03/04/2024	**Section**	1014.6	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal to address that handrail extensions are to be measured to the furthest usable portion of the handrail before a return or termination, and specifically not to use a handrails overall length.

Rationale

See attached

F10652Text Modification

See attached

Page: 1

Mod10652_TextOfModification.pdf

F10652Text Modification

E76-21

Original Proposal

IBC: 1014.6 (IFC:[BE]1014.6)

Proponents: Thomas Zuzik Jr, Railingcodes.com, the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1014.6 Handrail extensions. *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction. The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

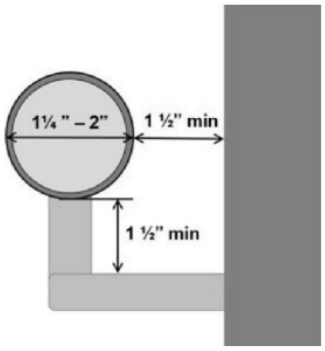
Reason: One of the most common handrail conflicts fabricators undergo with design professionals, contractors and inspectors is the proper termination of handrail extensions. Architectural drawings and plans continue to be widely drawn and distributed with incorrect minimum termination lengths and premature changes in direction. The family of ICC codes, A117.1, ADA and ABA covertly state where to measure the minimum extension length to and understate that handrail extensions “shall be in the same direction” before any change in direction; this leads to the codes and standards largely being misinterpreted by designers, contractors, fabricators, and inspectors that the minimum extension length is required to be met before any change in direction over landings is permitted. The diagram figures of A117.1, 2010 ADA, ABA and posted information on the US Access Boards website clearly explain that handrail extensions are to be measured to the furthest usable portion of the handrail before a return or termination, and specifically not to use a handrails overall length.
This code change specifically addresses both the issues outlined above by clearly defining the parameters a handrail termination is to be measured to, and the minimum length a handrail extension shall meet before any change in direction is allowed. The diagram figures shown below provide visual reference of the intended points to measure extensions to in A117.1, 2010 ADA & ABA, the figures however are not part of the IBC. Thus this code change provides a written description within the IBC that designers, contractors, manufactures and inspectors can clearly follow that will produce a result that meets the intent of the code for the extensions to be fully usable for the entire minimum length before any change in direction or termination occurs.

Page: 1

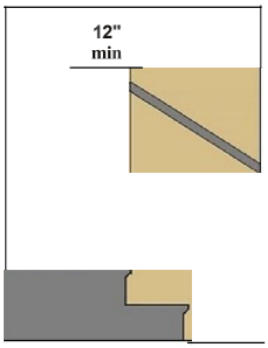
Mod_10652_Text_E76-21.pdf

F10652Text Modification

Specifications for handrails also address the diameter of circular cross sections and required knuckle clearance.

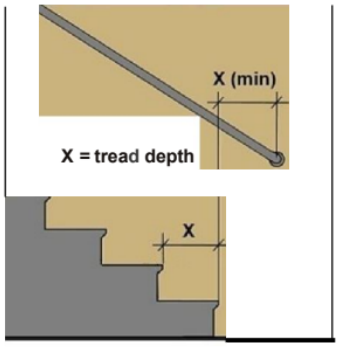


Top Handrail Extension



Handrails at the top of stairways must extend 12" minimum horizontally above the landing beginning directly above the first riser nosing or be continuous to the handrail of an adjacent stair flight (§505.10.2).

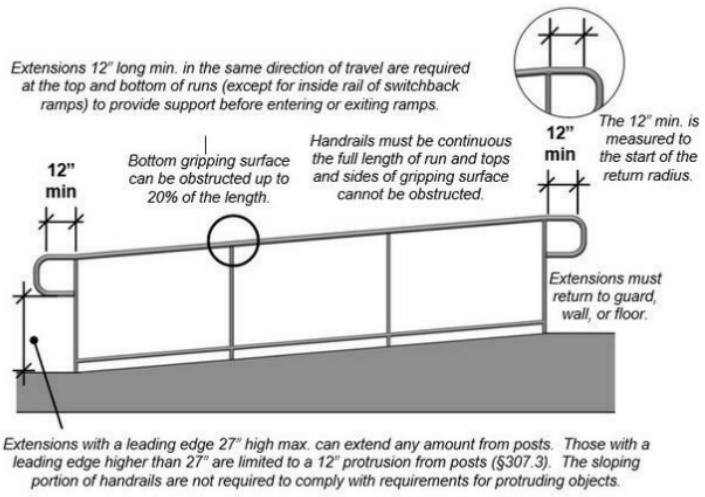
Bottom Handrail Extension



Handrails at the bottom must extend beyond the last riser nosing at the slope of the stair flight for a distance at least equal to one tread depth or be continuous to the handrail of an adjacent stair flight protruding objects.

Page: 2

Mod_10652_Text_E76-21.pdf



Surface requirements and clearances facilitate a power grip along the length of handrails. Handrails can have circular or non-circular cross-sections, but must have rounded edges. The gripping surface and adjacent surfaces must be free of abrasive or sharp elements.

Bibliography: The figures shown were downloaded from the U.S. Access Board - Home (access-board.gov)

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is providing clarification of already required parameters within the code.

Staff Note: E75-21 and E76-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because the committee felt the handrail extension should be measured from the stairway nosing. The proposed text matches the interpretation issued by the U.S. Access Board. (Vote: 12-2)

Public Comments

Public Comment 1

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

F10652Text Modification

1014.6 Handrail extensions . *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top ~~riser~~landing nosing and continue to slope for the depth of one tread beyond the bottom ~~riser~~tread nosing. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.4 or 1014.7. ~~The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.~~

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

Commenter's Reason: The substitution of "Nosing" for "Riser" provides a place to measure from that will ensure consistent measurement when stairs have sloped risers or none at all. This modification complies with the interpretive illustrations of handrail extension standards provided in the proposal from the access board and will ensure consistent enforcement. In the committees discussion of both E75 and E76 this modification was a portion of E75 that was highly recommended by the committee to be added to E76 by public comment.
The last sentence has been deleted to be more clear. It has been replaced with "or decrease in the clearance as required by Section 1014.4 or 1014.7". Section 1014.4 Continuity cites clearance at handrail brackets and Section 1014.7 cites clearance at walls and other surfaces. Clearance is relevant as the clearance decreases at the beginning of the bend of the return, the change of direction, and identifies the end of the required length of the extension and that it has the required clearance for the full length.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This modified proposal merely clarifies the current requirement.

Final Hearing Results

E76-21 AMPC1

Page: 4

Mod_10652_Text_E76-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

189

F10653 | **/E77-21**

Date Submitted	03/04/2024	**Section**	1014.7	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Adds Exceptions to Section 1014.7 "Clearance".

Rationale

See attached

F10653Text Modification

See attached

Mod10653_TextOfModification.pdf Page: 1

F10653Text Modification

E77-21

Original Proposal

IBC: 1014.7 (IFC:[BE]1014.7)

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (Coderep@stairways.org)

2021 International Building Code

Revise as follows:

1014.7 Clearance. Clear space between a*handrail* and a wall or other surface shall be not less than 1 1/2 inches (38 mm). A *handrail* and a wall or other surface adjacent to the *handrail* shall be free of any sharp or abrasive elements.

Exceptions:

1. A decrease in the clearance due to the curvature or angle of handrail returns shall be allowed.
2. Mounting flanges, no more than 1/2" (12.7 mm) thick at the returned ends of handrails shall be allowed.

Reason: Exception 1 is necessary because the code requires the return of handrails that effectively narrow the required clearance. To avoid a decrease in the clearance would require a right-angle return that exposes an objectionably sharper outside corner.
Exception 2 provides for commonly used mounting flanges used to connect the returned end to the wall. Using a flange mount can provide for compliant structural attachment and eliminate the need to use a bracket at the end. Unlike brackets that obstruct the bottom grasping surface of Type I handrails at a critical point where entry and exit from the stairway require a change of gait and postural stabilization the use of a flange mount improves safe use and access.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This will not affect design, labor or material costs to comply.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because the proposed text codifies reasonable and common use safety practices at handrails. The committee agreed with the reasoning in the proponents reason that this will provide safe handrails. (Vote: 11-2)

Final Hearing Results

E77-21 AS

Page: 1

Mod_10653_Text_E77-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

190

F10654 /E82-21

Date Submitted	03/04/2024	**Section**	1015.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

This code change proposal builds on the established history of the 36-inch height exception currently within the 2021 IBC. Adds exception to Section 1015.3 "Height".

Rationale

See attached

F10654Text Modification

See attached

Mod10654_TextOfModification.pdf

Page: 1

F10654Text Modification

E82-21

Original Proposal

IBC: 1015.3 (IFC:[BE] 1015.3)

Proponents: Thomas Zuzik Jr, Railingcodes.com, the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1015.3 Height. Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.
2. For occupancies in Group R-2 and R-3, within the interior space in individual dwelling units, where the open-sided walking surface or landing are located not more than 25 feet (7.62 meters) measured vertically to the floor or grade below, required guards shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface or landing.
2. ~~2.~~3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
3. ~~3.~~4. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
4. ~~4.~~5. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
5. ~~5.~~6. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosing*.
6. ~~6.~~7. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Reason: Both the IBC & IRC have accepted the reduction in guard height from 42 inches to 36 inches for private dwelling units since the first model ICC code publications. The current height exceptions within the ICC's family of model codes are focused on a predetermined building height of 3 stories and centered around that the occupants are extremely familiar with their living environment. This code change proposal builds on the established history of the 36-inch height exception currently within the 2021 IBC under exception (1), in Section 1015.3 Height and published in prior model code years also.

This proposal specifically limits the new exception to openside walking surfaces and landings within the interior space of individual dwelling units, within occupancy Groups R-3 & R-2.

The proposal is centered on allowing an owner of a 2 or 3 floor unit within a Group R-2 building who's unit is located on upper floor levels within a building more than 3 stories in height or owns a single-family R-3 dwelling more than 3 stories, by allowing the same guard height

Page: 1

Mod_10654_Text_E82-21.pdf

F10654Text Modification

exception as a home 3 stories or less; but specifically limits the exception to only the interior area of the dwelling, and only when the interior openside fall in question is less than 25 feet in total rise.

There are many dwelling units that have an interior single floor level rise to a second level located along a stair flight, were the stair flight guard is allowed to be reduced in height from 42-inches to 34-38 inches for the handrail height, however once reaching a mid-landing or the 2nd level are now required to increase the height changing the design of the pattern or ornamental look of the guard. Wanting to keep a consistent height for both the stairs and the landings is highly important when designers are working with ornamental infill in guards.

This new exception is different than exception 1 though similar in wording, however, both exceptions are required to hold the line with the widely established exception allowing the 36-inch guard height for very specific dwelling unit. The history of why previous model code proposals have not had this specific exception is of the concern for making sure that the exception is not used for public areas and private dwelling fall heights above 3 stories. By limiting the exception specifically to interior conditioned space of an individual dwelling and attaching a maximum fall height limit to 25 feet, keeps the exception well within the parameters of the existing exception 1. As to the 25-foot vertical rise limit, this is based on the approximate maximum rise a dwelling unit might have when 2 stair flights are stacked above each other without any mid-landings in either of the stair flights. The horizontal measuring parameters for the 36-inch is based on long established code language for required guards under Section 1015.1.

Cost Impact: The code change proposal will decrease the cost of construction
Having to select a cost impact when submitting a proposal, there will be a savings on projects, but this savings will be very minimal for the most common project if any. The major savings will be seen on much higher cost projects with highly ornamental and detailed guards.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved for consistency with the committee action on E81. (Vote: 13-1)

Public Comments

Public Comment 1

Proponents: Thomas Zuzik Jr, Railingcodes.com, the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1015.3 Height . Required *guards* shall be not less than 42 inches (1067 mm) high, measured vertically as follows:

1. From the adjacent walking surfaces.
2. On *stairways* and stepped *aisles*, from the line connecting the leading edges of the tread *nosings*.
3. On *ramps* and ramped *aisles*, from the *ramp* surface at the guard.

Exceptions:

1. For occupancies in Group R-3 not more than three stories above grade in height and within individual *dwelling units* in occupancies in Group R-2 not more than three stories above grade in height with separate *means of egress*, required *guards* shall be not less than 36 inches (914 mm) in height measured vertically above the adjacent walking surfaces.

Page: 2

Mod_10654_Text_E82-21.pdf

F10654 Text Modification

2. For occupancies in Group R-2 and R-3, within the interior conditioned space ~~in~~ of individual dwelling units, where the open-sided walking surface is ~~or landing are~~ located not more than 25 feet (7.62 meters) measured vertically to the floor or ~~grade~~ walking surface below, required guards shall not be less than 36 inches (914 mm) in height measured vertically above the adjacent walking surface ~~or landing~~.
3. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, *guards* on the open sides of *stairs* shall have a height not less than 34 inches (864 mm) measured vertically from a line connecting the leading edges of the treads.
4. For occupancies in Group R-3, and within individual *dwelling units* in occupancies in Group R-2, where the top of the *guard* serves as a *handrail* on the open sides of *stairs*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.
5. The *guard* height in assembly seating areas shall comply with Section 1030.17 as applicable.
6. Along *alternating tread devices* and ships ladders, *guards* where the top rail serves as a *handrail* shall have height not less than 30 inches (762 mm) and not more than 34 inches (864 mm), measured vertically from the leading edge of the device tread *nosing*.
7. In Group F occupancies where *exit access stairways* serve fewer than three stories and such *stairways* are not open to the public, and where the top of the *guard* also serves as a *handrail*, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) measured vertically from a line connecting the leading edges of the treads.

Commenter's Reason: Reason:

- Both the IBC & IRC have accepted the reduction in guard height from 42 inches to 36 inches for private dwelling units since the first model ICC code publications. The current height exceptions within the ICC's family of model codes are focused on a predetermined building height of 3 stories and centered around that the occupants are extremely familiar with their living environment. The original code change proposal builds on the established history of the 36-inch height exception currently within the 2021 IBC under exception (1), in Section 1015.3 Height and published in prior model code years also.
- This proposal specifically limits the new exception to openside walking surfaces and landings within the **interior conditioned space** of individual dwelling units, within occupancy Groups R-3 & R-2.
- The proposal is centered on allowing an owner of a 2 or 3 floor unit within a Group R-2 building who's unit is located on upper floor levels within a building more than 3 stories in height or owns a single-family R-3 dwelling more than 3 stories, by allowing the same guard height exception as a home 3 stories or less; but specifically limits the exception to only the interior area of the dwelling, and only when the fall for the interior open side in question is less than 25 feet in total rise.
- There are many dwelling units that have an interior single floor level rise to a second level located along a stair flight, were the stair flight guard is allowed to be reduced in height from 42-inches to 34-38 inches for the handrail height, however once reaching a mid-landing or the 2nd level are now required to increase the height changing the design of the pattern or ornamental look of the guard. Wanting to keep a consistent height for both the stairs and the landings is highly important when designers are working with ornamental infill in guards.
- This new exception is **completely different** than exception 1, though similar in wording in that both exceptions hold the line with the widely established precedent of allowing the 36-inch guard height for very specific dwelling units. However, exception 1 allows both exterior and interior locations. By limiting the exception specifically to the interior conditioned space of an individual dwelling unit and attaching a maximum fall height limit to 25 feet, stays within the parameters of the existing exceptions for lower buildings.
  - As to the 25-foot vertical rise limit, this is based on the approximate maximum rise a dwelling unit might have when 2 stair flights are stacked above each other without any mid-landings in either of the stair flights.
  - Exception 1, conditions the exception to the height of the building structure above grade plane, where as the new exception (2) does not look at how tall the building is above grade plane, the exception only focuses on the height above the walking surface below, within the individual dwelling unit, not outside.
- A review of the video from the committee action hearing's, https://cpdaccess.com/videos/4378/ shows that the committee felt the wording needed to be slightly adjusted and with that adjustment should pass during the final action hearings through public comment.

We ask that you approve this code change proposal as presented with public comment

Page: 3

Mod_10654_Text_E82-21.pdf

F10654 Text Modification

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
The cost impact for this proposal will show a savings on projects, but this savings will be very minimal for the most common project if any.
The major savings will be seen on much higher cost projects with highly ornamental and detailed guards

Final Hearing Results

E82-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

191

F10655 | **/E83-21**

Date Submitted	03/04/2024	**Section**	1015.8	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal clarifies the window opening protection requirements of this section as they apply based on the height above grade of an operable window. It also modifies the specific location of where height is to be measured.

Rationale

See attached

F10655Text Modification

See attached

Page: 1

Mod10655_TextOfModification.pdf

F10655Text Modification

E83-21

Original Proposal

IBC: 1015.8, 1015.8.1 (IFC:[BE]1015.8, 1015.8.1)

Proponents: Jeff Inks, Window & Door Manufacturers Association, Window & Door Manufacturers Association (jinks@wdma.com); Jennifer Hatfield, J. Hatfield & Associates, Fenestration & Glazing Industry Alliance (formerly AAMA) (jen@jhatfieldandassociates.com)

2021 International Building Code

Revise as follows:

1015.8 Window openings. Windows in Group R-2 and R-3 buildings including *dwelling units*, where the bottom of the clear opening of an operable window is located less than 36 inches (914 mm) above the finished floor and more than 72 inches (1829 mm) above the finished grade or other surface below on the exterior of the building, shall comply with ~~one of~~ the following:

1. Where the bottom of the clear opening of the window is located more than 72 inches (1829 mm) and less than 75 feet (22 860 mm) above the finished grade or other surface below on the exterior of the building, the window shall comply with one of the following: ~~Operable windows where the top of the sill of the opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below and that are provided with window fall prevention devices that comply with ASTM F2006.~~
   1.1.~~2.~~ Operable windows where the openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position, provided the opening is not required for emergency escape or rescue.
   1.2.~~3.~~ Operable windows where the openings are provided with window fall prevention devices that comply with ASTM F2090.
   1.3.~~4.~~ Operable windows where the openings ~~that~~ are provided with window opening control devices that comply with ~~Section 1015.8.1~~ ASTM F2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section1031.3.1 for emergency escape rescue openings.
2. Where the bottom of the clear opening of the window is located 75 feet (22 860 mm) or more above from the finished grade or other surface below on the exterior of the building, the window shall comply with one of the following:
   2.1. Operable windows where the openings are provided with window fall prevention devices that comply with ASTM F2090.
   2.2. Operable windows where the openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.
   2.3. Window fall prevention devices that comply with ASTM F2006.

Delete without substitution:

~~**1015.8.1 Window opening control devices.** Window opening control devices shall comply with F2090–17. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1031.3.1.~~

Reason: This proposal clarifies the window opening protection requirements of this section as they apply based on the height above grade of an operable window. It also modifies the specific location of where height is to be measured – "at the bottom of the clear opening" instead of "top of the sill of the opening" – to be consistent with all other I-code definitions and requirements applicable to operable windows where the height of them is a factor.
The intent of the section is to clearly separate window opening protection requirements/options for operable windows where the lowest portion of the window opening is located more than 72 inches (1829 mm) and below 75 feet (22 860 mm) above the finished grade versus

Page: 1
Mod_10655_Text_E83-21.pdf

F10655Text Modification

those located 75 feet (22 860 mm) or above from the finished grade.

As written, while the charging language states “shall comply with one of the following options”, there has been misinterpretation that the first option (where window fall prevention devices complying with ASTM F2006 are allowed where the lowest portion of the window opening is located 75 feet or above) applies to other options such as Option 2 where the opening of the window restricts the passage of a 4 inch diameter sphere. This proposal clarifies that the ASTM F2006 option is independent of any other option and does not apply to the option where the opening of the window restricts the passage of a 4 inch diameter sphere.

Further, we believe it is also important to expressly state that the option to limit the window opening to 4” is not permissible for required emergency escape and rescue openings.

Finally, it also makes editorial sense to move the provisions In 1015.8.1 to Item 3 for window openings located above 72 inches and below 75 feet above grade as those provisions are only applicable to window opening control devices on window openings in those locations and there is no need for a separate section for them.

After considering several options for providing better clarity with respect to the requirements of this section, we believe that separating the requirements as they apply based on height is the most effective way for doing so.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
As there are no substantive changes to the technical requirements or application of them, there is no cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as this is a good cleanup for window opening control devices. (Vote: 14-0)

Final Hearing Results

E83-21 AS

Page: 2

Mod_10655_Text_E83-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

192

F10656 | **/E85-21**

Date Submitted	03/04/2024	**Section**	1016.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposed code change eliminates an exception to an exception. By specifically calling out what is permitted in an H occupancy, there is no confusion as to how to apply the previous exception which included F and S occupancies.

Rationale

See attached

F10656Text Modification

See attached

Mod10656_TextOfModification.pdf

Page: 1

F10656Text Modification

E85-21

Original Proposal

IBC: 1016.2 (IFC:[BE]1016.2)

Proponents: Eirene Knott, BRR Architecture, Metropolitan Kansas City Chapter of the ICC (eirene.knott@brrarch.com)

2021 International Building Code

Revise as follows:

1016.2 Egress through intervening spaces. Egress through intervening spaces shall comply with this section.

1. *Exit access* through an enclosed elevator lobby is permitted. Where access to two or more exits or exit access doorways is required in Section 1006.2.1, access to not less than one of the required *exits* shall be provided without travel through the enclosed elevator lobbies required by Section 3006. Where the path of *exit access* travel passes through an enclosed elevator lobby, the level of protection required for the enclosed elevator lobby is not required to be extended to the *exit* unless direct access to an *exit* is required by other sections of this code.
2. In other than Group H occupancies,egress from a room or space is allowed to pass through adjoining or intervening rooms or areas provided that such adjoining rooms or areas and the area served are accessory to one or the other and provide a discernible path of egress travel to an exit. ~~Egress from a room or space shall not pass through adjoining or intervening rooms or areas, except where such adjoining rooms or areas and the area served are accessory to one or the other, are not a Group H occupancy and provide a discernible path of egress travel to an exit.~~

   ~~**Exception:** *Means of egress* are not prohibited through adjoining or intervening rooms or spaces in a Group H, S or F occupancy where the adjoining or intervening rooms or spaces are the same or a lesser hazard occupancy group.~~
3. In Group H occupancies, egress from a room or space is allowed to pass through adjoining or intervening rooms or areas provided that such adjoining rooms or areas are the same or lesser hazard occupancy group and provide a discernible path of egress travel to an exit.

~~3.~~4. An *exit access* shall not pass through a room that can be locked to prevent egress.

~~4.~~5. *Means of egress* from *dwelling units* or sleeping areas shall not lead through other sleeping areas, toilet rooms or bathrooms.

~~5.~~6. Egress shall not pass through kitchens, storage rooms, closets or spaces used for similar purposes.

Exceptions:

1. *Means of egress* are not prohibited through a kitchen area serving adjoining rooms constituting part of the same *dwelling unit* or *sleeping unit*.
2. *Means of egress* are not prohibited through stockrooms in Group M occupancies where all of the following are met:
   2.1. The stock is of the same hazard classification as that found in the main retail area.
   2.2. Not more than 50 percent of the*exit access* is through the stockroom.
   2.3. The stockroom is not subject to locking from the egress side.
   2.4. There is a demarcated, minimum 44-inch-wide (1118 mm) *aisle* defined by full- or partial-height fixed walls or similar construction that will maintain the required width and lead directly from the retail area to the exit without obstructions.

Reason: The proposed code change eliminates an exception to an exception. By specifically calling out what is permitted in an H occupancy, there is no confusion as to how to apply the previous exception which included F and S occupancies.

Page: 1

Mod_10656_Text_E85-21.pdf

F10656Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is editorial in nature only and should not impact construction cost. If anything it may decrease it if the exception only applies to H occupancies, which is the intention.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as a good cleanup - it removes and exception from an exception. (Vote: 14-0)

Final Hearing Results

E85-21 AS

Page: 2

Mod_10656_Text_E85-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

193

F10657 /E86-21

Date Submitted	03/04/2024	**Section**	1010.7	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Table 1010.7

Summary of Modification

Proposal to evaluate the feasibility of increasing the exit access travel distance in the fabrication areas of a Group H-5 occupancy. Adds Section 1017.2.3 "Group H-5 Increase".

Rationale

See attached

F10657Text Modification

See attached

Page: 1

Mod10657_TextOfModification.pdf

F10657Text Modification

E86-21

Original Proposal

IBC: TABLE 1017.2, 1017.2.3 (New) [IFC:[BE] TABLE 1017.2, 1017.2.3 (New)]

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com)

2021 International Building Code

Revise as follows:

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[e]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

- Section 402.8 : For the distance limitation in malls
- Section 407.4: For the distance limitation in Group I-2.
- Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
- Section 411.2: For the distance limitation in special amusement areas.
- Section 412.6: For the distance limitations in aircraft manufacturing facilities.
- Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
- Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
- Section 1006.3.4: For buildings with one exit.
- Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
- Section 1017.2.3: For increased distance limitation in Group H-5
- Section 1030.7: For increased limitation in assembly seating.
- Section 3103.4: For temporary structures.
- Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

c. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

d. Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.1.

e. Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

Page: 1

Mod_10657_Text_E86-21.pdf

F10657Text Modification

1017.2.1 Exterior egress balcony increase. *Exit access* travel distances specified in Table 1017.2 shall be increased up to an additional 100 feet (30 480 mm) provided that the last portion of the *exit access* leading to the exit occurs on an exterior egress balcony constructed in accordance with Section 1021. The length of such balcony shall be not less than the amount of the increase taken.

1017.2.2 Groups F-1 and S-1 increase. The maximum *exit access* travel distance shall be 400 feet (122 m) in Group F-1 or S-1 occupancies where all of the following conditions are met:

1. The portion of the building classified as Group F-1 or S-1 is limited to one *story* in height.
2. The minimum height from the finished floor to the bottom of the ceiling or roof slab or deck is 24 feet (7315 mm).
3. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Add new text as follows:

1017.2.3 Group H-5 Increase. The maximum *exit access* travel distance shall be 300 feet (91 m) in the fabrication areas of Group H-5 occupancies where all of the following conditions are met:

1. The width of the fabrication area is 300 feet (91 m) or greater.
2. The area of the fabrication area is 220,000 sq. ft. (18,600 m^2) or greater.
3. The height of the fabrication area, measured between the raised metal floor and the clean filter ceiling, is 16 feet (48768 mm) or greater.
4. The supply ventilation rate is 20 cfm/sq. ft. or greater and shall remain operational.

Reason: The Semiconductor Industry Association commissioned a study by Jensen Hughes to evaluate the feasibility of increasing the exit access travel distance in the fabrication areas of a Group H-5 occupancy. A decision was made to see determine if the travel distance could be increased to 300 feet, as permitted for Group B occupancies. When the Group H-5 requirements were introduced into the Legacy Codes, it was stated that the control requirements would be such that the fire risk associated with a Group H-5 occupancy would be similar to that associated with a Group B occupancy. This concept is reflected in the building area limits in Table 506.2 for other than the recently introduced Type IV building area limits.
The Pathfinder people movement model was utilized to calculate required safe egress times (RSET) and the Fire Dynamics Simulator (FDS) was utilized to evaluate tenability conditions that would result from the design fire.

Bounding facility design parameters were selected based on input from the semiconductor industry to develop minimum requirements for a generic fabrication facility (Fab). These parameters were used as inputs for the computer modeling that was performed and include:

+ Minimum fab width of 300 ft.
+ Minimum fab area of 220,000 SF
+ Minimum distance between raised metal floor (RMF) and clean filter ceiling (CFC) system of 16 ft
+ Minimum (supply) ventilation rate of 20 cfm/SF (at least 25% fan filter unit (FFU) coverage). (must remain running at full capacity during egress)

Performance Criteria

Performance objectives were selected for the generic study to ensure that occupants would not encounter untenable conditions during the period of egress. Visibility, thermal exposure, and smoke toxicity are the commonly used tenability parameters for egress studies. Table 1 summarizes the threshold criteria that were used in the study.

Table 1 – Summary of Performance Criteria for Egress Study

Page: 2

Mod_10657_Text_E86-21.pdf

F10657Text Modification

Table 1 – Summary of Performance Criteria for Egress Study

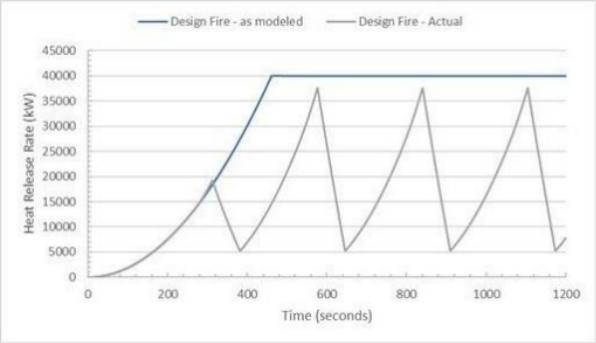
Parameter	*Performance Criteria*[1]
Visibility distance	At least 33 ft (10 m) to backlit object while en route to exit; At least 10 ft (3.3 m) to backlit object while in queue
Temperature	Less than 76 °C (169 °F)[2]
Toxic Gas (measured as Carbon Monoxide concentration)	Less than 600 ppm[3]

[1] All values measured at 6 ft (1.8 m) above floor
[2] Based on 20 minute exposure before incapacitation [ref]
[3] Concentration levels of approximately 600 ppm can affect cardiac function for some individuals [ref]

Design Fire Scenario

The design fire scenario was based on a flammable liquid spill that ignites and spreads to a process tool. The resulting heat release rate profile was developed based on a generic tool size, the spacing between tools, and a fuel load limit of 1 lb/ft^2 of non-FM 4910 plastic. This information was used to model the fire development for a worst-case tool, and the ability for fire to spread to adjacent tools either in the same row or across the bay or chase.

A maximum heat release rate of 20 MW was calculated for each tool with potential spread to 2 adjacent tools in the time period of evacuation. At any given time, no more than 2 tools would be burning at this steady-state heat release rate of 20 MW each, for a total of 40 MW. Rather than crediting the decay and growth periods that would occur during the time period of tool fire spread, an ultra-fast growing fire that reaches a steady-state value of 40 MW was used to provide a conservative bound for the tool fire scenario (see Figure 1)



Three fire locations (center, southwest corner and west wall locations) were evaluated to examine the effect of location on smoke spread dynamics and the RSET values resulting when a reduced number of exits are available.

Figure 1 – Heat release rate profile for tool design fire scenario

Summary of Egress Times

RSET values were determined by summing the detection, warning, premovement and travel times required to travel to an exit stair and enter the vestibule. The detection time was identified using FDS model data for smoke detection and sprinkler activation, while allowing for the 90 second delay specified in NFPA 72. The warning time was based on IBC requirements for smoke control systems and the premovement time was conservatively selected based on literature data. Travel times were determined by Pathfinder assuming that 96.6% of building occupants travel unimpeded and 3.4% of building occupants require the use of crutches or a cane. These times are summarized in Table 2.

A safety factor of 1.5 was applied to the evacuation times as specified in IBC Section 909.4.6. As shown in Table 2, RSET values ranged between 10.9 and 15 minutes, with longer values corresponding to the southwest corner and west wall fire scenarios where an exit is closed for at least part of the egress time period. The largest RSET value resulted for the west wall fire location where all of the exits are initially available for use. At 380 seconds, the exit is blocked due to diminished visibility conditions, requiring that occupants in the queue travel to another exit.

Page: 3
Mod_10657_Text_E86-21.pdf

F10657Text Modification

Table 2 - Summary of Required Safe Egress Time Model Results

Table 2 – Summary of Required Safe Egress Time Model Results

Event	Center Fire No Exits Closed (seconds / minutes)	Southwest Corner Fire One Exit Closed (seconds / minutes)	West Wall Fire One Exit Closed at 380 seconds (seconds / minutes)
Detection	215 / 3.6	215 / 3.6	215 / 3.6
Warning	10 / 0.2	10 / 0.2	10 / 0.2
Pre-movement delay	30 / 0.5	30 / 0.5	30 / 0.5
Travel time	256 / 4.3	385 / 6.4	250 / 4.2
Evacuation time	**511 / 8.5**	**640 / 10.7**	**678 / 11.3**
RSET	**655 / 10.9**	**847 / 14.1**	**904 / 15.0**

Summary of Fire Modeling

FDS models were constructed for the three fire locations, incorporating sprinkler activation to examine mixing effects but not suppression effects. Model results showed that visibility is the limiting tenability parameter where smoke spreads radially from the fire location but never fills the entire Fab. Rather, a steady-state condition is reached for each scenario where the smoke generation rate is balanced with the ventilation rate. For each fire location, the visibility at 6 ft above the floor will exceed 98 ft in approximately 30-50% of the Fab when the steady-state condition is reached.

A sensitivity study was performed to determine if the model results are dependent on FFU coverage, ventilation rate/SF, FFU capacity, FFU dimensions, tool size, and tool height. With the exception of FFU coverage, it was determined that these parameters do not have a significant impact on the spread of smoke, heat and toxic gases in the Fab. Percentages greater than 25% of the FFUs will result in a smaller region of smoke spread.

Conclusions

Based on these results, Jensen Hughes finds that an egress distance of 300 ft. in a generic H5 fabrication design will meet the intent of the IBC where safe egress conditions exist, provided that the minimum design parameters for building width, square footage, ceiling height, and ventilation rate are met.. Therefore, the increased travel distance of 300 ft. (91.5 m) is acceptable and will not impact the safety of occupants in the event that emergency evacuation during a fire is necessary.

Bibliography: H5 Timed Egress Analysis, Performance-Based Design Study for Increasing the Maximum Exiting Distance for a Generic Semiconductor Fabrication Facility, Jensen Hughes, 2021.

Cost Impact: The code change proposal will decrease the cost of construction
Increasing the maximum exit access travel distance permits more efficient use of the area of the building.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because the committee felt that they did not have the expertise to make the decision on hazards associated with H-5. This should have a third party review. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: William Koffel, Koffel Associates, Inc., Semiconductor Industry Association (wkoffel@koffel.com) requests As Submitted

Page: 4

Mod_10657_Text_E86-21.pdf

F10657Text Modification

Commenter's Reason: The Committee voted for Disapproval of E86-21 because they "felt that they did not have the expertise to make the decision on hazards associated with H-5. This should have a third party review."
Based upon the Committee reason for Disapproval, SIA retained Arup to review the report prepared by Jensen Hughes. One of the specific questions raised by the Committee was whether the modeling that was document in the Jensen Hughes report were the appropriate analytical tools to be used. In response to that question, Arup commented "that the simulation tools used to estimate RSET vs ASET as part of the study to support the code change are appropriate."

During the Committee Hearings it was noted that the modeling included several conservative assumptions. Arup reviewed the significant assumptions and offered the following comments:

- "We have found that the simplifications made in the construction of the geometric model are based on industry standard and reasonable engineering judgement. The models are simplified but are understood to capture the physics of fire effects and evacuation movement within the simulated space sufficiently."
- With respect to the occupant load, Arup stated that the approached used "likely overestimates the actual occupant loads on all levels of a typical fab facility and leads to conservative estimations of the RSET and is conservative and appropriate."
- With respect to the three fire scenarios that were evaluated, Arup stated that "Based on typical materials used in construction of the fabrication tools and the fact that raw material feeds were assumed to be interlocked to pause upon detection of an abnormal condition, we believe that the design fire was sized to represent a conservative fire scenario. The multiple locations of the design fire also allow an analysis of fire effects through the fab floor.
- With respect to the criteria used for the tenability analysis, Arup stated that "We agree with the chosen tenability criteria and their tenability limits to be in accordance with reasonable engineering judgement based upon literature data."

Overall, Arup summarized that they agree "with Jensen Hughes' approach using computational fire effects and evacuation modeling to model the RSET vs ASET at a generic Group H-5 semiconductor fabrication facility. We found the analysis to have been completed in accordance with industry standard practice and is based upon sound engineering judgement. The assessment provides appropriate justification to support the proposed Group H-5 code proposal and the corresponding conditions in order to increase the maximum allowable exit access travel distance from 200 feet to 300 feet."

A copy of the complete Hughes report and Arup review will be made available to any interested parties.

In summary the technical justification for E86-21 is based upon:

- A project initiated and sponsored by the Semiconductor Industry Association Code Committee with technical support from their consultant, Koffel Associates.
- An independent quantitative analysis by a second fire protection engineering firm, Jensen Hughes.
- As requested by the Committee, a third party review by a third firm that offers fire protection engineering services, Arup.

The proponent, the SIA, has done what the Committee requested and therefore we request that the ICC membership approve E86-21 as submitted.

Bibliography: SIA Egress Study Third Party Peer Review Report, Arup, dated June 29, 2021

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
The proposal and public comment result in an optional increase in travel distance and as such, the cost of construction will decrease.

Final Hearing Results

E86-21 AS

Page: 5

Mod_10657_Text_E86-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

194

F10658 | **/E88-21**

Date Submitted	03/04/2024	**Section**	1019.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This code change proposes to align the two sections 712.1.9 and 1019.3 Exception 1, and eliminate the confusion for designers and AHJs

Rationale

See attached

F10658Text Modification

See attached

Page: 1

Mod10658_TextOfModification.pdf

F10658Text Modification

E88-21

Original Proposal

IBC: 1019.3 (IFC:[BE]1019.3)

Proponents: Jeff Perras, Code Red Consultants, LLC, Code Red Consultants, LLC (jeffp@crcfire.com)

2021 International Building Code

Revise as follows:

1019.3 Occupancies other than Groups I-2 and I-3. In other than Group I-2 and I-3 occupancies, floor openings containing *exit access stairways* or *ramps* shall be enclosed with a shaft enclosure constructed in accordance with Section 713.

Exceptions:

1. *Exit access stairways* and *ramps* within a two-story opening complying with Section 712.1.9. ~~that serve or atmospherically communicate between only two adjacent stories. Such interconnected stories shall not be open to other stories.~~
2. In Group R-1, R-2 or R-3 occupancies, *exit access stairways* and *ramps* connecting four stories or less serving and contained within an individual dwelling unit or sleeping unit or live/work unit.
3. *Exit access stairways* serving and contained within a Group R-3 congregate residence or a Group R-4 facility are not required to be enclosed.
4. *Exit access stairways* and *ramps* in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1, where the area of the vertical opening between stories does not exceed twice the horizontal projected area of the stairway or *ramp* and the opening is protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13. In other than Group B and M occupancies, this provision is limited to openings that do not connect more than four stories.
5. *Exit access stairways* and *ramps* within an *atrium* complying with the provisions of Section 404.
6. *Exit access stairways* and *ramps* in *open parking garages* that serve only the parking garage.
7. *Exit access stairways* and *ramps* serving smoke-protected or *open-air assembly seating* complying with the exit access travel distance requirements of Section 1030.7.
8. *Exit access stairways* and *ramps* between the balcony, gallery or press box and the main assembly floor in occupancies such as theaters, *places of religious worship*, auditoriums and sports facilities.
9. Exterior *exit access stairways* or *ramps* between occupied roofs.

Reason: There has been inconsistent interpretation of the code language in Section 1019.3-1 by designers and AHJs since it was added in the 2009 IBC. Some interpret the language "open to other stories" to mean entire stories and some interpret it to be isolated areas of the stories. The IBC has always allowed two-story vertical openings as long as they were separated from other floor openings with construction conforming to required shaft enclosures. There used to be a restriction in Section 712.1.9 that prohibited the floor openings from being used for egress. Since this restriction was removed there is been an increase in confusion between the two sections.
This code change proposes to align the two sections and eliminate the confusion for designers and AHJs. Section 712.1.9 requires two-story floor openings to be separated from other floor openings with construction conforming to required shaft enclosures. This separation provides an equivalent level of protection as a horizontal separation and utilizing it for egress should not change that concept. Also, section 1006.3.2 limits the number of stories that occupants can travel to reach an exit, so there really should be a need to prohibit the connected stories from being interconnected with other stories.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change will clarify the separation requirements for two-story floor openings used for egress.

F10658Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it coordinates well with Section 712.1.9 Item 6 which addresses options for shafts. (Vote: 9-4)

Final Hearing Results

E88-21 AS

Mod_10658_Text_E88-21.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

195

F10659 | **/E96-21**

Date Submitted	03/04/2024	**Section**	1023.5	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 1023.5 "Penetrations", Item 7. Adds Item 7 to Section 1024.6 "Penetrations".

Rationale

See attached

F10659Text Modification

See attached

Mod10659_TextOfModification.pdf

Page: 1

F10659Text Modification

E96-21

Original Proposal

IBC: 1023.5, 1024.6 (IFC:[BE]1023.5, 1024.6)

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

2021 International Building Code

Revise as follows:

1023.5 Penetrations. Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems*.
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication systems.
6. Electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m^2).
7. Structural elements ~~supporting the *interior exit stairway* or *ramp* or enclosure,~~ such as beams or joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent interior exit *stairways* and *ramps*.

Exception: *Membrane penetrations* shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.4.2.

1024.6 Penetrations. Penetrations into or through an *exit passageway* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems*.
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication.
6. Electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m^2).
7. Structural elements such as beams and joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

Exception: *Membrane penetrations* shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section 714.4.2.

Reason: Item 7 for structural element penetrations in interior exit stairways and ramps was added in the last code cycle with the intent of matching the allowance for structural element penetrations in shaft enclosures. The reason statement for this change (E98-18) stated that the proposed language is verbatim to that found in Section 713.8 for shaft enclosures. However, the wording was actually changed from "Structural elements, such as beams or joists" to "Structural elements supporting the *interior exit stairway* or *ramp* or enclosure, such as beams or joists". The effect of requiring the structural element to support the stairway, ramp or enclosure is that floor or landing beams and joists are allowed to penetrate stairway enclosures, but roof beams and joists are not. Since fire barriers that form the enclosure are required to continue to the underside of the roof deck or sheathing, it is necessary to include roof beams and joists as allowed penetrations

Page: 1

Mod_10659_Text_E96-21.pdf

F10659Text Modification

since these are no more hazardous than the floor or landing penetrations. This proposal does this by simply removing the language that is different from the language in Section 713.8 for shaft enclosures. This proposal also adds this same Item 7 to the list of allowed penetrations in exist passageways. The intent of the code is that allowed penetrations are the same for interior exit stairways and ramps and exit passageways, since these are all protected exit elements.

Cost Impact: The code change proposal will decrease the cost of construction
This proposal will allow structural penetrations that currently not allowed, which will simplify framing at exit enclosures, thus reducing cost of construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal was disapproved because the result would be a mishmash between rating of stairway enclosure and construction ratings. The current text is only for supporting the stair, not all construction. The proposal did not limit this to roof members which is what the proponent said his concern was. (Vote: 14-0)

Public Comments

Public Comment 1

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1023.5 Penetrations . Penetrations into or through *interior exit stairways* and *ramps* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.
2. *Fire protection systems*.
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication systems.
6. Electrical raceway serving the *interior exit stairway* and *ramp* and terminating at a steel box not exceeding 16 square inches (0.010 m^2).
7. Structural elements <u>supporting the *interior exit stairway* or *ramp* or enclosure,</u> such as beams or joists.
8. <u>Structural elements supporting a roof at the top of the *interior exit stairway* or *ramp*,such as beams or joists.</u>

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communication openings, whether protected or not, between adjacent interior exit *stairways* and *ramps*.

Exception: *Membrane penetrations* shall be permitted on the outside of the *interior exit stairway* and *ramp*. Such penetrations shall be protected in accordance with Section 714.4.2.

1024.6 Penetrations . Penetrations into or through an *exit passageway* are prohibited except for the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.

Page: 2

Mod_10659_Text_E96-21.pdf

F10659Text Modification

2. *Fire protection systems.*
3. Security systems.
4. Two-way communication systems.
5. Electrical raceway for fire department communication.
6. Electrical raceway serving the *exit passageway* and terminating at a steel box not exceeding 16 square inches (0.010 m^2).
7. Structural elements supporting a floor or roof at the top of the *exit passageway*, such as beams and joists.

Such penetrations shall be protected in accordance with Section 714. There shall not be penetrations or communicating openings, whether protected or not, between adjacent exit passageways.

Exception: *Membrane penetrations* shall be permitted on the outside of the *exit passageway*. Such penetrations shall be protected in accordance with Section 714.4.2.

Commenter's Reason: The main opposition to the original proposal was that the language was wide open as to what structural elements would be allowed to penetrate an enclosure. However, the actual intent of the proposal was to allow structural elements that support the roof or floor at the top of an enclosure to penetrate the enclosure. This public comment modification limits the newly allowed penetrations to the intended elements as follows:

- In 1023.5 for interior exit stairways and ramps, the current requirement in Item 7 that the structural elements must support the interior exit stairway or ramp or enclosure is added back in.
- A new Item 8 is then added for structural elements supporting a roof at the top of the interior exit stairway or ramp. Note that this item does not include floors at the top of an interior exit stairway or ramp (where an enclosure stops at a floor instead of a roof) since the floor would be part of the enclosure and structural elements supporting this floor are already allowed by Item 7.
- In 1024.6 for exit passageways, Item 7 is modified by adding a requirement that the structural elements must support a floor or roof at the top of the exit passageway. Floors and roofs are included here since exit passageways don't have an item that covers structural elements that support the enclosure like the interior exit stairways and ramps section does (1023.5 Item 7).

The above changes are consistent with the intent of the code that penetrations are permitted for items that serve the enclosure or are needed for construction of the enclosure.

Another concern raised is that this proposal would allow penetrations by structural elements that may have a fire-resistance rating that is less than required for the enclosure. This concern is not valid as this proposal does not change supporting construction requirements for enclosure walls (Section 707.5.1 for fire barriers), so any member that supports the walls, or supports floors that then support the walls, are required to have a rating that is equal to or great than the rating of the enclosure. Furthermore, where a floor forms the top of the enclosure it is required to have a rating equal to or greater than the enclosure, and the supporting construction requirements for horizontal assemblies (Section 711.2.3) requires the beams or joists that support this assembly to have a rating equal to or greater than the horizontal assembly.

Another item discussed is that Item 7 in 1023.5 was originally added in the 2021 IBC to address platform framing. While Item 7 does address platform framing at floor levels, it does not address platform framing at the roof of an enclosure since these roof beams and joists do not support the enclosure. This proposal would allow platform framing of the roof, which is the logical method of framing the roof if the floors are constructed in this manner. To require the roof to be framed in a different manner than the floors is not reasonable and may be difficult and costly to accomplish. Furthermore, the newly allowed penetrations at the roof level are less hazardous than the floor level penetrations since a premature failure of these penetrations would not immediately affect egress since the smoke and/or fire at the failed penetrations are above the egress path, while the floor penetrations are within the egress path.

Please consider approval of this proposal as modified by this public comment.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
This proposal and public comment modification will allow structural penetrations that are currently not allowed, which will simplify framing at exit enclosures, thus reducing the cost of the construction.

Final Hearing Results

E96-21 AMPC1

Page: 3

Mod_10659_Text_E96-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

196

F10660 /E97-21

Date Submitted	03/04/2024	**Section**	1023.7	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

This code change is needed to address designs where nonrated exterior walls of an interior exit stairway or ramp are adjacent to nonrated roof assemblies which may also have unprotected openings within 10 feet of the exterior walls of the stairway or ramp

Rationale

See attached

F10660Text Modification

See attached

Page: 1

Mod10660_TextOfModification.pdf

F10660Text Modification

E97-21

Original Proposal

IBC: 1023.7, 1023.7.1 (New), 1023.7.2 (New) [IFC:[BE]1023.7, 1023.7.1 (New), 1023.7.2 (New)]

Proponents: Lee Kranz, City of Bellevue, WA, Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov)

2021 International Building Code

Revise as follows:

1023.7 Interior exit stairway and ramp exterior walls. *Exterior walls* of the *interior exit stairway* or *ramp* shall comply with the requirements of Section 705 for *exterior walls*. Where nonrated walls or unprotected openings enclose the exterior of the*stairway* or *ramps* and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), building construction within 10 feet of the exterior walls of the interior exit stairway or ramp shall comply with Section 1023.7.1 and 1023.7.2. ~~the building *exterior walls* within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening shall have a*fire-resistance rating* of not less than 1 hour. Openings within such *exterior* walls shall be protected by opening protectives having a*fire protection rating* of not less than ¾ hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the *stairway* or *ramp*, or to the roof line, whichever is lower.~~

Add new text as follows:

1023.7.1 Building exterior walls. Building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening in an exterior exit stairway or ramp shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

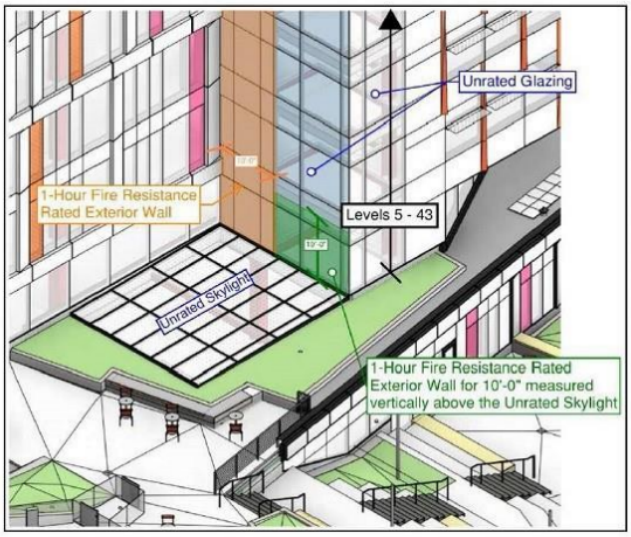
1023.7.2 Roof assemblies. Where the interior exit stairway or ramp extends above a roof, the lower roof assembly shall have a fire resistance rating of not less than 1 hour and openings shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. The fire resistance rating and opening protection shall extend horizontally a minimum of 10 feet (3048 mm) from the exterior wall of the stairway or ramp, or to the perimeter of the lower roof, whichever is less.

Reason: This code change is needed to address designs where nonrated exterior walls of an interior exit stairway or ramp are adjacent to nonrated roof assemblies which may also have unprotected openings within 10 feet of the exterior walls of the stairway or ramp. As you can see in the attached illustration, the unrated glazed exterior wall of the interior exit stairway is directly adjacent to an unprotected skylight in the roof of a lobby below. The designer agreed to protect the exterior wall of the stairway for 10 feet above the skylight but currently there is no language in the code to require it. This proposal provides more comprehensive protection for one of the most important egress elements in Chapter 10, interior exit stairways and ramps.

Page: 1

Mod_10660_Text_E97-21.pdf

F10660Text Modification



Cost Impact: The code change proposal will increase the cost of construction
The cost of construction will increase due to more roof assemblies and related openings needing to be of rated construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because there are issues with the language. This proposal missed the option to rate the exterior walls 10 feet up or the roof 10 feet out from the opening. The language in Section 1023.7.2 does not limit the roof to that near the area of concern. (Vote: 10-4)

Public Comments

Public Comment 1

Proponents: Lee Kranz, City of Bellevue, WA, Washington Association of Building Officials Technical Code Development Committee (lkranz@bellevuewa.gov); Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1023.7 Interior exit stairway and ramp exterior walls . *Exterior walls* of the *interior exit stairway* or *ramp* shall comply with the requirements of Section 705 for *exterior walls*. Where nonrated walls or unprotected openings enclose the exterior of the*stairway* or *ramps* and the walls or openings are exposed by other parts of the building at an angle of less than 180 degrees (3.14 rad), building construction within 10 feet of the exterior walls of the interior exit stairway or ramp shall comply with Section 1023.7.1 and 1023.7.2.

1023.7.1 Building exterior walls . Building exterior walls within 10 feet (3048 mm) horizontally of a nonrated wall or unprotected opening

Page: 2

Mod_10660_Text_E97-21.pdf

F10660Text Modification

in an ~~exterior~~ interior exit stairway or ramp shall have a fire-resistance rating of not less than 1 hour. Openings within such exterior walls shall be protected by opening protectives having a fire protection rating of not less than 3/4 hour. This construction shall extend vertically from the ground to a point 10 feet (3048 mm) above the topmost landing of the stairway or ramp, or to the roof line, whichever is lower.

1023.7.2 Roof assemblies . Where the interior exit stairway or ramp extends above ~~a~~ an adjacentroof of the same building, the ~~lower~~ adjacent roof assembly shall have a fire resistance rating of not less than 1 hour and openings shall be protected by opening protectives having a fire protection rating of not less than ¾ hour. The fire resistance rating and opening protection shall extend horizontally a minimum of 10 feet (3048 mm) from the exterior wall of the stairway or ramp, or to the perimeter of the ~~lower~~ adjacentroof, whichever is less.

Exceptions:

1. The roof assembly need not be rated and openings in the roof need not be protected where they are adjacent to the*penthouse* of the stairway or ramp, unless otherwise required by this code.
2. The adjacent roof assembly need not be rated and adjacent openings in the roof need not be protected where the exterior wall of the stairway or ramp has a fire-resistance rating of 1 hour and openings are protected by opening protectives having a fire protection rating of not less than 3/4 hours, extending a minimum of 10 feet (3048 mm) above the roof.

Commenter's Reason: Where an interior exit stairway or ramp is located at the perimeter of a building, it is subject to risk from fire or smoke from other parts of the building. Section 1023.7 requires protection of the vertical walls and openings adjacent to the enclosure wall(s) less than angles of 180 degrees to the enclosure walls but does not address designs where the enclosure could be exposed to fire or smoke from adjacent roof assemblies.

E97-21 is intended to provide clear direction on measures to keep fire and smoke away from enclosed stairways or ramps in order to maintain tenability of the enclosures. Most, if not all, building and fire officials would agree that the risk of fire or smoke from a roof assembly that is part of, and adjacent to, a stair or ramp enclosure is greater than that from an adjacent wall assembly so it makes sense to include these provisions in the code.
There were constructive suggestions provided by members of the Egress Committee, proponents and opponents during and after the Committee Action Hearings and this public comment has been revised to include those valuable suggestions. The changes contained in this public comment include:

1) clear language that either the exterior wall and openings of the enclosure must be protectedor protect the adjacent building wall and/or roof assembly (see Section 1023.7.2, Exception 2, and Figures 1 and 2 below);

2) clarify in the charging language of Section 1023.7.2 that the protection of roof assemblies only applies when it is part of the same building in which the enclosure is located; and

3) exempt roof assemblies adjacent to penthouse structures covering stair or ramp enclosures (see Section 1023.7.2, Exception 1).

We also addressed an error we discovered in 1023.7.1 that mistakenly referred to exterior exit stairways and ramps. It has been corrected to refer to interior exit stairways and ramps.

Figure 1 below illustrates the base requirement in Section 1023.7.2, that the roof assembly and openings in the roof must be protected within 10 feet of the wall of the stairway or ramp enclosure. Figure 2 illustrates the option provided in Section 1023.7.2, Exception 2, allowing protection of the stairway/ramp enclosure wall to a height of 10 feet above the adjacent roof in lieu of protecting the roof assembly. These figures, or something similar, could be included in the IBC Commentary to help code users understand and apply these important passive life safety provisions.

Page: 3

Mod_10660_Text_E97-21.pdf

F10660Text Modification

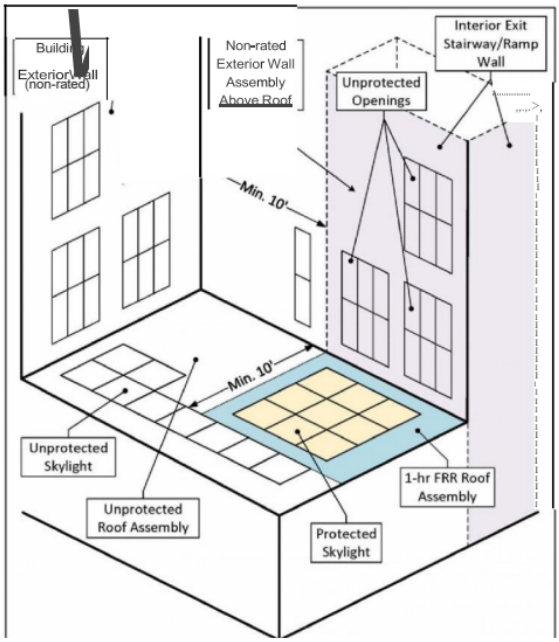


FIGURE1 Protect Roof for 10' => Unprotected Stair Wall /§1023.7.21

Page: 4

Mod_10660_Text_E97-21.pdf

F10660Text Modification

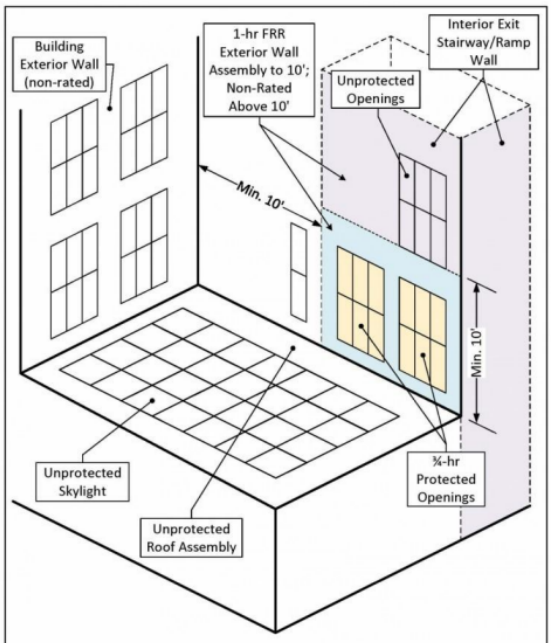


FIGURE 2 – Protect Stair Wall for 10' => Unprotected Building Wall/Roof (§1023.7.2 exc. 2)

In response to a comment we received after the Committee Action Hearings, the requirement for 10 feet of protection above the roof for the stair enclosure wall in 1023.7.2, Exception 2 is consistent with the extent of vertical protection requirements for other components of the means of egress in the current code:

- Protection of the stair enclosure near building exterior walls (IBC 1023.7)
- Protection for exterior areas for assisted rescue (IBC 1009.7.2)
- Protection for exit passageways (IBC 1024.8)
- Protection for exit courts (IBC 1029.3).

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction
In some cases, roof assemblies adjacent to interior exit stairways or ramps, or the exterior wall of interior exit stairways or ramps will be required to be 1 hour rated with 3/4 hour rated openings. This will increase the cost of construction when these rated assemblies are provided.

Final Hearing Results	
E97-21	AMPC1

Page: 5

Mod_10660_Text_E97-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

197

F10661 | **/E100-21**

Date Submitted	03/04/2024	**Section**	1030.9.5	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

2023 FBC - Section 1029.9.5

Summary of Modification

Modifies text of Section 1027.2 "Use in a means of egress". Removes text regarding high-rise buildings.

Rationale

See attached

F10661Text Modification

See attached

Page: 1

Mod10661_TextOfModification.pdf

F10661Text Modification

E110-21

Original Proposal

IBC: 1030.9.5 (IFC:[BE]1030.9.5)

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

2021 International Building Code

Revise as follows:

1030.9.5 Dead-end aisles. Each end of an *aisle* shall be continuous to a cross *aisle*, foyer, doorway, vomitory, concourse or *stairway* in accordance with Section 1030.9.7 having access to an *exit*.

Exceptions:

1. Dead-end *aisles* shall be not greater than 20 feet (6096 mm) in length.
2. Dead-end *aisles* longer than 16 rows are permitted where seats beyond the 16th row dead-end *aisle* are not more than 24 seats from another *aisle*, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.
3. Dead-end aisles serving fewer than 50 seats shall be permitted in accordance with Section 1030.8.
4. ~~3.~~ For *smoke-protected* or *open-air assembly seating*, the dead-end *aisle* length of vertical *aisles* shall not exceed a distance of 21 rows.
5. ~~4.~~ For *smoke-protected* or *open-air assembly seating*, a longer dead-end *aisle* is permitted where seats beyond the 21-row dead-end *aisle* are not more than 40 seats from another *aisle*, measured along a row of seats having an *aisle* accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.

Reason: This added exception permits a low number of seats to be served by a longer dead end aisle as has been the case and is consistent with 1030.8 common path of travel for fewer than 50 and general egress requirements.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This will increase options in theater layouts.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as the new exception is has minimal occupants and a common path of travel distance that is reasonable and provides design options. (Vote: 13-0)

Final Hearing Results

E110-21 AS

Page: 1

Mod_10661_Text_E110-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

198

F10662 /E105-21

Date Submitted	03/04/2024	**Section**	1029.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - Section 1031.3

Summary of Modification

The proposed code change adds an exception to allow omission of opening protection from openings in walls adjacent to egress courts where occupants have access to the public way through two different paths, in other words from a yard designed to comply as an exit court that has two outlets.

Rationale

See attached

F10662Text Modification

See attached

Page: 1

Mod10662_TextOfModification.pdf

F10662Text Modification

E105-21

Original Proposal

IBC: 1029.3 (IFC:[BE]1029.3)

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Building Code

Revise as follows:

1029.3 Construction and openings. Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a *fire protection rating* of not less than 3/4 hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.
3. Egress courts, located at *grade*, which provide direct and unobstructed access to a *public way* through two or more independent paths. The required width or capacity shall be maintained along each path.

Reason: The proposed code change adds an exception to allow omission of opening protection from openings in walls adjacent to egress courts where occupants have access to the public way through two different paths, in other words from a yard designed to comply as an exit court that has two outlets. This will reduce the cost of construction and will allow design flexibility.

- Protection will not be diminished since the exterior walls for almost all buildings located at an FSD less than 10 feet will have a fire resistance of at least 1-hour and exterior wall openings will be restricted to 25% of the area of the wall (10% if not fire sprinklers).
- Additionally most buildings are protected with fire sprinkler systems and the IBC does account this additional level of protection.

This Code change recognizes the benefit of the egress path within an exit court being located far enough away from the building requiring the egress court. So by providing multiple paths occupants do not have to select the path that may have been compromised by fire in the building from which they accessed the egress court.

- The 2018 IBC commentary explains that an egress court, which is a portion of the exit discharge, is "A portion of the exit discharge that is partially confined by exterior walls or other elements that confine the discharge path to a single narrow route ..." This code change recognizes the benefits of multiple paths.
- The 2018 IBC Commentary on page 10-186 also includes a clarification that "The purpose of this section is to protect the occupants served by the egress court from the building that they are exiting. If occupants must walk closely by the exterior walls of the court, the walls are required to have the specified fire-resistance rating and the openings are required to be protected as specified." The proposed exception recognizes the benefits of two outlets from an exit court that does not require occupants to walk along a particular path.
- The 2018 IBC Commentary also explains that "An exit discharge component could be a large exterior open space where occupants could discharge in a number of different directions or it could be limited to a narrower path by landscaping or walls (i.e., egress court). In all cases, the space must be open enough to the outside that smoke and fumes will vent upward and away from occupants evacuating the building." The proposed exception allows the egress court with multiple outlets to be have like a a surface parking lot in front of the building

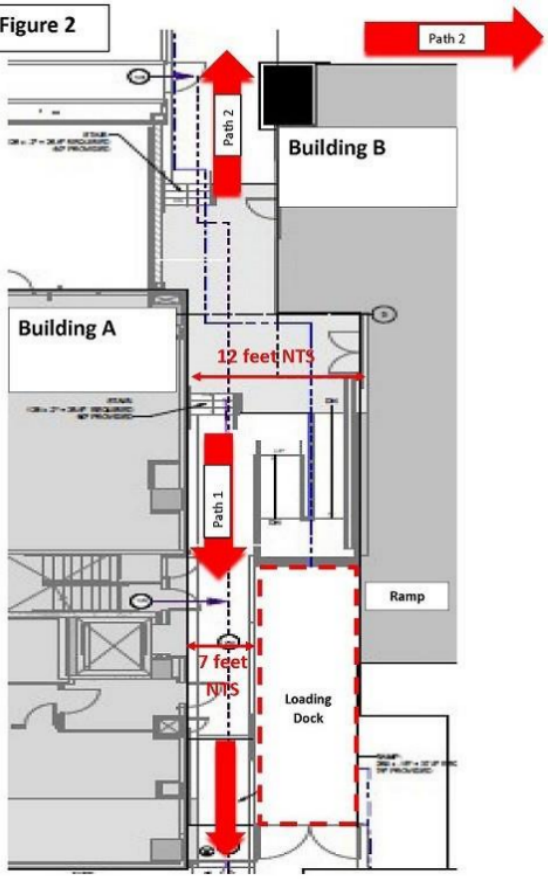
In closing, if occupants have choices of paths it is reasonable to assume that one of the alternative paths will be available and provide safe access to the public way and therefore protection of the exit court is not required. See figure 2 attached for an illustration of this concept. We request that the Means of Egress Committee approve this sensible code change.

Page: 1

Mod_10662_Text_E105-21.pdf

F10662Text Modification

Figure 2



Cost Impact: The code change proposal will decrease the cost of construction
The proposed code change will reduce the need to add opening protectives at doors and windows along egress courts.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal was disapproved because this proposal does not indicate the larger of width versus capacity for the size. This could be read to be exempting rated walls and openings. The proposal seems to be assuming the buildings are sprinklered. (Vote: 12-1)

Public Comments

Public Comment 1

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department

Page: 2

Mod_10662_Text_E105-21.pdf

F10662Text Modification

(afattah@sandiego.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1029.3 Construction and openings . Where an *egress court* serving a building or portion thereof is less than 10 feet (3048 mm) in width, the *egress court* walls shall have not less than 1-hour *fire-resistance-rated* construction for a distance of 10 feet (3048 mm) above the floor of the *egress court*. Openings within such walls shall be protected by opening protectives having a *fire protection rating* of not less than 3/4 hour.

Exceptions:

1. *Egress courts* serving an *occupant load* of less than 10.
2. *Egress courts* serving Group R-3.
3. Egress courts, located at *grade*, which provide direct and unobstructed access to a *public way* through two or more independent paths. The minimum width provided along each path shall be based on the required width or the required capacity, whichever is greater, and shall be maintained along each path.

Commenter's Reason: We request that the ICC Governmental Voting members overturn the committee decision for disapproval so that we can over come the 2/3 vote hurdle necessary to consider approval as submitted with further modification per public comment. The Public Comment is submitted in response to feedback provided by the Means of Egress Committee which supported the code change in concept. While the reason statement intended to point out that most buildings will be protected with fire sprinklers and that the exterior walls located at a fire separation distance less than 10 ft will in the vast majority of cases be 1-hour fire resistant with a significant reduction in the permitted area of exterior wall openings. The proposed code change does not require the presence of fire sprinklers and recognizes the benefits of alternative paths regardless of the type of construction, occupancy and protection for the building. The example provided is intended to be illustrative of a condition that occurred in a local jurisdiction where the IBC was silent regarding the benefits of equivalent alternative paths to the public way. The net effect of the updates in the public comment ensure that the larger of the width or calculated capacity be provided along the alternative paths to the public way.

Cost Impact: The net effect of the Public Comment and code change proposal will decrease the cost of construction
The proposed code change will not require opening protection when alternative paths are provided.

Final Hearing Results	
E105-21	AMPC1

Page: 3

Mod_10662_Text_E105-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

199

F10663 | **/E108-21**

Date Submitted	03/04/2024	**Section**	1030.8	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - Section 1029.8

Summary of Modification

This proposal eliminate the conflict between two sections and clarifies the intent of the provisions. Section 1030.8 and Section 1030.1. Footnote of Table 1006.2.1.

Rationale

See attached

F10663Text Modification

See attached

Mod10663_TextOfModification.pdf

Page: 1

F10663Text Modification

E108-21

Original Proposal

IBC: 1030.8 (IFC:[BE]1030.8)

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net); Timothy Pate, City and County of Broomfield, Colorado Chapter Code Change Committee (tpate@broomfield.org)

2021 International Building Code

Revise as follows:

1030.8 Common path of egress travel. The *common path of egress travel* for a room or space used for assembly purposes having fixed seating shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two *exits*.

Exceptions:

1. For areas serving less than 50 occupants, the *common path of egress travel* shall not exceed 75 feet (22 860 mm).
2. For *smoke-protected* or *open-air assembly seating*, the *common path of egress travel* shall not exceed 50 feet (15 240 mm).

Reason: Footnote c of Table 1006.2.1 states "For a room or space used for assembly purposes having fixed seating, see Section 1030.8". Therefore, the shorter common path of travel in Section 1030.8 does not apply to areas that do not have fixed seating. The common path of travel in the table applies to those uses. However, the existing language in Section 1030.8 is written in such a way that it would apply to all assembly uses as outlined in Section 1030.1. This proposal eliminate the conflict between the two sections and clarifies the intent of the provisions.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is designed to eliminate a conflict in the code and clarify the language.

Staff note: This proposal's revision to Section 1030.8 addresses requirements in a different or contradicting manner to those found in Code Change E14-21 to Table 1006.2.1 footnote c. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as this allows for the 75 feet common path of travel for all assembly spaces except fixed seating arrangements. This is coordination with Table 1006.2.1. While wheelchair spaces are not fixed seats, they should match the requirements for the surrounding space. (Vote: 14-0)

Final Hearing Results

E108-21 AS

Page: 1

Mod_10663_Text_E108-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

200

F10664 /E110-21

Date Submitted	03/04/2024	**Section**	1030.9.5	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - Section 1029.9.5

Summary of Modification

This added exception permits a low number of seats to be served by a longer dead end aisle as has been the case and is consistent with 1030.8 common path of travel for fewer than 50 and general egress requirements

Rationale

See attached

F10664Text Modification

See attached

Page: 1

Mod10664_TextOfModification.pdf

F10664Text Modification

E110-21

Original Proposal

IBC: 1030.9.5 (IFC:[BE]1030.9.5)

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

2021 International Building Code

Revise as follows:

1030.9.5 Dead-end aisles. Each end of an *aisle* shall be continuous to a cross *aisle*, foyer, doorway, vomitory, concourse or *stairway* in accordance with Section 1030.9.7 having access to an *exit*.

Exceptions:

1. Dead-end *aisles* shall be not greater than 20 feet (6096 mm) in length.
2. Dead-end *aisles* longer than 16 rows are permitted where seats beyond the 16th row dead-end *aisle* are not more than 24 seats from another *aisle*, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.
3. Dead-end aisles serving fewer than 50 seats shall be permitted in accordance with Section 1030.8.
4. ~~3.~~ For *smoke-protected* or *open-air assembly seating*, the dead-end *aisle* length of vertical *aisles* shall not exceed a distance of 21 rows.
5. ~~4.~~ For *smoke-protected* or *open-air assembly seating*, a longer dead-end *aisle* is permitted where seats beyond the 21-row dead-end *aisle* are not more than 40 seats from another *aisle*, measured along a row of seats having an *aisle* accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.

Reason: This added exception permits a low number of seats to be served by a longer dead end aisle as has been the case and is consistent with 1030.8 common path of travel for fewer than 50 and general egress requirements.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This will increase options in theater layouts.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as the new exception is has minimal occupants and a common path of travel distance that is reasonable and provides design options. (Vote: 13-0)

Final Hearing Results

E110-21 AS

Page: 1

Mod_10664_Text_E110-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

201

F10665 | **/E111-21**

Date Submitted	03/04/2024	**Section**	1031.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC - Section 1030

Summary of Modification

The proposed code change which recognizes the benefits of an emergency escape and rescue opening (EERO). The second part of the proposal is to address what the exception intends since language is not clear and can be interpreted in different ways

Rationale

See attached

F10665Text Modification

See attached

Mod10665_TextOfModification.pdf

Page: 1

F10665Text Modification

E111-21

Original Proposal

IBC: 1031.2 (IFC:[BE]1031.2)

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Building Code

Revise as follows:

1031.2 Where required. In addition to the *means of egress* required by this chapter, *emergency escape and rescue openings* shall be provided in the following occupancies:

1. Group R-2 occupancies located in stories with only one *exit* or *access* to only one *exit* as permitted by Tables 1006.3.4(1) and 1006.3.4(2).
2. Group R-3 and R-4 occupancies.

Basements and sleeping rooms below the fourth *story above grade plane* shall have not fewer than one *emergency escape and rescue opening* in accordance with this section. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room, but shall not be required in adjoining areas of the *basement*. Such openings shall open directly into a *public way*, or to a *yard*, or *court* that opens to a *public way*, or to an egress balcony that leads to a *public way*.

Exceptions:

1. *Basements* with a ceiling height of less than 80 inches (2032 mm) shall not be required to have *emergency escape and rescue openings*.
2. *Emergency escape and rescue openings* are not required from *basements* or sleeping rooms that have an *exit* door or *exit access* door that opens directly into a *public way* or to a *yard*, court or exterior egress balcony that ~~opens~~ that leads to a *public way*.
3. *Basements* without *habitable spaces* and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have *emergency escape and rescue openings*.
4. Storm shelters are not required to comply with this section where the shelter is constructed in accordance with ICC 500.
5. Within individual *dwelling* and *sleeping units* in Groups R-2 and R-3, where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, *sleeping rooms* in *basements* shall not be required to have *emergency escape and rescue openings* provided that the basement has one of the following:
   5.1. One *means of egress* and one *emergency escape and rescue opening*.
   5.2. Two *means of egress*.

Reason: The proposed code change has two parts, the first of which recognizes the benefits of an emergency escape and rescue opening (EERO) that provides access to the exterior of a dwelling unit through an egress balcony. The second part of the proposal is to address what the exception intends since language is not clear and can be interpreted in different ways.

There is no doubt that accessing the public way through an egress balcony has significant benefits that simplify rescue operations if necessary since ladder access is not necessary. Additionally, whether through an EERO or an exit door or exit access door, emergency escape into an egress balcony an element of the exit access, provides a reasonable level of safety when occupants leave the sleeping room in the unit of fire origin since they are leaving the hazard and entering progressively better protected elements of the means of egress.

Egress balconies will eventually terminate at an interior exit stairway or exterior exit stairway and in the vast majority of configurations the vertical component will be protected from the building.

The 2018 IBC Handbook page 500 has a superior way of describing the intent of exception 2 than the code itself, and the proposal uses the

Page: 1

Mod_10665_Text_E111-21.pdf

F10665Text Modification

way that the author of the commentary chooses to explain the requirement. When exception 2 states "to a *public way"* it can mean adjacent to the public way, overlooking a public way. It can also be read that the exception requires the egress balcony to terminate into a public way which is not possible since the egress balcony is on an upper story and needs to access a stairway to get to the public way.

The IBC allows a door to provide for escape and rescue from a sleeping room but not an EERO other than a door so the charging language is updated to add this clarification since a window or door leading to an egress balcony for the most part are equivalent when considering that the EERO is a secondary path in the event the primary path, the unit entry doorway is impeded. It is not likely that exterior rescue will be necessary throughout the EERO or door since the fire department will access the dwelling unit through it's entry door.

While most of the US exempts sprinkler protected buildings from EERO requirements California only does so in types of construction other than type V and IV.

We request that the Means of Egress Committee vote to approve this sensible code change.

1030.1 General. Because so many fire deaths occur as the result of occupants of residential buildings being asleep at the time of a fire, the IBC selectively requires that basements and all sleeping rooms below the fourth story have windows or doors that may be used for emergency escape or rescue. Applicable only to Groups R-3 and R-4 occupancies, as well as Group R-2 occupancies with a single means of egress as permitted by Tables 1006.3.3(1) and 1006.3.3(2), the requirement for emergency escape and egress openings help ensure these single means of egress spaces provide a potential alternate means to escape. The concern is that when residents are sleeping and unaware of their surroundings, a fire will usually have spread before the occupants are aware of the problem, and the normal exit channels will most likely be blocked. The reason for the requirement in basements is that access to the exterior is limited and they are so often used as sleeping rooms. An exception eliminates the requirement for emergency escape and rescue openings for basements and sleeping rooms having direct access by means of an exit door or exit access door to a public way or a yard, court, or exterior exit balcony that leads to a public way. Emergency escape and rescue openings are also not required in basements with a limited ceiling height or a small floor area, provided no habitable space is provided. Basement sleeping rooms in sprinklered Group R-2 and R-3 dwelling and sleeping units are not required to be provided with an escape and rescue opening provided one of two conditions occurs in the basement, giving occupants a choice of two paths of travel or escape.

The scope of this section is of particular importance as it applies to Group R-2 occupancies. Where at least two exits, or access to at least two exits, are provided on each story of a Group R-2 building, then the provisions of Tables 1006.3.3(1) and 1006.3.3(2) are not applicable. Therefore, the provisions of Section 1030 addressing emergency escape and rescue openings also do not apply. However, where the allowances of Table 1006.3.3(1) or 1006.3.3(2) permitting a single means of egress are used, then the Group R-2 dwelling units must be provided with complying emergency escape and rescue openings. In those situations where, in multistory buildings, one or more stories may have access to two or more means of egress and there are other stories with access to only one exit, the requirements of this section would only be applied to those stories with access to just one exit.

The code intends that the openings required for emergency escape or rescue be located on the exterior of the building so that rescue can be affected from the exterior or, alternatively, so that the occupants may escape from that opening to the exterior of the building without having to travel through the building itself. Therefore, where openings are required, they shall open directly onto a public street, public alley, yard, or court. This provision ensures that continued egress can be accomplished after passing through the emergency escape and rescue opening.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This code change will allow the use of windows as EERO to access egress balconies and adds further clarification as to how to apply one o the exceptions

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as emergency escape and rescue openings should be able to exit to egress balconies and because this configuration would be limited to single exit Group R-2 occupancies. This would provide additional options for design. (Vote: 11-1)

Page: 2

Mod_10665_Text_E111-21.pdf

F10665Text Modification

Final Hearing Results

E111-21 AS

Mod_10665_Text_E111-21.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

202

F10741 /F76-21

Date Submitted	03/04/2024	**Section**	1014.6	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This code change specifically addresses the parameters a handrail termination is to be measured to, and the minimum length a handrail extension shall meet before any change in direction is allowed.

Summary of Modification

NFPA 770 is a new NFPA standard on Hybrid (Water and Inert Gas) Fire Extinguishing Systems. Adds new Section 904.12 "Hybrid Systems".

Rationale

See attached

F10741Text Modification

See attached

Page: 1

Mod10741_TextOfModification.pdf

F10741Text Modification

E76-21

Original Proposal

IBC: 1014.6 (IFC:[BE]1014.6)

Proponents: Thomas Zuzik Jr, Railingcodes.com, the National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Building Code

Revise as follows:

1014.6 Handrail extensions. *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction. The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

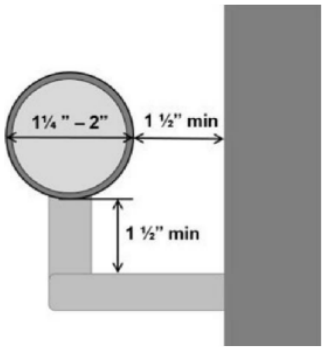
Reason: One of the most common handrail conflicts fabricators undergo with design professionals, contractors and inspectors is the proper termination of handrail extensions. Architectural drawings and plans continue to be widely drawn and distributed with incorrect minimum termination lengths and premature changes in direction. The family of ICC codes, A117.1, ADA and ABA covertly state where to measure the minimum extension length to and understate that handrail extensions “shall be in the same direction” before any change in direction; this leads to the codes and standards largely being misinterpreted by designers, contractors, fabricators, and inspectors that the minimum extension length is required to be met before any change in direction over landings is permitted. The diagram figures of A117.1, 2010 ADA, ABA and posted information on the US Access Boards website clearly explain that handrail extensions are to be measured to the furthest usable portion of the handrail before a return or termination, and specifically not to use a handrails overall length.
This code change specifically addresses both the issues outlined above by clearly defining the parameters a handrail termination is to be measured to, and the minimum length a handrail extension shall meet before any change in direction is allowed. The diagram figures shown below provide visual reference of the intended points to measure extensions to in A117.1, 2010 ADA & ABA, the figures however are not part of the IBC. Thus this code change provides a written description within the IBC that designers, contractors, manufactures and inspectors can clearly follow that will produce a result that meets the intent of the code for the extensions to be fully usable for the entire minimum length before any change in direction or termination occurs.

Page: 1

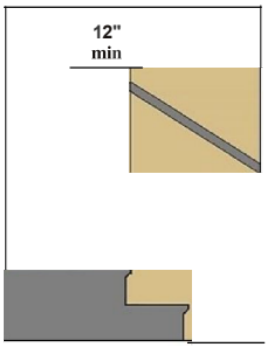
Mod_10741_Text_E76-21.pdf

F10741Text Modification

Specifications for handrails also address the diameter of circular cross sections and required knuckle clearance.

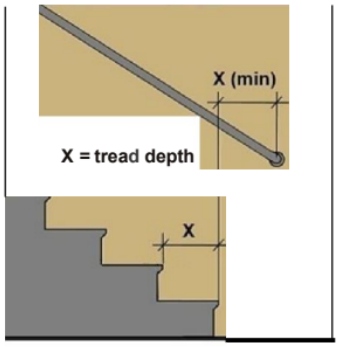


Top Handrail Extension



Handrails at the top of stairways must extend 12" minimum horizontally above the landing beginning directly above the first riser nosing or be continuous to the handrail of an adjacent stair flight (§505.10.2).

Bottom Handrail Extension

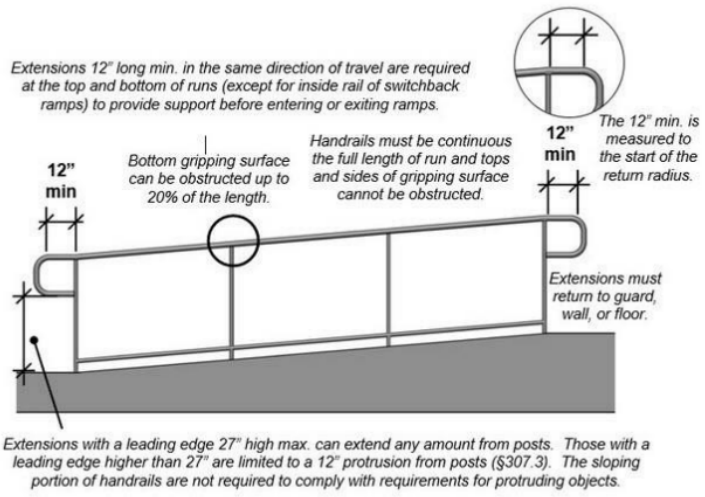


Handrails at the bottom must extend beyond the last riser nosing at the slope of the stair flight for a distance at least equal to one tread depth or be continuous to the handrail of an adjacent stair flight protruding objects.

Page: 2

Mod_10741_Text_E76-21.pdf

F10741Text Modification



Surface requirements and clearances facilitate a power grip along the length of handrails. Handrails can have circular or non-circular cross-sections, but must have rounded edges. The gripping surface and adjacent surfaces must be free of abrasive or sharp elements.

Bibliography: The figures shown were downloaded from the U.S. Access Board - Home (access-board.gov)

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is providing clarification of already required parameters within the code.

Staff Note: E75-21 and E76-21 addresses requirements in a different or contradicting manner. The committee is urged to make their intentions clear with their actions on these proposals.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because the committee felt the handrail extension should be measured from the stairway nosing. The proposed text matches the interpretation issued by the U.S. Access Board. (Vote: 12-2)

Public Comments

Public Comment 1

Proponents: David Cooper, Stair Manufacturing and Design Consultants, Stairbuilders and Manufacturers Association (coderep@stairways.org) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

Page: 3

Mod_10741_Text_E76-21.pdf

F10741Text Modification

1014.6 Handrail extensions . *Handrails* shall return to a wall, *guard* or the walking surface or shall be continuous to the *handrail* of an adjacent *flight of stairs* or *ramp* run. Where *handrails* are not continuous between flights, the *handrails* shall extend horizontally not less than 12 inches (305 mm) beyond the top ~~riser~~landing nosing and continue to slope for the depth of one tread beyond the bottom ~~riser~~tread nosing. At *ramps* where *handrails* are not continuous between runs, the *handrails* shall extend horizontally above the landing 12 inches (305 mm) minimum beyond the top and bottom of *ramp* runs. The extensions of *handrails* shall be in the same direction of the flights of *stairs* at *stairways* and the *ramp* runs at *ramps* and shall extend the required minimum length before any change in direction or decrease in the clearance required by Section 1014.4 or 1014.7. ~~The length of the extension shall be measured in accordance with Section 1014.4 or 1014.7, whichever is less.~~

Exceptions:

1. *Handrails* within a *dwelling unit* that is not required to be *accessible* need extend only from the top riser to the bottom riser.
2. *Handrails* serving *aisles* in rooms or spaces used for assembly purposes are permitted to comply with the *handrail* extensions in accordance with Section 1030.16.
3. *Handrails* for *alternating tread devices* and ships ladders are permitted to terminate at a location vertically above the top and bottom risers. *Handrails* for *alternating tread devices* are not required to be continuous between flights or to extend beyond the top or bottom risers.

Commenter's Reason: The substitution of "Nosing" for "Riser" provides a place to measure from that will ensure consistent measurement when stairs have sloped risers or none at all. This modification complies with the interpretive illustrations of handrail extension standards provided in the proposal from the access board and will ensure consistent enforcement. In the committees discussion of both E75 and E76 this modification was a portion of E75 that was highly recommended by the committee to be added to E76 by public comment.
The last sentence has been deleted to be more clear. It has been replaced with "or decrease in the clearance as required by Section 1014.4 or 1014.7". Section 1014.4 Continuity cites clearance at handrail brackets and Section 1014.7 cites clearance at walls and other surfaces. Clearance is relevant as the clearance decreases at the beginning of the bend of the return, the change of direction, and identifies the end of the required length of the extension and that it has the required clearance for the full length.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This modified proposal merely clarifies the current requirement.

Final Hearing Results

E76-21 AMPC1

Page: 4

Mod_10741_Text_E76-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

203

F11032 | **/G106-21 Part II**

Date Submitted	03/13/2024	**Section**	1015.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 1015.2 "Where required". Adds text concerning Guards provided at perimeter of occupied portions of an occupied roof.

Rationale

See attached

F11032Text Modification

See attached

Page: 1

Mod11032_TextOfModification.pdf

F11032Text Modification

G106-21 Part II

Original Proposal

PART II - IBC: 1015.2 (IFC[BE] 1015.2)

Proponents: Lee Kranz, City of Bellevue Washington, Myself (lkranz@bellevuewa.gov)

2021 International Building Code

Revise as follows:

1015.2 Where required. *Guards* shall be located along open-sided walking surfaces, including *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. *Guards* shall be provided at the perimeter of the occupied portions of an occupied roof. *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.

Reason: This code change is needed to protect children. There are many cases where the design of an occupied roof includes only a portion of the entire roof area. The occupied portions of the roof are typically elevated 18" or less above the adjacent unoccupied areas of the roof, therefor no guard is currently required per Section 1015.2. This issue is regularly debated on building official chat lines and other forums due to the lack of regulatory authority to require the guard in this design scenario. Even the idea of a small child falling to their death because they bolted from a parent or guardian to look over the edge of a roof is unthinkable. Occupied roofs are relatively new in the IBC and we're discovering issues related to their design on a regular basis. This code change will eliminate or drastically reduce the potential for kids, or even adults who may be inebriated, from falling over the edge of a roof which even if the occupied portion of the roof is some distance away from the roof edge.
Adding a new Section 503.1.4.2 Guards, will insure that the reader will go to Section 1015.2 to see that guards are required. Examples of this can be found in Sections 406.4.1, 505.3.3 and 1029.17.

Cost Impact: The code change proposal will increase the cost of construction
The cost to construct some occupied roofs where the edge of the occupied portion of the occupied roof is inboard of the roof edge will go up due to the installation of guards.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved for several reasons. There are issues with structural attachment if the guard is not on

Page: 1

Mod_11032_Text_G106-21 Part II.pdf

the edge of the roof. There are a lot of barriers that would work to stop people from moving out of the areas intended to be occupied. There are no fall issues, so a guard is not needed. This is an issue to prevent access, not a fall issue. This requirement is an over reach. (Vote: 11-3)

Public Comments

Public Comment 1

Proponents: Lee Kranz, City of Bellevue, WA, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1015.2 Where required . *Guards* shall be located along open-sided walking surfaces, including *mezzanines*, equipment platforms, *aisles*, *stairs*, *ramps* and landings that are located more than 30 inches (762 mm) measured vertically to the floor or grade below at any point within 36 inches (914 mm) horizontally to the edge of the open side. ~~*Guards* shall be provided~~ and at the perimeter of ~~the occupied portions of an~~ occupied roofs. ~~roof.~~ *Guards* shall be adequate in strength and attachment in accordance with Section 1607.9.

Exceptions: *Guards* are not required for the following locations:

1. On the loading side of loading docks or piers.
2. On the audience side of *stages* and raised *platforms*, including *stairs* leading up to the *stage* and raised *platforms*.
3. On raised *stage* and *platform* floor areas, such as runways, *ramps* and side *stages* used for entertainment or presentations.
4. At vertical openings in the performance area of *stages* and *platforms*.
5. At elevated walking surfaces appurtenant to *stages* and *platforms* for access to and utilization of special lighting or equipment.
6. Along vehicle service pits not accessible to the public.
7. In assembly seating areas at cross *aisles* in accordance with Section 1030.17.2.
8. On the loading side of station platforms on fixed guideway transit or passenger rail systems.
9. Portions of an occupied roof located less than 30 inches measured vertically to adjacent unoccupied roof areas where approved guards are present at the perimeter of the roof.
10. At portions of an occupied roof where an *approved* barrier is provided.

Commenter's Reason: Clarification is needed in the code to inform design professionals and building officials when a *guard* or barrier is required for occupied roofs where the occupied roof deck is less than 30" above the adjoining unoccupied roof areas. There are many cases where the design of an occupied roof includes only a portion of the entire roof area. Occupied portions of the roof are typically elevated 18" or less above the adjacent unoccupied areas of the roof, therefor, no *guard* is currently required for these areas per Section 1015.2 which means that a child or an adult could wander over to the edge of the roof and fall off. This issue is regularly debated on building official chat lines and other forums due to the lack of regulatory authority to require the *guard* in this design scenario.
To address the constructive comments made at the Committee Action Hearings we have made the following changes:

- Instead of having a separate sentence to add the need for guards at the perimeter of the occupied roofs, the scoping has been added to the end of the laundry list for where guards are required. This creates continuity for the scoping and provides better clarity for the reader. Because the new scoping comes after the 30 inch change in elevation language in Section 1015.2, guards will typically be required at the perimeter of occupied roofs.

Exceptions 9 and 10 have been added in this Public Comment to address concerns expressed at the Committee Action Hearings.

- Exception 9 exempts the need for *guards* between the occupied and unoccupied roof areas if the entire roof perimeter is provided

F11032Text Modification

with a *guard*. In this scenario, safety is ensured even if occupants wander over to the edge roof.

- Exception 10 allows the building official to approve the use of a barrier when the need for a full Chapter 16 compliant*guard* is not warranted. In these cases, an approved barrier may be provided instead of a *guard*.

Occupied roofs are relatively new in the IBC and we're discovering new issues such as this related to their design. This code change will eliminate or drastically reduce the potential for kids, or even adults who may be inebriated, from falling over the edge of a roof, even if the occupied portion of the roof is some distance away from the roof edge.

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction
This code change will add cost because there will be a need for more guardrail installations on occupied roofs. There are most likely many occupied roofs that, under the current code, would not require a guard; this code change will change that to require a guard or barrier for most partial roof area occupied roofs at the perimeter of the occupied roof.

Final Hearing Results

G106-21 Part II AMPC1

Page: 3

Mod_11032_Text_G106-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

204

F11064 /G182-21

Date Submitted	03/14/2024	**Section**	1020.2.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

Elevator doors that open into a rated corridor have to meet both the fire partition and fire barrier requirements. The options for elevator door protection in Section 3006.3 would be a viable option, so Section 3006.2.1 could be moved up as Item 6 in Section 3006.2.

Rationale

See attached

F11064Text Modification

See attached

Page: 1

Mod11064_TextOfModification.pdf

F11064Text Modification

G182-21

Original Proposal

IBC: 1020.2.1 (IFC[BE] 1020.2.1), 3006.2, 3006.2.1

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

3006.2 ~~Hoistway opening protection~~ Elevator hoistway door required. Elevator hoistway doors ~~door openings~~ shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three *stories*, is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The building contains a Group I-1, Condition 2 occupancy.
3. The building contains a Group I-2 occupancy.
4. The building contains a Group I-3 occupancy.
5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the *lowest floor* to the highest floor of the floors served by the hoistway.
6. The elevator hoistway door is located in the wall of a corridor required to be fire-resistance rated in accordance with Section 1020.1.

Exceptions:

1. Protection of elevator hoistway doors ~~door openings~~ is not required where the elevator serves only *open parking garages* in accordance with Section 406.5.
2. Protection of elevator hoistway doors ~~door openings~~ is not required at the level(s) of exit discharge, provided that the level(s) of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. ~~Enclosed elevator lobbies and protection~~ Protection of elevator hoistway doors ~~door openings~~ are not required on levels where the elevator hoistway opens to the exterior.

Delete without substitution:

~~**3006.2.1 Rated corridors.** Where *corridors* are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings shall be protected in accordance with Section 3006.3.~~

Revise as follows:

1020.2.1 Hoistway ~~opening~~ protection. Elevator hoistway doors in elevators hoistway enclosures required to be fire resistance rated shall be protected in accordance with Section 716. Elevator hoistway doors ~~openings~~ shall also be protected in accordance with Section3006.2 ~~3006.2.1~~.

Reason: Elevator doors that open into a rated corridor have to meet both the fire partition and fire barrier requirements. The options for elevator door protection in Section 3006.3 would be a viable option, so Section 3006.2.1 could be moved up as Item 6 in Section 3006.2.

The change to 1020.2.1 is a pointer to both the rated corridor and elevator hoistway door protection requirements.

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held

Page: 1

Mod_11064_Text_G182-21.pdf

F11064Text Modification

several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of current requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 3006.2.1 Rated corridors. Where *corridors* are required to be fire-resistance rated in accordance with Section 1020.2, elevator hoistway openings shall be protected in accordance with Section 3006.3.

Committee Reason: The modification retained the current language in Section 3006.2.1. This modification was presented as needed because the provisions in the FS proposals related to elevator hoistway doors have not been decided yet. Elevator hoistway doors may be needed in 2 and 3 story Group R-2 occupancies. The proposal was approved as this cleans us the language for elevator hoistway doors and should make the code easier to understand. (Vote: 14-0)

Final Hearing Results

G182-21 AM

Page: 2

Mod_11064_Text_G182-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

205

F11655 | **/E109-21**

Date Submitted	05/14/2024	**Section**	1030.9.5	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC -B/ Section 1029.9.5

Summary of Modification

Modifies the text of Section 1030.9.5 Dead-end aisles, exception 2.

Rationale

See attached

F11655Text Modification

See attached

Page: 1

Mod11655_TextOfModification.pdf

F11655Text Modification

E109-21

Original Proposal

IBC: 1030.9.5(IFC:[BE]1030.9.5)

Proponents: William Conner, American Society of Theatre Consultants, American Society of Theatre Consultants (bill@bcaworld.com)

2021 International Building Code

Revise as follows:

1030.9.5 Dead-end aisles. Each end of an *aisle* shall be continuous to a cross *aisle*, foyer, doorway, vomitory, concourse or *stairway* in accordance with Section 1030.9.7 having access to an *exit*.

Exceptions:

1. Dead-end *aisles* shall be not greater than 20 feet (6096 mm) in length.
2. Dead-end *aisles* longer than ~~16 rows~~ 20 feet (6096 mm) are permitted where seats beyond the ~~16th row~~ 20 feet (6096 mm) dead-end *aisle* are not more than 24 seats from another *aisle*, measured along a row of seats having a minimum clear width of 12 inches (305 mm) plus 0.6 inch (15.2 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.
3. For *smoke-protected* or *open-air assembly seating*, the dead-end *aisle* length of vertical *aisles* shall not exceed a distance of 21 rows.
4. For *smoke-protected* or *open-air assembly seating*, a longer dead-end *aisle* is permitted where seats beyond the 21-row dead-end *aisle* are not more than 40 seats from another *aisle*, measured along a row of seats having an *aisle* accessway with a minimum clear width of 12 inches (305 mm) plus 0.3 inch (7.6 mm) for each additional seat above seven in the row where seats have backrests or beyond 10 where seats are without backrests in the row.

Reason: Currently, dead end aisles are permitted to be 20' or less; or 16 rows or more. (In an auditorium 20 feet is typically 5 or 6 rows; 16 rows is typically 50 to 60 feet.) This change is to permit more than 5 or 6 rows and fewer than 16 or more rows to be served by a dead end aisle; and delete the overly permissive 16 or more without increasing the width of aisle and aisle accessways. This is consistent with 1029.8 common path of travel requirements. (Editorially it would seem better code if instead of repeating the increase in widths here, it simply referenced a modified 1029.8 instead of repeating similar but not equal requirements.)

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This should not change the typical assembly seating layouts. This is a more specific requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it fixes a hole in the code and provides consistency by providing the length versus number of rows. Theater designers spoke in support and stated that this is common design practice. (Vote: 13-0)

Final Hearing Results

E109-21 AS

Page: 1

Mod_11655_Text_E109-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

206

F10872 | **/FS122-21**

Date Submitted	03/07/2024	**Section**	1402.5	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal assists users of the Code by providing reference to all the relevant sections of Chapter 14 and Chapter 26 containing specific requirements for exterior wall assemblies needing testing to NFPA 285.

Rationale

See attached

F10872Text Modification

See attached

Page: 1

Mod10872_TextOfModification.pdf

F10872Text Modification

FS122-21

Original Proposal

IBC: 1402.5 (New), 1402.5.1 (New), 1402.5.2 (New), 1402.5.3 (New), 1402.5.4 (New), 1402.5.5 (New), 1402.5, [BS] 1402.6, [BS] 1402.7

Proponents: Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

Add new text as follows:

1402.5 Vertical and lateral flame propagation.. Exterior walls on buildings of Type I, II, III and IV construction that are greater than 40 feet (12,192 mm) in height above grade plane and contain a combustible exterior wall covering, combustible insulation, or a combustible water-resistive barrier shall comply with Sections 1402.5.1 through 1402.5.5, as applicable. Where compliance with NFPA 285 and associated acceptance criteria is required in Sections 1402.5.1 through 1402.5.5, the exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.

1402.5.1 Combustible Water resistive barrier. Exterior walls containing a combustible water-resistive barrier shall comply with Section 1402.6.

1402.5.2 Metal Composite Materials (MCM). . Exterior walls containing MCM systems shall comply with Section 1406.

1402.5.3 Exterior insulation and finish system (EIFS).. Exterior walls of any height above grade plane containing EIFS shall comply with Section 1407.

1402.5.4 High-pressure decorative exterior-grade compact laminate (HPL) system. . Exterior walls containing an HPL system shall comply with Section 1408.

1402.5.5 Foam Plastic Insulation. Exterior walls of any height above grade plane containing foam plastic insulation shall comply with Section 2603.5.

Revise as follows:

~~**1402.5**~~ **1402.6 Water-resistive barriers.** *Exterior walls* on buildings of Type I, II, III or IV construction that are greater than 40 feet (12 192 mm) in height above grade plane and contain a combustible *water-resistive barrier* shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.Combustibility shall be determined in accordance with Section 703.3. For the purposes of this section, *fenestration* products, flashing of *fenestration* products and *water-resistive-barrier* flashing and accessories at other locations, including through wall flashings, shall not be considered part of the *water-resistive barrier*.

Exceptions:

1. Walls in which the *water-resistive barrier* is the only combustible component and the *exterior wall* has a wall covering of brick, concrete, stone, terra cotta, stucco or steel with minimum thicknesses in accordance with Table 1404.2.
2. Walls in which the *water-resistive barrier* is the only combustible component and the *water-resistive barrier* complies with the following:
   2.1 A peak heat release rate of less than 150 kW/m^2, a total heat release of less than 20 MJ/m^2 and an effective heat of combustion of less than 18 MJ/kg when tested on specimens at the thickness intended for use, in accordance with ASTM E1354, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m^2.
   2.2 A flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723, with test specimen preparation and mounting in accordance with ASTM E2404.

Page: 1

Mod_10872_Text_FS122-21.pdf

F10872Text Modification

[BS] ~~1402.6~~1402.7 Flood resistance. For buildings in *flood hazard areas* as established in Section 1612.3, *exterior walls* extending below the elevation required by Section 1612 shall be constructed with flood-damage-resistant materials.

[BS] ~~1402.7~~1402.8 Flood resistance for coastal high-hazard areas and coastal A zones. For buildings in *coastal high-hazard areas* and coastal A zones as established in Section 1612.3, electrical, mechanical and plumbing system components shall not be mounted on or penetrate through *exterior walls* that are designed to break away under *flood loads*.

Reason: This proposal assists users of the Code by providing reference to all the relevant sections of Chapter 14 and Chapter 26 containing specific requirements for exterior wall assemblies needing testing to NFPA 285. The existing Section 1402.5 (to become 1402.6) provides requirements for exterior walls with combustible water resistive barriers as the only combustible component but in the absence of a section before it indicating that exterior wall assemblies containing combustible materials must be tested to NFPA 285 and providing a road map to send the code user to the appropriate sections, some users may not be clear on the full applicability. In the IBC now:

Section 1406 provides comprehensive requirements for MCM systems, including use on exterior walls of Types I, II, III and IV construction

Section 1407 provides comprehensive requirements for EIFS systems that includes compliance with "…other applicable requirements of Chapters 7, 14, 16 and 26.," (Section 1407.1) and compliance with ASTM E2568 (Section 1407.2).

Section 1408 provides comprehensive requirements for HPL systems, including use on exterior walls of Types I, II, III and IV construction

Section 2603.5 provides comprehensive requirements for foam plastic insulation, including use on exterior walls of Types I, II, III and IV construction. In this case, exterior walls of any height must be tested to NFPA 285.

With regard to other sections in Chapters 14 and 26 dealing with materials used in exterior wall assemblies but not with the full assembly, the following applies. :

Sections 1403 contains specific requirements for some materials used for the construction of exterior walls

Section 1405.1 contains specific requirements for combustible exterior wall coverings

Sections 2606 through 2611 contain specific requirements for various types of light transmitting plastics· Other sections in Chapter 26 contain specific requirements for other plastic materials.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC). The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The changes in this proposal are a road map that clarify the intent of the code.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

1402.5Vertical and lateral flame propagation. .
Exterior walls on buildings of Type I, II, III and IV construction that ~~are greater than 40 feet (12,192 mm) in height above grade plane and~~ contain a combustible exterior wall covering, combustible insulation, or a combustible water-resistive barrier shall comply with Sections

Page: 2

Mod_10872_Text_FS122-21.pdf

F10872Text Modification

1402.5.1 through 1402.5.5, as applicable. Where compliance with NFPA 285 and associated acceptance criteria is required in Sections 1402.5.1 through 1402.5.5, the exterior wall assembly shall be tested in accordance with and comply with the acceptance criteria of NFPA 285.

1402.5.1Combustible Water resistive barrier.
Exterior walls containing a combustible water-resistive barrier shall comply with Section 1402.6.

1402.5.2 Metal Composite Materials (MCM)..
Exterior walls containing MCM systems shall comply with Section 1406.

1402.5.3 Exterior insulation and finish system (EIFS)..
Exterior walls ~~of any height above grade plane~~ containing EIFS shall comply with Section 1407.

1402.5.4 High-pressure decorative exterior-grade compact laminate (HPL) system..
Exterior walls containing an HPL system shall comply with Section 1408.

1402.5.5 Foam Plastic Insulation.
Exterior walls ~~of any height above grade plane~~ containing foam plastic insulation shall comply with Section ~~2603.5~~ 2603.

Committee Reason: The committee concluded the modification appropriately deletes "are greater than 40 feet (12,192 mm) in height above grade plane", consistent with the intent of the code. This proposal assists users of the Code by providing reference to all the relevant sections of Chapter 14 and Chapter 26 containing specific requirements for exterior wall assemblies needing testing to NFPA 285. (Vote: 11-2)

Final Hearing Results

FS122-21 AM

Page: 3

Mod_10872_Text_FS122-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

207

F10873 /FS124-21

Date Submitted	03/07/2024	**Section**	1402.7	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The proposal defines engineering analysis, a term that is widely used within the IBC. Adds a new section on compliance methods assists code enforcement by providing three compliance methods for those exterior wall assemblies that must be tested in accordance with NFPA 285

Rationale

See attached

F10873Text Modification

See attached

Mod10873_TextOfModification.pdf

Page: 1

F10873Text Modification

FS124-21

Original Proposal

IBC:202 (New), 1402.7 (New)

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com)

2021 International Building Code

Add new definition as follows:

ENGINEERING ANALYSIS. A report from an approved source or an approved agency providing an analysis of alternative building elements, components, assemblies, designs, constructions, or other identified attributes and comparing them to existing data or prescriptive designs for compliance of the alternative with identified provisions prescribed by the code or other identified standard.

Add new text as follows:

1402.7 Vertical and lateral flame propagation compliance methods. When exterior wall assemblies are required in this Chapter to be tested for vertical and lateral flame propagation in accordance with, and comply with the acceptance criteria of NFPA 285, compliance with the requirements shall be established by any of the following:

1. An exterior wall assembly tested in accordance with and meeting the acceptance criteria of NFPA 285.
2. An exterior wall assembly design listed by an approved agency for compliance with NFPA 285.
3. An engineering analysis based on NFPA 285 test data as allowed by Section 104.11.

Reason: The new proposal defines engineering analysis, a term that is widely used within the IBC. Terms used in the I-Codes include engineering evaluation, engineering assessment, engineering calculations, engineering judgement, engineering analysis, and rational analysis with “engineering analysis” used most often in the IBC. Engineering analyses are used to perform critical performance evaluation support the use of alternate materials and methods as allowed in Section 104.11.
The new section on compliance methods assists code enforcement by providing three compliance methods for those exterior wall assemblies that must be tested in accordance with NFPA 285. While the Code accepts the concept of approval-by-analysis under Section 104.11 this proposal provides specific guidance to credible sources of compliance information for required NFPA 285 testing

In the context of exterior wall assemblies of Type I – IV construction, analysis of deviations from an as-tested assembly are an acceptable means by which to support recognition of a modified assembly. All analysis or extension of results must be substantiated as being based on the fire exposure and acceptance criteria of NFPA 285. Upon submission of such documentation to the building official, the engineering analysis or engineering judgement can be approved as the basis for showing compliance with Section 2603.5.5 of the code.

Each compliance method is addressed below:

1. NFPA 285 test data, from an accredited laboratory, for the exterior wall assembly confirms specific performance of a specific assembly.

2. Designs listed by an accredited and approved agency will be based on successful NFP 285 testing of the exterior wall assembly and accompanying analysis of data.

3. Analysis of deviations in construction or material(s) from a successful NFPA 285 test using principles of fire science and fire protection engineering is an appropriate means to support recognition of an assembly where such analysis considers influences that deviation(s) will have on the performance of the tested assembly and determines the deviations will not significantly alter the full-scale results.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of

Page: 1

Mod_10873_Text_FS124-21.pdf

F10873Text Modification

building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, GAF, Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, Rmax - A Business Unit of the Sika Corporation.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal clarifies methods available to designers, builders, and building officials that are acceptable to support verification and approval exterior wall assemblies regarding testing and compliance with the acceptance criteria of NFPA 285.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee concluded there are serious issues with the proposal and a lot of controversy with it. Section 104.11, Alternative materials, design, and methods of construction and equipment, could be used. The proposed definition of engineering analysis is not broad enough to apply to the use of the term currently in the code. The proposal could have been submitted as two different proposals for each item. (Vote: 13-0)

Public Comments

Public Comment 1

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

~~**ENGINEERING ANALYSIS .** A report from an approved source or an approved agency providing an analysis of alternative building elements, components, assemblies, designs, constructions, or other identified attributes and comparing them to existing data or prescriptive designs for compliance of the alternative with identified provisions prescribed by the code or other identified standard.~~

1402.7 Vertical and lateral flame propagation compliance methods . When exterior wall assemblies are required in this Chapter to be tested for vertical and lateral flame propagation in accordance with, and comply with the acceptance criteria of NFPA 285, compliance with the requirements shall be established by any of the following:

1. An exterior wall assembly tested in accordance with and meeting the acceptance criteria of NFPA 285.
2. An exterior wall assembly design listed by an approved agency for compliance with NFPA 285.
3. ~~An engineering~~ An ~~engineering~~approved analysis based on ~~NFPA 285 test data as allowed by Section 104.11 104.11.~~an assembly or condition tested in accordance with and meeting the acceptance criteria of NFPA 285.

Commenter's Reason: This Public Comment is necessary to address concerns raised during opposition testimony and by committee statements supporting Disapproval. Our members believe that clarification of prescriptive compliance pathways regarding NFPA 285 provides clear and valuable guidance to all code users and for the enforcement of the Code. The three pathways described in the proposal are to the same as those prescribed and allowed for other large-scale assembly tests (often accompanied by Labeling) such as ASTM E119 / UL 263, and several other disciplines not related to fire testing or fire performance. Where this proposal differs is that it prescribes all

Page: 2
Mod_10873_Text_FS124-21.pdf

three routes to compliance within a single section.

This Public Comment:

- Removes the Engineering Analysis term and proposed definition.
- Retains the [New] Section 1402.7, but with revisions to:
  - Remove “engineering” terminology
  - Remove reference to 104.11
  - Add clarifying language regarding the analysis is based on NFPA 285 data for a tested assembly / condition
  - Add language requiring approval of the analysis

Publications describing NFPA 285 and the use of NFPA 285 test data for analysis of assembly fire performance are included with this public comment.

We respectfully request Approval FS124-21 as Modified by this Public Comment. The modification is an improvement to the original proposal and addresses concerns expressed during the Committee Action Hearings.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, EPS Industry Alliance, GAF, Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, and Rmax - A Business Unit of the Sika Corporation.

Bibliography:

1. NFPA 285 - Extending Data with Comparative Engineering Analysis, IIBEC Interface, March 2021
2. NFPA 285 Engineering Judgements: A Practical Compliance Option, The Construction Specifier, June 2021

The link for the two articles: https://www.modernbuildingalliance.us/resources/

See labels: IIBEC Interface Article and Construction Specifier Article and use download resource button.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The proposal clarifies existing methods available to designers, builders, and building officials that are acceptable to support verification and approval exterior wall assemblies regarding testing and compliance with the acceptance criteria of NFPA 285.

Final Hearing Results

FS124-21 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

208

F10874 /FS125-21

Date Submitted	03/07/2024	**Section**	1402.8	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposed new section is specific to exterior wall veneers composed of a metal core and facings that are both noncombustible materials, and the facings are laminated to the core using a combustible laminating adhesive. Adds new section 1402.8.

Rationale

See attached

F10874Text Modification

See attached

Page: 1

Mod10874_TextOfModification.pdf

F10874Text Modification

FS125-21

Original Proposal

IBC: 1402.8 (New)

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com); Robert A. Zabcik, Metal Construction Association (MCA), Metal Construction Association (MCA) (bob@ztech-consulting.com)

2021 International Building Code

Add new text as follows:

1402.8 Exterior wall veneers manufactured using combustible adhesives. Exterior wall assemblies on buildings of Type I, II, III or IV construction that are greater than 40 feet (12,192 mm) in height above grade plane and contain an exterior wall veneer manufactured using a combustible adhesive to laminate a metal core with noncombustible facing materials shall be tested in accordance with, and comply with, the acceptance criteria of NFPA 285, with the adhesive level at the maximum application rate intended for use. Combustibility shall be determined in accordance with Section 703.3.

Exception:

1. Walls in which the adhesive is the only combustible component and the adhesive complies with the following:
   - 1.1. A peak heat release rate of less than 150 kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18 MJ/kg when tested, in accordance with ASTM E1354, with the adhesive applied to a noncombustible substrate at the maximum application rate intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.
   - 1.2. A flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723.

Reason: This proposed new section is specific to exterior wall veneers composed of a metal core and facings that areboth noncombustible materials, and the facings are laminated to the core using a combustible laminating adhesive. IBC Section 703.3.1 on noncombustible materials does not address the condition of combustible adhesives used to adhere a noncombustible surfacing (i.e. facings) to a noncombustible base (i.e. a metal core). The language of Section 703.3.1 has, in practice, been interpreted such that the scope of the exception includes veneer materials / products with a noncombustible core and thin facings (noncombustible or having limited surface burning characteristics), even though a combustible adhesive present.

Interpreting Section 703.3.1 in such manner has resulted in determinations that the veneer materials described above are considered noncombustible and, therefore, exterior wall coverings using these materials are not required to be tested in accordance with, or comply with the acceptance criteria of, NFPA 285 even though the veneer may contain a combustible material (the adhesive) of unknown and unregulated flammability. The IBC does not currently contain provisions regulating the flammability of combustible adhesives when used in exterior wall applications. The proposed change establishes a flame propagation requirement for this type of exterior veneer when used in exterior wall covering applications.

The proposal contains an exception to required NFPA 285 testing for the condition where the combustible adhesive is the only combustible component in the exterior wall assembly and the adhesive complies with specific flammability limitations and surface burning characteristics. The flammability limitations and surface burning characteristics prescribed in the proposed exception are equivalent to those currently recognized for the condition where a combustible water resistive barrier is the only combustible component in an exterior wall assembly.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas

Page: 1

Mod_10874_Text_FS125-21.pdf

F10874Text Modification

Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, GAF, Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, Rmax - A Business Unit of the Sika Corporation.



Figure 1. Metal honeycomb core (facing removed on lower half) - Combustible adhesives used to attach both top and bottom facings.



Figure 2. Corrugated metal core panel (End View) - Combustible adhesives used to attach both top and bottom facings.

Cost Impact: The code change proposal will increase the cost of construction
By expanding required compliance with NFPA 285, the proposal will increase testing for a segment of this exterior wall covering putting them at a level that is consistent with other exterior wall coverings specifically identified in the IBC including Metal Composite Materials (MCM), Exterior Insulation and Finish Systems (EIFS), High-Pressure Laminates (HPL), etc.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee disapproval is based on the committee action on FS121-21. (Vote: 11-1)

Public Comments

Public Comment 1

Page: 2

Mod_10874_Text_FS125-21.pdf

F10874Text Modification

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com); Robert A. Zabcik, Metal Construction Association (MCA), Metal Construction Association (MCA) (bob@ztech-consulting.com) requests As Modified by Public Comment

Modify as follows:

2021 International Building Code

1402.8 Exterior wall veneers manufactured using combustible adhesives . Exterior wall assemblies on buildings of Type I, II, III or IV construction that are greater than 40 feet (12,192 mm) in height above grade plane and contain an exterior wall veneer manufactured using a combustible adhesive to laminate a metal core with noncombustible facing materials shall be tested in accordance with, and comply with, the acceptance criteria of NFPA 285, with the adhesive level at the maximum application rate intended for use. Combustibility shall be determined in accordance with Section 703.3.

~~**Exception:**~~

~~1. Walls in which the adhesive is the only combustible component and the adhesive complies with the following~~:

~~1.1. A peak heat release rate of less than 150 kW/m2, a total heat release of less than 20 MJ/m2 and an effective heat of combustion of less than 18 MJ/kg when tested, in accordance with ASTM E1354, with the adhesive applied to a noncombustible substrate at the maximum application rate intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.~~

~~1.2. A flame spread index of 25 or less and a smoke-developed index of 450 or less as determined in accordance with ASTM E84 or UL 723.~~

Commenter's Reason: This proposal and public comment are necessary to address a loophole by which the use of certain exterior cladding materials containing a combustible adhesive in Type I-IV construction are not required to undergo NFPA 285 tests because they "…shall be acceptable as noncombustible…" under the Exception to Section 703.3.1. In effect, this loophole allows the unregulated use of a combustible adhesive in exterior wall veneers of Type I-IV construction. While the volume of this adhesive may be limited, it has been shown to lead to excessive flame propagation in exterior veneer uses. The proposal and this PC seek to add a prescriptive requirement for NFPA 285 testing when these materials are used in or on exterior walls of Type I-IV construction.
This Public Comment removes the proposed Exception that the committee found objectionable while retaining the prescribed requirement for NFPA 285 testing when these materials are used on exterior walls of Type I-IV construction.

The committee's reason for Disapproval was based on the Disapproval action taken on FS121-21 that sought to add an exception to NFPA 285 testing for exterior walls containing a combustible WRB and FRTW. This code proposal is actually the opposite of FS121-21 in that it seeks to add the NFPA 285 testing requirement for these metal-core with metal-faced laminated panel products using combustible adhesives.This loophole in the IBC allows exterior laminated panels to be exempt from the fire performance criteria of NFPA 285 when used on exterior walls of Type I-IV buildings greater than 40ft in height even though there is a known potential flame propagation. Metal-core panels with thin metal faces adhered using a combustible laminating adhesive have shown significant flame propagation in NFPA 285 testing, and several other large-scale tests around the world (also due to excessive vertical and lateral flame spread). These test results have led to significant limitations in the use of this product type on high-rise and even mid-rise buildings in both England and Australia.

Language contained in IBC Section 703.3.1 has been used to accept this type of material as noncombustible. This proposal does nothing to change 703.3.1 but adds a prescriptive requirement for metal core laminated panels to be tested in accordance with NFPA 285 when used as an exterior wall veneer on exterior walls for buildings taller than 40ft in height as is required for all other combustible materials (i.e., combustible WRBs, MCM, HPL, EIFS, foam plastic insulation, etc.).

In the initial proposal, the intent of the exception was to limit the amount of combustible material; as is currently allowed for walls containing only a combustible WRB. This exception has been eliminated because:

- No cone calorimeter data exists to provide a benchmark on the adhesive performance with respect to the exception criteria.
- It would be rare, if not impossible for this type of panel to be installed without the use of a WRB, so a combustible limitation based on the adhesive being the only combustible material in the exterior wall assembly is not realistic and the exceptions of Section 1402.5 would not apply; thus NFPA 285 testing would be required.

F10874Text Modification

At the hearings in April, there was no opposition to this proposal. This proposal actually adds a requirement for NFPA 285 testing of what is technically a combustible cladding element; which is currently being installed as noncombustible due to the loophole in the IBC. A final comment from the committee was a reference to Grenfell Tower and that “we need to get this issue addressed correctly." That is exactly what this proposal is designed to do. Take what has been shown to be a combustible cladding material with vertical and lateral flame spread issues and require testing to NFPA 285.

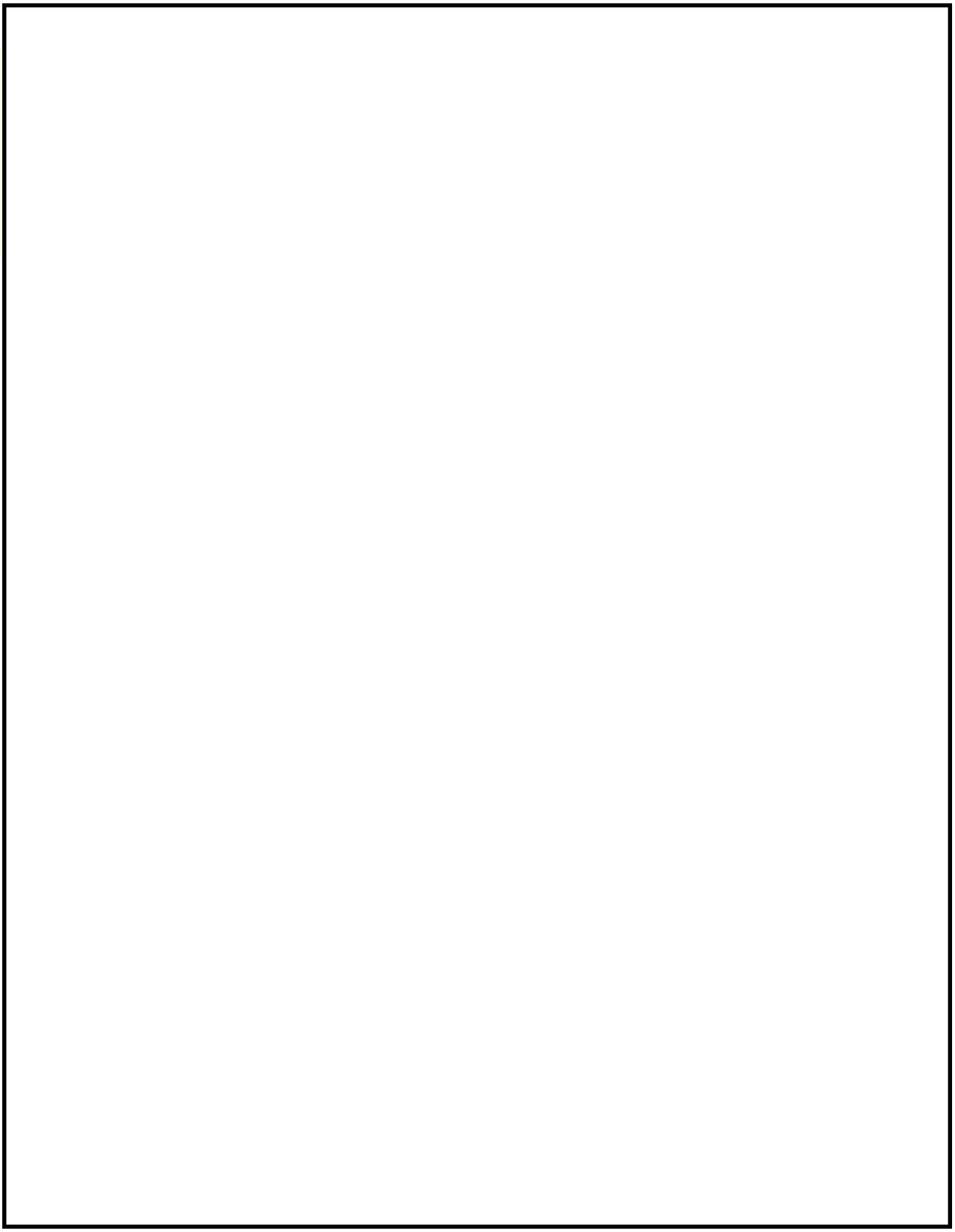
We respectfully request Approval as Modified by this Public Comment.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, EPS Industry Alliance, GAF, Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, and Rmax - A Business Unit of the Sika Corporation.

Page: 4

Mod_10874_Text_FS125-21.pdf

F10874Text Modification



Mod_10874_Text_FS125-21.pdf Page: 5

F10874Text Modification

Cost Impact: The net effect of the Public Comment and code change proposal will increase the cost of construction
By expanding required compliance with NFPA 285, the proposal will increase testing for a segment of this exterior wall covering putting them at a level that is consistent with other exterior wall coverings specifically identified in the IBC including Metal Composite Materials (MCM), Exterior Insulation and Finish Systems (EIFS), High-Pressure Laminates (HPL), etc.

Final Hearing Results

FS125-21 AMPC1

Page: 6

Mod_10874_Text_FS125-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

209

F10875 /FS126-21

Date Submitted	03/07/2024	**Section**	1403.2	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

2023 FBC -B - Section 1404.2.

Summary of Modification

The purpose of this proposal is to coordinate IBC Section 1403.2 with IRC Section R703.2. Two provisions from the water-resistive barrier Section R703.2 of the IRC are copied.

Rationale

See attached

F10875Text Modification

See attached

Page: 1

Mod10875_TextOfModification.pdf

F10875Text Modification

FS126-21

Original Proposal

IBC: 1403.2

Proponents: Rob Brooks, Rob Brooks and Associates LLC, DuPont Performance Building Solutions (rob@rtbrooks.com)

2021 International Building Code

Revise as follows:

1403.2 Water-resistive barrier. Not fewer than one layer of *water-resistive barrier* material shall be attached to the studs or sheathing, with flashing as described in Section 1404.4, in such a manner as to provide a continuous *water-resistive barrier* behind the exterior wall *veneer*. The *water-resistive barrier* material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section 1402.2.
Water-resistive barriers shall comply with one of the following:

1. No. 15 felt complying with ASTM D226, Type 1.
2. ASTM E2556, Type I or II.
3. ASTM E331 in accordance with Section 1402.2.
4. Other approved materials installed in accordance with the manufacturer's installation instructions.

No.15 asphalt felt and *water-resistive barriers* complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).

Reason: The purpose of this proposal is to coordinate IBC Section 1403.2 with IRC Section R703.2.
Two provisions from the water-resistive barrier Section R703.2 of the IRC are copied. The first provision is located in the charging language of 1403.2, which requires that the water-resistive barrier shall be continuous to the top of walls and terminated at penetrations. The second provision is located after the list of approved materials and requires that No. 15 felt and ASTM E2556 material installation use a horizontal orientation with specified lap lengths for the horizontal layers and vertical joints.

This proposal strengthens the IBC by ensuring the water-resistive barrier is continuous and will provide a means for draining water that enters the assembly to the exterior.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
These products are typically installed in accordance with the proposed amendments and will not increase the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

1403.2Water-resistive barrier.
Not fewer than one layer of *water-resistive barrier* material shall be attached to the studs or sheathing, with flashing as described in Section 1404.4, in such a manner as to provide a continuous *water-resistive barrier* behind the exterior wall *veneer*. The intersection between the *water-resistive barrier* materials and fenestration openings shall be flashed and assembled inaccordance with the fenestration manufacturer's installation instructions, or other *approved* methods for applications not addressed by the fenestration manufacturer's instructions. The *water-resistive barrier* material shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section 1402.2. *Water-resistive barriers* shall comply with one of the following:

Page: 1

Mod_10875_Text_FS126-21.pdf

F10875Text Modification

1. No. 15 felt complying with ASTM D226, Type 1.
2. ASTM E2556, Type I or II.
3. ASTM E331 in accordance with Section 1402.2.
4. Other approved materials installed in accordance with the manufacturer's installation instructions.

No.15 asphalt felt and *water-resistive barriers* complying with ASTM E2556 shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm), and where joints occur, shall be lapped not less than 6 inches (152 mm).

Committee Reason: The committee concluded that the modification corrects complex language. The proposal coordinates IBC Section 1403.2 with IRC Section R703.2. The proposal appropriately includes prescriptive instructions for No.15 asphalt felt. (Vote: 13-0)

Final Hearing Results

FS126-21 AM

Page: 2

Mod_10875_Text_FS126-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

210

F10913 /FS157-21

Date Submitted	03/08/2024	**Section**	1405.1.1	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC - B - Section 1406.2.1.

Summary of Modification

Proposal adds exceptions to Item2, Section 1405.1.1 "Types I, II, III, and IV construction".

Rationale

See attached

F10913Text Modification

See attached

Page: 1

Mod10913_TextOfModification.pdf

F10913Text Modification

FS157-21

Original Proposal

IBC: 1405.1.1

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com)

2021 International Building Code

Revise as follows:

1405.1.1 Types I, II, III and IV construction. On buildings of Types I, II, III and IV construction, *exterior wall coverings* shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible *exterior wall coverings* shall not exceed 10 percent of an *exterior wall* surface area where the *fire separation distance* is 5 feet (1524 mm) or less.
2. Combustible *exterior wall coverings* shall be limited to 40 feet (12 192 mm) in height above *grade plane*.

   Exceptions:

   1. *Metal composite material (MCM) systems* complying with Section 1406.
   2. *Exterior insulation and finish systems (EIFS)* complying with Section 1407.
   3. *High-pressure decorative exterior-grade compact laminate (HPL)* systems complying with Section 1408.
   4. Exterior wall coverings containing *foam plastic insulation* complying with Section 2603.5.

3. Combustible *exterior wall coverings* constructed of *fire-retardant-treated wood* complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the *fire separation distance* is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above *grade plane* regardless of the *fire separation distance*.
4. Wood *veneers* shall comply with Section 1404.5.

Reason: Section 1405.1.1 permits limited use of combustible exterior wall coverings on Types I – IV construction, however, there is a conflict that requires correction. Limitation #2 (maximum 40-ft in height) conflicts with other sections in Chapters 14 and 26 containing provisions for these exterior wall assemblies and exterior wall covering installations that are greater than 40-ft. in height.
Multiple other sections of Chapter 14 (1406, 1407, and 1408) and Section 2603.5 more specifically address uses of materials in exterior wal assemblies beyond the 40-ft height limitation when successful testing to NFPA 285 is demonstrated. This proposal provides appropriate exceptions to Limitation 2 and references to those sections of the Code providing the applicable information regarding use on Types I-IV construction greater than 40-ft in height.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, GAF, Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, Rmax - A Business Unit of the Sika Corporation.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal does not change existing performance or construction requirements.

Page: 1

Mod_10913_Text_FS157-21.pdf

F10913Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

1405.1.1Types I, II, III and IV construction.
On buildings of Types I, II, III and IV construction,*exterior wall coverings* shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible *exterior wall coverings* shall not exceed 10 percent of an *exterior wall* surface area where the *fire separation distance* is 5 feet (1524 mm) or less.
2. Combustible *exterior wall coverings* shall be limited to 40 feet (12 192 mm) in height above*grade plane*.

   Exceptions:

   1. *Metal composite material (MCM) systems* complying with Section 1406.
   2. *Exterior insulation and finish systems (EIFS)* complying with Section 1407.
   3. *High-pressure decorative exterior-grade compact laminate (HPL)* systems complying with Section 1408.
   4. Exterior wall coverings containing *foam plastic insulation* complying with Section 2603.~~5~~
3. Combustible *exterior wall coverings* constructed of *fire-retardant-treated wood* complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the *fire separation distance* is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above *grade plane* regardless of the *fire separation distance*.
4. Wood *veneers* shall comply with Section 1404.5.

Committee Reason: The committee concluded that the modification is necessary to refer to all the requirements in section 2603. The proposal fixes many conflicts by providing the appropriate exceptions to Limitation 2 and references to those sections of the Code providing the applicable information regarding use on Types I-IV construction greater than 40-ft in height. (Vote: 13-0)

Final Hearing Results

FS157-21 AM

Page: 2

Mod_10913_Text_FS157-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

211

F10914 /FS158-21

Date Submitted	03/08/2024	**Section**	1405.1.1	**Proponent**	Mo Madani
Chapter	14	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments Yes

Related Modifications

FBC - B - Section 1406.2.1.

Summary of Modification

The provision to allow exterior wall coverings to be of combustible materials is inconsistent with the exterior walls covering requirements for Type IV-A, IV-B, and IV-C.

Rationale

See attached

1st Comment Period History

F10914-G1

Proponent Cade Booth Submitted 6/21/2024 11:16:18 AM Attachments No

Comment:

The American Wood Council (AWC) supports the retention of the 'HT' designator for type IV construction. Keeping this designator will reduce confusion for mass timber construction projects currently being proposed for construction using alternative materials, design and methods of construction and equipment as allowed by the Florida Building Code. Additionally, this will prepare Florida to adopt the additional construction types related to mass timber that have been in the International Building Code since publication of the 2021 edition. Until then, AWC has, with the assistance of the Building Officials Association of Florida, developed a Mass Timber AMM Guide to support building officials by providing supplementary prescriptive requirements for mass timber buildings of Type IV construction. The guide for use with the 2023 Florida Building Code, is available at: https://awc.org/wp-content/uploads/2023/11/AWC_Florida-TMT-Guide_20231120.pdf Thank you.

F10914Text Modification

See attached

Page: 1

Mod10914_TextOfModification.pdf

F10914Text Modification

FS158-21

Original Proposal

IBC: 1405.1.1

Proponents: James Smith, American Wood Council, American Wood Council (jsmith@awc.org)

2021 International Building Code

Revise as follows:

1405.1.1 Types I, II, III and IV-HT construction. On buildings of Types I, II, III and IV-HT construction, *exterior wall coverings* shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible *exterior wall coverings* shall not exceed 10 percent of an *exterior wall* surface area where the *fire separation distance* is 5 feet (1524 mm) or less.
2. Combustible *exterior wall coverings* shall be limited to 40 feet (12 192 mm) in height above *grade plane*.
3. Combustible *exterior wall coverings* constructed of *fire-retardant-treated wood* complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the *fire separation distance* is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above *grade plane* regardless of the *fire separation distance*.
4. Wood *veneers* shall comply with Section 1404.5.

Reason: The provision to allow exterior wall coverings to be of combustible materials is inconsistent with the exterior walls covering requirements for Type IV-A, IV-B, and IV-C. Even though this subsection is limited to walls that are no more than 40 ft. in height (limitation 2.) and 60 ft. in height (limitation 3.) there is no similar allowance for Type IV-A, IV-B and IV-C. Prior to the 2021 IBC, Type IV (now designated Type IV-HT) exterior walls coverings were regulated by this section and this change maintains that historical allowance without creating a conflict with the exterior wall protection requirements in subsections 602.4.1.1 (Type IV-A), 602.4.2.1 (Type IV-B) and 602.4.3.1 (Type IV-C). Section 602.4 clearly prohibits all combustible material of any height on the outside of exterior walls in Types IV-A, IV-B, and IV-C. This proposal eliminates a oversight that creates a conflict in the current code. This does not effect the requirement for noncombustible protection of 40 minutes on the exterior side of exterior walls in those types of construction.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
We feel this change is essentially editorial in nature in that it is only clarifying this allowance should only apply to Type IV-HT, rather than including the new Types IV-A, IV-B and IV-C.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee indicated this is a legacy requirement based on legacy understanding; the addition of HT is an appropriate update of the code text. (Vote: 12-0)

Final Hearing Results

FS158-21 AS

Page: 1

Mod_10914_Text_FS158-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

212

F11094 **/S1-21**

Date Submitted	03/14/2024	**Section**	1505.1	**Proponent**	Mo Madani
Chapter	15	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -B.

Summary of Modification

The initial sentence of Section 1505.1 is modified to clarify that Section 1505 establishes fire classification requirements of roof assemblies instead of a requirement to divide roof assemblies into classes. A new sentence is introduced as a replacement for the final sentence.

Rationale

See attached

F11094Text Modification

See attached

Page: 1

Mod11094_TextOfModification.pdf

F11094Text Modification

S1-21

Original Proposal

IBC: [BF] 1505.1

Proponents: Aaron R. Phillips, Asphalt Roofing Manufacturers Association, Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BF] 1505.1 General. Fire classification of *roof assemblies* shall be in accordance with Section 1505. ~~*Roof assemblies* shall be divided into the classes defined in this section.~~ The minimum fire classification of *roof assemblies* installed on buildings shall comply with Table 1505.1 based on type of construction of the building. Class A, B and C *roof assemblies* and *roof coverings* required to be listed by this section shall be tested in accordance with ASTM E108 or UL 790. In addition, *fire-retardant-treated wood roof coverings* shall be tested in accordance with ASTM D2898. ~~The minimum *roof coverings* installed on buildings shall comply with Table 1505.1 based on the type of construction of the building.~~

Exception: *Skylights and sloped glazing* that comply with Chapter 24 or Section 2610.

Reason: The initial sentence of Section 1505.1 is modified to clarify that Section 1505 establishes fire classification requirements of roof assemblies instead of a requirement to divide roof assemblies into classes. A new sentence is introduced as a replacement for the final sentence. It clarifies that Table 1505.1 provides the minimum fire classification for roof assemblies based on type of construction, rather than the "minimum roof covering," which is a vague and potentially confusing phrase. Rearrangement of the section makes it read more logically and improves clarity.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal clarifies code language and rearranges existing provisions. These changes are not expected to affect cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE 1505.1 MINIMUM ROOF ASSEMBLY~~COVERING~~ CLASSIFICATION FOR TYPES OF CONSTRUCTION[a, b]

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
B	B	B	C[c]	B	C[c]	B	B	C[c]

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Unless otherwise required in accordance with the *International Wildland-Urban Interface Code* or due to the location of the building within a fire district in accordance with Appendix D.

b. Nonclassified roof coverings shall be permitted on buildings of Group R-3 and Group U occupancies, where there is a minimum fire-separation distance of 6 feet measured from the leading edge of the roof.

Page: 1

Mod_11094_Text_S1-21.pdf

F11094Text Modification

c. Buildings that are not more than two stories above grade plane and having not more than 6,000 square feet of projected roof area and where there is a minimum 10-foot fire-separation distance from the leading edge of the roof to a lot line on all sides of the building, except for street fronts or public ways, shall be permitted to have roofs of No. 1 cedar or redwood shakes and No. 1 shingles constructed in accordance with Section 1505.7.

Committee Reason: The committee determined the modification makes TABLE 1505.1 consistent with the proposal. The committee based their approval on the proponent's reason statement and concluded the code change clarifies the existing language. The committee suggested fixing TABLE 1505.1 footnote b, "Nonclassified roof coverings" to "Nonclassified roof assembly" in the public comment phase. (Vote: 12-1)

Final Hearing Results	
S1-21	AM

Page: 2

Mod_11094_Text_S1-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

213

F11096 **/S2-21**

Date Submitted	03/14/2024	**Section**	1505.1	**Proponent**	Mo Madani
Chapter	15	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

Table 1505.1. This proposal removes the existing permission to use nonclassifed roof coverings on buildings of Group R-3 occupancy.

Rationale

See attached

F11096Text Modification

See attached

Page: 1

Mod11096_TextOfModification.pdf

F11096Text Modification

S2-21

Original Proposal

IBC: TABLE 1505.1

Proponents: Aaron R. Phillips, Asphalt Roofing Manufacturers Association, Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

TABLE 1505.1 MINIMUM ROOF COVERING CLASSIFICATION FOR TYPES OF CONSTRUCTION[a, b]

IA	IB	IIA	IIB	IIIA	IIIB	IV	VA	VB
B	B	B	C[c]	B	C[c]	B	B	C[c]

For SI: 1 foot = 304.8 mm, 1 square foot = 0.0929 m^2.

a. Unless otherwise required in accordance with the *International Wildland-Urban Interface Code* or due to the location of the building within a fire district in accordance with Appendix D.

b. Nonclassified roof coverings shall be permitted on buildings of ~~Group R-3 and~~ Group U occupancies, where there is a minimum fire-separation distance of 6 feet measured from the leading edge of the roof.

c. Buildings that are not more than two stories above grade plane and having not more than 6,000 square feet of projected roof area and where there is a minimum 10-foot fire-separation distance from the leading edge of the roof to a lot line on all sides of the building, except for street fronts or public ways, shall be permitted to have roofs of No. 1 cedar or redwood shakes and No. 1 shingles constructed in accordance with Section 1505.7.

Reason: This proposal removes the existing permission to use nonclassifed roof coverings on buildings of Group R-3 occupancy. The option permitting nonclassified roof coverings on buildings in Group R-3 has been present in all versions of the IBC back to and including the 2000 edition. However, the description of Group R-3 occupancy in the 2000 IBC differs from successive editions; it includes buildings with no more than two dwelling units or adult and child care facilities that accommodate no more than five people for less than 24 hours. IBC editions from 2003 through 2021 include within Group R-3 buildings with up to sixteen occupants.
In the 2021 IBC, Group R-3 occupancies have occupants who are primarily permanent, and this Group encompasses those buildings not within Groups R-1, R-2, R-4 or I. Among the building uses included in Group R-3 are congregate living facilities with up to sixteen nontransient occupants; these buildings are permitted to use nonclassified roof coverings. In comparison, Group R-1 includes congregate living facilities with more than ten transient occupants, yet does not permit nonclassified roof coverings. As an additional example, Group R-4 occupancies are restricted to between six and sixteen occupants, excluding staff. Both Groups R-1 and R-4 include buildings in which the number of occupants may be less than the number permitted in a building that falls within Group R-3, yet both Groups R-1 and R-4 do not permit nonclassified roof coverings.

The acceptance of nonclassified roof coverings on Group R-3 buildings is puzzling since all other residential groups require classified roof coverings, and the number of occupants permitted in some Group R-3 buildings is greater than the number permitted in some Group R-1 and R-4 buildings. The current situation, which permits nonclassified roof coverings on Group R-3 buildings, may increase the life safety hazard to occupants of these buildings and is worthy of reconsideration.

Cost Impact: The code change proposal will increase the cost of construction
The cost of classified roof coverings may be higher than the cost of non-classified roof covers in some situations.

Page: 1

Mod_11096_Text_S2-21.pdf

F11096Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal is a good change in the direction of safety. As indicated by manufacturers, there are many designs that people can choose from. This proposal is not a limiting factor. One of the committee members mentioned this proposal contradicts with an exception in the IRC. (Vote: 11-2)

Final Hearing Results

S2-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

214

F11097	/S3-21				
Date Submitted	03/14/2024	**Section**	1505.2	**Proponent**	Mo Madani
Chapter	15	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-B.

Summary of Modification

This proposal recommends addition of ASTM D4869 Type IV underlayment as an alternative to D226 Type II in Exception 4 based on equivalent compositional requirements

Rationale

See attached

F11097Text Modification

See attached

Page: 1

Mod11097_TextOfModification.pdf

F11097Text Modification

S3-21

Original Proposal

IBC: [BF] 1505.2

Proponents: Aaron R. Phillips, Asphalt Roofing Manufacturers Association, Asphalt Roofing Manufacturers Association (aphillips@asphaltroofing.org)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BF] 1505.2 Class A roof assemblies. Class A *roof assemblies* are those that are effective against severe fire test exposure. Class A *roof assemblies* and *roof coverings* shall be *listed* and identified as Class A by an *approved* testing agency. Class A *roof assemblies* shall be permitted for use in buildings or structures of all types of construction.

Exceptions:

1. Class A *roof assemblies* include those with coverings of brick, masonry or an exposed concrete roof deck.
2. Class A *roof assemblies* also include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile or slate installed on noncombustible decks or ferrous, copper or metal sheets installed without a roof deck on noncombustible framing.
3. Class A *roof assemblies* include minimum 16 ounce per square foot (0.0416 kg/m^2) copper sheets installed over combustible decks.
4. Class A *roof assemblies* include slate installed over ASTM D226, Type II<u>or ASTM D4869, Type IV</u> *underlayment* over combustible decks.

Reason: Exception 4 was added to Section 1505.2 via proposal S20 in the code development cycle that created the 2015 edition. The supporting information for S20 included test data substantiating the Class A classification of a roof assembly that comprises slate shingles and ASTM D226 Type II underlayment installed on a combustible deck. This proposal recommends addition of ASTM D4869 Type IV underlayment as an alternative to D226 Type II in Exception 4 based on equivalent compositional requirements. The minimum masses of saturated felt, saturant, and desaturated felt are equivalent for both ASTM D226 Type II and ASTM D4869 Type IV saturated felts. Because the compositional requirements of ASTM D226 Type II and ASTM D4869 Type IV saturated felts are equivalent, the behavior in a UL 790 or ASTM E108 fire test can be expected to be equivalent.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal adds an alternative underlayment option, which can generally be expected to increase competitiveness in the market. No change in cost of construction is anticipated.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee based their approval on the proponent's reason statement and concluded the code change correlates the existing code text. (Vote: 13-0)

Page: 1

Mod_11097_Text_S3-21.pdf

F11097Text Modification

Final Hearing Results

S3-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

215

F11099 **/S6-21**

Date Submitted	03/14/2024	**Section**	1511.1.1	**Proponent**	Mo Madani
Chapter	15	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal clarifies that penthouses and other enclosed rooftop structures are not required to be included in the building height.

Rationale

See attached

F11099Text Modification

See attached

Page: 1

Mod11099_TextOfModification.pdf

F11099Text Modification

S6-21

Original Proposal

IBC: 1511.1.1

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BG] 1511.1.1 Area limitation. The aggregate area of *penthouses* and other enclosed *rooftop structures* shall not exceed one-third the area of the supporting roof deck. Such *penthouses* and other enclosed *rooftop structures* shall not be required to be included in determining the ~~*building area* or number of stories~~*building height*, number of *stories* or *building area* as regulated by Section 503.1. The area of such *penthouses* shall not be included in determining the *fire area* specified in Section 901.7.

Reason: This proposal clarifies that penthouses and other enclosed rooftop structures are not required to be included in the building height. This section already states that these structures are not included in the number of stories and Section 1510.2.1 has penthouse height limits above the roof deck, which are independent of building height limitations in Section 503.1. Based on this, it is believed the intent of the code is that the height of these types of structures is only regulated in terms above height above the roof deck.

The commentary for the definition of "building height" indicates that since a penthouse is defined as a structure that is built above the roof of a building, it is above the point to which building height is measured. Therefore a penthouse would not affect the measurement of the building height and can be located above the maximum allowed roof height. However, per definition in Section 202, "building height" is measured to the average height of the highest roof surface so it must be clarified in the code that the roof surface of penthouses and other enclosed rooftop structures are not considered in the building height.

Also, it should be noted that the wording in this proposal is revised/re-ordered to "*building height*, number of *stories* or *building area*" simply to match the wording in Section 503.1.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is intended to be a clarification that will not change the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it matches the intent of the code and is a good clarification. (Vote: 14-0).

Final Hearing Results

S6-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

216

F11101 **/S7-21**

Date Submitted	03/14/2024	**Section**	1511.2.4	**Proponent**	Mo Madani
Chapter	15	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies Section 1511.2.4 "Type of construction". Concerning penthouse fire resistance rating.

Rationale

See attached

F11101Text Modification

See attached

Page: 1

Mod11101_TextOfModification.pdf

F11101Text Modification

S7-21

Original Proposal

IBC: [BG] 1511.2.4

Proponents: David Renn, City and County of Denver, Code Change Committee of ICC Colorado Chapter (david.renn@denvergov.org)

THIS CODE CHANGE WILL BE HEARD BY THE IBC-GENERAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THAT COMMITTEE.

2021 International Building Code

Revise as follows:

[BG] 1511.2.4 Type of construction. Penthouses shall be constructed of ~~building elements~~ *building element* materials as required for the type of construction of the building ~~on which such penthouses are built~~. Penthouse *exterior walls* and roof construction shall have a *fire-resistance rating* as required for the type of construction of the building. Supporting construction of such *exterior walls* and roof construction shall have a *fire-resistance rating* not less than required for the *exterior wall* or roof supported.

Exceptions:

1. On buildings of Type I construction, the *exterior walls* and roofs of *penthouses* with a *fire separation distance* greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour *fire-resistance rating*. The *exterior walls* and roofs of *penthouses* with a *fire separation distance* of 20 feet (6096 mm) or greater shall not be required to have a *fire-resistance rating*.
2. On buildings of Type I construction two stories or less in height above *grade plane* or of Type II construction, the *exterior walls* and roofs of *penthouses* with a *fire separation distance* greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour *fire-resistance rating* or a lesser *fire-resistance rating* as required by Table 705.5 and be constructed of *fire-retardant-treated wood*. The *exterior walls* and roofs of *penthouses* with a *fire separation distance* of 20 feet (6096 mm) or greater shall be permitted to be constructed of *fire-retardant-treated wood* and shall not be required to have a *fire-resistance rating*. Interior framing and walls shall be permitted to be constructed of *fire-retardant-treated wood*.
3. On buildings of Type III, IV or V construction, the *exterior walls* of *penthouses* with a *fire separation distance* greater than 5 feet (1524 mm) and less than 20 feet (6096 mm) shall be permitted to have not less than a 1-hour *fire-resistance rating* or a lesser *fire-resistance rating* as required by Table 705.5. On buildings of Type III, IV or VA construction, the *exterior walls* of *penthouses* with a *fire separation distance* of 20 feet (6096 mm) or greater shall be permitted to be of heavy timber construction complying with Sections 602.4 and 2304.11 or noncombustible construction or *fire-retardant-treated wood* and shall not be required to have a *fire-resistance rating*.

Reason: The 2021 IBC changed penthouse construction requirements to be as required for building elements based on type of construction instead of requiring walls, floors and roofs to be as required for the type of construction. This change results in overly conservative fire-resistance ratings when the exceptions to this section are used since the exceptions only reduce ratings for exterior walls and roofs. For example, Exception 1 could allow exterior walls and roofs to not have a fire-resistance rating; however, the exception doesn't apply to the secondary members supporting the roof, primary structural frame supporting the roof, or interior bearing walls supporting the roof. The resul would be a non-rated roof supported by a primary structural frame with a 1 or 2-hour rating, secondary members with a 1 or 1 1/2-hour framing and interior bearing walls with a 1 or 2-hour rating.

Prior to the 2021 change, IBC Section 704.1 required the fire-resistance rating of supporting construction for penthouse exterior walls and roofs to be not less than the rating of the wall or roof supported. This level of protection is appropriate for a penthouse that is constructed above the roof of the building and is not considered to be part of the primary structural frame of the building. This proposal makes this clear by putting this requirement into the penthouse requirements rather than relying on Section 704.1.

This proposal also removes the requirement that penthouse floors be constructed as required for the type of construction. By definition,

F11101Text Modification

rooftop structures (including penthouses) are constructed over the roof deck of the building, so the the fire-resistance rating of the roof of the building should be allowed for the "floor" of the penthouse.

Cost Impact: The code change proposal will decrease the cost of construction
This proposal will reduce the required fire-resistance rating requirements for penthouses which will result in a decreased cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it revises the language to meet the intent and corrects what could have been misread. (Vote: 13-1)

Final Hearing Results

S7-21 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

217

F11251 | **/S201-22**

Date Submitted	03/18/2024	**Section**	2303.2	**Proponent**	Mo Madani
Chapter	23	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

ASTM E2768 was developed specifically intended for code use. It is a standardized version of ASTM E84 with the extension from 10 minutes to 30 minutes and it measures exactly what the extended ASTM E84 does.

Rationale

See attached

F11251Text Modification

See attached

Page: 1

Mod11251_TextOfModification.pdf

F11251Text Modification

S201-22

Original Proposal

IBC: 2303.2, 2303.2.1 (New), ASTM Chapter 35 (New)

Proponents: Marcelo Hirschler, GBH International, GBH International (mmh@gbhint.com)

2021 International Building Code

Revise as follows:

2303.2 Fire-retardant-treated wood. *Fire-retardant-treated wood* is any wood product that, when impregnated with chemicals by a pressure process or other means during manufacture, shall have, when tested in accordance with ASTM E84 or UL 723, a *listed flame spread index* of 25 or less. ~~Additionally, the~~ The ASTM E84 or UL 723 test shall be continued for~~a~~ an additional 20-minute period and the flame front shall not progress more than 10½ feet (3200 mm) beyond the centerline of the burners at any time during the test.

Add new text as follows:

2303.2.1 Alternate fire testing. A wood product impregnated with chemicals by a pressure process or other means during manufacture, which, when tested to ASTM E2768, has a listed flame spread index of 25 or less and where the flame front does not progress more than 10.5 feet (3200 mm) beyond the centerline of the burners at any time during the test, shall also be considered fire-retardant-treated wood.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor Drive, P.O. Box C700
West Conshohocken, PA 19428

E2768 -11(2018)	Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)

Reason: ASTM E2768 was developed specifically intended for code use. It is a standardized version of ASTM E84 with the extension from 10 minutes to 30 minutes (meaning an additional 20 minutes) and it measures exactly what the extended ASTM E84 does, namely flame spread index and flame front progression beyond the centerline of the burners. This standard is already included in the IWUIC and the language proposed is consistent with the IWUIC language.
The change to the existing section is for language consistency (the exact same language is being proposed in the IRC). It is best to state that the test is continued for "an additional" 20 minutes.

Note that this change adds a new section without deleting any existing section. Thus, sections 2303.2.1 through 2303.2.9 will have to be renumbered as 2303.2.2 through 2303.2.10.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is simple clarification/ ASTM E2768 is the same as the extended ASTM E84 test.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

2303.2.1 Alternate fire testing. ~~A~~ Fire-retardant-treated wood is also any wood product that, when impregnated with chemicals by a pressure process or other means during manufacture, shall have ~~which~~, when tested in accordance with ~~to~~ ASTM E2768, ~~has~~ a listed

Page: 1

Mod_11251_Text_S201-22.pdf

F11251Text Modification

flame spread index of 25 or less and where the flame front does not progress more than 10.5 feet (3200 mm) beyond the centerline of the burners at any time during the test~~, shall also be considered fire-retardant-treated wood~~.

Committee Reason: Approved as modified as the proposal appropriately adds a pointer to the ASTM E2768 as the alternate fire testing requirements. The modification provides the needed rewording to improve clarity of the intent. (Vote: 10-3)

Final Hearing Results

S201-22 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

218

F10724 | **/F60-21 Part II**

Date Submitted	03/04/2024	**Section**	2603.9	**Proponent**	Mo Madani
Chapter	26	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 2603.9 "Special approval". Changing word use.

Rationale

See attached

F10724Text Modification

See attached

Page: 1

Mod10724_TextOfModification.pdf

F10724Text Modification

F60-21 Part II

Original Proposal

IBC: 2603.9

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com); Tim Earl, GBH International, GBH International (tearl@gbhint.com)

2021 International Building Code

Revise as follows:

2603.9 Special approval. Foam plastic shall not be required to comply with the requirements of Section 2603.4 or those of Section 2603.6 where specifically approved based on<u>one of the following</u> large-scale tests<u>.</u> ~~such as, but not limited to~~,

1. NFPA 286 ~~(with~~ <u>using</u> the acceptance criteria of Section 803.1.1.1)~~.~~
2. FM 4880
3. UL 1040
4. UL 1715

Such testing shall be ~~related to the actual end-use configuration and be~~ performed on the finished manufactured foam plastic assembly in the maximum thickness intended for use. Foam plastics that are used as *interior finish* on the basis of <u>these</u> ~~special~~ tests shall <u>also</u> conform to the *flame spread* and smoke-developed requirements of Chapter 8. Assemblies tested shall include seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use.

Reason: The revision to IFC Section 803.11 is for correlation with the approach taken by the companion IBC section, 803.4. IBC Section 803.4 simply references compliance with IBC Section 2603.9. However, IFC Section 803.11 (covers the same topic) currently includes additional text that partially duplicates text from IBC Section 2603.9. There is no reason for IFC Section 803.11 to partially duplicate IBC text when the section already specifically directs you to the IBC section, where the text is being pulled from.
Regarding the change to Section 2603.9, the current text "**<u>such as, but not limited to</u>**, NFPA 286 (with the acceptance criteria of Section 803.1.1.1), FM 4880, UL 1040 or UL 1715" and "such testing **<u>shall be related to the actual end-use configuration</u>** and be performed on the finished manufactured foam plastic assembly" creates an opportunity for "creative" compliance that I recently became aware of. This "creative" solution is does not seem to meet the spirit of the codes' foam plastic regulations. So what is it?

I've learned that two testing laboratories are recognizing permissible use of exposed foam plastic based on a full-scale test that evaluates controlling a fire by oxygen depletion. From what I gather, the approach involves having a sealed attic and requiring a sealing cover over attic stair/hatch opening, perhaps with a sign requiring that the stairs be kept closed. In theory, with a limited oxygen supply in the space, any fire that starts in the space and involves exposed foam plastic (without a thermal barrier) would flash quickly, consume oxygen in the space and, at least temporarily, self-extinguish. While that might seem OK, the ability to maintain such spaces as airtight during the life of a structure certainly seems questionable, and do we really want to allow unprotected foam in these spaces under the philosophy of accepting almost instantaneous fire growth with the hope of self-extinguishment? I've seen exposed foam flashover a room corner test in less than 20 seconds, and relying on self-extinguishment by oxygen depletion doesn't seem like a sound strategy for fire safety for the life of a structure. Further, I wonder about the risk of a backdraft explosion when firefighters responding to the attic fire open the attic and introduce new oxygen into a well-insulated and previously superheated space. I also understand that there is an engineer's report that accompanies test reports for this approach that is being presented to jurisdictions to encourage approval of the approach.

When I contacted one of the laboratories reportedly conducting this test and asked for test documentation or a copy of the engineering report or engineer's letter, I was told that all of this is proprietary and could not be shared. Hence, I've prepared this proposal to bring this "loophole" (in my opinion) out in the open. I am hopeful that the testing labs and/or industry who are promoting the acceptability of this approach to fire safety for exposed foam plastic will show up at the code development hearing to provide sufficient technical justification, as perhaps there's something that's not yet come forward that should be considered. Lacking acceptable justification, it is my opinion that the enabling text in ICC codes should be deleted to close what I regard as a loophole in our approach to fire safety for foam plastics. It is

Page: 1

Mod_10724_Text_F60-21 Part II.pdf

important that the International Code prescribe reasonable and appropriate approval parameters for the use of foam plastics, because ICC Evaluation Service, who produce AC377 and ICC 1100 Standard for Spray-applied Polyurethane Foam Plastic Insulation, and other evaluation and testing companies are otherwise without limitation with respect to what they choose to develop as acceptable testing and approval parameters. If the code provides specific regulations, evaluation services and test labs will be obliged to follow the code, or at least explain variances in their approval criteria.

Furthermore, it is worth noting that, when this "loose" code text was added to legacy codes, standardized testing of foam plastics had not yet reached maturity. Today however, we have several recognized and standardized tests for this purpose, and continuing to maintain "loose" text in the code seems unjustified. If the oxygen depletion strategy is one that ICC might ultimately choose to recognize, then that strategy should become associated with a standardized test procedure that can be included in the code versus leaving the current loophole.

It is noted that similar text appears in Section 316.6 of the IRC, and it is my intent to process a correlating code proposal to the IRC in Group B.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal does not add any requirements but deletes a permitted approach for approval of foam plastic materials. There is the potential that materials that materials that had been approved based on non standard tests would have to be retested.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined that the four prescriptive paths in this section are already allowed using section 104.11. The committee sees no issue with allowing different tests and standards for Foam plastic, special approval. The four different prescriptive paths need to be considered individually. The committee also prefers to reference chapter 1, section 104.11, Alternative materials, design, and methods of construction and equipment.
One of the committee members mentioned unintended consequences. In some instances, AHJ's use this section for products that pass the prescriptive tests, but they think it was not the same as the application, and they use this section to require a full-scale test. (Vote: 13-0)

Final Hearing Results

F60-21 Part II AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

219

F10902 | **/FS149-21 Part II**

Date Submitted	03/08/2024	**Section**	2603.4.1.4	**Proponent**	Mo Madani
Chapter	26	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The new proposal introduces a new definition of insulated metal panel (IMPs) products specifically designed and used for wall and roof applications of the building assembly. Modifies section 2603.4.1.4 "Exterior walls, one-story buildings".

Rationale

See attached

F10902Text Modification

See attached

Page: 1

Mod10902_TextOfModification.pdf

F10902Text Modification

FS149-21 Part II

Original Proposal

IBC: 2603.4.1.4

Proponents: Jeffrey H. Greenwald, North American Modern Building Alliance, North American Modern Building Alliance (jgreenwald@operativegreenwald.com); Robert A. Zabcik, Metal Construction Association (MCA), Metal Construction Association (MCA) (bob@ztech-consulting.com)

2021 International Building Code

Revise as follows:

2603.4.1.4 Exterior walls, one-story buildings. ~~For one-*story* buildings, foam plastic having a *flame spread index* of 25 or less, and a *smoke-developed index* of not more than 450, shall be permitted without thermal barriers in or on*exterior walls* in a thickness not more than 4 inches (102 mm) where the foam plastic is covered by a thickness of not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a base metal thickness of 0.0160 inch (0.41 mm) and the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.~~For *exterior walls* of one-story buildings constructed of *insulated metal panels (IMP)* with *foam plastic insulation* cores, the thermal barrier is not required when all of the following apply:

1. The *foam plastic insulation* thickness is not more than 4 inches (102 mm)
2. The *foam plastic insulation* core has a flame spread index of 25 or less and a smoke developed index of 450 or less.
3. The *foam plastic insulation* is covered by a thickness of not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a base metal thickness of 0.0160 inch (0.41 mm).
4. The building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Reason: The new proposal introduces a new definition of insulated metal panel (IMPs) products specifically designed and used for wall and roof applications of the building assembly. Insulated Metal Panel (*IMP*) systems are construction materials comprised of factory-manufactured panels composed of an insulation core with metal facers. The insulation core of *IMP* panels is either combustible (e.g. foam plastic) or noncombustible (e.g. mineral wool) where the metal facers are most typically, but not limited to, steel. Applications of *IMP* include exterior walls, exterior wall coverings, roof assemblies, and roof coverings. It is important to note that *IMP* systems are very different from metal composite metal (MCM) exterior wall covering systems and have distinctly different performance requirements. The proposal also reorganizes the criteria listed in the charging statement into an itemized list.
The intended scope of Section 2603.4.1.4 is for metal-faced panels with foam plastic cores in the limited application of storage buildings and is discussed in the 2018 IBC Code Commentary to Section 2603.4.1.4:

This provision is intended to permit the use of metal-faced panels, primarily in storage buildings other than cold storage construction. Cold storage construction was also covered in this section (see also Sections 2603.4.1.2 and 2603.4.1.3, and Section 2603.3, Exception 2). The limitations are based on the results of large-scale tests performed by independent laboratories and sponsored by the plastics industry.

In current construction practice, these “metal-faced panels” have evolved to become Insulated Metal Panel (IMP) systems. This proposal closes a potential loophole regarding general NFPA 285 testing, clarifying that only a one-story building composed of a specific wall construction applies to Exception 1 contained in current Section 2603.5.5. The reference to Section 2603.4.1.4 in Exception 1 of Section 2603.5.5 is often used as justification to exempt exterior walls of Type I, II, III, and IV construction containing foam plastic insulation from having to comply with NFPA 285. The charging language of 2603.4.1.4 does not provide sufficient information to clearly convey the intent of the thermal barrier exception and, by its reference in 2603.5.5 Exception 1, the extension to the exception for compliance with NFPA 285.

The North American Modern Building Alliance (NAMBA) is focused on addressing fire safety through the development and enforcement of building codes. Members of NAMBA are: ACC Center for the Polyurethanes Industry, ACC North American Flame Retardant Alliance, Atlas Roofing Corp., BASF Corporation, Carlisle Construction Materials, Covestro, DuPont, EIFS Industry Members Association, GAF,

F10902Text Modification

Huntsman, Kingspan Insulation LLC, Metal Construction Association, Owens Corning, Polyisocyanurate Insulation Manufacturers Association, Rmax - A Business Unit of the Sika Corporation.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal does not change existing performance or construction requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined the proposal clarifies the criteria for insulated metal panels (IMP). (Vote: 13-0)

Final Hearing Results

FS149-21 Part II AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

220

F10909 /FS153-21

Date Submitted	03/08/2024	**Section**	2603.4.1.4	**Proponent**	Mo Madani
Chapter	26	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Currently, there are no specific requirements for foam used in controlled climate buildings that are separate or adjacent to structures. The proposed new section would set design requirements.

Rationale

See attached

F10909Text Modification

See attached

Mod10909_TextOfModification.pdf

Page: 1

F10909Text Modification

FS153-21

Original Proposal

IBC: 2603.4.1.4. (New)

Proponents: Paul Duffy, Paul Duffy and Associates, American Chemistry Council - Spray Foam Coalition (pduffy@jpaduffy.com)

2021 International Building Code

Add new text as follows:

2603.4.1.4. Separately controlled climate structures. In nonsprinklered buildings, foam plastic having a thickness that does not exceed 4 inches (102 mm) and a maximum flame spread index of 75 is permitted in separately controlled climate structures where the aggregate floor area does not exceed 400 square feet (37 m2) and the foam plastic is covered by a metal facing not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41mm). A thickness of up to 10 inches (254 mm) is permitted where protected by a thermal barrier.

Reason: Section 2603.4.1.3 describes interior finishes protecting foam plastic in freezers and walk in coolers. This section requires foam plastic to be covered by a metal facing not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41mm). A maximum thickness of 4 inches (102 mm) of foam plastic insulation is provided; up to 10 inches (254 mm) is permitted where foam is protected by a thermal barrier. The limitation on the size of these structures is 400 square feet and the limitations on foam plastic are a maximum flame spread index of 75. For reference, the existing section 2603.4.1.3: reads as follows:

2603.4.1.3. Walk-in coolers. In nonsprinklered build-ings, foam plastic having a thickness that does not exceed 4 inches (102 mm) and a maximum flame spread index of 75 is permitted in walk-in coolers or freezer units where the aggregate floor area does not exceed 400 square feet (37 m2) and the foam plastic is covered by a metal facing not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41mm). A thickness of up to 10 inches (254 mm) is permitted where protected by a thermal barrier.

Currently, there are no specific requirements for foam used in controlled climate buildings that are separate or adjacent to structures. The proposed new section would set similar design requirements (i.e. similar to those in Section 2603.4.1.3) for “separately controlled climate spaces” that are not intended for normal occupancy. Typical uses for these spaces might include equipment rooms that require separate conditioning (usually cooling), rooms for protecting certain foods and liquids from freezing (requiring basic heating to above freezing temperatures), etc. Like Section 2603.4.1.3, a size limitation of 400 square feet for these structures would apply.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal seeks to clarify requirements to make design criteria similar to similar types of structures.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

2603.4.1.4.Separately controlled climate structures.

In nonsprinklered buildings of Group U, foam plastic having a thickness that does not exceed 4 inches (102 mm) and a maximum flame spread index of 75 is permitted in separately controlled climate structures where the aggregate floor area does not exceed 400 square feet (37 m2) and the foam plastic is covered by a metal facing not less than 0.032-inch-thick (0.81 mm) aluminum or corrosion-resistant steel having a minimum base metal thickness of 0.016 inch (0.41mm). A thickness of up to 10 inches (254 mm) is permitted where protected by a thermal barrier.

Page: 1

Mod_10909_Text_FS153-21.pdf

F10909Text Modification

Committee Reason: The committee concluded that the modification appropriately limits the use of the new section by adding "Group U". The proposed new section sets design requirements (i.e. similar to those in Section 2603.4.1.3) for separately controlled climate structures. (Vote: 13-0)

Final Hearing Results

FS153-21 AM

Page: 2

Mod_10909_Text_FS153-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

221

F11036 | **/G122-21 Part II**

Date Submitted	03/13/2024	**Section**	2603.4	**Proponent**	Mo Madani
Chapter	26	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of 2603.4 "Thermal barrier". Adding mass timber and reference to 2304.11.

Rationale

See attached

F11036Text Modification

See attached

Page: 1

Mod11036_TextOfModification.pdf

F11036Text Modification

G122-21 Part II

Original Proposal

PART II - IBC: 2603.4

Proponents: Dennis Richardson, none, self (dennisrichardsonpe@yahoo.com)

2021 International Building Code

Revise as follows:

2603.4 Thermal barrier. Except as provided for in Sections 2603.4.1 and 2603.9, foam plastic shall be separated from the interior of a building by an approved thermal barrier of $^1/_2$-inch (12.7 mm) *gypsum wallboard*, *mass timber* or heavy timber in accordance with Section 2304.11 ~~602.4~~ or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275. Combustible concealed spaces shall comply with Section 718.

Reason: See Part 1.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
See Part 1.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee thought including mass timber in section 2603.4, Thermal barrier, is a proper action. The proposal updates section 2603.4 to be consistent with the definition of mass timber now found in Section 202 and clarifies the reference to heavy timber in 602.4 is now found in Section 2304.11. (Vote: 13-0)

Final Hearing Results

G122-21 Part II AS

Page: 1

Mod_11036_Text_G122-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

222

F10739 | **/F75-21 Part I**

Date Submitted	03/04/2024	**Section**	2904	**Proponent**	Mo Madani
Chapter	29	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Section 1705.15 is marked reserved in the 2023 FBC -B.

Summary of Modification

This proposal correlates several of the I codes to use the defined term of automatic sprinkler system.

Rationale

See attached

F10739Text Modification

See attached

Mod10739_TextOfModification.pdf

Page: 1

F10739Text Modification

F75-21 Part I

Original Proposal

PART I IFC: 315.3.1, TABLE 903.2.5.2, 903.3.1, 903.4, [BE] TABLE 1006.2.1, [BE] TABLE 1017.2, [BE]TABLE 1020.2, 1103.4.1, 1103.5.4, 2703.10.4.4.1, 3204.2, 3206.10.1.1, 3303.3, 3501.3, TABLE 5104.3.2, E103.1.5, 903.5; IBC: 410.5.3.2, [F] 415.11.12.3, 901.4, [F] 903.2.5.2, TABLE 903.2.5.2, TABLE 903.2.11.6, [F] 903.3.1, [F] 903.5, [F] 909.6.1, TABLE 1006.2.1, TABLE 1017.2, 3007.2.2, [BF] 1705.15

PART II IRC: P2904.1, P2904.3.4, P2904.4.2, P2904.7, P2904.8.1

Proponents: Andrew Bevis, National Fire Sprinkler Association, National Fire Sprinkler Association (bevis@nfsa.org); Jeffrey Hugo, National Fire Sprinkler Association, NFSA (hugo@nfsa.org)

THIS IS A TWO PART CODE CHANGE. PART 1 OF THIS PROPOSAL WILL BE HEARD BY THE FIRE CODE COMMITTEE AND PART 2 OF THIS PROPOSAL WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE PLUMBING AND MECHANICAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

410.5.3.2 Exit access travel distance. The *exit access* travel distance shall be not greater than 300 feet (91 440 mm) for buildings without an automatic sprinkler system and 400 feet (122 mm) for buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

[F] 415.11.12.3 Automatic sprinkler locations. Automatic sprinklers ~~systems~~ shall be installed at 12-foot (3658 mm) intervals in horizontal ducts and at changes in direction. In vertical ducts, sprinklers shall be installed at the top and at alternate floor levels.

901.4 Threads. Threads provided for fire department connections to *automatic sprinkler systems*, standpipes, yard hydrants or any other fire hose connection shall be compatible with the connections used by the local fire department.

[F] 903.2.5.2 Group H-5 occupancies. An *automatic sprinkler system* shall be installed throughout buildings containing Group H-5 occupancies. The design of the automatic sprinkler system shall be not less than that required by this code for the occupancy hazard classifications in accordance with Table 903.2.5.2.
Where the design area of the automatic sprinkler system consists of a *corridor* protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

TABLE 903.2.5.2 GROUP H-5 AUTOMATIC SPRINKLER SYSTEM DESIGN CRITERIA

LOCATION	OCCUPANCY HAZARD CLASSIFICATION
Fabrication areas	Ordinary Hazard Group 2
Service corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Corridors	Ordinary Hazard Group 2

TABLE 903.2.11.6 ADDITIONAL REQUIRED PROTECTION SYSTEMS

SECTION	SUBJECT
402.5, 402.6.2	Covered and open mall buildings
403.3	High-rise buildings

Page: 1

Mod_10739_Text_F75-21 Part I.pdf

F10739Text Modification

404.3	Atriums
405.3	Underground structures
407.7	Group I-2
410.6	Stages
411.3	Special amusement buildings
412.2.4	Airport traffic control towers
412.3.6, 412.3.6.1, 412.5.6	Aircraft hangars
415.11.11	Group H-5 HPM exhaust ducts
416.5	Flammable finishes
417.4	Drying rooms
424.3	Play structures
428	Buildings containing laboratory suites
507	Unlimited area buildings
508.5.7	Live/work units
509.4	Incidental uses
1030.6.2.3	*Smoke-protected assembly seating*
IFC	*Automatic sprinkler system* requirements as set forth in Section 903.2.11.6 of the *International Fire Code*

[F] 903.3.1 Standards. Automatic s~~S~~prinkler systems shall be designed and installed in accordance with Section 903.3.1.1 unless otherwise permitted by Sections 903.3.1.2 and 903.3.1.3 and other chapters of this code, as applicable.

[F] 903.5 Testing and maintenance. Automatic s~~S~~prinkler systems shall be inspected, tested, and maintained in accordance with the *International Fire Code*.

[F] 909.6.1 Minimum pressure difference. The pressure difference across a *smoke barrier* used to separate smoke zones shall be not less than 0.05-inch water gage (0.0124 kPa) in ~~fully sprinklered~~ buildings equipped throughout with automatic sprinkler systems. In buildings permitted to ~~be other than fully sprinklered~~not to be equipped throughout with automatic sprinkler systems, the smoke control system shall be designed to achieve pressure differences not less than two times the maximum calculated pressure difference produced by the design fire.

TABLE 1006.2.1 SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

OCCUPANCY	MAXIMUM OCCUPANT LOAD OF SPACE	MAXIMUM COMMON PATH OF EGRESS TRAVEL DISTANCE (feet)		
		Without Automatic Sprinkler System (feet)		With Automatic Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A[c], E, M	49	75	75	75[a]
B	49	100	75	100[a]
F	49	75	75	100[a]
H-1, H-2, H-3	3	NP	NP	25[b]
H-4, H-5	10	NP	NP	75[b]
I-1, I-2[d], I-4	10	NP	NP	75[a]
I-3	10	NP	NP	100[a]
R-1	10	NP	NP	75[a]
R-2	20	NP	NP	125[a]
R-3[e]	20	NP	NP	125[a, g]
R-4[e]	20	NP	NP	125[a, g]
S[f]	29	100	75	100[a]
U	49	100	75	75[a]

For SI: 1 foot = 304.8 mm.

Page: 2

Mod_10739_Text_F75-21 Part I.pdf

F10739Text Modification

NP = Not Permitted.

a. Buildings equipped throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

b. Group H occupancies equipped throughout with an*automatic sprinkler system* in accordance with Section 903.2.5.

c. For a room or space used for assembly purposes having*fixed seating*, see Section 1030.8.

d. For the travel distance limitations in Group I-2, see Section 407.4.

e. The *common path of egress travel* distance shall only apply in a Group R-3 occupancy located in a mixed occupancy building.

f. The length of *common path of egress travel* distance in a Group S-2 *open parking garage* shall be not more than 100 feet.

g. For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an*automatic sprinkler system* in accordance with Section 903.3.1.3, see Section 1006.2.2.6.

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT AUTOMATIC SPRINKLER SYSTEM (feet)	WITH AUTOMATIC SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200[b]	250[b]
I-1	Not Permitted	250[b]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[d]
H-2	Not Permitted	100[d]
H-3	Not Permitted	150[d]
H-4	Not Permitted	175[d]
H-5	Not Permitted	200[c]
I-2, I-3	Not Permitted	200[c]
I-4	150	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to exit access travel distance requirements:

- Section 402.8 : For the distance limitation in malls
- Section 407.4: For the distance limitation in Group I-2.
- Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
- Section 411.2: For the distance limitation in special amusement areas.
- Section 412.6: For the distance limitations in aircraft manufacturing facilities.
- Section 1006.2.2.2: For the distance limitation in refrigeration machinery rooms.
- Section 1006.2.2.3: For the distance limitation in refrigerated rooms and spaces.
- Section 1006.3.4: For buildings with one exit.
- Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
- Section 1030.7: For increased limitation in assembly seating.
- Section 3103.4: For temporary structures.
- Section 3104.9: For pedestrian walkways.

3007.2.2 Automatic Sprinkler system monitoring. The automatic sprinkler system shall have a sprinkler control valve supervisory switch and water-flow-initiating device provided for each floor that is monitored by the building's *fire alarm system*.

[BF] 1705.15 Sprayed fire-resistant materials. *Special inspections* and tests of sprayed fire-resistant materials applied to floor, roof and wall assemblies and structural members shall be performed in accordance with Sections 1705.15.1 through 1705.15.6. *Special inspections*

Page: 3

Mod_10739_Text_F75-21 Part I.pdf

F10739Text Modification

shall be based on the fire-resistance design as designated in the *approved construction documents*. The tests set forth in this section shall be based on samplings from specific floor, roof and wall assemblies and structural members. *Special inspections* and tests shall be performed during construction with an additional visual inspection after the rough installation of electrical, *automatic sprinkler systems*, mechanical and plumbing systems and suspension systems for ceilings, and before concealment where applicable. The required sample size shall not exceed 110 percent of that specified by the referenced standards in Sections 1705.15.4.1 through 1705.15.4.9.

Reason: Across the I codes there are varying ways to describe an automatic sprinkler system. his proposal correlates several of the I codes to use the defined term of automatic sprinkler system. This allows for a better understanding of the term and application. Other proposals have been submitted to make several sprinkler and fire protection correlations and improvements.
Each section noted in this proposal has been changed to clarify what type of system is installed. In many cases, it is a simple deletion of the word "fire" or an added "automatic" and changes are to refer to the italicized term of automatic sprinkler system as is defined.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are not technical changes in this proposal. It is for term correlation.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee stated that the reason for approval was that the proposal updates the terminology for automatic sprinkler systems. (Vote: 14-0)

Final Hearing Results

F75-21 Part I AS

Page: 4

Mod_10739_Text_F75-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

223

F11063 | **/G180-21**

Date Submitted	03/14/2024	**Section**	3002.1	**Proponent**	Mo Madani
Chapter	30	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC - 716.5.9 Door closing.

Summary of Modification

The intent of this proposal is consistent terminology for elevator protection. The current text is very inconsistent. This is not intended to have any technical changes.

Rationale

See attached

F11063Text Modification

See attached

Mod11063_TextOfModification.pdf

Page: 1

F11063Text Modification

G180-21

Original Proposal

IBC: 713.14, 716.2.6.1, 3002.1, 3002.1.1, 3002.1.2, 3002.2, 3002.6, SECTION 3006, 3006.1, 3006.2, 3006.3

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

2021 International Building Code

SECTION 3002
HOISTWAY ENCLOSURES

Revise as follows:

3002.1 Hoistway ~~enclosure~~ protection. ~~Elevator, dumbwaiter and other hoistway enclosures shall be~~*~~shaft enclosures~~* ~~complying with Sections 712 and 713.~~ A hoistway for elevators, dumbwaiters and other vertical access devices shall be comply with Sections 712 and 713. Where the hoistway is required to be enclosed it shall be constructed as a shaft enclosure in accordance with Section 713.

3002.1.1 Opening protectives. Openings in fire-resistant rated hoistway enclosures shall be protected as required in Chapter 7.

Exception: The elevator car doors and the associated elevator hoistway ~~enclosure~~ doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I Emergency Recall Operation.

3002.1.2 Hardware. Hardware on ~~opening protectives~~ elevator hoistway doors shall be of an *approved* type installed as tested, except that *approved* interlocks, mechanical locks and electric contacts, door and gate electric contacts and door-operating mechanisms shall be exempt from the fire test requirements.

3002.2 Number of elevator cars in a hoistway. Where four or more elevator cars serve all or the same portion of a building, the elevators shall be located in not fewer than two separate fire-resistance rated hoistways. Not more than four elevator cars shall be located in any single fire-resistance rated hoistway enclosure.

3002.6 Prohibited doors or other devices. Doors or other devices, other than ~~hoistway doors and~~ the elevator car door and the associated elevator hoistway doors, shall be prohibited at the point of access to an elevator car unless such doors or other devices are readily openable from inside the car ~~side~~ without a key, tool, special knowledge or effort.

SECTION 3006
ELEVATOR LOBBIES AND HOISTWAY ~~OPENING~~ DOOR PROTECTION

3006.1 General. ~~Elevator hoistway openings and enclosed~~ Enclosed elevator lobbies and elevator hoistway door protection shall be provided in accordance with the following:

1. Where elevator hoistway door ~~opening~~ protection is required by Section 3006.2, such protection shall be provided in accordance with Section 3006.3.
2. Where enclosed elevator lobbies are required for underground buildings, such lobbies shall comply with Section 405.4.3.
3. Where an *area of refuge* is required and an enclosed elevator lobby is provided to serve as an *area of refuge*, the enclosed elevator lobby shall comply with Section ~~1009.6~~ 1009.6.4.
4. Where fire service access elevators are provided, enclosed elevator lobbies shall comply with Section 3007.6.

Page: 1

Mod_11063_Text_G180-21.pdf

F11063Text Modification

5. Where occupant evacuation elevators are provided, enclosed elevator lobbies shall comply with Section 3008.6.

3006.2 Elevator hoistway door ~~Hoistway opening~~ protection required. Elevator hoistway ~~door openings~~ doors shall be protected in accordance with Section 3006.3 where an elevator hoistway connects more than three *stories*, is required to be enclosed within a *shaft enclosure* in accordance with Section 712.1.1 and any of the following conditions apply:

1. The building is not protected throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2.
2. The building contains a Group I-1, Condition 2 occupancy.
3. The building contains a Group I-2 occupancy.
4. The building contains a Group I-3 occupancy.
5. The building is a high rise and the elevator hoistway is more than 75 feet (22 860 mm) in height. The height of the hoistway shall be measured from the *lowest floor* to the highest floor of the floors served by the hoistway.

Exceptions:

1. Protection of elevator hoistway ~~door openings~~ doors are ~~is~~ not required where the elevator serves only *open parking garages* in accordance with Section 406.5.
2. Protection of elevator hoistway ~~door openings~~ doors are ~~is~~ not required at the level(s) of exit discharge, provided that the level(s) of exit discharge is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
3. ~~Enclosed elevator lobbies and protection~~ Protection of elevator hoistway ~~door openings~~ doors are not required on levels where the elevator hoistway door opens to the exterior.

3006.3 Elevator hoistway door ~~Hoistway opening~~ protection. Where Section 3006.2 requires protection of the elevator hoistway door ~~opening~~, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway ~~*shaft enclosure*~~ doors from each floor by *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the elevator lobby enclosure walls shall comply with Section 716.2.2.1 as required for *corridor* walls. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway ~~*shaft enclosure*~~ doors from each floor by *smoke partitions* in accordance with Section 710 where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition, doors protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the enclosed elevator lobby by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
3. Additional doors or other devices shall be provided at each elevator hoistway door ~~opening~~ in accordance with Section 3002.6. Such door or other devices shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Section 909.21.

713.14 Elevator, dumbwaiter and other hoistways. ~~Elevator, dumbwaiter and other hoistway enclosures shall be constructed in accordance with Sections 712 and~~ A hoistway for elevators, dumbwaiters and other vertical devices shall comply with Section 712. Where the hoistway is required to be enclosed, it shall be constructed as a shaft enclosure in accordance with Section 713, and Chapter 30.

716.2.6.1 Door closing. *Fire doors* shall be latching and self- or automatic-closing in accordance with this section.

Exceptions:

1. *Fire doors* located in common walls separating *sleeping units* in Group R-1 shall be permitted without automatic- or *self-closing* devices.
2. The elevator car doors and the associated elevator hoistway ~~enclosure~~ doors at the floor level designated for recall in accordance with Section 3003.2 shall be permitted to remain open during Phase I emergency recall operation.

Page: 2

Mod_11063_Text_G180-21.pdf

F11063Text Modification

Reason: The intent of this proposal is consistent terminology for elevator protection. The current text is very inconsistent. This is not intended to have any technical changes.
The elevator industry considers an elevator hoistway the vertical movement of that device, whether it be in a rated enclosure, in non-rated enclosure, or not enclosed at all. The photos are examples of hoistways that are the non-rated enclosure and the open hoistway.





Example of elevator hoistways that are not in rated enclosures.

The intent of this proposal is consistent terminology for elevator protection. The current text is very inconsistent. This is not intended to have any technical changes.The elevator industry considers an elevator hoistway the vertical movement of that device, whether it be in a rated enclosure, in non-rated enclosure, or not enclosed at all. The photos are examples of hoistways that are the non-rated enclosure and the open hoistway.

Page: 3

Mod_11063_Text_G180-21.pdf

F11063Text Modification



Examples of doors or other devices in front of associated elevator entrance doors - see Section 3002.6 and 3006.3 Item 3

This proposal is submitted by the ICC Building Code Action Committee (BCAC) in cooperation with the ICC Fire Code Action Committee (FCAC).
BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification of the terminology for elevator hoistways, and shaft protection and the associated elevator doors and has no changes to the construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it is applies consistent terminology for elevators and their protections. The cleanups is helpful and should simplify compliances. There was a question about the area of refuge reference in Section 3006.1 Item 3, but Section 1009.6.4 this is the correct reference for area of refuge separation, which is what Section 3006.1 is about. (Vote: 14-0)

Final Hearing Results

Page: 4

Mod_11063_Text_G180-21.pdf

F11063Text Modification

G180-21 AS

Mod_11063_Text_G180-21.pdf Page: 5

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

224

F11065 | **/G183-21 Part I**

Date Submitted	03/14/2024	**Section**	3006	**Proponent**	Mo Madani
Chapter	30	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The intent of this proposal is to clarify lobby protection requirements – which walls are fire barriers, fire partitions or smoke barriers. This will also clarify what requirements are applicable for the elevator hoistway doors vs. the doors in the other walls of the lobby protection.

Rationale

See attached

F11065Text Modification

See attached

Page: 1

Mod11065_TextOfModification.pdf

F11065Text Modification

G183-21 Part I

Original Proposal

PART I- IBC: SECTION 3006, 3006.3, 3007.6.2, 3007.6.3, 3008.6.1, 3008.6.2, 3008.6.3, 3008.6.3.1, 3008.6.3.2
PART II - IBC: 708.4.1 (New), 709.4.2, 710.4.1 (New)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org); Michael O'Brian, Chair, FCAC (fcac@iccsafe.org)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE SAFETY CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

Revise as follows:

SECTION 3006
ELEVATOR LOBBIES AND HOISTWAY ~~OPENING~~ DOOR PROTECTION

3006.3 ~~Hoistway opening~~ Elevator hoistway door protection. Where Section 3006.2 requires protection of the elevator hoistway ~~door opening~~ doors, the protection shall be provided by one of the following:

1. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway ~~*shaft enclosure*~~ doors from each floor ~~by~~ with *fire partitions* in accordance with Section 708. In addition, doors protecting openings in the ~~elevator lobby enclosure walls~~ fire partitions shall comply with Section 716.2.2.1 ~~as required for *corridor* walls~~. Penetrations of the ~~enclosed elevator lobby~~ fire partitions by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
2. An enclosed elevator lobby shall be provided at each floor to separate the elevator hoistway ~~*shaft enclosure*~~ doors from each floor ~~by~~ with *smoke partitions* in accordance with Section 710 ~~where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2~~. In addition, doors protecting openings in the *smoke partitions* shall comply with Sections 710.5.2.2, 710.5.2.3 and 716.2.6.1. Penetrations of the ~~enclosed elevator lobby~~ smoke partitions by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
3. Additional doors shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such door shall comply with the smoke and draft control door assembly requirements in Section 716.2.2.1.1 when tested in accordance with UL 1784 without an artificial bottom seal.
4. The elevator hoistway shall be pressurized in accordance with Section 909.21.

SECTION 3007
FIRE SERVICE ACCESS ELEVATOR

Revise as follows:

3007.6.2 Elevator lobby ~~Lobby~~ enclosure. The fire service access elevator lobby shall be ~~enclosed~~ separated from each floor with a *smoke barrier* in accordance with Section 709 ~~having a *fire-resistance rating* of not less than 1 hour~~, except that lobby doorways shall comply with Section 3007.6.3.

Exception: Enclosed fire service access elevator lobbies are not required at the *levels of exit discharge*.

3007.6.3 ~~Lobby~~ Elevator lobby doorways. Other than doors to ~~the hoistway,~~ elevator control room or elevator control space, each door ~~doorway to an enclosed fire service access elevator lobby~~ in the smoke barrier shall be provided with a $^{3}/_{4}$-hour *fire door assembly*

Page: 1
Mod_11065_Text_G183-21 Part I.pdf

F11065Text Modification

complying with Section 716. ~~The~~ Such *fire door assembly* shall comply with the smoke and draft control door assembly requirements of Section 716.2.2.1.1 and be tested in accordance with UL 1784 without an artificial bottom seal.

SECTION 3008
OCCUPANT EVACUATION ELEVATORS

Revise as follows:

3008.6.1 Access to interior exit stairway or ramp. The occupant evacuation elevator lobby shall have *direct access* from the enclosed elevator lobby to an *interior exit stairway or ramp*.

Exceptions:

1. Access to an *interior exit stairway or ramp* shall be permitted to be through a protected path of travel that has a level of fire protection not less than the elevator lobby enclosure. The protected path shall be separated from the enclosed elevator lobby through an opening protected by a smoke and draft control assembly in accordance Section ~~716.2.2.1~~ 716.2.2.1.1.
2. Elevators that only service an *open parking garage* and the elevator lobby of the building shall not be required to provide *direct access*.

3008.6.2 Elevator lobby ~~Lobby~~ enclosure. The occupant evacuation elevator lobby shall be ~~enclosed~~ separated from each floor with a *smoke barrier* in accordance with Section 709 ~~having a *fire-resistance rating* of not less than 1 hour~~, except that lobby doorways shall comply with Section 3008.6.3.

Exception: Enclosed occupant evacuation elevator lobbies are not required at the *levels of exit discharge*.

3008.6.3 Elevator lobby ~~Lobby~~ doorways. Other than the doors to ~~the hoistway,~~ elevator machine rooms, machinery spaces, control rooms and control spaces ~~within the lobby enclosure~~ in the *smoke barrier*, each doorway to an occupant evacuation elevator lobby shall be provided with a $^{3}/_{4}$-hour *fire door assembly* complying with Section 716. ~~The~~ Such *fire door assembly* shall comply with the smoke and draft control assembly requirements of Section 716.2.2.1.1 and be tested in accordance with UL 1784 without an artificial bottom seal.

3008.6.3.1 Vision panel. A vision panel shall be installed in each *fire door assembly* ~~protecting the lobby doorway~~ in the smoke barrier. The vision panel shall consist of fire-protection-rated glazing, shall comply with the requirements of Section 716 and shall be located to furnish clear vision of the occupant evacuation elevator lobby.

3008.6.3.2 Door closing. Each *fire door assembly* ~~protecting the lobby doorway~~ in the smoke barrier shall be automatic-closing upon receipt of any fire alarm signal from the *emergency voice/alarm communication system* serving the building.

Reason: The intent of this proposal is to clarify lobby protection requirements – which walls are fire barriers, fire partitions or smoke barriers. This will also clarify what requirements are applicable for the elevator hoistway doors vs. the doors in the other walls of the lobby protection. The current language is inconsistent for the locations where elevator lobbies are specified.This protection of elevator lobbies is a combination of the elevator hoistway and exit stairway (direct access to a stairway is required for fire service an occupant evacuation elevator lobbies) shaft enclosure/fire barriers and the fire partitions or smoke barriers required for lobbies (405.4.3, 3006.3, 3007.6.2 and 3008.6.2) The intent of new 708.4.1 and revised 709.4.2 is to clarify that the fire partitions/smoke barrier criteria is not applicable to all the walls of the elevator lobby since the vertical shaft/fire barrier protections is adequate. Fires typically happen in the occupied portions of the buildings, not within the elevator shaft or the stairway. In addition, in situations where an elevator lobby is provided, the elevator shafts are double protected from smoke intrusion from a fire on the floor.

Page: 2

Mod_11065_Text_G183-21 Part I.pdf

F11065Text Modification

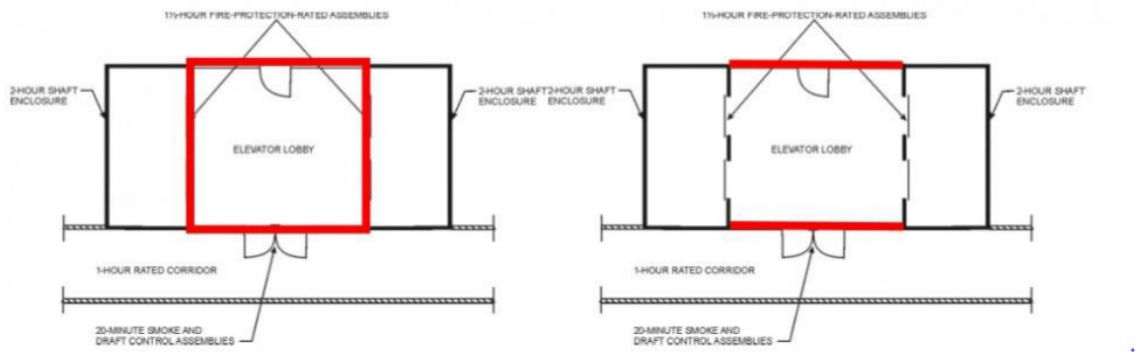


Diagram for elevator lobby barriers

Diagram for which walls are fire partitions, smoke partitions or smoke

Provisions for horizontal continuity are addressed for smoke barriers that surround elevator lobbies or areas of refuge. The same horizontal continuity should be addressed for elevator lobbies enclosed with fire partitions in Section 3006.3 Item 1 or smoke partitions in Section 3006.3 Item 2. The movement of 'smoke barrier wall' just assures a minimum fire resistance rating. The last sentence in 709.4.2 is not needed with the clarification of which walls meet which requirements in Chapter 30.The reference to sprinklers is not needed in Section 3006.3 Item 2, because this is already a limitation in Section 3006.2. Taking it out makes this item easier to read. In addition, this could currently be read to not allow smoke barriers to form elevator lobbies in non-sprinklered buildings. Smoke barriers provide equal or better protection than fire partitions.

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and the ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification for elevator lobby requirements. While technical criteria was added for horizontal continuity for fire partitions and smoke partitions at elevator lobbies, this was implied previously and does not add cost to construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 3007.6.2 Elevator lobby ~~enclosure~~ separation. The fire service access elevator lobby shall be separated from each floor with a smoke barrier in accordance with Section 709 , except that lobby doorways shall comply with Section 3007.6.3.
Exception: ~~Enclosed fire~~ Fire service access elevator lobbies are not required to be separated at the levels of exit discharge.

3008.6.2 Elevator lobby ~~enclosure~~ separation. The occupant evacuation elevator lobby shall be separated from each floor with a smoke barrier in accordance with Section 709 , except that lobby doorways shall comply with Section 3008.6.3.
Exception: ~~Enclosed occupant~~ Occupant evacuation elevator lobbies are not required to be separated at the levels of exit discharge.

Page: 3

Mod_11065_Text_G183-21 Part I.pdf

F11065Text Modification

Committee Reason: The modification provides better language for consistency by using 'separated' instead of 'enclosed' for lobbies. The proposal is a good clean up of the language for which walls make up the elevator lobby and provides consistency between the general lobbies, fire service access elevators lobbies and occupant evacuation elevator lobbies. (Vote: 14-0)

Final Hearing Results

G183-21 Part I AM

Page: 4

Mod_11065_Text_G183-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

225

F11068 /G187-21

Date Submitted	03/14/2024	**Section**	3007.6	**Proponent**	Mo Madani
Chapter	30	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC.

Summary of Modification

Adds Exception to Section 3007.6. Concerning "A fire service access elevator lobby is not required to be provided at an occupied roof".

Rationale

See attached

F11068Text Modification

See attached

Page: 1

Mod11068_TextOfModification.pdf

F11068Text Modification

G187-21

Original Proposal

IBC: 3007.6

Proponents: Stephen Thomas, Colorado Code Consulting, LLC, Colorado Chapter ICC (sthomas@coloradocode.net)

2021 International Building Code

Revise as follows:

3007.6 Fire service access elevator lobby. The fire service access elevator shall open into an enclosed fire service access elevator lobby in accordance with Sections 3007.6.1 through 3007.6.5. Egress is permitted through the enclosed elevator lobby in accordance with Item 1 of Section 1016.2.

~~**Exception**~~**Exceptions:**

1. Where a fire service access elevator has two entrances onto a floor, the second entrance shall be permitted to be protected in accordance with Section 3006.3.2.
2. A fire service access elevator lobby is not required to be provided at an occupied roof.

Reason: We do not believe that it is necessary to have a fire service access elevator lobby at an occupied roof. There is no purpose for having such an elevator. the purpose of the lobby is to provide a staging area for the fire department to access the floor(s) above. There are no floors above an occupied roof. Therefore, the requirements for the FSAE lobby is unnecessary at that level. This exception maintains the reasonable level of access to the occupied roof, but does not require all of the requirements for the lobby.

Cost Impact: The code change proposal will decrease the cost of construction
Eliminating the requirements for a FSAE lobby at the occupied roof level will reduce the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved because the committee agreed that a lobby for fire department staging or assisted rescue was not needed at the roof level. The additional expense is not justified and there was a concern that this lobby would be considered an additional floor for building height. As editorial, the committee requested that the new exception coordinate "occupied roof" with the "occupiable roof" approved in G21-21 Part 1. (Vote: 14-0)

Final Hearing Results

G187-21 AS

Page: 1

Mod_11068_Text_G187-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

226

F11069		/G188-21			
Date Submitted	03/14/2024	**Section**	3009	**Proponent**	Mo Madani
Chapter	30	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Conflict with section 3013.

Summary of Modification

The proposed language increases awareness for the building designers, contractors and building code officials to the need to mitigate this serious hazard, while retaining the actual code requirements in ASME A17.1/CSA B44. Adds Section 3009 "PRIVATE RESIDENCE ELEVATORS".

Rationale

See attached

F11069Text Modification

See attached

Page: 1

Mod11069_TextOfModification.pdf

F11069Text Modification

G188-21

Original Proposal

IBC: SECTION 3009 (New), 3009.1 (New), 3009.2 (New), 3009.3 (New)

Proponents: Kevin Brinkman, National Elevator Industry, Inc., National Elevator Industry, Inc. (klbrinkman@neii.org)

2021 International Building Code

Add new text as follows:

SECTION 3009
PRIVATE RESIDENCE ELEVATORS

3009.1 General. The design, construction, installation, alteration, repair and maintenance of elevators installed within a residential dwelling unit or installed to provide access to one individual residential dwelling unit shall conform to ASME A17.1/CSA B44, Section 5.3.

3009.2 Hoistway Enclosures. Hoistway enclosures shall comply with ASME A17.1/CSA B44, Requirement 5.3.1.1.

3009.3 Hoistway Opening Protection. Hoistway landing doors for private residence elevators shall comply with ASME A17.1/CSA B44, Requirements 5.3.1.8.1 through 5.3.1.8.3.

Reason: Excessive clearances between the car door and the hoistway door on private residence elevators presents a serious hazard to young children and slight built adolescents or adults. Proper installation of the hoistway landing doors is critical to ensuring the gap between the hoistway door and the car door or gate does not exceed a 4 inch gap. The 4 inch maximum clearance is based on anthropometric data for young children. However, private residence elevators are not inspected by elevator inspectors in most jurisdictions and the few jurisdictions that do inspect them are mostly limited to the installation of new equipment. On the other hand, almost all private residence construction is inspected by construction officials.

The General Contractor typically constructs the hoistway enclosure and installs the hoistway doors on private residence elevators. Ensuring the installation of the hoistway doors so that the clearance between the hoistway door and the landing sill does not exceed the 0.75 inch requirement in ASME A17.1/CSA B44, will greatly increase the likelihood that the clearance between the hoistway and car doors will comply with the 4 inch gap. The proposed language increases awareness for the building designers, contractors and building code officials to the need to mitigate this serious hazard, while retaining the actual code requirements in ASME A17.1/CSA B44.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no additional cost because these requirements are already contained in the A17.1/B44 code referenced in Section 3001.3. This is being added to alert builders to these requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 3009.1 General. The design, construction, and installation~~, alteration, repair and maintenance~~ of elevators installed within a residential dwelling unit or installed to provide access to one individual residential dwelling unit shall conform to ASME A17.1/CSA B44, Section 5.3.

Page: 1

Mod_11069_Text_G188-21.pdf

F11069Text Modification

Committee Reason: The modification was because the alteration, maintenance and repair of a private residence elevators is regulated by the property maintenance code. The proposal was approved as the text will address a safety issue for private residence elevator installations. This provides direction for inspectors. (Vote: 10-4)

Final Hearing Results

G188-21 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

227

F11070 | **/G189-21**

Date Submitted	03/14/2024	**Section**	3103.5	**Proponent**	Mo Madani
Chapter	31	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The ICC 300 includes provisions for relocated and temporary bleachers. This information should be included in the IBC Chapter 31 requirements, so it does not get missed for seasonal venues or items such as seating for parades

Rationale

See attached

F11070Text Modification

See attached

Page: 1

Mod11070_TextOfModification.pdf

F11070Text Modification

G189-21

Original Proposal

IBC: 3103.1, 3103.5 (New)

Proponents: Mike Nugent, ICC Building Code Action Committee, ICC Building Code Action Committee (bcac@iccsafe.org)

2021 International Building Code

Revise as follows:

3103.1 General. The provisions of Sections 3103.1 through ~~3103.4~~ 3103.5 shall apply to structures erected for a period of less than 180 days. *Special event structures*, tents, umbrella structures and other membrane structures erected for a period of less than 180 days shall also comply with the *International Fire Code*. Those erected for a longer period of time shall comply with applicable sections of this code.

Add new text as follows:

3103.5 Bleachers. Temporary bleachers, grandstands and folding and telescopic seating, that are not building elements, shall comply with ICC 300.

Reason: The ICC 300 includes provisions for relocated and temporary bleachers. This information should be included in the IBC Chapter 31 requirements, so it does not get missed for seasonal venues or items such as seating for parades. The definition of 'temporary special event structures' in the IFC says that applies to items not addressed in IBC, so a similar reference in IFC is not needed.
This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is already a reference for ICC 300 in IBC Chapter 10, therefore, this is not a change in requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as the committee felt that the ICC 300 was the correct reference for the temporary bleachers, grandstands and folding and telescopic seating. As editorial, the Committee requested that the title of the section be revised to include all three elements. (Vote: 14-0)

Final Hearing Results

G189-21 AS

Page: 1

Mod_11070_Text_G189-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

228

F11071 /G191-21

Date Submitted	03/14/2024	**Section**	3105.2	**Proponent**	Mo Madani
Chapter	31	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section 3105.2 "Design and construction". Related to awnings.

Rationale

See attached

F11071Text Modification

See attached

Page: 1

Mod11071_TextOfModification.pdf

F11071Text Modification

G191-21

Original Proposal

IBC: 3105.2

Proponents: Marcelo Hirschler, GBH International, self (mmh@gbhint.com)

2021 International Building Code

Revise as follows:

3105.2 Design and construction. *Awnings* and *canopies* shall be designed and constructed to withstand wind or other lateral*loads* and *live loads* as required by Chapter 16 with due allowance for shape, open construction and similar features that relieve the pressures or loads. Structural members shall be protected to prevent deterioration. *Awnings* shall have frames of noncombustible material, *fire-retardant-treated wood*, or heavy timber complying with Section 2304.11~~, or 1-hour construction with combustible or noncombustible covers~~ and shall be either fixed, retractable, folding or collapsible.

Reason: The statement that the awnings or canopies shall be constructed with "combustible or noncombustible materials" is meaningless since there is no other option for a material: it is either combustible or it is noncombustible. The requirement for the frame of an awning to comply with a fire resistance rating (which is what 1-hour construction means) is not an adequate requirement for two reasons. Firstly, fire resistance ratings are intended to assess (as the IBC definition states): "The period of time a building element, component or assembly maintains the ability to confine a fire, continues to perform a given structural function, or both, as determined by the tests, or the methods based on tests, prescribed in Section 703." Secondly, fire resistance ratings are applied to "assemblies of masonry units" and similar assemblies but not to individual materials which are not separating one compartment from another one.
The section contains all the appropriate requirements in terms of structural performance, including the fact that wind and other loads must be able to be withstood.

The awnings being regulated are not separating compartments and, therefore, requiring a fire resistance rating is not appropriate.

Pictures of awnings illustrate the issue:






For information, the first section of the scope of the test used to assess fire resistance ratings (ASTM E119) reads as follows:

1.1 The test methods described in this fire-test-response standard are applicable to assemblies of masonry units and to composite assemblies of structural materials for buildings, including loadbearing and other walls and partitions, columns, girders, beams, slabs, and composite slab and beam assemblies for floors and roofs. They are also applicable to other assemblies and structural units that constitute permanent integral parts of a finished building.

Page: 1

Mod_11071_Text_G191-21.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
No additional requirements are being added.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted based on the provided reason statement. The committee did express concerns that additional justification would be beneficial. (Vote: 8-7)

Public Comments

Public Comment 1

Proponents: Jonathan Siu, Self, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, City of Seattle, Washington Association of Building Officials (micah.chappell@seattle.gov) requests As Modified by Public Comment

Further modify as follows:

2021 International Building Code

3105.2 Design and construction . *Awnings* and *canopies* shall be designed and constructed to withstand wind or other lateral*loads* and *live loads* as required by Chapter 16 with due allowance for shape, open construction and similar features that relieve the pressures or loads. Structural members shall be protected to prevent deterioration. *Awnings* shall have frames of noncombustible material, *fire-retardant-treated wood*, ~~or~~ heavy timber complying with Section 2304.11,or 1-hour construction, and shall be either fixed, retractable, folding or collapsible.

Commenter's Reason: This public comment restores the option of 1-hour construction for awning frames, which was removed in the original proposal. It will leave intact the deletion of the text referring to combustible or non-combustible covers (is there any other kind?) The reason statement for FS29 says that the fire rating is "inappropriate" because awnings don't serve to separate compartments. We don't understand this rationale for eliminating the option of providing rated construction. Framing in other structures such as steel moment frames (beams and columns) do not serve to separate compartments, yet the elements are required to have a fire-resistance rating in Table 601.

More importantly, under the current code, the 1-hour construction is just one of several options that a designer can utilize--the designer can choose framing that is non-combustible, fire-retardant treated wood, or heavy timber. 1-hour construction is easily equivalent (or better, in some cases) than the other three listed methods, so there is no technical reason why it should not be an option.

While there is some technical merit in deleting the combustible/noncombustible language, if the membership does not want to make a change for such a minor editorial issue (which is the ultimate result if this proposal is approved as modified by this public comment), we would recommend voting for Disapproval for the whole code change proposal.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
Although it could be argued that by eliminating an option the original code change might increase the cost of construction in some cases, restoring that option via this public comment will result in no technical change to the code provisions from the previous code edition, and therefore, no increase or decrease in the cost of construction.

F11071Text Modification

Final Hearing Results

G191-21 AMPC1

Page: 3

Mod_11071_Text_G191-21.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

229

F11090 | **/G199-21 Part I**

Date Submitted	03/14/2024	**Section**	3301	**Proponent**	Mo Madani
Chapter	33	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Correlation with IFC for provisions for construction site safety that a building inspector can reasonably verify and enforce while onsite doing other scheduled inspections. Adds Section 3302.1 "SITE SAFETY PLAN".

Rationale

See attached

F11090Text Modification

See attached

Page: 1

Mod11090_TextOfModification.pdf

F11090Text Modification

G199-21 Part I

Original Proposal

PART I - IBC: 3301.1, 3301.2, [BS] 3301.2.1, SECTION 3302, 3302.1, 3302.1.1 (New), 3302.2, 3302.3, 3302.3.1 (New); IEBC: 1501.1, 1501.2, 1501.2.1, [BS] 1501.3, 1501.4, 1501.5, 1501.7, SECTION 1502(New), 1502.1(New), 1502.1.1(New), 1502.2(New), 1502.3(New), 1502.3.1(New), SECTION 1503(New), SECTION 1504(New)
PART II - IFC: 3303.1.1, 3303.3

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

THIS IS A 2 PART CODE CHANGE. PART I WILL BE HEARD BY THE GENERAL CODE COMMITTEE. PART II WILL BE HEARD BY THE FIRE CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Building Code

SECTION 3301
GENERAL

Revise as follows:

3301.1 Scope. The provisions of this chapter shall govern safety during construction and the protection of adjacent public and private properties. Fire safety during construction shall also comply with the applicable provisions of Chapter 33 of the International Fire Code.

3301.2 Storage and placement of construction equipment and materials. Construction equipment and materials shall be stored and placed so as not to endanger the public, the workers or adjoining property for the duration of the construction project.

[BS] 3301.3 ~~3301.2.1~~ Roof ~~Structural and construction~~ loads. Structural roof components shall be capable of supporting the roof-covering system and the material and equipment*loads* that will be encountered during installation of the system.

3301.4 ~~3302.1~~ Maintenance of exits, existing structural elements, fire protection devices and sanitary safeguards~~Alterations, repairs and additions.~~ Required *exits*, existing structural elements, fire protection devices and sanitary safeguards shall be maintained at all times during *alterations*, *repairs* or *additions* to any building or structure.

Exceptions:

1. Where such required elements or devices are being altered or repaired, adequate substitute provisions shall be made.
2. Maintenance of such elements and devices is not required where the existing building is not occupied.

3301.5 ~~3302.2~~ Removal of waste materials~~Manner of removal.~~ Waste materials shall be removed in a manner that prevents injury or damage to persons, adjoining properties and public rights-of-way.

Delete without substitution:

~~**3302.3 Fire safety during construction.** Fire safety during construction shall comply with the applicable requirements of this code and the applicable provisions of Chapter 33 of the International Fire Code.~~

Revise as follows:

SECTION 3302
OWNER'S RESPONSIBILITY FOR FIRE PROTECTION~~CONSTRUCTION~~

Page: 1

Mod_11090_Text_G199-21 Part I.pdf

F11090Text Modification

~~SAFEGUARDS~~

Add new text as follows:

3302.1 Site Safety Plan. The owner or owner's authorized agent shall be responsible for the development, implementation and maintenance of an approved, written site safety plan establishing a fire prevention program at the project site applicable throughout all phases of the construction, repair, alteration or demolition work. The plan shall be submitted and approved before a building permit is issued, Any changes to the plan shall address the requirements of this chapter and other applicable portions of the International Fire Code, the duties of staff, and staff training requirements. The plan shall be submitted for approval in accordance with the *International Fire Code*.

3302.1.1 Components of site safety plans. Site safety plans shall include the following as applicable:

1. Name and contact information of site safety director.
2. Documentation of the training of the site safety director and fire watch personnel.
3. Procedures for reporting emergencies.
4. Fire department vehicle access routes.
5. Location of fire protection equipment, including portable fire extinguishers, standpipes, fire department connections and fire hydrants.
6. Smoking and cooking policies, designated areas to be used where approved, and signage locations in accordance with the *International Fire Code*.
7. Location and safety considerations for temporary heating equipment.
8. Hot work permit plan.
9. Plans for control of combustible waste material.
10. Locations and methods for storage and use of flammable and combustible liquids and other hazardous materials.
11. Provisions for site security and, where required, for a fire watch.
12. Changes that affect this plan.
13. Other site-specific information required by the *International Fire Code*.

3302.2 Site safety director. The owner shall designate a person to be the site safety director. The site safety director shall be responsible for ensuring compliance with the site safety plan. The site safety director shall have the authority to enforce the provisions of this chapter and other provisions as necessary to secure the intent of this chapter. Where guard service is provided in accordance with the International Fire Code, the site safety director shall be responsible for the guard service.

3302.3 Daily fire safety inspection. The site safety director shall be responsible for completion of a daily fire safety inspection at the project site. Each day, all building and outdoor areas shall be inspected to ensure compliance with the inspection list in this section. The results of each inspection shall be documented and maintained on-site until a certificate of occupancy has been issued. Documentation shall be immediately available on-site inspection and review.

1. Any contractors entering the site to perform hot work each day have been instructed in the hot work safety requirements in the *International Fire Code*, and hot work is performed only in areas approved by the site safety director.
2. Temporary heating equipment is maintained away from combustible materials in accordance with the equipment manufacturer's instructions.
3. Combustible debris, rubbish and waste material is removed from the building in areas where work is not being performed.
4. Temporary wiring does not have exposed conductors.

Page: 2

Mod_11090_Text_G199-21 Part I.pdf

F11090Text Modification

5. Flammable liquids and other hazardous materials are stored in locations that have been approved by the site safety director when not involved in work that is being performed.
6. Fire apparatus access roads required by the *International Fire Code* are maintained clear of obstructions that reduce the width of the usable roadway to less than 20 feet (6096 mm).
7. Fire hydrants are clearly visible from access roads and are not obstructed.
8. The location of fire department connections to standpipe and in-service sprinkler systems are clearly identifiable from the access road and such connections are not obstructed.
9. Standpipe systems are in service and continuous to the highest work floor, as specified in Section 3311.
10. Portable fire extinguishers are available in locations required by Sections 3309 and for roofing operations in accordance with the *International Fire Code.*
11. Where a fire watch is required, fire watch records complying with the International Fire Code are up-to-date.

3302.3.1 Violations. Failure to properly conduct, document and maintain documentation required by this section shall constitute an unlawful act in accordance with Section 114.1 and shall result in the issuance of a notice of violation to the site safety director in accordance with Section 114.2. Upon the third offense, the Building Official is authorized to issue a stop work order in accordance with Section 115, and work shall not resume until satisfactory assurances of future compliance have been presented to and approved by the Building Official.

Reason: Correlation with IFC for provisions for construction site safety that a building inspector can reasonably verify and enforce while onsite doing other scheduled inspections. Clearly, building inspectors are plenty busy with scheduled inspections, and we are not looking to bog them down with additional work touring the site for safety violations. But, having them verify that required owner/manager site safety inspections are being documented is a minimal step to improving construction site safety. Also, IFC reference is moved to the scope for improved visibility and provisions have been added to clarify that a fire watch, where required, and associated records should be part of the safety play and records inspection.
It is recommended that the new section be scoped to the Fire Code for maintenance.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Provisions being modified in the IBC are already in the IFC. Changes are for clarity and coordination between the codes.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as submitted as the proposal is a good coordinated change and providing a link to the Chapter 33 of the International Fire Code in the scoping statement of Section 3301.1. (Vote: 12-2)

Final Hearing Results

G199-21 Part I AS

Page: 3

Mod_11090_Text_G199-21 Part I.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

230

F11091 | **/G199-21 Part II**

Date Submitted	03/14/2024	**Section**	3303.1.1	**Proponent**	Mo Madani
Chapter	33	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Code change is specific to the IFC. This code is not part of the FBC.

Summary of Modification

IFC Section 3303.1.1. Correlation with IFC for provisions for construction site safety that a building inspector can reasonably verify and enforce while onsite doing other scheduled inspections.

Rationale

See attached

F11091Text Modification

See attached

Page: 1

Mod11091_TextOfModification.pdf

F11091Text Modification

G199-21 Part II

Original Proposal

PART II - IFC: 3303.1.1, 3303.3

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Fire Code

Revise as follows:

3303.1.1 Components of site safety plans. *Site safety plans* shall include the following as applicable:

1. Name and contact information of site safety director.
2. Documentation of the training of the site safety director and fire watch personnel.
3. Procedures for reporting emergencies.
4. Fire department vehicle access routes.
5. Location of fire protection equipment, including portable fire extinguishers, standpipes, fire department connections and fire hydrants.
6. Smoking and cooking policies, designated areas to be used where *approved*, and signage locations in accordance with Section 3305.8.
7. Location and safety considerations for temporary heating equipment.
8. Hot work permit plan.
9. Plans for control of combustible waste material.
10. Locations and methods for storage and use of *flammable* and *combustible liquids* and other hazardous materials.
11. Provisions for site security and, where required, for a fire watch.
12. Changes that affect this plan.
13. Other site-specific information required by the *fire code official*.

3303.3 Daily fire safety inspection. The site safety director shall be responsible for completion of a daily fire safety inspection at the project site. Each day, all building and outdoor areas shall be inspected to ensure compliance with the inspection list in this section. The results of each inspection shall be documented and maintained on-site until a certificate of occupancy has been issued. Documentation shall be immediately available on-site for presentation to the *fire code official* upon request.

1. Any contractors entering the site to perform hot work each day have been instructed in the hot work safety requirements in Chapter 35, and hot work is performed only in areas *approved* by the site safety director.
2. Temporary heating equipment is maintained away from combustible materials in accordance with the equipment manufacturer's instructions.
3. Combustible debris, rubbish and waste material is removed from the building in areas where work is not being performed.
4. Temporary wiring does not have exposed conductors.
5. *Flammable liquids* and other hazardous materials are stored in locations that have been *approved* by the site safety director when not involved in work that is being performed.
6. Fire apparatus access roads required by Section 3311 are maintained clear of obstructions that reduce the width of the usable roadway to less than 20 feet (6096 mm)

Page: 1

Mod_11091_Text_G199-21 Part II.pdf

F11091Text Modification

7. Fire hydrants are clearly visible from access roads and are not obstructed.
8. The location of fire department connections to standpipe and in-service sprinkler systems are clearly identifiable from the access road and such connections are not obstructed.
9. Standpipe systems are in service and continuous to the highest work floor, as specified in Section 3313.1.
10. Portable fire extinguishers are available in locations required by Sections 3316 and 3318.3.
11. Where a fire watch is required in accordance with Section 3305.5, fire watch records required by that section are up-to-date.

Reason: Correlation with IFC for provisions for construction site safety that a building inspector can reasonably verify and enforce while onsite doing other scheduled inspections. Clearly, building inspectors are plenty busy with scheduled inspections, and we are not looking to bog them down with additional work touring the site for safety violations. But, having them verify that required owner/manager site safety inspections are being documented is a minimal step to improving construction site safety. Also, IFC reference is moved to the scope for improved visibility and provisions have been added to clarify that a fire watch, where required, and associated records should be part of the safety play and records inspection.
It is recommended that the new section be scoped to the Fire Code for maintenance.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Provisions being modified in the IBC are already in the IFC. Changes are for clarity and coordination between the codes.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the reason statement. It was suggested that perhaps the phrase "up-to-date" could be revised in Section 3303.3. (Vote: 13-0)

Final Hearing Results

G199-21 Part II AS

Page: 2

Mod_11091_Text_G199-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

231

F10586 | **/ADM52 ANSI-SPRI VF-1-22**

Date Submitted	03/01/2024	**Section**	35	**Proponent**	Mo Madani
Chapter	35	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Updating Reference standard ANSI/SPRI VF-1

Rationale

See attached

F10586Text Modification

See attached

Mod10586_TextOfModification.pdf

Page: 1

F10586Text Modification

ADM52 : ANSI/SPRI VF-1-22

Original Proposal

IBC: SPRI Chapter 35
Proponents:

2021 International Building Code

Revise as follows:

SPRI

Single-Ply Roofing Institute
465 Waverly Oaks Road, Suite 421
Waltham, MA 02452

ANSI/SPRI VF-1~~-17~~ 21 External Fire Design Standard for Vegetative Roofs

Reason: The CP28 Code Development Policy, Section 4.6 requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Change Proposal for consideration by the Administrative Code Change Committee. In September 2021, a letter was sent to each developer of standards that is referenced in the International Codes, asking them to provide ICC with a list of their standards in order to update to the current edition. Listed are the referenced standards that are to be updated based upon responses received from standard developers.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Not applicable.

Public Hearing Results

Committee Action **As Submitted**

Final Hearing Results

ADM52 : ANSI/SPRI VF-1-22 AS

Mod_10586_Text_ADM52 - ANSI-SPRI VF-1-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Building

232

F11673		/ADM52-22			
Date Submitted	05/14/2024	**Section**	35	**Proponent**	Mo Madani
Chapter	35	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modification lists the updated standards in the IBC.

Rationale

See attached

F11673Text Modification

See attached

Page: 1

Mod11673_TextOfModification.pdf

F11673Text Modification

ADM52-22

ACCA	Air Conditioning Contractors of America		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/ACCA 1 Manual D—~~2016~~ 2023	Residential Duct Systems	IMC	IRC
ANSI/ACCA 10 Manual SPS —~~2010 RA~~ 2017	~~HVAC~~ Design for Swimming Pools and Spas	IMC	
ANSI/ACCA 3 Manual S—~~14~~ 2023	Residential Equipment Selection	IECC®	
ANSI/ACCA 3 Manual S—~~2014~~ 2023	Residential Equipment Selection	IRC	
ANSI/ASHRAE/ACCA 183—2007 (reaffirmed 2014)	Peak Cooling and Heating Load Calculations in Buildings Except Low-rise Residential Buildings	IMC	

AFSI	Architectural Fabric Structures Institute	
Standard Reference Number	**Title**	**Referenced in Code(s):**
~~FSAAS—16~~ AFSI-77	~~Fabric Structures Associated Air Structures 2016~~ Air Structures Design and Standards Manual	IFC

AHAM	Association of Home Appliance Manufacturers	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/AHAM RAC-1—~~2015~~ 2020	Room Air Conditioners	IECC®

AHRI	Air-Conditioning, Heating, & Refrigeration Institute	
Standard Reference Number	**Title**	**Referenced in Code(s):**
1160 (I-P) —~~2014~~ 2022	Performance Rating of Heat Pump Pool Heaters ~~(with Addendum 1)~~	IECC®
1160 (I-P)—~~2014~~ 2022	Performance Rating of Heat Pump Pool Heaters ~~(with Addendum 1)~~	ISPSC

Page: 1
Mod_11673_Text_ADM52.pdf

F11673Text Modification

1200 (I-P)—~~2013~~ 2022	Performance Rating of Commercial Refrigerated Display Merchandisers and Storage Cabinets	IECC®
1230 (I-P)—~~2014~~ 2021	Performance Rating of Variable Refrigerant Flow (VRF) Multi-split Air-Conditioning and Heat Pump Equipment ~~(with Addendum 1)~~	IECC®
1250 (I-P)—~~2014~~ (2020)	Standard for Performance Rating in Walk-in Coolers and Freezers	IECC®
1360 (I-P)—2017	Performance Rating of Computer and Data Processing Room Air Conditioners	IECC®
210/240—~~2017 and~~ 2023 (2020)	Performance Rating of Unitary Air-conditioning and Air-source Heat Pump Equipment	IECC®
340/360—~~2019~~ 2022	Performance Rating of Commercial and Industrial Unitary Air-conditioning and Heat Pump Equipment	IECC®
390 (I-P)—~~2003~~ 2021	Performance Rating of Single Package Vertical Air-conditioners and Heat Pumps	IECC®
440 (I-P)—~~2008~~ 2019	Performance Rating of Room Fan Coils ~~—with Addendum 1~~	IECC®
550/590 (I-P)—~~2018~~ 2022	Performance Rating of Water-chilling and Heat Pump Water-heating Packages Using the Vapor Compression Cycle	IECC®
560—~~2018~~ 2000	Absorption Water Chilling and Water Heating Packages	IECC®
700—~~2017~~ 2019	~~with Addendum 1:~~ Specifications for Refrigerants	IMC
910 (I-P)—2014	Performance Rating of Indoor Pool Dehumidifiers	IECC®
920 (I-P)—~~2015~~ 2020	Performance Rating of DX-Dedicated Outdoor Air System Units	IECC®

F11673Text Modification

AISC	American Institute of Steel	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/AISC 341~~—16~~ 22	Seismic Provisions for Structural Steel Buildings	IBC
ANSI/AISC 360~~—16~~ 22	Specification for Structural Steel Buildings	IBC
ANSI/AISC 358~~—16/s1—18~~ 22	Prequalified Connections for Special and Intermediate Steel Moment Frames for Seismic Applications, ~~IncludingSupplement No. 1~~	IBC

AISI	American Iron and Steel Institute	
Standard Reference Number	**Title**	**Referenced in Code(s):**
AISI S100—16 (2020) w/S2—20:	~~North American~~ Specification for the Design of Cold-Formed Steel Structural Members, 2016 Edition (Reaffirmed 2020), with Supplement 2, 2020 Edition	IBC
AISI S100—16 (2020) w/S2—20	~~North American~~ Specification for the Design of Cold-Formed Steel Structural Members, 2016 Edition (Reaffirmed 2020), with Supplement 2, 2020 Edition	IRC®

ALI	Automotive Lift Institute, Inc.	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ALI ALCTV~~—2016~~ 2022	Standard for Automotive Lifts—Safety Requirements for Construction, Testing and Validation (ANSI)	IBC

AMCA	Air Movement and Control Association International	
Standard Reference Number	**Title**	**Referenced in Code(s):**
~~ANSI/~~AMCA 550~~—09 (Rev. 09/18)~~ 22	Test Method for High Velocity Wind Driven Rain Resistant Louvers	IMC

F11673Text Modification

ANSI/AMCA 220—~~19~~ 21	Laboratory Methods of Testing Air Curtain Units for Aerodynamic Performance Rating	IECC®	
ANSI/AMCA 230—~~15~~ 23	Laboratory Methods of Testing Air Circulating Fans for Rating and Certification	IMC	IECC®
ANSI/AMCA 540—~~13~~ 23	Test Method for Louvers Impacted by Wind Borne Debris	IBC	
ANSI/AMCA 210-ANSI/ASHRAE 51—~~16~~ 23	Laboratory Methods of Testing Fans for Aerodynamic Performance Rating	IRC®	
ANSI/AMCA 210—16/ANSI/ASHRAE 51—16	Laboratory Methods of Testing Fans for Aerodynamic Performance Rating	IMC	

ANSI	**American National Standards Institute**			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
~~ANSI LC 4/CSA 6.32—2012~~ CSA/ANSI LC 4:23/CSA 6.32:23	Press-connect Metallic Fittings and valves for Use in Fuel Gas Distribution Systems	IFGC	IRC	
~~ANSI/CSA FC 1—2014~~ CSA/ANSI FC 1:21/CSA C22.2 NO. 62282-3-100:21	Fuel Cell Technologies—Part 3-100: Stationary Fuel Cell Power Systems—Safety	IFGC	IMC	IRC®
~~LC1/CSA 6.26—2016~~ CSA/ANSI LC 1:19/CSA 6.26:19	Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing (CSST)	IFGC	IRC®	
ANSI Z21.41 (R2019)/CSA 6.9-~~2014~~ (R2019)	Quick Disconnect Devices for Use with Gas Fuel Appliances	IFGC	IRC®	
ANSI Z21.22—~~99 (R2003)~~ 2015 (R2020)/CSA 4.4-2015(R2020)	Relief Valves for Hot Water Supply Systems~~ with Addenda Z21.22a—2000 (R2003) and Z21.22b—2001 (R2003)~~	IPC	IRC®	
ANSI Z21.24 -2015(R2020)/CSA 6.10— 2015(R2020)	Connectors for Gas Appliances	IFGC	IRC®	
ANSI Z21.40.1-1996 (R2017)/CGA 2.91—~~1996~~ M96(R2017)	Gas-fired Heat Activated Air Conditioning and Heat Pump ~~Appliances~~	IFGC	IRC	

Page: 4
Mod_11673_Text_ADM52.pdf

F11673Text Modification

ANSI Z21.50 :19/CSA 2.22—~~2016~~ :19	Vented Decorative Gas Fireplaces	IFGC		IRC®
ANSI Z21.69 -2015 (R2020)/CSA 6.16—2015 (R2020)	Connectors for Movable Gas Appliances	IFGC		IRC®
ANSI Z21.75 -2016/CSA 6.27—2016 (R2020)	Connectors for Outdoor Gas Appliances and Manufactured Homes	IFGC		IRC®
ANSI Z83.11 -2016 (R2021)/CSA 1.8—2016 (R2021)	Gas Food Service Equipment	IFGC		
ANSI Z83.18—2017 (R2021)	Recirculating Direct Gas-fired Heating and Forced Ventilation Appliances for Commercial and Industrial Applications	IFGC		
CSA/ANSI Z21.11.2—~~2016~~ :19	Gas-fired Room Heaters—Volume II—Unvented Room Heaters	IFGC		IRC®
CSA/ANSI Z21.56 :19/CSA 4.7—~~17~~ :19	Gas-fired Pool Heaters	IFGC	ISPSC	IRC®
CSA/ANSI Z21.10.3 :19/CSA 4.3—~~2017~~ :19	Gas Water Heaters—Volume III—Storage, Water Heaters with Input Ratings above 75,000 Btu per Hour, Circulating and Instantaneous	IFGC	IECC®	IRC®
CSA/ANSI Z21.15 :22/CSA 9.1—~~09(R2014)~~ :22	Manually Operated Gas Valves for Appliances, Appliance Connector Valves and Hose End Valves	IFGC		IRC®
CSA/ANSI Z21.19 :19/CSA 1.4—~~2014~~ :19	Refrigerators Using Gas Fuel	IFGC		
CSA/ANSI Z21.42—~~20~~13 (R2018)	Gas-fired Illuminating Appliances	IFGC		IRC®
CSA/ANSI Z21.47 :21/CSA 2.3—~~16~~ :21	Gas-fired Central Furnaces	IECC®		
CSA/ANSI Z21.58 :22/CSA 1.6—~~2015~~ :22	Outdoor Cooking Gas Appliances	IFGC		IRC®
CSA/ANSI Z21.80 :19CSA 6.22—~~11(R2016)~~ :19	Line Pressure Regulators	IFGC		IRC®

F11673Text Modification

CSA/ANSI Z21.90 :19/CSA 6.24~~-2015~~ :19	Gas Convenience Outlets and Optional Enclosures	IRC®	
CSA/ANSI Z21.91~~—2017~~ :20	Ventless Firebox Enclosures for Gas-fired Unvented Decorative Room Heaters	IFGC	IRC®
CSA/ANSI Z21.10.1 :19/CSA 4.1 ~~—2017~~ :19	Gas Water Heaters—Volume I—Storage, Water Heaters with Input Ratings of 75,000 Btu per Hour or Less	IFGC	IRC®
CSA/ANSI Z21.54 :19~~—2014~~ /CSA 8.4:19	Gas Hose Connectors for Portable Outdoor Gas-fired Appliances	IFGC	IRC®
A108.11~~—10~~ 18	Interior Installation of Cementitious Backer Units	IRC®	
A108.4~~—09~~ 19	Installation of Ceramic Tile with Organic Adhesives or Water-cleanable Tile-setting Epoxy Adhesive	IBC	IRC®
A108.5~~—19~~ 21	~~Installation of Ceramic Tile with Dry-set Portland Cement Mortar or Latex-Portland Cement Mortar~~ Setting of Ceramic Tile with Dry-Set Cement Mortar, Modified Dry Set Cement Mortar, EGP (Exterior Glue Plywood) Modified Dry-Set Cement Mortar, or Improved Modified Dry-Set Cement Mortar	IBC	IRC®
A108.6~~—19~~ 99(R2019)	Installation of Ceramic Tile with Chemical-resistant, Water Cleanable Tile-setting and -grouting Epoxy	IBC	IRC®
A108.8~~—19~~ 99(R2019)	Installation of Ceramic Tile with Chemical-resistant Furan Resin Mortar and Grout	IBC	
A108.9~~—19~~ 99(2019)	Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout	IBC	
A118.10— 14(R2019)	Standard Specifications for Load Bearing, Bonded, Waterproof Membranes for Thin- Set Ceramic Tile and Dimension Stone Installation	IPC	IRC®

Page: 6
Mod_11673_Text_ADM52.pdf

F11673Text Modification

A118.1—~~18~~ 19	American National Standard Specifications for Dry-set ~~Portland~~ Cement Mortar	IBC	IRC®
A118.3—~~20~~ 21	American National Standard Specifications for Chemical~~-~~resistant, Water-cleanable Tile-setting and -grouting Epoxy and Water Cleanable Tile-setting Epoxy Adhesive	IBC	IRC®
A118.4—~~18~~ 19	American National Standard Specifications for Modified Dry-set Cement Mortar	IBC	IRC®
A118.5—99(R2021)	American National Standard Specifications for Chemical Resistant Furan Mortar and Grouts for Tile Installation	IBC	
A118.6—19	American National Standard Specifications for Standard Cement Grouts for Tile Installation	IBC	
A136.1—~~19~~ 20	American National Standard Specifications for Organic Adhesives for ~~the~~ Installation of Ceramic Tile	IBC	IRC®
A137.1—~~19~~ 22	American National Standard Specifications for Ceramic Tile	IBC	IRC®
A137.3—~~17~~ 22	American National Standard Specifications for Gauged Porcelain Tiles and Gauged Porcelain Tile Panel/Slabs	IBC	
ANSI E1.21—~~2013~~ 2020	Entertainment Technology: Temporary Structures Used for Technical Production of Outdoor Entertainment Events	IFC	
CSA/ANSI NGV 5.1—~~2016~~ :22	Residential Fueling Appliances	IFGC	
CSA/ANSI NGV 5.2—~~2017~~ :22	Vehicle Fueling Appliances (VFA)	IFGC	
CSA/ANSI Z21.88:19/CSA 2.33—~~16~~ : 19	Vented Gas Fireplace Heaters	IFGC	IRC®

F11673Text Modification

LC 1/CSA 6.26~~—2016~~ :19	Fuel Gas Piping Systems Using Corrugated Stainless Steel Tubing ~~(CSST)~~	IFGC		
LC4/CSA 6.32—12	Press-connect Metallic Fittings for Use in Fuel Gas Distribution Systems	IRC®		
Z21.1/CSA 1.1~~—2016~~ 2018	Household Cooking Gas Appliances	IFGC	IMC	IRC
Z21.40.2/CGA 2.92—1996 (R2017)	Gas-fired Work Activated Air Conditioning and Heat Pump Appliances (Internal Combustion)	IFGC		
Z21.40.2/CSA 2.92—96 (R2017)	Gas-fired Work Activated Air-conditioning and Heat Pump Appliances (Internal Combustion)	IRC®		
Z21.41(R2019)/CSA 6.9—2014 (R2019)	Quick Disconnect Devices for use with Gas Fuel Appliances	IFGC		
Z21.47/CSA 2.3—2016	Gas-fired Central Furnaces	IFGC	IRC®	
Z21.56/CSA 4.7—2017	Gas-fired Pool Heaters	IFGC		
Z21.56a:19/CSA 4.7~~—2017~~ :19	Gas Fired Pool Heaters	ISPSC		
Z21.88/CSA 2.33~~—2016~~ :19	Vented Gas Fireplace Heaters	IFGC		
Z21.8~~—1994 (R2012)~~ 94(R2017)	Installation of Domestic Gas Conversion Burners	IFGC	IMC	IRC
Z83.20~~—08~~ 2016	Gas-fired Tubular Low-intensity Infrared Heaters Outdoor Decorative Appliances	IFGC	IRC®	
Z97.1~~—2014~~ 2015(R2020)	Safety Glazing Materials Used in Buildings—Safety Performance Specifications and Methods of Test	IBC	IRC®	

APA	APA - Engineered Wood Association	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/A190.1~~—2017~~ 2022	Product Standard for Structural Glued-laminated Timber	IRC®

F11673Text Modification

ANSI/APA A190.1—~~2017~~ 2022	Product Standard for Structural Glued Laminated Timber	IBC
ANSI/APA PRR 410—~~16~~ 2021	Standard for Performance-Rated Engineered Wood Rim Boards	IBC
ANSI/APA PRR 410—~~2016~~ 2021	Standard for Performance-rated Engineered Wood Rim Boards	IRC®
ANSI/APA PRS 610.1—~~2018~~ 2023	Standard for Performance-Rated Structural Insulated Panels in Wall Applications	IRC®
APA PDS Supplement 1—~~12~~ 23	Design and Fabrication of Plywood Curved Panels ~~(revised 2013)~~	IBC
APA PDS Supplement 2—~~12~~ 23	Design and Fabrication of Plywood-lumber Beams ~~(revised 2013)~~	IBC
APA PDS Supplement 3—~~12~~ 23	Design and Fabrication of Plywood Stressed-skin Panels ~~(revised 2013)~~	IBC
APA PDS Supplement 4—~~12~~ 23	Design and Fabrication of Plywood Sandwich Panels ~~(revised 2013)~~	IBC
APA PDS Supplement 5—~~16~~ 23	Design and Fabrication of All-plywood Beams ~~(revised 2013)~~	IBC
APA T300—~~16~~ 23	Glulam Connection Details	IBC
APA X440—~~17~~ 23	Product Guide: Glulam	IBC
APA X450—~~18~~ 23	Glulam in Residential Construction—Building—Construction Guide	IBC
API	**American Petroleum Institute**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
~~Publ~~ RP 2028 ~~3rd~~ 4th Edition—~~(2002, R2010)~~ (2024)	Flame Arrestors in Piping Systems	IFC
~~Publ~~ RP 2009—~~7th~~ 8th Edition ~~(2002, R2012)~~ (2022)	Safe Welding and Cutting Practices in Refineries, Gas Plants and Petrochemical Plants	IFC

Page: 9
Mod_11673_Text_ADM52.pdf

F11673Text Modification

Publ 2201 ~~5th~~ 6th Edition~~—(2003, R2010)~~ (2023)	Procedures for Welding or Hot Tapping on Equipment in Service	IFC
RP 1604—3rd Edition ~~(1996 R2010)~~ (1996) (4th edition 2021)	Closure of Underground Petroleum Storage Tanks	IFC
RP 1615—(1996) (6th Edition R2020) ~~(2011)~~	Installation of Underground-petroleum Storage Systems	IFC
RP 2001—~~9th~~ 10th Edition ~~(2012)~~ (2022)	Fire Protection in Refineries~~, 8th Edition~~	IFC
RP 2003—~~8th~~ 9th Edition ~~(2015)~~ (2023)	Protection Against Ignitions Arising out of Static, Lightning and Stray Currents	IFC
RP 2023—~~3rd~~ 4th Edition ~~(2001, R2006)~~ (2023)	Guide for Safe Storage and Handling of Heated Petroleum-derived Asphalt Products and Crude-oil Residue	IFC
RP 651—~~4th~~ 5th Edition ~~(2014)~~ (2022)	Cathodic Protection of Aboveground Petroleum Storage Tanks	IFC
RP 752— ~~3rd~~ 4th Edition ~~(2009)~~ (2022)	Management of Hazards Associated with Location of Process Plant Buildings, CMA Managers Guide	IFC
Std 2000~~—7th Edition (2014)~~ (7th edition R2020) 8th edition (2023)	Venting Atmosphere and Low-pressure Storage Tanks: Nonrefrigerated and Refrigerated	IFC
Std 2015~~—8th Edition 2001 (2018)~~ (2023)	Requirements for Safe Entry and Clearing of Petroleum Storage Tanks	IFC
Std 2350— ~~4th~~ 5th Edition ~~(2012)~~ (2021)	Overfill Protection for Storage Tanks in Petroleum Facilities	IFC
Std 653 Addendum 3,~~—~~5th Edition ~~(2018)~~ (2022)	Tank Inspection, Repair, Alteration and Reconstruction	IFC

ASABE	**American Society of Agricultural and Biological Engineers**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
EP 484.3 DEC2017 (R2022)	Diaphragm Design of Metal-clad, Wood-frame Rectangular Buildings	IBC

Page: 10
Mod_11673_Text_ADM52.pdf

F11673Text Modification

EP 486.3 SEP2017 (R2021)	Shallow-post and Pier Foundation Design	IBC
EP 559.1 ~~W/Corr.~~ AUG2010~~(R2014)~~ (R2019)	Design Requirements and Bending Properties for Mechanically Laminated Wood Assemblies	IBC
S640—JUL2017 (R2022)	Quantities and Units of Electromagnetic Radiation for Plants (Photosynthetic Organisms)	IECC®

ASCE/SEI	**American Society of Civil Engineers Structural Engineering Institute**				
Standard Reference Number	**Title**	**Referenced in Code(s):**			
19~~—16~~ 22	Structural Applications of Steel Cables for Buildings	IBC			
29~~—19~~ 05	Standard Calculation Methods for Structural Fire Protection	IBC			
49~~—12~~ 21	Wind Tunnel Testing for Buildings and Other Structures	IBC			
55~~—16~~ 22	Tensile Membrane Structures	IBC			
7~~—16~~ 22	Minimum Design Loads and Associated Criteria for Buildings and Other Structures	IBC	IRC®		
8~~—20~~ 21	Standard Specification for the Design of Cold-formed Stainless Steel Structural Members	IBC			
ASCE/SEI 24~~—20~~ 14	Flood Resistant Design and Construction	IFC	IRC	ISPSC	IBC

ASHRAE	**ASHRAE**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
140~~—2014~~ 2020	~~Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs~~ Method of Test for Evaluating Building Performance Simulation Software	IECC®

Page: 11

Mod_11673_Text_ADM52.pdf

F11673Text Modification

146~~—2011~~ 2020	~~Testing~~ Method of Test for Rating Pool Heaters	IECC®		
15~~—2019~~ 2022	Safety Standard for Refrigeration Systems	IMC	IFC	
170~~—2017~~ 2021	Ventilation of Health Care Facilities	IMC	IBC	IFC
34~~—2019~~ 2022	Designation ~~and Safety~~ Classification of Refrigerants	IMC	IRC®	
55~~—2017~~ 2020	Thermal Environmental Conditions for Human Occupancy	IECC®		
62.1~~-2019~~ 2022	Ventilation for Acceptable Air Quality	ISPSC		
62.1~~—2019~~ 2022	Ventilation for Acceptable Indoor Air Quality	IMC	IEBC	IECC®
90.1~~—2016~~ 2022	Energy Standard for Buildings Except Low-rise Residential Buildings	IMC	IECC®	
90.1~~—2019~~ 2022	Energy Standard for Buildings Except Low-rise Residential Buildings	IECC®		
90.4~~—2016~~ 2022	Energy Standard for Data Centers	IECC®		
ANSI/ASHRAE/ACCA Standard 183~~—(RA2017)~~ 2007 (RA 2020)	Peak Cooling and Heating Load Calculations in Buildings~~,~~ Except Low-rise Residential Buildings	IECC®		

ASME	American Society of Mechanical Engineers	
Standard Reference Number	**Title**	**Referenced in Code(s):**
A112.1.3—2000 (~~Reaffirmed 2020~~ 2024)	Air Gap Fittings for Use with Plumbing Fixtures, Appliances and Appurtenances	IRC®
A112.1.3~~—2000 (R2020)~~ 2024	Air Gap Fittings for Use with Plumbing Fixtures, Appliances and Appurtenances	IPC

F11673Text Modification

A112.14.1—2003 (R2022)	Backwater Valves	IPC	
A112.14.1—2003 ~~(R2017)~~ (2022)	Backwater Valves	IRC®	
A112.14.3—~~2021~~ 2023	Grease Interceptors	IPC	
A112.14.4—2001-~~(R2017)~~ (R2022)	Grease Removal Devices	IPC	
A112.14.6—2010 ~~(R2020)~~ (R2024)	FOG (Fats, Oils and Greases) Disposal Systems	IPC	
A112.18.1—~~2020~~ /CSA B125.1 —~~2020~~ 2023	Plumbing Supply Fittings	IPC	IRC®
A112.18.2—~~2019~~ 2023/CSA B125.2—~~19~~ 2023	Plumbing Waste Fittings	IPC	
A112.18.2—~~2019~~ 2023 /CSA B125.2—~~2019~~ 2023	Plumbing Waste Fittings	IRC®	
A112.18.3~~M~~—2002~~(R2020)~~ (R2022)	Performance Requirements for Backflow Protection Devices and Systems in Plumbing Fixture Fittings	IRC®	
A112.18.6—2021/CSA B125.6—21	Flexible Water Connectors	IPC	IRC®
A112.19.12—~~2019~~ 2024	Wall Mounted and Pedestal Mounted, Adjustable, Elevating, Tilting and Pivoting Lavatory, Sink, and Shampoo Bowl Carrier Systems and Drain Waste Systems	IPC	IRC®
A112.19.14—2013 (R~~2018~~ 2023)	Six-Liter Water Closets Equipped with Dual Flushing Device	IRC®	
A112.19.14—2013 ~~(R2018)~~ (R2023)	Six-liter Water Closets Equipped with a Dual Flushing Device	IPC	
A112.19.15—~~2012 () R201~~ 2012 (R2022)	Bathtub/Whirlpool Bathtubs with Pressure Sealed Doors	IPC	IRC
A112.19.19 ~~2016 (R2021)~~ — 2021	Vitreous China Nonwater Urinals	IPC	
A112.19.1—~~2020~~ 2022/CSA B45.2—~~20~~ 2022	Enameled Cast Iron and Enameled Steel Plumbing Fixtures	IPC	

F11673Text Modification

A112.19.1~~—2020~~ 2022/CSA B45.2~~—2020~~ 2022	Enameled Cast-iron and Enameled Steel Plumbing Fixtures	IRC®	
A112.19.2—/CSA B45.1—~~20 2020 20~~ 2021	Ceramic Plumbing Fixtures	IPC	
A112.19.2—~~2020~~ 2021/CSA B45.1—~~2020~~ 2021	Ceramic Plumbing Fixtures	IPC	IRC®
A112.19.3—2021/CSA B45.4—~~08 (R~~2021~~)~~	Stainless Steel Plumbing Fixtures	IPC	IRC®
A112.19.5—~~2021~~ 2022/CSA B45.15—~~2021~~ 2022	Flush Valves and Spuds for Water Closets, Urinals, and Tanks	IPC	IRC®
A112.19.7-~~2012~~ 2023/CSA B45.10—~~2012 (R2021)~~ 2023	Hydromassage Bathtub Systems	IRC®	
A112.19.7—CSA B45.10—~~R 2012/ 2012 (2021)~~ 2012(R2023)	Hydromassage Bathtub Systems	IPC	
A112.21.3—~~1985 (R2017)~~ 2022	Hydrants for Utility and Maintenance Use	IPC	
A112.3.4—~~2020~~ 2022/CSA B45.9—~~20~~ 2022	Macerating Toilet Systems and Related Components	IRC®	
A112.36.2M—1991 ~~(R2017)~~ (R2022)	Cleanouts	IPC	IRC®
A112.4.14—~~2004 (R2019)~~ 2022	Manually Operated, Quarter-Turn Shutoff Valves for Use in Plumbing Systems	IPC	IRC®
A112.4.14—~~2019~~ 2022/CSA B125.14-~~19~~ 2022	Manually Operated Valves for Use in Plumbing Systems	IPC	IRC®
A112.4.1—~~2019~~ 2024	Water Heater Relief Valve Drain Tubes	IRC®	
A112.4.2—~~2020~~ 2021/CSA B45.16—~~20~~ 2021	Water Closet Personal Hygiene Devices	IPC	
A112.4.3—~~1999 (R2020)~~ 2024	Plastic Fittings for Connecting Water Closets to the Sanitary Drainage System	IPC	IRC®

F11673Text Modification

A112.4.4—~~2017~~ 2022	Plastic Push-Fit Drain, Waste, and Vent (DWV) Fittings	IPC		IRC®	
A112.6.1M — ~~1997(R2017)~~ 2022	Floor-Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use	IPC			
A112.6.2—~~2017~~ 2022	Framing-Affixed Supports for Off-the-Floor Water Closets with Concealed Tanks	IPC		IRC®	
A112.6.3—~~2019~~ 2022	Floor and Trench Drains	IPC		IRC®	
A112.6.4—~~2003 (R2012)~~ (R2020)	Roof, Deck, and Balcony Drains	IPC			
A112.6.7—2010 ~~(R2020)~~ (R2024)	Sanitary Floor Sinks	IPC			
A112.6.9—2005 ~~(R2020)~~ (R2024)	Siphonic Roof Drains	IPC			
A17.1—~~2019~~ 2022/CSA B44—~~19~~ 2022	Safety Code for Elevators and Escalators	IBC	IEBC	IFC	IRC®
A17.3—~~2020~~ 2023	Safety Code for Existing Elevators and Escalators	IEBC		IFC	
A18.1—~~2020~~ 2023	Safety Standard for Platform Lifts and Stairway Chairlifts	IBC	IEBC	IRC®	
ASME A17.1—~~2019~~ 2022/CSA B44—~~19~~ 2022	Safety Code for Elevators and Escalators	IPMC		IECC®	
ASME A17.1—~~2019~~ 2022/CSA B44—~~2019~~ 2022	Safety Code for Elevators and Escalators	IRC®			
ASSE 1016—~~2020~~ 2021/ASME 112.1016—~~2020~~ 2021/CSA B125.16—~~2020~~ 2021	Performance Requirements for Automatic Compensating Valves for Individual Showers and Tub/Shower Combinations	IPC		IRC®	
B1.13M—~~2006~~ 2020	Metric Screw Threads: M Profile	IMC			
B1.1—~~2003~~ 2024	Unified Inch Screw Threads, UN and UNR Thread Form	IMC			
B1.20.1—~~2019~~ 2023	Pipe Threads, General Purpose (inch)	IFGC	IMC	IPC	IRC®

F11673Text Modification

B1.20.3—~~1976~~ 2023	Dryseal Pipe Threads, Inch	IMC				
B16.12—~~2009 (R2019)~~ 2024	Cast Iron Threaded Drainage Fittings	IPC	IRC®			
B16.15—~~2013~~ 2023	Cast Alloy Threaded Fittings: ~~Classes 125 and 250~~	ISPSC				
B16.15—~~2018~~ 2023	Cast Alloy Threaded Fittings: ~~Classes 125 and 250~~	IMC	IPC	IRC®		
B16.18—~~2018~~ 2023	Cast Copper Alloy Solder Joint Pressure Fittings	IMC	IPC	IBC	IFC	IRC®
B16.22—~~2018~~ 2023	Wrought-Copper and Copper-Alloy Solder Joint Pressure Fittings	IMC	IPC	IBC	IFC	IRC®
B16.26—~~2018~~ 2023	Cast Copper Alloy Fittings for Flared Copper Tubes	IMC	IPC	IRC®		
B16.29—~~2017~~ 2022	Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings (DWV)	IPC	IRC®			
B16.33—~~2012 (R2017)~~ 2022	Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 125 psig (Sizes $^1/_2$ through 2)	IRC®				
B16.33—~~2012(2017)~~ 2022	Manually Operated Metallic Gas Valves for Use in Gas Piping Systems up to 125 psig (Sizes $^1/_2$ through 2)	IFGC				
B16.34—~~2020~~ 2023	Valves—Flanged, Threaded and Welding End	IPC	IRC®			
B16.44—~~2012 (R2017)~~ 2022	Manually Operated Metallic Gas Valves for Use in Above-ground Piping Systems up to 5 psi	IFGC	IRC®			
B16.47—~~2020~~ 2023	Large Diameter Steel Flanges: NPS 26 through NPS 60 Metric/Inch Standard	IFGC				
B16.5—~~2019~~ 2024	Pipe Flanges and Flanged Fittings: NPS $^1/_2$ through NFPS 24 Metric/Inch Standard	IFGC	IMC			

Page: 16
Mod_11673_Text_ADM52.pdf

F11673Text Modification

B16.9—~~2018~~ 2023	Factory-Made Wrought Steel Buttwelding Fittings	IMC	IPC	IRC®
B20.1—~~2021~~ 2024	Safety Standard for Conveyors and Related Equipment	IBC		
B251/B251M—2017	Specification for General Requirements for Wrought Seamless Copper and Copper-alloy Tube	IPSDC		
B31.12—~~2019~~ 2024	Hydrogen Piping and Pipelines	IFGC		
B31.1—~~2020~~ 2022	Power Piping	IFC		
B31.3—~~2020~~ 2022	Process Piping	IFGC	IBC	IFC
B31.4—~~2019~~ 2022	Pipeline Transportation Systems for Liquids and Slurries	IFC		
B31.5—~~2019~~ 2022	Refrigeration Piping and Heat Transfer Components	IMC	IPC	
B31.9—~~2020~~ 2023	Building Services Piping	IMC	IFC	
B36.10M—~~2018~~ 2023	Welded and Seamless Wrought-steel Pipe	IFGC	IRC®	
BPVC—~~2019~~ 2023	ASME Boiler and Pressure Vessel Code (Sections I, II, IV, V & VI, VIII)	IFGC	IMC	IFC	IRC®
CSD-1—~~2021~~ 2024	Controls and Safety Devices for Automatically Fired Boilers	IFGC	IMC	IRC®	

ASPE	**American Society of Plumbing Engineers**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
45—~~2013~~ 2018	Siphonic Roof Drainage~~ Systems~~	IPC
ASPE/IAPMO Z1034—2015 (R2020)	Test Method for Evaluating Roof Drain Performance	IPC

ASSE	**ASSE International**	
Standard Reference Number	**Title**	**Referenced in Code(s):**

Page: 17
Mod_11673_Text_ADM52.pdf

F11673Text Modification

1003—~~09~~ 2020	Performance Requirements for Water Pressure Reducing Valves for Domestic Water Distribution	IPC	
1003—~~2011~~ 2020	Performance Requirements for Water-pressure-reducing Valves for Domestic Water Distribution Systems	IRC®	
1008—~~06~~ 2020	Performance Requirements for Plumbing Aspects of Food Waste Disposer Units	IPC	
1008—~~2006~~ 2020	Performance Requirements for Plumbing Aspects of Residential Food Waste Disposer Units	IRC®	
1013—~~2017~~ 2021	Performance Requirements for Reduced Pressure Principle Backflow Prevention Assemblies ~~Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers~~	IRC®	
1015—~~2017~~ 2021	Performance Requirements for Double Check Backflow Prevention Assemblies ~~and Double Check Fire Protection Backflow Prevention Assemblies~~	IPC	IRC®
1018—~~2001~~ 2021	Performance Requirements for Trap Seal Primer Valves; Potable Water Supplied	IPC	IRC®
1019—~~2011~~ ~~(R2016)~~	~~Performance Requirements for Vacuum Breaker Wall Hydrants, Freeze Resistant, Automatic Draining Type~~ Performance Requirements for Freeze-resistant, Wall Hydrants, Vacuum Breaker, Draining Types	IPC	IRC®
1020—~~04~~ 2020	Performance Requirements for Pressure Vacuum Breaker Assembly	IPC	
1020—~~2004~~ 2020	Performance Requirements for Pressure Vacuum Breaker Assembly	IRC®	
1022—~~2017~~ 2021	Performance Requirements for Backflow Preventer for Beverage Dispensing Equipment	IPC	

F11673Text Modification

1023—~~1979~~ 2020	Performance Requirements for Electrically Heated or Cooled ~~Hot~~ Water Dispensers~~, Household storage type—Electrical~~	IRC®	
1024—~~2017~~ 2021	Performance Requirements for Dual Check Valve Type Backflow Preventers, Anti-siphon-type, Residential Applications	IPC	IRC®
1035—~~08~~ 2020	Performance Requirements for Laboratory Faucet Backflow Preventers	IPC	
1035—~~2008~~ 2020	Performance Requirements for Laboratory Faucet Backflow Preventers	IRC®	
1044—~~2015~~ 2020	Performance Requirements for Trap Seal Primer Devices—Drainage Types and Electronic Design Types	IPC	IRC®
1047—~~2011~~ 2021	Performance Requirements for Reduced Pressure Detector Fire Protection Backflow Prevention Assemblies	IPC	IRC®
1048—~~2011~~ 2021	Performance Requirements for Double Check Detector Fire Protection Backflow Prevention Assemblies	IPC	IRC®
1049—~~2009~~ 2021	Performance Requirements for Individual and Branch Type Air Admittance Valves for Chemical Waste Systems	IPC	
1050—~~2009~~ 2021	Performance Requirements for Stack Air Admittance Valves for Sanitary Drainage Systems	IPC	IRC®
1051—~~2009~~ 2021	Performance Requirements for Individual and Branch Type Air Admittance Valves for Sanitary Drainage Systems ~~fixture and Branch Devices~~	IPC	IRC®
1056—~~2013~~ 2021	Performance Requirements for Spill-Resistant Vacuum Breaker	IPC	IRC®

F11673Text Modification

1060—~~2016~~ 2020	Performance Requirements for Outdoor Enclosures for Fluid-conveying Components	IRC®		
1060—~~2017~~ 2020	Performance Requirements for Outdoor Enclosures for Fluid Conveying Components	IPC		
1061—~~2015~~ 2020	Performance Requirements for Push Fit Fittings	IMC	IPC	IRC®
1062—~~2017~~ 2021	Performance Requirements for Temperature Actuated, Flow Reduction (TAFR) Valves to Individual Supply Fittings	IPC	IRC®	
1064—~~2006 (R2011)~~ 2020	Performance Requirements for Backflow Prevention Assembly Field Test Kits	IPC		
1069—~~05~~ 2020	Performance Requirements for Automatic Temperature Control Mixing Valves	IPC		
1071—~~2012~~ 2021	~~Performance Requirements for~~ Temperature Actuated Mixing Valves for Plumbed Emergency Equipment	IPC		
1072—~~07~~ 2020	Performance Requirements for Barrier Type Floor Drain Tap Seal Protection Devices	IPC		
1072—~~2007~~ 2020	Performance Requirements for Barrier-type Trap Seal Protection for Floor Drain s ~~Trap Seal Protection Devices~~	IRC®		
1079—~~2005~~ 2021	Performance Requirements for Dielectric Pipe Unions	IMC	IPC	
1081—~~2014~~ 2020	Performance Requirements for Backflow Preventers with Integral Pressure Reducing Boiler Feed Valve and Intermediate Atmospheric Vent Style for Domestic and Light Commercial Water Distribution Systems	IPC	IRC®	

F11673Text Modification

5013—2015	~~Performance Requirements for Testing~~ Reduced Pressure Principle Backflow ~~Prevention Assembly~~ Preventers (RPA) and Reduced Pressure Principle Fire Protection Backflow Preventers (RFP)	IPC
ASSE/IAPMO 1055—~~2018~~ 2020	Performance Requirements for Chemical Dispensing Systems with Integral Backflow Protection	IPC

ASSP	American Society of Safety Professionals		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/ASSP Z359.1 -2020	The Fall Protection Code	IFGC	
ANSI/ASSE Z359.1—~~2019~~ 2020	The Fall Protection Code	IBC	
ANSI/ASSP Z359.1—~~2019~~ 2020	The Fall Protection Code	IMC	IFC

ASTM	ASTM International			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
A105/A105M—~~18~~ 21	Standard Specification for Carbon Steel Forgings for Piping Applications	IMC		
A106/A106M—~~2018~~ 2019a	Specification for Seamless Carbon Steel Pipe for High-temperature Service	IFGC	IMC	IRC®
A126—04(~~2014~~ 2019)	Standard Specification for Gray Iron Castings for Valves, Flanges , and Pipe Fittings	IMC	IRC®	
A181/A181M—14(2020)	Standard Specification for Carbon Steel Forgings, for General-purpose Piping	IMC		
A182/A182M—~~2018A~~ 21	Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High-temperature Service	ISPSC		

Page: 21
Mod_11673_Text_ADM52.pdf

F11673Text Modification

A193/A193M—~~19~~ 20	Standard Specification for Alloy-steel and Stainless Steel Bolting for High Temperature or High Pressure Service and Other Special Purpose Applications	IMC			
A234/A234M—~~18A~~ 19	Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service	IMC			
A240/A240M—~~17~~ 20a	Standard Specification for Chromium and Chromium-~~n~~ Nickel Stainless Steel Plate, Sheet , and Strip for Pressure Vessels and for General Applications	IMC	IBC	ISPSC	IRC®
A252—~~2010(2018)~~ /A252M-19	Specification for Welded and Seamless Steel Pipe Piles	IBC			
A254—~~2010(2018)~~ /A254M-12(2019)	Specification for Copper Brazed Steel Tubing	IFGC	IMC	IRC®	
A268/A268M—~~2010(16)~~ 20	Standard Specification for Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing for General Service	IRC®			
A268/A268—~~2010(16)~~ 20	Standard Specification for Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing for General Service	IFGC			
A269/A269M-15a 2019	Standard Specification for Seamless and Welded Austenitic Stainless Steel Tubing for General Service	IFGC	IMC	IPC	IRC®
A307—~~2014E1~~ 21	Specification for Carbon Steel Bolts ~~and~~ Studs, and Threaded Rod 60,000 ~~psi~~ PSI Tensile Strength	IRC®			
A312/A312M— ~~2018~~ 21	Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes	IPC			
A312/A312M—~~2018~~ 21	Standard Specification for Seamless, Welded and Heavily Cold Worked Austenitic Stainless Steel Pipes	IFGC	ISPSC		

F11673Text Modification

A312/A312M ~~—17~~ 21	Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes	IMC		
A312/A312M~~—2018~~ 21	Specification for Seamless, Welded and Heavily Cold Worked Austenitic Stainless Steel Pipes	IRC®		
A334/A334M—04a(~~2016~~ 2021)	Standard Specification for Seamless and Welded Carbon and Alloy-steel Tubes for Low-temperature Service	IMC		
A36/A36M~~—14~~ 19	Specification for Carbon Structural Steel	IBC	IRC®	
A395/A395M—99(~~2014~~) 2018	Standard Specification for Ferritic Ductile Iron Pressure-retaining Castings for Use at Elevated Temperatures	IMC		
A403/A403M~~—2018A~~ 20	Standard Specification for Wrought Austenitic Stainless Steel Piping Fittings	ISPSC		
A416/A416M~~—2017A~~ 18	Standard Specification for Low-Relaxation , ~~Uncoated~~ Seven-~~W~~wire Steel Strand for Prestressed Concrete	IBC		
A420/A420M~~—2016~~ 20	Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Low-temperature Service	IMC		
A463/A463M—15 (2020)e1	Standard Specification for Steel Sheet, Aluminum-coated, by the Hot-dip Process	IBC	IRC®	
A53/A53M— ~~2018~~ 2020	Specification for Pipe, Steel, Black and Hot-dipped, Zinc-coated Welded and Seamless	IPC		
A53/A53M~~—2018~~ 2020	Specification for Pipe, Steel, Black and Hot Dipped Zinc-coated Welded and Seamless	IFGC	IMC	IRC®
A536—84~~(2014)~~ (2019)e1	Standard Specification for Ductile Iron Castings	IMC		
A563/A563M~~—15~~ 21a	Standard Specification for Carbon and Alloy Steel Nuts	IRC®		

F11673Text Modification

A572/A572M—~~2018~~ 21e1	Specification for High-strength Low-alloy Columbium-Vanadium Structural Steel	IBC	
A588/A588M—~~15~~ 19	Standard Specification for High-~~s~~Strength Low-~~a~~ Alloy Structural Steel , ~~with~~ up to 50 ksi ~~(~~ [345 MPa~~)~~] Minimum Yield Point with Atmospheric Corrosion Resistance	IBC	
A6/A6M—~~2017A~~ 2019	Standard Specification for General Requirements for Rolled Structural Steel Bars, Plates, Shapes and Sheet Piling	IBC	
A615/A615M—~~15ae1~~ 20	StandardSpecification for Deformed and Plain Carbon-~~s~~ Steel Bars for Concrete Reinforcement	IBC	
A615/A615M—~~2015aE1~~ 20	Standard Specification for Deformed and Plain Carbon- s Steel Bars for Concrete Reinforcement	IRC®	
A641/A641M—~~09a(2014)~~ 19	Specification for Zinc-coated (Galvanized) Carbon Steel Wire	IRC®	
A653/A653M—~~2017~~ 2020	Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-iron Alloy-coated (Galvannealed) by the Hot-dip Process	IRC®	
A653/A653M—~~2017~~ 2020	Specification for Steel Sheet, Zinc-coated Galvanized or Zinc-iron Alloy-coated Galvannealed by the Hot-dip Process	IBC	
A706/A706M—2016	Standard Specification for Deformed and Plain Low-~~a~~ Alloy Steel Bars for Concrete Reinforcement	IBC	IRC®
A74— ~~17~~ 2021	Specification for Cast-iron Soil Pipe and Fittings	IPC	
A74—2017	Specification for Cast-iron Soil Pipe and Fittings	IRC®	

F11673Text Modification

A755/A755M—~~2016E1~~ 18	Specification for Steel Sheet, Metallic-coated by the Hot-dip Process and Prepainted by the Coil-coating Process for Exterior Exposed Building Products	IBC	
A755M/A755M—~~2016E1~~ 18	Specification for Steel Sheet, Metallic Coated by the Hot-dip Process and Prepainted by the Coil-coating Process for Exterior Exposed Building Products	IRC®	
A778/A778M— 16(2021)	Specification for Welded Unannealed Austenitic Stainless Steel Tubular Products	IPC	
A778M/A778M—~~20~~16 (2021)	Specification for Welded Unannealed Austenitic Stainless Steel Tubular Products	IRC®	
A792/A792M—~~10(2015)~~ 21a	Specification for Steel Sheet, 55% Aluminum-zinc Alloy-coated by the Hot-dip Process	IBC	IRC®
A875/A875M—~~13~~ 21	Standard Specification for Steel Sheet, Zinc-5%, Aluminum Alloy-coated by the Hot-dip Process	IBC	IRC®
A888— ~~2018~~ 21a	Specification for Hubless Cast-iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Application	IPC	IRC®
A924/A924M—~~2017A~~ 20	Standard Specification for General Requirements for Steel Sheet, Metallic-coated by the Hot-dip Process	IBC	
A924M—~~2017A~~ 20	Standard Specification for General Requirements for Steel Sheet, Metallic-coated by the Hot-dip Process	IRC®	
B101—12(2019)	Specification for Lead-coated Copper Sheet and Strip for Building Construction	IBC	IRC®
B152/B152M—~~13~~ 19	Standard Specification for Copper Sheet, Strip, Plate, and Rolled Bar	IPC	
B209—~~14~~ 21	Specification for Aluminum and Aluminum Alloy Steel and Plate	IBC	IRC®

F11673Text Modification

B210/B210M—19a	Standard Specification for Aluminum and Aluminum-alloy Drawn Seamless Tubes	IFGC				IMC	
B280—~~18~~ 20	Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service	IFGC	IMC	IFC	IRC	IBC	
B306—~~13~~ 20	Specification for Copper Drainage Tube (DWV)	IPC				IRC®	
B32—~~08(2014)~~ 20	Specification for Solder Metal	IMC		IPC		IRC®	
B370—12(2019)	Specification for Copper Sheet and Strip for Building Construction	IBC				IRC®	
B42—~~15a~~ 20	Specification for Seamless Copper Pipe, Standard Sizes	IMC	IPC	IFC	IRC	IBC	
B43—~~15~~ 20	Specification for Seamless Red Brass Pipe, Standard Sizes	IMC	IPC	IBC	IFC	IRC®	
B447—12a(2021)	Specification for Welded Copper Tube	IPC		ISPSC		IRC®	
B68/B68M—~~11~~ 19	Standard Specification for Seamless Copper Tube, Bright Annealed ~~(Metric)~~	IMC		IBC		IFC	
B75/B75M—~~11~~ 20	Specification for Seamless Copper Tube	IMC		IPC		IRC®	
B819—~~2018~~ 19	Standard Specification for Seamless Copper Tube for Medical Gas Systems	IMC					
B88—~~2016~~ 20	Specification for Seamless Copper Water Tube	IFGC	IMC	IPC	IBC	IFC	ISPSC	IRC®
C1002—~~2018~~ 20	Specification for Steel Self-piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs	IBC				IRC®	
C1007—~~11a(2015)~~ 20	Specification for Installation of Load Bearing (Transverse and Axial) Steel Studs and Related Accessories	IBC					

F11673Text Modification

C1029—~~15~~ 20	Specification for Spray-applied Rigid Cellular Polyurethane Thermal Insulation	IBC		IRC®
C1047—~~14a~~ 19	Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base	IRC®		
C1063—~~2018B~~ 21	Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-based Plaster	IBC		IRC®
C1088—~~2018~~ 20	Specification for Thin Veneer Brick Units Made from Clay or Shale	IBC		IRC®
C1107/C1107M—~~2017~~ 20	Standard Specification for Packaged Dry, Hydraulic-cement Grout (Nonshrink)	IRC®		
C1157/C1157M—~~2017~~ 20a	Standard Performance Specification for Hydraulic Cement	IBC		
C126—~~2017~~ 19	Standard Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units	IRC®		
C1277—~~2018~~ 20	Specification for Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings	IPC	IPSDC	IRC®
C1280—~~13a~~ 18	Specification for Application of Exterior Gypsum Panel Products for Use as Sheathing	IBC		
C1283—2015(2021)	Practice for Installing Clay Flue Lining	IBC		IRC®
C1288—2017	Standard Specification for ~~Discrete Nonasbestos~~ Fiber-~~c~~ Cement Interior Substrate Sheets	IBC		IRC®
C1289—~~2018~~ 21	Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board	IBC		IRC®
C1313/C1313M—13(2019)	Standard Specification for Sheet Radiant Barriers for Building Construction Applications	IBC		

F11673Text Modification

C1325—~~2018~~ 21	Standard Specification for Nonasbestos Fiber-mat Reinforced Cement Backer Units	IBC		IRC®
C1328/C1328M—~~12~~ 19	Specification for Plastic (Stucco Cement)	IBC		IRC®
C1363—~~11~~ 19	Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus	IECC®		IRC®
C1364—~~2017~~ 19	Standard Specification for Architectural Cast Stone	IBC		IRC®
C140/C140M—~~2018~~ 21	Test Method Sampling and Testing Concrete Masonry Units and Related Units	IBC		
C1405—~~2016~~ 20a	Standard Specification for Glazed Brick (Single Fired, Brick Units)	IRC®		
C143/C143M—~~15A~~ 20	Test Method for Slump of Hydraulic Cement Concrete	IRC®		
C1440— ~~2017~~ 21	Specification for Thermoplastic Elastomeric (TPE) Gasket Materials for Drain, Waste, and Vent (DWV), Sewer, Sanitary and Storm Plumbing Systems	IPC	IPSDC	IRC
C1440—~~2017~~ 21	Specification for Thermoplastic Elastomeric (TPE) Gasket Materials for Drain, Waste and Vent (DWV), Sewer, Sanitary and Storm Plumbing Systems	IRC®		
C1460— ~~2017~~ 21	Specification for Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground	IPC	IPSDC	IRC®
C1460—~~2017~~ 21	Specification for Shielded Transition Couplings for Use with Dissimilar DWV Pipe and Fittings Above Ground	IRC®		

F11673Text Modification

C1461— ~~2008(2017)~~ 21	Specification for Mechanical Couplings Using Thermoplastic Elastomeric (TPE) Gaskets for Joining Drain, Waste and Vent (DWV) Sewer, Sanitary and Storm Plumbing Systems for Above and Below Ground Use	IPC	
C14—~~15a~~ 20	Specification for Nonreinforced Concrete Sewer, Storm Drain and Culvert Pipe	IPC	IRC®
C150/C150M—~~2018~~ 21	Specification for Portland Cement	IBC	IRC®
C1540— ~~2018~~ 20	Specification for Heavy Duty Shielded Couplings Joining Hubless Cast-iron Soil Pipe and Fittings	IPC	
C1563— 2008~~(201 7)~~ (2021)	Standard Test Method for Gaskets for Use in Connection with Hub and Spigot Cast Iron Soil Pipe and Fittings for Sanitary Drain, Waste, Vent and Storm Piping Applications	IPC	
C1568—08~~(2013)~~ (2020)	Standard Test Method for Wind Resistance of Concrete and Clay Roof Tiles (Mechanical Uplift Resistance Method)	IBC	
C1600/C1600M—~~2017~~ 19	Standard Specification for Rapid Hardening Hydraulic Cement	IBC	
C1629/C1629M—~~2018A~~ 19	Standard Classification for Abuse-resistant Nondecorated Interior Gypsum Panel Products and Fiber-reinforced Cement Panels	IBC	
C1634—~~2017~~ 20	Standard Specification for Concrete Facing Brick and Other Concrete Masonry Facing Units	IRC®	
C1658/C1658M—~~2018~~ 19e1	Standard Specification for Glass Mat Gypsum Panels	IBC	IRC®
C1668—~~13a~~ 20	Standard Specification for Externally Applied Reflective Insulation Systems on Rigid Duct in Heating, Ventilation, and Air Conditioning (HVAC) Systems	IRC®	

F11673Text Modification

C1670/1670M—~~2018~~ 2021a	Standard Specification for Adhered Manufactured Stone Masonry Veneer Units	IRC®			
C1670/C1670M—~~2018~~ 21a	Standard Specification for Adhered Manufactured Stone Masonry Veneer Units	IBC			
C1766—2015(2019)	Standard Specification for Factory-laminated Gypsum Panel Products	IBC	IRC®		
C1788—~~14~~ 20	Standard Specification for Non Metallic Plaster Bases (Lath) Used with Portland Cement Based Plaster in Vertical WallApplications	IBC			
C208—2012(2017)~~E1~~ e2	Specification for Cellulosic Fiber Insulating Board	IBC	IRC®		
C212—~~2017~~ 21	Standard Specification for Structural Clay Facing Tile	IRC®			
C216—~~2017A~~ 21	Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)	IBC	IRC®		
C22/C22M—00~~(2015)~~ (2021)	Specification for Gypsum	IBC	IRC®		
C270—~~14A~~ 19ae1	Specification for Mortar for Unit Masonry	IRC®			
C28/C28M—10~~(2015)~~ 2020	Specification for Gypsum Plasters	IBC	IRC®		
C31/C31M—~~2018B~~ 21a	Practice for Making and Curing Concrete Test Specimens in the Field	IBC			
C315—2007~~(2016)~~ (2021)	Specification for Clay Flue Liners and Chimney Pots	IFGC	IMC	IBC	IRC®
C317/C317M—2000 ~~(2015)~~ (2019)	Specification for Gypsum Concrete	IBC			
C34—2017	Standard Specification for Structural Clay ~~Load-bearing~~ Loadbearing Wall Tile	IRC®			

F11673Text Modification

C35/C35M—~~(2014)~~ 01(2019)	Specification for Inorganic Aggregates for Use in Gypsum Plaster	IRC®		
C35/C35—01~~(2014)~~ (2019)	Specification for Inorganic Aggregates for Use in Gypsum Plaster	IBC		
C411—~~2017~~ 2019	Test Method for Hot-surface Performance of High-temperature Thermal Insulation	IMC	IRC®	
C425— ~~2004(2018)~~ 21	Specification for Compression Joints for Vitrified Clay Pipe and Fittings	IPC	IPSDC	IRC
C443— ~~2012(2017)~~ 20	Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets	IPC		
C443—~~2012(2017)~~ 20	Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets	IRC®		
C472—~~99(2014)~~ 20	Standard Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete	IBC		
C473—~~2017~~ 2019	Test Methods for Physical Testing of Gypsum Panel Products	IBC		
C474—15(2020)	Test Methods for Joint Treatment Materials for Gypsum Board Construction	IBC		
C475M—2017	Specification for Joint Compound and Joint Tape for Finishing Gypsum Wallboard	IRC®		
C476—~~2018~~ 2020	Specification for Grout for Masonry	IRC®		
C503M/C503M—2015	Standard Specification for Marble Dimension Stone	IRC®		
C514—04~~(2014)~~ (2020)	Specification for Nails for the Application of Gypsum Board	IBC	IRC®	
C516—~~2008(2014)E1~~ 19	Specifications for Vermiculite Loose Fill Thermal Insulation	IBC		

F11673Text Modification

C547—~~2017~~ 19	Specification for Mineral Fiber Pipe Insulation	IBC	
C549—~~06(2012)~~ 18	Specification for Perlite Loose Fill Insulation	IBC	
C552—~~2017E1~~ 21a	Standard Specification for Cellular Glass Thermal Insulation	IBC	IRC®
C564—~~14~~ 20a	Specification for Rubber Gaskets for Cast-iron Soil Pipe and Fittings	IPC	IRC®
C578—~~2018~~ 19	Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation	IBC	IRC®
C59/C59M—00~~(2015)~~ (2020)	Specification for Gypsum Casting Plaster and Molding Plaster	IBC	IRC®
C595/C595M—~~2018~~ 21	Specification for Blended Hydraulic Cements	IBC	IRC®
C61/C61M—00~~(2015)~~ (2020)	Specification for Gypsum Keene's Cement	IBC	IRC®
C631—09~~(2014)~~ 2020	Specification for Bonding Compounds for Interior Gypsum Plastering	IBC	IRC®
C636/C636M—~~13~~ 19	Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels	IBC	
C652—~~2017A~~ 21	Specification for Hollow Brick (Hollow Masonry Units Made from Clay or Shale)	IBC	IRC®
C67/C67M—~~2018~~ 21	Test Methods of Sampling and Testing Brick and Structural Clay Tile	IBC	
C754—~~2018~~ 20	Specification for Installation of Steel Framing Members to Receive Screw-attached Gypsum Panel Products	IBC	
C76—~~2018A~~ 20	Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe	IPC	

Page: 32

Mod_11673_Text_ADM52.pdf

F11673Text Modification

C76—~~2018A~~ 20	Specification for Reinforced Concrete Culvert, Storm Drain and Sewer Pipe	IPC	IPSDC	IRC®
C840—~~2018A~~ 20	Specification for Application and Finishing of Gypsum Board	IBC		
C842—05~~(2015)~~ (2021)	Specification for Application of Interior Gypsum Plaster	IBC		IRC®
C844—2015 (2021)	Specification for Application of Gypsum Base to Receive Gypsum Veneer Plaster	IBC		IRC®
C847—~~14a~~ 2018	Specification for Metal Lath	IBC		
C887—~~13~~ 20	Specification for Packaged, Dry Combined Materials for Surface Bonding Mortar	IBC		IRC®
C897—15 (2020)	Specification for Aggregate for Job-mixed Portland Cement-based Plaster	IBC		IRC®
C926—~~2018B~~ 20b	Specification for Application of Portland Cement-based Plaster	IBC		IRC®
C932—06~~(2013)~~ (2019)	Specification for Surface-applied Bonding Compounds for Exterior Plastering	IBC		
C94/C94M—~~17A~~ 21b	Specification for Ready-mixed Concrete	IEBC		
C94/C94M—~~2017A~~ 21b	Specification for Ready-mixed Concrete	IBC		IRC®
C956—04~~(2015)~~ (2019)	Specification for Installation of Cast-in-place Reinforced Gypsum Concrete	IBC		
D1003—~~13~~ 21	Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics	IECC®		
D1143/D1143M—~~2007(2013)E1~~ 20	Standard Test Methods for Deep Foundations~~~~ Elements Under Static Axial Compressive Load	IBC		

F11673Text Modification

D1227—13(2019)e1	Specification for Emulsified Asphalt Used as a Protective Coating for Roofing	IBC	IRC®	
D1557—12~~e1~~ (2021)	Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort [56,000 ft-lb/ft^3 (2,700 kN m/m^3)]	IBC		
D1593—~~13~~ 19	Standard Specification for Nonrigid Vinyl Chloride Plastic Film and Sheeting	ISPSC		
D1693—15e1	Test Method for Environmental Stress-cracking of Ethylene Plastics	IMC	IRC®	
D1784—~~11~~ 20	Standard ~~Specification~~ Classification System and Basis for Specification for Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds	IRC®		
D1785— ~~2015E1~~ 21a	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120	IPC		
D1785—15E1	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120	IMC	ISPSC	IRC®
D1929—~~16~~ 20	Standard Test Method for Determining Ignition Temperature of Plastics	IBC		
D1970/D1970M—~~2017A~~ 21	Specification for Self-adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roof Underlayment for Ice Dam Protection	IBC	IRC®	
D2178/D2178M—15A(2021)	Specification for Asphalt Glass Felt Used in Roofing and Waterproofing	IBC	IRC®	
D2239—~~12A~~ 21	Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter	IRC®		

F11673Text Modification

D2241—~~15~~ 20	Specification for Poly (Vinyl Chloride) (PVC) Pressure-rated Pipe (SDR-Series)	IMC	IPC	ISPSC	IRC®
D2412—~~11(2018)~~ 21	Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel-plate Loading	IMC			
D2466— ~~2017~~ 21	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40	IMC	IPC	ISPSC	IRC
D2466—~~2017~~ 21	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40	IMC	ISPSC	IRC®	
D2467—~~15~~ 20	Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80	IMC	IPC	ISPSC	IRC®
D2487—~~2017~~ 17e1	Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)	IBC			
D2513—~~2018A~~ 20	Specification for Polyethylene (PE) Gas Pressure Pipe, Tubing and Fittings	IFGC		IRC®	
D2564— ~~2012(2018)~~ 20	Specification for Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems	IMC	IPC	IRC	
D2609—~~15~~ 21	Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe	IPC		IRC®	
D2626/D2626M—04 ~~(2012)e1~~ (2020)	Specification for Asphalt-saturated and Coated Organic Felt Base Sheet Used in Roofing	IBC		IRC®	
D2665— ~~2014~~ 20	Specification for Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings	IPC			
D2672—~~14~~ 20e1	Specification for Joints for IPS PVC Pipe Using Solvent Cement	IPC	ISPSC	IRC®	
D2680—~~01(2014)~~ 20	Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping	IPC		IRC®	

F11673Text Modification

D2683—~~14~~ 20	Specification for Socket-type Polyethylene Fittings for Outside Diameter-controlled Polyethylene Pipe and Tubing	IMC	IPC	IRC®
D2737—~~12a~~ 21	Standard Specification for Polyethylene (PE) Plastic Tubing	IMC	IPC	IBC
D2822/D2822M—2005(2011)e1	Specification for Asphalt Roof Cement, Asbestos Containing	IBC		IRC®
D2843—~~16~~ 19	Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics	IBC		
D2846/D2846M— ~~2017BE1~~ 19a	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems	IPC		
D2846/D2846M—2017BE1	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-water Distribution Systems	IMC	ISPSC	IRC®
D2855— ~~2015~~ 2020	~~Standard Practice for Making Solvent-cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings~~ Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets	IPC		
D2859—2016	Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials	IBC		
D2859—~~16~~ 2016(2021)	Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials	IFC		
D2949—~~10~~ 18	Specification for 3.25-in. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings	IPC		IRC®
D3035—~~15~~ 21	Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter	IMC	IPC	IRC®

Page: 36

Mod_11673_Text_ADM52.pdf

F11673Text Modification

D312/D312M—2016~~M~~ a	Specification for Asphalt Used in Roofing	IBC	IRC®	
D3138—04(2011)	Standard Specification for Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components	IRC®		
D3139—~~98(2011)~~ 19	Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals	IPC		
D3161/D3161M—~~2016A~~ 20	Test Method for Wind Resistance of Steep Slope Roofing Products (Fan Induced Method)	IBC	IRC®	
D3201/D3201M—~~13~~ 20	Test Method for Hygroscopic Properties of Fire-retardant-treated Wood and Wood-based Products	IBC	IRC®	
D3212—~~07(2013)~~ 20	Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals	IPC	IRC®	
D323—~~15A~~ 20a	Test Method for Vapor Pressure of Petroleum Products (Reid Method)	IFC		
D3278—~~96(2011)~~ 21	Test Methods for Flash Point of Liquids by Small Scale Closed-cup Apparatus	IMC	IBC	IFC
D3350—~~14~~ 21	Specification for Polyethylene Plastic Pipe and Fitting Materials	IRC®		
D3462/D3462M—2016	Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules	IBC		
D3462/D3462M—~~10A~~ 19	Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules	IRC®		
D3468/D3468M—99~~(2013)E1~~ (2020)	Specification for Liquid-applied Neoprene and Chlorosulfanated Polyethylene Used in Roofing and Waterproofing	IBC	IRC®	

Page: 37
Mod_11673_Text_ADM52.pdf

F11673Text Modification

D3498—~~03(2011)~~ 19a	~~Standard Specification for Adhesives for Field-Gluing Plywood to Lumber Framing for Floor Systems~~ Standard Specification for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor System Framing	IBC	
D3679—~~2017~~ 21	Specification for Rigid Poly (Vinyl Chloride) (PVC) Siding	IBC	IRC®
D3957—2009~~(2015)~~ (2020)	Standard Practices for Establishing Stress Grades for Structural Members Used in Log Buildings	IBC	
D4434/D4434M—~~2015~~ 21	Specification for Poly (Vinyl Chloride) Sheet Roofing	IBC	IRC®
D449/D449M—~~03(2014)E1~~ 2003(2021)	Specification for Asphalt Used in Dampproofing and Waterproofing	IRC®	
D4601/D4601M—04~~(2012)e1~~ (2020)	Specification for Asphalt-coated Glass Fiber Base Sheet Used in Roofing	IBC	IRC®
D4829—~~11~~ 21	Test Method for Expansion Index of Soils	IBC	IRC®
D4869/D4869M—2016A(2021)	Specification for Asphalt-saturated (Organic Felt) Underlayment Used in Steep Slope Roofing	IBC	IRC®
D4990—1997a~~(2013)~~ (2020)	Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing	IRC®	
D4990—97a(2013)	Specification for Coal Tar Glass Felt Used in Roofing and Waterproofing	IBC	
D5055—~~2016~~ 2019e1	Specification for Establishing and Monitoring Structural Capacities of Prefabricated Wood I-joists	IBC	IRC®
D5456—~~2018~~ 21e1	Specification for Evaluation of Structural Composite Lumber Products	IBC	IRC®

F11673Text Modification

D56—2016A	Test Method for Flash Point by Tag Closed Cup Tester	IMC	IBC
D56—~~16a~~ 21	Test Method for Flash Point by Tag Closed Cup Tester	IFC	
D5726—98~~(2013)~~ (2020)	Specification for Thermoplastic Fabrics Used in Hot-applied Roofing and Waterproofing	IBC	IRC®
D6083/D6083M—~~2018~~ 21	Specification for Liquid Applied Acrylic Coating Used in Roofing	IBC	IRC®
D6305—~~08(2015)E1~~ 21	Practice for Calculating Bending Strength Design Adjustment Factors for Fire-retardant-treated Plywood Roof Sheathing	IRC®	
D635—~~14~~ 18	Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position	IBC	
D6841—~~2016~~ 21	Standard Practice for Calculating Design Value Treatment Adjustment Factors for Fire-retardant Treated Lumber	IBC	IRC®
D6878/D6878M—~~2017~~ 19	Standard Specification for Thermoplastic Polyolefin Based Sheet Roofing	IBC	IRC®
D7147—~~2011(2018~~) 21	Specification for Testing and Establishing Allowable Loads of Joist Hangers	IBC	
D7158/D7158M—~~2019~~ 20	Standard Test Method for Wind Resistance of Asphalt Shingles (Uplift Force/Uplift Resistance Method)	IBC	IRC®
D7254—~~2017~~ 20	Standard Specification for Polypropylene (PP) Siding	IBC	IRC®
D7425/D7425M—13(2019)	Standard Specification for Spray Polyurethane Foam Used for Roofing Applications	IBC	IRC®
D7672—~~14E1~~ 19	Standard Specification for Evaluating Structural Capacities of Rim Board Products and Assemblies	IBC	IRC®

F11673Text Modification

D86—~~2017~~ 20b	Test Method for Distillation of Petroleum Products and Liquid Fuels at Atmospheric Pressure	IBC				
D93—~~18~~ 20	Test Method for Flash Point by Pensky-Martens Closed Up Tester	IMC	IFC			
D93—~~2018~~ 20	Test Methods for Flash Point by Pensky-Martens Closed Cup Tester	IMC	IBC	IFC		
E1007—~~16~~ 21	Test Method f or Field Measurement of Tapping Machine Impact Sound Transmission Through Floor-Ceiling Assemblies and Associated Support Structures	IBC				
E108—~~17~~ 20a	Standard Test Methods for Fire Tests of Roof Coverings	IWUIC	IEBC	IFC	IRC	
E108—~~2017~~ 20a	Standard Test Methods for Fire Tests of Roof Coverings	IWUIC	IBC	IRC®		
E119—~~2018B~~ 20	Standard Test Methods for Fire Tests of Building Construction and Materials	IMC	IWUIC	IBC	IRC®	
E119—~~2018b~~ 20	Standard Test Methods for Fire Tests of Building Construction and Materials	IWUIC				
E136—2019a	Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	IFGC	IMC	IWUIC	IBC	IRC®
E136—~~16A~~ 19a	Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	IEBC				
E1677—~~11~~ 19	Specification for Air Barrier (AB) Material or Systems for Low-rise Framed Building Walls	IECC®				
E1886—~~2013A~~ 19	Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials	IBC	IRC®			

F11673Text Modification

E1918—~~06(2016)~~ 21	Standard Test Method for Measuring Solar Reflectance of Horizontal or Low-sloped Surfaces in the Field	IECC®		
E1966—15(2019)	Standard Test Method for Fire-resistant Joint Systems	IFC	IBC	
E1980—11(2019)	Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-sloped Opaque Surfaces	IECC®		
E1996—~~2017~~ 20	Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes	IBC	IRC®	
E2174—~~2018~~ 20a	Standard Practice for On-site Inspection of Installed Fire Stops	IBC		
E2178—~~13~~ 21a	Standard Test Method~~ for Air Permeance of Building Materials~~ for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials	IBC	IRC	IECC®
E2178—~~2013~~ 21a	Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permanence of Building Materials	IECC®	IRC®	
E2231—~~2018~~ 19	Standard Practice for Specimen Preparation and Mounting of Pipe and Duct Insulation Materials to Assess Surface Burning Characteristics	IMC	IRC®	
E2307—~~15BE1~~ 20	Standard Test Method for Determining Fire Resistance of Perimeter Fire Barriers Using the Intermediate-scale, Multistory Test Apparatus	IBC		
E2336—~~16~~ 20	Standard Test Methods for Fire Resistive Grease Duct Enclosure Systems	IMC		
E2353—~~2016~~ 21	Standard Test Methods for Performance of Glazing in Permanent Railing Systems, Guards and Balustrades	IBC		

Mod_11673_Text_ADM52.pdf Page: 41

F11673Text Modification

E2393—~~10a(2015)~~ 20a	Standard Practice for On-site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers	IBC	
E2570/E2570M—07~~(2014)E1~~ (2019)	Standard Test Methods for Evaluating Water-resistive Barrier (WRB) Coatings Used Under Exterior Insulation and Finish Systems (EIFS) or EIFS with Drainage	IRC®	
E2573—~~17~~ 19	Standard Practice for Specimen Preparation and Mounting of Site-fabricated Stretch Systems to Assess Surface Burning Characteristics	IFC	
E2579—~~15~~ 21	Standard Practice for Specimen Preparation and Mounting of Wood Products to Assess Surface Burning Characteristics	IFC	IBC
E2652—~~16~~ 18	Standard Test Method for ~~Behavior~~ Assessing Combustibility of Materials Using ~~in~~ a Tube Furnace with a Cone-shaped Airflow Stabilizer at 750°C	IBC	
E283/E283M—~~04(2012)~~ 19	Standard Test Method for Determining Rate of Air Leakage through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences across the Specimen	IBC	
E2925—~~17~~ 19a	Standard Specification for Manufactured Polymeric Drainage and Ventilation Materials Used to Provide a Rainscreen Function	IBC	IRC®
E3082—~~17~~ 20	Standard Test Methods for Determining the Effectiveness of Fire-retardant Treatments for Natural Christmas Trees	IFC	

F11673Text Modification

E336—~~17a~~ 20	Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings	IBC	
E408—13(2019)	Test Methods for Total Normal Emittance of Surfaces Using Inspection-meter Techniques	IECC®	
E605/E605M—~~93(2015)e1~~ 19	Test Method for Thickness and Density of Sprayed Fire-resistive Material (SFRM) Applied to Structural Members	IBC	
E648—~~17a~~ 19ae1	Standard Test Method for Critical Radiant Flux of Floor-covering Systems Using a Radiant Heat Energy Source	IFC	
E736/E736M—~~2017~~ 19	Test Method for Cohesion/Adhesion of Sprayed Fire-resistive Materials Applied to Structural Members	IBC	
E779—2010(2018)	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization	IECC®	IRC®
E779—~~10(2018)~~ 19	Standard Test Method for Determining Air Leakage Rate by Fan Pressurization	IECC®	
E84—~~18b~~ 21a	Standard Test Method for Surface Burning Characteristics of Building Materials	IFC	
E903—~~2012~~ 20	Standard Test Method Solar Absorptance, Reflectance and Transmittance of Materials Using Integrating Spheres ~~(Withdrawn 2005)~~	IECC®	
E96/E96M—2016	Standard Test Methods for Water Vapor Transmission of Materials	IBC	IRC®
F1085—~~14~~ 19	Standard Specification for Mattress and Box Springs for Use in Berths in Marine Vessels	IFC	
F1361—~~2017~~ 21	Standard Test Method for Performance of Open ~~Deep Fat~~ Vat Fryers	IECC®	

F11673Text Modification

F1476—07~~(2013)~~ (2019)	Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications	IMC	IPC
F1488—~~14E1~~ 14(2019)	Specification for Coextruded Composite Pipe	IRC®	
F1495—~~2014a~~ 20	Standard Specification for Combination Oven Electric or Gas Fired	IECC®	
F1496—~~2013~~ 13(2019)	Standard Test Method for Performance of Convection Ovens	IECC®	
F1504—~~2014~~ 21	Standard Specification for Folded Poly (Vinyl Chloride) (PVC) for Existing Sewer and Conduit Rehabilitation	IRC®	
F1554—~~2018~~ 20	Specification for Anchor Bolts, Steel, 36, 55 and 105-ksi Yield Strength	IRC®	
F1667—~~2018~~ 21	Specification for Driven Fasteners: Nails, Spikes and Staples	IBC	IRC®
F1696—~~2018~~ 20	Standard Test Method for Energy Performance of Stationary-Rack, Door-Type Commercial Dishwashing Machines	IECC®	
F1807— ~~2018~~ 19b	Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring, or Alternate Stainless Steel Clamps, for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing	IPC	
F1871—~~2011~~ 20	Standard Specification for Folded/Formed Poly (Vinyl Chloride) Pipe Type A for Existing Sewer and Conduit Rehabilitation	IRC®	
F1920—~~2015~~ 20	Standard Test Method for Performance of Rack Conveyor Commercial Dishwashing Machines	IECC®	

F11673Text Modification

F1924—~~12~~ 19	Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing	IMC			IRC®
F1960— ~~2018~~ 21	Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing	IPC			
F1970— ~~2018~~ 19	Special Engineered Fittings, Appurtenances or Valves for Use in Poly (Vinyl Chloride) (PVC) OR Chlorinated Poly (Vinyl Chloride) (CPVC) Systems	IPC			
F1974—09~~(2015)~~ (2020)	Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Cross-linked Polyethylene/ Aluminum/Cross-linked Polyethylene Composite Pressure Pipe	IPC			IRC®
F2006—~~17~~ 21	Standard/Safety Specification for Window Fall Prevention Devices for Nonemergency Escape (Egress) and Rescue (Ingress) Windows	IBC	IEBC		IFC
F2080— ~~2016~~ 2019	~~Specifications for Cold-expansion Fittings with Metal Compression-sleeves for Cross-linked Polyethylene (PEX) Pipe~~ Standard Specification for Cold-Expansion Fittings with Metal Compression-Sleeves for Crosslinked Polyethylene (PEX) Pipe and SDR9 Polyethylene of Raised Temperature (PE-RT) Pipe	IMC	IPC		IRC
F2090—~~17~~ 21	Specification for Window Fall Prevention Devices with Emergency Escape (Egress) Release Mechanisms	IBC	IEBC	IFC	IRC®
F2098— ~~2015~~ 2018	Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Fittings	IPC			

F11673Text Modification

F2098—~~2015~~ 2018	Standard Specification for Stainless Steel Clamps for Securing SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) to Metal Insert and Plastic Insert Fittings	IMC	IRC®	
F2144—~~2017~~ 21	Standard Test Method for Performance of Large Open Vat Fryers	IECC®		
F2159— ~~2018~~ 21	Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring , or Alternate Stainless Steel Clamps for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing	IPC		
F2159—~~2018~~ 21	Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring or Alternate Stainless Steel Clamps for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Polyethylene of Raised Temperature (PE-RT) Tubing	IMC	IRC®	
F2200—~~17~~ 20	Standard Specification for Automated Vehicular Gate Construction	IFC		
F2306/F2306M— ~~2018~~ 20	12″ to 60″ Annular Corrugated Profile-wall Polyethylene (PE) Pipe and Fittings for Gravity Flow Storm Sewer and Subsurface Drainage Applications	IPC		
F2389— ~~2017A~~ 21	Standard Specification for Pressure-rated Polypropylene (PP) Piping Systems	IPC		
F2389—2017A	Specification for Pressure-rated Polypropylene Piping Systems	IMC	IRC®	
F2434—~~14~~ 19	Standard Specification for ~~Metal~~ Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Tubing	IMC	IPC	IRC®

ICC COMMITTEE ACTION HEARINGS ::: March 2022 **ADM214**

Page: 46

Mod_11673_Text_ADM52.pdf

F11673Text Modification

F2561—~~17~~ 20	Standard Practice for Rehabilitation of a Sewer Service Lateral and its Connection to the Main Using a One Piece Main and Lateral Cured-in-Place Liner	IPC		
F2599—~~16~~ 20	Standard Practice for The Sectional Repair of Damaged Pipe by Means of an Inverted Cured-in-Place Liner	IPC		
F2623—~~14~~ 19	Standard Specification for Polyethylene of Raised Temperature (PE-RT) Systems for Non-Potable Water Applications ~~SDR9 Tubing~~	IMC	IRC®	
F2648/F2648M— ~~2017~~ 20	Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications	IPC		
F2735— ~~2009 (2016)~~ 21	Standard Specification for Plastic Insert Fittings for SDR9 Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing	IPC		
F2764/F2764M— ~~2018~~ 19	~~Standard Specification for 30 to 60 in. [750 to 1500 mm] Polypropylene (PP) Triple Wall Pipe and Fittings for Non-pressure Sanitary Sewer Applications~~ Standard Specification for 6 to 60 in. [150 to 1500 mm] Polypropylene (PP) Corrugated Double and Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications	IPC		
F2769— 2018	Standard Specification for Polyethylene or Raised Temperature (PE-RT) Plastic Hot- and Cold-water Tubing and Distribution Systems	IMC	IPC	IRC
F2806—~~10(2015)~~ 20	Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (Metric SDR-PR)	IMC	IRC®	

F11673Text Modification

F2831— ~~2012(2017)~~ 19	Standard Practice for Internal Non Structural Epoxy Barrier Coating Material Used in Rehabilitation of Metallic Pressurized Piping Systems	IPC			
F2855—~~12~~ 19	Standard Specification for Chlorinated Poly(Vinyl Chloride)/Aluminum/Chlorinated Poly(Vinyl Chloride) (CPVC-AL-CPVC) Composite Pressure Tubing	IMC	IPC	IRC®	
F2861—~~2017~~ 20	Standard Test Method for Enhanced Performance of Combination Oven in Various Modes	IECC®			
F2881 /F2881M— ~~2018~~ 21	Standard Specification for 12 to 60 in. [300 to 1500 mm] Polypropylene (PP) Dual Wall Pipe and Fittings for Non-pressure Storm Sewer Applications	IPC			
F2969—12(2020)	Standard Specification for Acrylonitrile-butadiene-styrene (ABS) IPS Dimensioned Pressure Pipe	IRC®			
F3226/F3226M—~~16~~ 19	Standard Specification for Metallic Press-Connect Fittings for Piping and Tubing Systems	IPC	IRC®		
F3240—~~17~~ 19e1	Standard Practice for Installation of Seamless Molded Hydrophilic Gaskets (SMHG) for Long Term Watertightness of Cured-in-Place Rehabilitation of Main and Lateral Pipelines	IPC			
F3253—~~2017~~ 19	Standard Specification for Crosslinked Polyethylene (PEX) Tubing with Oxygen Barrier for Hot- and Cold-water Hydronic Distribution Systems	IMC	IRC®		
F437—~~15~~ 21	Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80	IMC	IPC	ISPSC	IRC®

F11673Text Modification

F439—~~13~~ 19	Specification for Socket Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80	IMC	IPC	ISPSC	IRC®
F441/F441M—~~15~~ 20	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80	IMC	IPC	IRC®	
F442/F442M—~~13E1~~ 20	Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)	IRC®			
F477—14(2021)	Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe	IPC	IRC®		
F493—~~14~~ 20	Specification for Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings	IMC	IPC	IRC®	
F656— ~~2015~~ 21	Specification for Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings	IPC			
F667 /F667M — ~~20~~16 (2021)	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings	IPC			
F714—~~13~~ 21a	Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter	IMC	IRC®		
F844—~~07a(2013)~~ 19	Standard Specification for Washers, Steel, Plain (Flat), Unhardened for General Use	IRC®			
F876— ~~2017~~ 20b	Specification for Cross-linked Polyethylene (PEX) Tubing	IPC			
F876—2018A	Specification for Cross-linked Polyethylene (PEX) Tubing	IMC			
F877— ~~2018A~~ 20	Specification for Cross-linked Polyethylene (PEX) Hot- and Cold-water Distribution Systems	IPC			

F11673Text Modification

G152—13(2021)	Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials	IBC
G154—2016A	Standard Practice for Operating Fluorescent Ultraviolet (UV) Light Lamp Apparatus for UV Exposure of Nonmetallic Materials	IBC
G155—13 21	Standard Practice for Operating Xenon Arc Light Lamp Apparatus for Exposure of Nonmetallic Materials	IBC

AWC	American Wood Council		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/AWC NDS—2018 2024	National Design Specification (NDS) for Wood Construction—with 2018 NDS Supplement	IBC	IRC®
ANSI/AWC WFCM—2018 2024	Wood Frame Construction Manual for One- and Two-Family Dwellings	IBC	IRC®
AWC STJR—2021 2024	Span Tables for Joists and Rafters	IBC	IRC®

AWPA	American Wood Protection Association		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
M4—15 21	Standard for the Handling, Storage, Field Fabrication, and Field Treatment of Care of Preservative-treated Wood Products	IBC	IRC®
U1—20 23	USE CATEGORY SYSTEM: User Specification for Treated Wood Except Commodity Specification H	IBC	IRC®

AWS	American Welding Society	
Standard Reference Number	**Title**	**Referenced in Code(s):**
A5.8/A5.8—2011-AMD1 :2019	Specifications for Filler Metals for Brazing and Braze Welding	IMC

Page: 50
Mod_11673_Text_ADM52.pdf

F11673Text Modification

A5.8M/A5.8~~—2011-AMD1~~ :2019	Specifications for Filler Metals for Brazing and Braze Welding	IPC
A5.8M/A5.8~~—2011—AMD1~~ :2019	Specifications for Filler Metals for Brazing and Braze Welding	IRC®
D1.4/D1.4M—2018-AMD1	Structural Welding Code—Steel Reinforcing Bars	IBC

AWWA	American Water Work Association			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
C110/A21.10~~—12~~ 21	~~Standard for~~ Ductile Iron & Gray Iron Fittings	IMC	IPC	IRC®
C115/A21.15~~—11~~ 20	~~Standard for~~ Flanged Ductile-iron Pipe with Ductile Iron or Grey-iron Threaded Flanges	IMC	IPC	IRC®
C153/A21.53~~—11~~ 19	Ductile-iron Compact Fittings for Water Service	IMC		IRC®
C500~~—09~~ 19	Standard for Metal-seated Gate Valves for Water Supply Service	IPC		IRC®
C507~~—15~~ 18	Standard for Ball Valves, 6 In. Through 60 in. (150 mm through 1,500 mm).	IPC		IRC®
C510~~—07~~ 17	Double Check Valve Backflow Prevention Assembly	IRC®		
C652~~—11~~ 19	Disinfection of Water-storage Facilities	IPC		
C901~~—16~~ 20	Polyethylene (PE) Pressure Pipe and Tubing, 3/4 in. (19 mm) through 3 in. (76 mm) for Water Service	IMC	IPC	IRC®
C903~~—16~~ 21	Polyethylene-aluminum-polyethylene (PE-AL-PE) Composite Pressure Pipe, 12 mm ($^1/_2$ in.) through 50 mm (2 in.), for Water Service	IRC®		

CGA	Compressed Gas Association	
Standard Reference Number	**Title**	**Referenced in Code(s):**

F11673Text Modification

ANSI/CGA P-18—~~(2013)~~ (2018)	Standard for Bulk Inert Gas Systems	IFC	
C-7—~~(2014)~~ (2020)	Guide to Classification and Labeling of Compressed Gases	IFC	
S-1.1—~~(2011)~~ (2019)	Pressure Relief Device Standards—Part 1—Cylinders for Compressed Gases	IFGC	IFC
S-1.2—~~(2009)~~ 2019	Pressure Relief Device Standards—Part 2—Cargo and Portable Tanks for Compressed Gases	IFGC	IFC
S-1.3—~~(2008)~~ (2020)	Pressure Relief Device Standards—Part 3—Stationary Storage Containers for Compressed Gases	IFGC	IFC
V-1—~~(2013)~~ (2021)	Standard for Gas Cylinder Valve Outlet and Inlet Connections	IFC	

CISPI	**Cast Iron Soil Pipe Institute**			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
301—~~18~~ 21	Standard Specification for Hubless Cast-iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications	IPC	IPSDC	IRC®
310—~~18~~ 20	Standard Specification for Coupling for Use in Connection with Hubless Cast-iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste and Vent Piping Applications	IPC	IPSDC	IRC®

CPA	**Composite Panel Association**		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI A135.4—2012 (R2020)	Basic Hardboard	IBC	IRC®
ANSI A135.5—2012 (R2020)	Prefinished Hardboard Paneling	IBC	IRC®
ANSI A135.6—~~2012~~ (R2020)	Engineered Wood Siding	IBC	IRC®

Page: 52
Mod_11673_Text_ADM52.pdf

F11673Text Modification

ANSI A135.7—2012 (R2020)	Engineered Wood Trim	IRC®		
CRRC	**Cool Roof Rating Council**			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
ANSI/CRRC-S100—~~2020~~ 2021	Standard Test Methods for Determining Radiative Properties of Materials	IECC®		
CSA	**Canadian Standards Association**			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
~~ANSI/CSA FC 1—2014~~ CSA/ANSI FC 1:21/CSA C22.2 NO. 62282-2-100:21	Fuel Cell Technologies—Part 3-100; Stationary fuel cell power systems—Safety	IFGC	IMC	IRC®
~~ANSI/CSA FC1—2014~~ CSA/ANSI FC 1:21/CSA C22.2 NO. 62282-3-100:21	Fuel Cell Technologies—Part 3-100; Stationary fuel cell power systems-Safety	IFGC	IMC	
~~ANSI/CSA~~ CSA/ANSI NGV 5.1—~~2016~~ :22	Residential Fueling Appliances	IFGC		
~~CAN/~~CSA-C22.2 No. 60335-2-40 —~~2012~~ :19	~~Safety of~~ Household and Similar Electrical Appliances, Part 2-40: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers	IMC	ISPSC	IRC®
A257.1—~~14~~ :19	Non-reinforced Circular Concrete Culvert, Storm Drain, Sewer Pipe and Fittings	IPC		
A257.2—~~14~~ :19	Reinforced Circular Concrete Culvert, Storm Drain, Sewer Pipe and Fittings	IPC	IPSDC	IRC®
A257.3—~~14~~ : 19	Joints for Circular Concrete Sewer and Culvert Pipe, Manhole Sections and Fittings Using Rubber Gaskets	IPC	IPSDC	IRC®
AAMA/WDMA/CSA 101/I.S.2/A440—~~17~~ 22	North American Fenestration Standard/Specifications for Windows, Doors and Unit Skylights	IBC	IECC®	IRC®
ANSI Z21.69-2015 (R2020)/CSA 6.16—~~2015~~ (R2020)	Connectors for Movable Gas Appliances	IFC	IRC	

F11673Text Modification

ANSI Z83.26/CSA 2.37—2014	Gas-fired Outdoor Infrared Patio Heaters	IFC	
ANSI/CSA/IGSHPA C448 Series —16 (R2021)	Design and Installation of Ground Source Heat Pump Systems for Commercial and Residential Buildings	IMC	IRC®
ASME A112.18.1—~~2018~~ 2022/CSA B125.1—~~18~~ :22	Plumbing Supply Fittings	IPC	
ASME A112.18.1—~~2018~~ 2023/CSA B125.1—~~2018~~ :23	Plumbing Supply Fittings	IRC®	
ASME A112.18.2—2019/CSA B125.2—~~2019~~ 2023	Plumbing Waste Fittings	IRC®	
ASME A112.18.2—~~2015~~ 2023/CSA B125.2—~~2015~~ 2023	Plumbing Waste Fittings	IPC	
ASME A112.18.6—~~2017~~/CSA B125.6— 17(R2022)	Flexible Water Connectors	IPC	
ASME A112.19.1—~~2018~~ 2023/CSA B45.2—~~18~~ :23	Enameled Cast-iron and Enameled Steel Plumbing Fixtures	IRC®	
ASME A112.19.1—~~2020~~ 2023/CSA B45.2—~~20~~ :23	Enameled Cast-iron and Enameled Steel Plumbing Fixtures	IPC	
ASME A112.19.2—~~2018~~ 2023/CSA B45.1—~~18~~ :23	Ceramic Plumbing Fixtures	IRC®	
ASME A112.19.2—~~2020~~ :23/B45.1—~~2020~~ :23	Ceramic Plumbing Fixtures	IPC	
ASME A112.19.3—~~2017~~ 2022/CSA B45.4—~~2017~~ 22	Stainless Steel Plumbing Fixtures	IRC®	
ASME A112.19.3—~~2021~~ 2022/CSA B45.4— ~~2021~~ :22	Stainless Steel Plumbing Fixtures	IPC	
ASME A112.19.5—~~2021~~ 22/CSA B45.15—~~21~~ 22	Flush Valves and Spuds for Water Closets, Urinals and Tanks	IPC	
ASME A112.19.7—2020/CSA B45.10 :20~~1221 2012 (R20)~~	Hydromassage Bathtub Systems	IPC	

F11673Text Modification

ASME A112.3.4—~~2013~~ 2018/CSA B45.9—18 (R2023)	Macerating Toilet Systems and Related Components	IRC®		
ASME A112.3.4—2018/CSA B45.9— 2018 ~~18~~ (R2023)	Macerating Toilet Systems and Waste Pumping Systems for Plumbing Fixtures	IPC		
ASME A112.4.2—~~2020~~ 2021/CSA B45.16—~~20~~ 21	Personal Hygiene Devices for Water Closets	IPC		
ASME A112.4.2—~~2015~~ 2021/CSA B45.16—~~15~~ 21	Personal Hygiene Devices for Water-closets	IRC®		
ASME A17.1/CSA B44—~~2019~~ 2022	Safety Code for Elevators and Escalators	IRC®		
ASME A17.1—~~2019~~ 2023/CSA B44—23	Safety Code for Elevators and Escalators	IBC		
ASME A17.7—2007/CSA B44.7 —~~07(R2017)~~ 07(R2021)	Performance-based Safety Code for Elevators and Escalators	IBC		
ASSE 1002—2020/ASME A112.1002—2020/CSA B125.12 —2020	Anti-Siphon Fill Valves for Water Closet Tanks	IPC		
ASSE 1016—2017/ASME 112.1016—2017/CSA B125.16 —~~2017~~ (R2022)	Performance Requirements for Automatic Compensating Valves for Individual Showers and Tub/Shower Combinations	IPC	IRC®	
ASSE 1037—~~2015~~ 2020/ASME A112.1037—~~2015~~ 2020/CSA B125.37—~~15~~ :20	Performance requirements for Pressurized Flushing Devices for Plumbing Fixtures	IPC		
ASSE 1070—2020/ASME A112.1070—2020/CSA B125.~~1070~~— :20	Performance requirements for Water Temperature Limiting Devices	IPC		
ASSE 1070—~~2015~~ 2020/ASME A112.1070—~~2015~~ 2020/CSA B125.70—~~15~~ :20	Performance Requirements for Water-temperature-limiting Devices	IRC®		
B125.3—~~18~~ :23	Plumbing Fittings	IPC	IRC®	
B137.10—~~17~~ :23	Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Composite Pressure-pipe Systems	IMC	IPC	IRC®

F11673Text Modification

B137.11—~~17~~ :23	Polypropylene (PP-R) Pipe and Fittings for Pressure Applications	IMC	IPC		IRC®
B137.18—~~17~~ :23	Polyethylene of Raised Temperature Resistance (PE-RT) Tubing Systems for Pressure Applications	IMC	IPC		IRC®
B137.1—~~17~~ : 23	Polyethylene (PE) Pipe, Tubing and Fittings for Cold-water Pressure Services	IMC	IPC		IRC®
B137.2—~~17~~ :23	Polyvinylchloride (PVC) Injection-moulded Gasketed Fittings for Pressure Applications	IMC	IPC	ISPSC	IRC®
B137.3—~~17~~ :23	Rigid ~~Poly (Vinyl Chloride)~~ polvinylchloride (PVC) Pipe and Fittings for Pressure Applications	IMC	IPC	IPSDC	ISPSC	IRC®
B137.5—~~17~~ :23	Cross-linked Polyethylene (PEX) Tubing Systems for Pressure Applications	IMC	IPC		IRC®
B137.6—~~17~~ :23	Chlorinated Polyvinylchloride (CPVC) Pipe, Tubing and Fittings for Hot- and Cold-water Distribution Systems	IMC	IPC	ISPSC	IRC®
B137.9—~~17~~ :23	Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure-pipe Systems	IMC	IPC		IRC®
B181.1—~~18~~ :21	Acrylonitrile-Butadiene-Styrene ABS Drain, Waste and Vent Pipe and Pipe Fittings	IPC	IPSDC		IRC®
B181.2—~~18~~ :21	Polyvinylchloride PVC and Chlorinated Polyvinylchloride (CPVC) Drain, Waste, and Vent Pipe and Pipe Fittings	IPC	IPSDC		IRC®
B181.3—~~18~~ :21	Polyolefin and Polyvinylidene Fluoride (PVDF) Laboratory Drainage Systems	IPC			IRC®
B182.13—~~18~~ :21	Profile Polypropylene (PP) Sewer Pipe and Fittings for Leak-proof Sewer Applications	IPC			
B182.1—~~18~~ :21	Plastic Drain and Sewer Pipe and Pipe Fittings	IPC	IPSDC		IRC®

ICC COMMITTEE ACTION HEARINGS ::: March 2022 **ADM224**

Page: 56

Mod_11673_Text_ADM52.pdf

F11673Text Modification

B182.2~~—18~~ :21	PSM Type Polyvinylchloride PVC Sewer Pipe and Fittings	IPC	IPSDC	IRC®
B182.4~~—18~~ :21	Profile Polyvinylchloride PVC Sewer Pipe and Fittings	IPC	IPSDC	IRC®
B182.6~~—18~~ :21	Profile Polyethylene (PE) Sewer Pipe and Fittings for Leak-proof Sewer Applications	IPC		IRC®
B182.8~~—18~~ :21	Profile Polyethylene (PE) Storm Sewer and Drainage Pipe and Fittings	IPC		IRC®
B481.1—12(R2017)	Testing and Rating of Grease Interceptors Using Lard	IPC		
B481.3—12(R2017)	Sizing, Selection, Location and Installation of Grease Interceptors	IPC		
B483.1~~—07(R2017)~~ :22	Drinking Water Treatment Systems	IPC		IRC®
B55.1—~~2015~~ 20	Test Method for Measuring Efficiency and Pressure Loss of Drain Water Heat Recovery Units	IECC®		IRC®
B55.2—~~2015~~ :20	Drain Water Heat Recovery Units	IRC®		
B602~~—16~~ :20	Mechanical Couplings for Drain, Waste and Vent Pipe and Sewer Pipe	IPC	IPSDC	IRC®
B64.1.1~~—11(R2016)~~ :21	Atmospheric Type Vacuum Breakers, (AVB)	IPC		IRC®
B64.1.2~~—11(R2016)~~ :21	Pressure Vacuum Breakers, (PVB)	IPC		IRC®
B64.1.3~~—11(R2016)~~ :21	Spill-r~~R~~esistant p~~P~~ressure v~~V~~acuum b~~B~~reakers (SRPVB)	IPC		IRC®
B64.10—17	~~Manual for the~~ Selection and Installation of Backflow ~~Prevention Devices~~ Preventers	IPC		
B64.2.1.1~~—11(2016)~~ :21	Hose Connection Dual Check Vacuum Breakers (HCDVB)	IPC		IRC®

F11673Text Modification

B64.2.1~~—11(2016)~~ :21	Hose Connection Vacuum Breakers, (HCVB) with Manual Draining Feature	IPC	
B64.2.1~~—11(R2016)~~ :21	Hose Connection Vacuum Breakers (HCVB) with Manual Draining Feature	IRC®	
B64.2.2~~—11(2016)~~ :21	Hose Connection Vacuum Breakers, ~~Type~~ (HCVB) with Automatic Draining Feature	IPC	IRC®
B64.2~~—11(R2016)~~ :21	Hose Connection Vacuum Breakers, ~~Type~~ (HCVB)	IPC	IRC®
B64.3~~—11(2016)~~ :21	Dual Check Valve Backflow Preventers with Atmospheric Port (DCAP)	IRC®	
B64.3~~—11(R2016)~~ :21	Backflow Preventers, Dual Check Valve Type with Atmospheric Port (DCAP)	IPC	
B64.4.1~~—11(2016)~~ :21	Reduced Pressure Principle backflow preventers for Fire ~~Sprinklers (RPF)~~ protection systems (RPF)	IPC	IRC®
B64.4.1~~—11(R2016)~~ :21	Reduced Pressure Principle for Fire Sprinklers (RPF)	IPC	
B64.4~~—11(2016)~~ :21	Reduced Pressure Principle ~~Type~~ (RP) Backflow Preventers~~,~~	IRC®	
B64.4~~—11(R2016)~~ :21	Backflow Preventers, Reduced Pressure Principle Type (RP)	IPC	
B64.5.1~~—11(R2016)~~ :21	Double Check Valve Backflow Preventers for Fire Protection Systems (DCVAF)	IPC	
B64.5.1~~—11(2016)~~ :21	Double Check Valve Backflow Preventers, Type for Fire Systems (DCVAF)	IRC®	
B64.5~~—11(R2016)~~ :21	Double Check Valve Backflow Preventers (DCVA)	IPC	
B64.5~~—11(2016)~~ :21	Double Check Valve Backflow Preventers (DCVA)	IRC®	

F11673Text Modification

B64.6—~~11(2016)~~ :21	Dual Check Valve Backflow Preventers (DuC)	IRC®		
B64.6—~~11(R2016)~~ :21	Dual Check Valve (DuC) Backflow Preventers	IPC		
B64.7—~~11(2016)~~ :21	Laboratory Faucet Vacuum Breakers (LFVB)	IRC®		
B64.7—~~11(R2016)~~ :21	Laboratory Faucet Vacuum Breakers (LFVB)	IPC		
B79—08(R2018)	Commercial and Residential Drains and Cleanouts	IPC		
C22.2 No. 108—14(R2019)	Liquid Pumps	ISPSC		
C22.2 No. 236—15	Heating and Cooling Equipment	IMC	ISPSC	IRC®
CSA B45.5—~~17~~ :22/IAPMO Z124 ~~—2017 with errata dated August 2017~~ 2022	Plastic Plumbing Fixtures	IPC		
CSA B45.5—~~2017~~ :22/IAPMO Z124—~~2017 with Errata dated August 2017~~ 2022	Plastic Plumbing Fixtures	IRC®		
CSA B55.1—~~2015~~ :20	Test Method for Measuring Efficiency and Pressure Loss of Drain Water Heat Recovery Units	IECC®		
CSA B55.2—~~2015~~ :20	Drain Water Heat Recovery Units	IECC®	IRC®	
CSA B805-~~18~~- 17/ICC 805-2018 (R2023)	Rainwater Harvesting Systems	IPC		
CSA O325—~~16~~ :21	Construction Sheathing	IRC®		
CSA/ANSI NGV 2—~~2016~~ :19	Compressed Natural Gas Vehicle Fuel Containers	IFC		
CSA/ANSI NGV 5.1—~~2016~~ :22	Residential Fueling Appliances	IFC		
CSA/ANSI NGV 5.2—~~2017~~ :22	Vehicle Fueling Appliances (VFA)	IFGC	IFC	
Z21.56a/CSA 4.7—2017	Gas Fired Pool Heaters	ISPSC		

Page: 59
Mod_11673_Text_ADM52.pdf

F11673Text Modification

CTI	Cooling Technology Institute		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ATC 105DS—~~2018~~ 2019	Acceptance Test Code for Dry Fluid Coolers	IECC®	
ATC 105S—~~11~~ 2021	Acceptance Test Code for Closed Circuit Cooling Towers	IECC®	
CTI STD 201 RS~~(17)~~ 2021	Performance Rating of Evaporative Heat Rejection Equipment	IECC®	

DASMA	Door & Access Systems Manufacturers Association International		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/DASMA 105—~~2017~~ 2020	Test Method for Thermal Transmittance and Air Infiltration of Garage Doors and Rolling Doors	IECC®	IRC®
ANSI/DASMA 107—~~2017~~ 2020	Room Fire Test Standard for Garage Doors Using Foam Plastic Insulation	IBC	

DHA	Decorative Hardwoods Association		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/HPVA HP-1—~~2016~~ 2022	American National Standard for Hardwood and Decorative Plywood	IBC	IRC®

DOC	U.S. Department of Commerce		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
PS 1—~~19~~ 22	Structural Plywood	IBC	IRC®
PS 20—~~05~~ 20	American Softwood Lumber Standard	IBC	IRC®
PS 2—18	Performance Standard for Wood~~-based~~ Structural~~-use~~ Panels	IBC	IRC®

FEMA	Federal Emergency Management Agency

F11673Text Modification

Standard Reference Number	Title	Referenced in Code(s):	
FEMA TB-11—~~01~~ 23	Crawlspace Construction for Buildings Located in Special Flood Hazard Area	IRC®	
FEMA TB-2—~~08~~ 23	Flood Damage-resistant Materials Requirements	IRC®	
FEMA-TB-11—~~01~~ 23	Crawlspace Construction for Buildings Located in Special Flood Hazard Areas	IBC	
FGIA	**Fenestration & Glazing Alliance (formerly AAMA)**		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
711—~~20~~ 23	Voluntary Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products	IBC	IRC®
712—~~14~~ 23	Voluntary Specification for Mechanically Attached Flexible Flashing	IRC®	
714—~~20~~ 23	Voluntary Specification for Liquid Applied Flashing Used to Create a Water-resistive Seal around Exterior Wall Openings in Buildings	IBC	IRC®
AAMA/NSA 2100—~~20~~ 22	Specifications for Sunrooms	IRC®	
AAMA/WDMA/CSA 101/I.S.2/A ~~C~~440—~~17~~ 22	North American Fenestration Standard/Specifications for Windows, Doors and Unit Skylights	IECC®	
FM	**FM Approvals**		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
4474—~~2011~~ 2020	American National Standard for Evaluating the Simulated Wind Uplift Resistance of Roof Assemblies Using Static Positive and/or Negative Differential Pressures	IBC	IRC®
GA	**Gypsum Association**		

F11673Text Modification

Standard Reference Number	Title	Referenced in Code(s):
GA 216—~~2018~~ 2021	Application and Finishing of Gypsum Panel Products	IBC
GA 600—~~2018~~ 2021	Fire-resistance and Sound Control Design Manual, ~~22nd~~ 23rd Edition	IBC
GA-253—~~2018~~ 2021	Application of Gypsum Sheathing	IRC®

IAPMO	IAPMO Group	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/CAN/IAPMO Z1001—~~2016~~ 2021	Prefabricated Gravity Grease Interceptors	IPC
ASPE/IAPMO Z1034-2015(R2020)	Test Method for Evaluating Roof Drain Performance	IPC
CSA B45.5—~~17~~ :22 /IAPMO Z124—~~2017~~ 2022 ~~with errata dated August 2017~~	Plastic Plumbing Fixtures	IPC
IAPMO Z124.7—2013(R2018)	Prefabricated Plastic Spa Shells	ISPSC
IAPMO/ANSI Z1157—2014e1(R2019)	Ball Valves	IPC

IES	Illuminating Engineering Society	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/ASHRAE/IES~~NA~~ 90.1—~~2019~~ 2022	Energy Standard for Buildings, Except Low-rise Residential Buildings	IECC®

IIAR	International Institute of Ammonia Refrigeration	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/IIAR 2—~~2014, including Addendum A~~ 2021	Design of Safe Closed-circuit Ammonia Refrigeration Systems	IFC

F11673Text Modification

ANSI/IIAR 9—~~2018~~ 2020	~~Standard for Recognized and Generally Accepted Good Engineering Practices (RAGAGEP) for Existing Closed-circuit Ammonia Refrigeration Systems~~ Minimum System Safety Requirements for Existing Closed-Circuit Ammonia Refrigeration Systems	IFC

IKECA	International Kitchen Exhaust Cleaning Association	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/IKECA C10—~~2016~~ 2021	Standard for the Methodology for Cleaning of Commercial Kitchen Exhaust Systems	IFC

MHI	Material Handling Institute	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI MH29.1—~~08~~ 2020	Safety Requirements for Industrial Scissors Lifts	IBC
ANSI/MH16.1—~~12~~ 2021	Design, Testing and Utilization of Industrial Steel Storage Racks	IBC

MSS	Manufacturers Standardization Society of the Valve and Fittings Industry			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
ANSI SP 58—~~2018~~ 2023	Pipe Hangers and Supports—Materials, Design and Manufacture, Selection, Application and Installation	IFGC	IMC	IRC®
SP-110—~~2010~~ 2023	Ball Valves, Threaded, Socket Welding, Solder Joint, Grooved and Flared Ends (incl. a 2010 Errata Sheet)	IPC	IRC®	
SP-122—~~2017~~ 2023	Plastic Industrial Ball Valves	IPC	IRC®	
SP-139—~~2014~~ 2022	Copper Alloy Gate, Globe, Angle and Check Valves for Low Pressure/Low Temperature Plumbing Applications	IPC	IRC®	

F11673Text Modification

SP-42—~~2013~~ 2022	Corrosion Resistant Gate, Globe, Angle and Check Valves with Flanged and Butt Weld Ends (Glasses 150, 300 & 600)	IRC®	
SP-67—~~2011~~ 2022	Butterfly Valves	IPC	IRC
SP-70—~~2011~~ 2023	Gray Iron Gate Valves, Flanged and Threaded Ends	IPC	IRC®
SP-70—~~2013~~ 2023	Gray Iron Gate Valves, Flanged and Threaded Ends	IPC	
SP-72—~~2010a~~ 2023	Ball Valves with Flanged or Butt-welding Ends for General Service	IPC	IRC®
SP-78—~~2011~~ 2023	Cast Iron Plug Valves, Flanged and Threaded Ends	IPC	
SP-78—~~2011~~ 2023	Cast Iron Plug Valves, Flanged and Threaded Ends	IRC®	
SP-80—~~2013~~ 2019	Bronze Gate, Globe, Angle and Check Valves	IPC	IRC®

NBBI	**National Board of Boiler and Pressure Vessel Inspectors**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
NBIC—~~2017~~ 2023	National Board Inspection Code, Part 3 (ANSI/NB23)	IMC

NCMA	**National Concrete Masonry Association**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
TEK 5—~~84~~ B(2005)	~~Details~~ Detailing ~~for~~ Concrete Masonry Fire Walls	IBC

NEMA	**National Electrical Manufacturers Association**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
250—~~2018~~ 2020	Enclosures for Electrical Equipment (1,000 Volt Maximum)	IFC
~~NEMA~~ ANSI Z535.1—2017	~~ANSI/NEMA Color Chart~~ American National Standard for Safety Colors	ISPSC

F11673Text Modification

NEMA MG1—2016	Motors and Generators	IECC®

NFPA	National Fire Protection Association				
Standard Reference Number	**Title**	**Referenced in Code(s):**			
02—~~19~~ 23	Hydrogen Technologies Code	IFC			
04—~~21~~ 24	Standard for Integrated Fire Protection and Life Safety System Testing	IBC	IFC		
105—~~19~~ 22	Standard for Smoke Door Assemblies and Other Opening Protectives	IMC	IPMC	IBC	IFC
10—~~21~~ 22	Standard for Portable Fire Extinguishers	IPMC	IBC	IFC	
110—~~19~~ 22	Standard for Emergency and Standby Power Systems	IBC	IFC		
111—~~19~~ 22	Standard on Stored Electrical Energy Emergency and Standby Power Systems	IBC	IFC		
1123—~~18~~ 22	Code for Fireworks Display	IFC			
1124—~~06~~ 22	Code for the Manufacture, Transportation, Storage and Retail Sales of Fireworks and Pyrotechnic Articles	IFC			
1124—~~17~~ 22	Code for the Manufacture, Transportation and Storage of Fireworks and Pyrotechnic Articles	IBC	IFC		
1125—~~17~~ 22	Code for the Manufacture of Model Rocket and High-power Rocket Motors	IFC			
1142—~~17~~ 22	Standard on Water Supplies for Suburban and Rural Fire Fighting	IFC			
11—~~16~~ 21	Standard for Low-, Medium, and High Expansion Foam	IBC	IFC		
12A—~~18~~ 22	Standard on Halon 1301 Fire Extinguishing Systems	IPMC	IBC	IFC	

Page: 65
Mod_11673_Text_ADM52.pdf

F11673Text Modification

12~~—15~~ 22	Standard on Carbon Dioxide Extinguishing Systems	IBC			
12~~—18~~ 22	Standard on Carbon Dioxide Extinguishing Systems	IPMC	IFC		
13D~~—19~~ 22	Standard for the Installation of Sprinkler Systems in One- and Two-family Dwellings and Manufactured Homes	IBC	IFC	IRC®	
13R~~—19~~ 22	Standard for the Installation of Sprinkler Systems in Low-rise Residential Occupancies	IBC	IFC	IRC®	
13~~—19~~ 22	Standard for Installation of Sprinkler Systems, 2022 and 2019 editions	IBC	IFC		
14~~—19~~ 22	Standard for the Installation of Standpipe and Hose System	IBC	IFC		
15~~—17~~ 22	Standard for Water Spray Fixed Systems for Fire Protection	IFC			
170~~—18~~ 21	Standard for Fire Safety and Emergency Symbols	IBC	IFC		
2001~~—18~~ 22	Standard on Clean Agent Fire Extinguishing Systems	IPMC	IBC	IFC	
204~~—18~~ 21	Standard for Smoke and Heat Venting	IPMC	IFC		
20~~—19~~ 22	Standard for the Installation of Stationary Pumps for Fire Protection	IBC	IFC		
211~~—19~~ 22	Standard for Chimneys, Fireplaces, Vents and Solid Fuel-burning Appliances	IFGC	IMC	IBC	IRC®
221~~—21~~ 24	Standard for High Challenge Fire Walls, Fire Walls and Fire Barrier Walls	IBC			
22~~—18~~ 23	Standard for Water Tanks for Private Fire Protection	IFC			
232~~—17~~ 22	Standard for the Protection of Records	IFC			

F11673Text Modification

241—~~19~~ 22	Standard for Safeguarding Construction, Alteration and Demolition Operations	IFC	
24—~~19~~ 22	Standard for Installation of Private Fire Service Mains and Their Appurtenances	IFC	
252—~~17~~ 22	Standard Methods of Fire Tests of Door Assemblies	IBC	
253—~~19~~ 23	Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source	IBC	IFC
257—~~17~~ 22	Standard for Fire Test for Window and Glass Block Assemblies	IBC	
259—~~18~~ 23	Standard Test Method for Potential Heat of Building Materials	IBC	IRC®
25—~~20~~ 23	Standard for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems	IPMC	IFC
260—~~19~~ 23	Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture	IFC	
261—~~18~~ 23	Standard Method of Test for Determining Resistance of Mock-up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes	IFC	
262—~~19~~ 23	Standard Method of Test for Flame Travel and Smoke of Wires and Cables for Use in Air-handling Spaces	IMC	
265—~~19~~ 23	Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls	IBC	IFC

F11673Text Modification

268—~~19~~ 22	Standard Test Method for Determining Ignitability of Exterior Wall Assemblies Using a Radiant Heat Energy Source	IBC			
275—~~17~~ 22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers	IBC		IRC®	
276—19	Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-deck Roofing Components	IBC			
276—~~15~~ 23	Standard Method of Fire Tests for Determining the Heat Release Rate of Roofing Assemblies with Combustible Above-Deck Roofing Components	IRC®			
285—~~19~~ 22	Standard Fire Test Method for the Evaluation of Fire Propagation Characteristics of Exterior ~~Nonload-bearing Wall Assemblies Containing Combustible Components~~	IBC			
286—~~15~~ 23	Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	IBC			
288—~~17~~ 22	Standard Methods of Fire Tests of Horizontal Fire Door Assemblies Installed in Horizontal in Fire-resistance ~~related floor Systems~~ Rated Assemblies	IBC			
289—~~19~~ 23	Standard Method of Fire Test for Individual Fuel Packages	IBC		IFC	
2—19	Hydrogen Technologies Code	IFGC		IMC	
30A—~~21~~ 24	Code for Motor Fuel Dispensing Facilities and Repair Garages	IFGC	IMC	IBC	IFC
30B—~~19~~ 23	Code for the Manufacture and Storage of Aerosol Products	IFC			
30—~~21~~ 24	Flammable and Combustible Liquids Code	IBC		IFC	

ICC COMMITTEE ACTION HEARINGS ::: March 2022 **ADM236**

Page: 68

Mod_11673_Text_ADM52.pdf

F11673Text Modification

318—~~18~~ 22	Standard for the Protection of Semiconductor Fabrication Facilities	IFC		
32—~~16~~ 21	Standard for Dry Cleaning Facilities	IBC	IFC	
33—~~18~~ 21	Standard for Spray Application Using Flammable or Combustible Materials	IFC		
34—~~18~~ 21	Standard for Dipping, Coating and Printing Processes Using Flammable or Combustible Liquids	IFC		
35—~~16~~ 21	Standard for the Manufacture of Organic Coatings	IFC		
37—~~18~~ 21	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	IFGC	IMC	
385—~~17~~ 22	Standard for Tank Vehicles for Flammable and Combustible Liquids	IFC		
400—~~19~~ 22	Hazardous Materials Code	IFC		
407—~~17~~ 22	Standard for Aircraft Fuel Servicing	IFC		
409—~~16~~ 22	Standard ~~for~~ on Aircraft Hangars	IFGC	IBC	IFC
40—~~19~~ 22	Standard for the Storage and Handling of Cellulose Nitrate Film	IBC	IFC	
418—~~16~~ 21	Standard for Heliports	IBC		
45—~~19~~ 23	Standard on Fire Protection Laboratories Using Chemicals (2015 Edition)	IBC	IFC	
484—~~19~~ 22	Standard for Combustible Metals	IBC	IFC	
495—~~18~~ 23	Explosive Materials Code	IFC		
498—~~18~~ 23	Standard for Safe Havens and Interchange Lots for Vehicles Transporting Explosives	IFC		

F11673Text Modification

501—~~17~~ 22	Standard on Manufactured Housing	IRC®			
505—~~18~~ 23	Fire Safety Standard for Powered Industrial Trucks, Including Type Designations, Areas of Use, Maintenance and Operation	IFC			
51—~~18~~ 23	Design and Installation of Oxygen-fuel Gas Systems for Welding, Cutting and Allied Processes	IFGC	IPC	IFC	
52—~~19~~ 22	Vehicular Gaseous Fuel System Code	IFC			
55—~~19~~ 23	Compressed Gases and Cryogenic Fluids Code	IPC	IFC		
56—~~20~~ 23	Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems	IFC			
58—~~17~~ 23	Liquefied Petroleum Gas Code	IFGC			
58—~~20~~ 23	Liquefied Petroleum Gas Code	IMC	IBC	IFC	IRC®
59A—~~19~~ 22	Standard for the Production, Storage and Handling of Liquefied Natural Gas (LNG)	IFC			
655—~~17~~ 19	Standard for the Prevention of Sulfur Fires and Explosions	IBC	IFC		
68—~~13~~ 23	Standard on Explosion Protection by Deflagration Venting	IFC			
701—~~19~~ 23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films	IBC	IFC		
703—~~21~~ 24	Standard for Fire Retardant-treated Wood and Fire-retardant Coatings for Building Materials	IFC			
704—~~17~~ 22	Standard System for the Identification of the Hazards of Materials for Emergency Response	IMC	IBC	IFC	

F11673Text Modification

72—~~19~~ 22	National Fire Alarm and Signaling Code	IMC				
750—~~19~~ 23	Standard on Water Mist Fire Protection Systems	IPMC	IBC	IFC		
76—~~16~~ 20	Standard for the Fire Protection of Telecommunications Facilities	IFC				
77—~~14~~ 24	Recommended Practice on Static Electricity	IFC				
780—~~17~~ 23	Standard for the Installation of Lightning Protection Systems	IFC				
80—~~19~~ 22	Standard for Fire Doors and Other Opening Protectives	IMC	IPMC	IBC	IFC	
85—~~19~~ 23	Boiler and Combustion System Hazards Code	IFGC	IMC	IBC	IFC	IRC®
86—~~19~~ 23	Standard for Ovens and Furnaces	IFC				
88A—~~19~~ 23	Standard for Parking Structures	IFGC				
914—~~19~~ 23	Code for Fire Protection of Historic Structures	IFC				
92—~~18~~ 21	Standard for Smoke Control Systems	IMC	IBC	IFC		
96—~~20~~ 24	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	IMC	IFC			
99—~~21~~ 24	Health Care Facilities Code	IMC	IPC	IBC	IFC	
~~1221~~ 1225—~~19~~ 2022	Standard for the ~~Installation, Maintenance and Use of~~ Emergency Services Communications ~~Systems~~	IFC				
NFPA 101—~~21~~ 24	Life Safety Code	IEBC				
NFPA 13R—19	Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height	IEBC				

F11673Text Modification

NFPA 99—21	Health Care Facilities Code	IEBC	

NFRC	National Fenestration Rating Council, Inc.		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
100—~~2020~~ 2023	Procedure for Determining Fenestration Products *U*-factors	IECC®	IRC®
200—~~2020~~ 2023	Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence	IECC®	IRC®
203—~~2017~~ 2023	~~Procedure for Determining Translucent Fenestration Product Visible Transmittance at Normal Incidence~~ Procedure for Determining Visible Transmittance of Tubular Daylighting Devices	IECC®	
400—~~2020~~ 2023	Procedure for Determining Fenestration Product Air Leakage	IECC®	IRC®

NSF	NSF International		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
14—~~2017~~ 2020	Plastic Piping System Components and Related Materials	IMC	IRC®
14—~~2018~~ 2020	Plastic Piping System Components and Related Materials	IPC	
184—~~2014~~ 2019	Residential Dishwashers	IPC	
18—~~2016~~ 2020	Manual Food and Beverage Dispensing Equipment	IPC	
350—~~2017a~~ 2020	Onsite Residential and Commercial Water Reuse Treatment Systems	IPC	IRC®
358-1—~~2017~~ 2021	Polyethylene Pipe and Fittings for Water-based Ground-source "Geothermal" Heat Pump Systems	IMC	IRC®

F11673Text Modification

358-3 ~~2016~~ 2021	Cross-linked Polyethylene (PEX) Pipe and Fittings for Water-based Ground-source (Geothermal) Heat Pump Systems	IMC	IRC®
358-4 ~~2017~~ 2018	Polyethylene of Raised Temperature (PE-RT) Pipe and Fittings for Water-based Ground-source (Geothermal) Heat Pump Systems	IMC	IRC®
359 ~~2011(R2016)~~ 2018	Valves for Crosslinked Polyethylene (PEX) Water Distribution Tubing Systems	IPC	IRC®
372 ~~2016~~ 2020	Drinking Water Systems Components—Lead Content	IPC	IRC®
3 ~~2017~~ 2019	Commercial Warewashing Equipment	IPC	
40 ~~2018~~ 2020	Residential Wastewater Treatment Systems	IPSDC	
41 ~~2016~~ 2018	Nonliquid Saturated Treatment Systems (Composing Toilets)	IPSDC	IRC®
42 ~~2017~~ 2021	Drinking Water Treatment Units—Aesthetic Effects	IRC®	
50 ~~2017~~ 2020	Equipment for Swimming Pools, Spas, Hot Tubs and Other Recreational Water Facilities	IPC	IRC®
53 ~~2017~~ 2020	Drinking Water Treatment Units—Health Effects	IPC	IRC®
58 ~~2017~~ 2020	Reverse Osmosis Drinking Water Treatment Systems	IPC	IRC®
61 ~~2018~~ 2020	Drinking Water System Components—Health Effects	IPC	IRC®
62 ~~2017~~ 2021	Drinking Water Distillation Systems	IPC	IRC®

PDI	Plumbing and Drainage Institute	
Standard Reference Number	**Title**	**Referenced in Code(s):**

F11673Text Modification

PDI G101 ~~(2012)~~ (2017)	Testing and Rating Procedure for Hydro Mechanical Grease Interceptors with Appendix of ~~Sizing and~~ Installation ~~Data~~ and Maintenance	IPC

PHTA	Pool & Hot Tub Alliance (formerly APSP)	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/APSP/ICC 15~~—2011~~ 2021	American National Standard for Residential Swimming Pool and Spa Energy Efficiency ~~Includes Addenda A Approved January 9, 2013~~	ISPSC
ANSI/APSP/ICC 16~~—2017~~ 2022	American National Standard for Suction Outlet Fittings (SOFA) for Use in Pools, Spas, and Hot Tubs	ISPSC
ANSI/APSP/ICC 4~~—2012~~ 2022	American National Standard for Aboveground/Onground Residential Swimming Pools~~—Includes Addenda A Approved April 4, 2013~~	ISPSC
ANSI/APSP/ICC/NPC 12 - ~~2016~~ 2023	American National Standard for the Plastering of Swimming Pools	ISPSC

PLIB	Pacific Lumber Inspection Bureau (formerly WCLIB)	
Standard Reference Number	**Title**	**Referenced in Code(s):**
AITC 200~~—09~~ 20	Manufacturing Quality Control Systems Manual for Structural Glued Laminated Timber	IBC

PSAI	Portable Sanitation Association International	
Standard Reference Number	**Title**	**Referenced in Code(s):**
~~PSAI/ANSI~~ ANSI/PSAI Z4.3—2016	American National Standard: for Sanitation: ~~for~~ Non-sewered Waste-disposal Systems : Minimum Requirements	IPC

RESNET	Residential Energy Services Network, Inc.	
Standard Reference Number	**Title**	**Referenced in Code(s):**

F11673Text Modification

ANSI/RESNET/ICC 301—~~2019~~ 2022	Standard for the Calculation and Labeling of the Energy Performance of Dwelling and Sleeping Units using an Energy Rating Index	IECC®
ANSI/RESNET/ICC 380—~~2019~~ 2022	Standard for Testing Airtightness of Building, Dwelling Unit and Sleeping Unit Enclosures; Airtightness of Heating and Cooling Air Distribution Systems, and Airflow of Mechanical Ventilation Systems	IECC®

RMI	**Rack Manufacturers Institute**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/MH16.1—~~12~~ 21	~~Specification for~~ Design, Testing and Utilization of Industrial Steel Storage Racks	IBC

SDI	**Steel Deck Institute**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
SDI-~~QA/QC~~ SD—~~2017~~ 2022	~~Standard for Quality Control and Quality Assurance for Installation of Steel Deck~~ Standard for Steel Deck	IBC

SJI	**Steel Joist Institute**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
SJI 100—2020	45th Edition Standard Specifications, Load Tables and Weight Tables for K-Series, LH-Series, DLH-Series and Joist Girders	IBC

SMACNA	**Sheet Metal and Air Conditioning Contractors' National Association, Inc.**			
Standard Reference Number	**Title**	**Referenced in Code(s):**		
~~SMACNA/ANSI~~ ANSI/SMACNA 4th Edition—~~2016~~ 2020	HVAC Duct Construction Standards—Metal and Flexible, ~~4th Edition (ANSI)~~ (ANSI/SMACNA 006-2020)	IFGC	IMC	IRC®

F11673Text Modification

~~SMACNA/ANSI~~ ANSI/SMACNA ~~—~~ 2nd edition 2013	Round Industrial Duct Construction Standards~~, 3rd Edition~~ (ANSI/SMACNA 005-2013)	IMC
~~SMACNA/ANSI~~ ANSI/SMACNA ~~—2011~~ 2nd Edition 2004	Rectangular Industrial Duct Construction Standards, ~~2nd Edition~~ (ANSI/SMACNA 002-2004)	IMC
SMACNA~~—~~ 1st edition 2015	~~SMACNA~~ Phenolic Duct Construction Standards~~, 1st Edition (ANSI)~~ (ANSI/SMACNA 022-2015)	IMC
SMACNA~~—10~~ 2021	Fibrous Glass Duct Construction Standards ~~7th~~ 8th edition	IRC®
SMACNA~~—2010~~ 2021	Fibrous Glass Duct Construction Standards~~, 7th Edition~~ 8th edition	IMC
SMACNA~~—~~2nd edition 2012	HVAC Air Duct Leakage Test Manual ~~Second Edition~~ (ANSI/SMACNA 016-2012)	IECC®

SPRI	**Single-Ply Roofing Institute**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/SPRI GT-1~~—2016~~ 21	Test Standard for Gutter Systems	IBC
ANSI/SPRI VF-1~~—17~~ 21	External Fire Design Standard for Vegetative Roofs	IBC
ANSI/SPRI/FM 4435-ES-1~~—17~~ 21	Wind Test Design Standard for Edge Systems Used with Low Slope Roofing Systems	IBC

TIA	**Telecommunications Industry Association**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI/TIA 222-~~H—2017~~ I-2023	Structural Standard for Antenna Supporting Structures, Antennas and Small Wind Turbine Support Structures	IBC

TMS	**The Masonry Society**

F11673Text Modification

Standard Reference Number	Title	Referenced in Code(s):	
216—~~2013~~ 14 (19)	~~Standard Method~~ Code Requirements for Determining Fire Resistance of Concrete and Masonry Construction Assemblies	IBC	
302—2018	Standard Method for Determining the Sound Transmission ~~Class~~ Rating s for Masonry ~~Walls~~ Assemblies	IBC	
402—~~2016~~ 2022	Building Code Requirements for Masonry Structures	IBC	IRC®
404—~~2016~~ 2023	Standard for the Design of Architectural Cast Stone	IBC	IRC®
504—~~2016~~ 2023	Standard for the Fabrication of Architectural Cast Stone	IBC	
602—~~2016~~ 2022	Specification for Masonry Structures	IBC	IRC®
604—~~2016~~ 2023	Standard for the Installation of Architectural Cast Stone	IBC	

TPI	Truss Plate Institute		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
ANSI/TPI 1—~~2014~~ 2022	National Design Standard for Metal-plate-connected Wood Truss Construction	IBC	IRC®

UL	UL LLC		
Standard Reference Number	**Title**	**Referenced in Code(s):**	
1004-1—12	Rotating Electrical Machines General Requirements—with revisions through ~~August 2018~~ November 2020	ISPSC	
1026—2012	Electric Household Cooking and Food Serving Appliances—with revisions through ~~July 2018~~ March 2021	IRC®	

F11673Text Modification

103—2010	Factory-built Chimneys, for Residential Type and Building Heating Appliances—with Revisions through ~~March 2017~~ September 2021	IFGC	IMC	IBC	IRC®	
1042—2009	Electric Baseboard Heating Equipment—with revisions through ~~December 2016~~ February 2021	IRC®				
1081—2016	Swimming Pool Pumps, Filters and Chlorinators—with revisions through ~~October 2017~~ July 2020	ISPSC				
109—97	Tube Fittings for Flammable and Combustible Fluids, Refrigeration Service and Marine Use with revisions through May 2020	IMC				
10A—2009	Tin Clad Fire Doors—with Revisions through July 20, 2018	IBC				
10B—2008	Fire Tests of Door Assemblies—with Revisions through ~~February 2015~~ May 2020	IBC				
10C—2016	Positive Pressure Fire Tests of Door Assemblies - with revisions through May 2021	IBC	IFC			
10D—2017	~~Standard for~~ Fire Tests of Fire Protective Curtain Assemblies	IBC				
1240—2005	Electric Commercial Clothes-Drying Equipment—with revisions through ~~March 2018~~ September 2021	IMC				
1261—2001	Electric Water Heaters for Pools and Tubs—with revisions through September 2017	IMC				
1275—~~2014~~ 2021	Flammable Liquid Storage Cabinets~~—with revisions through February 2018~~	IFC				
127—2011	Factory-built Fireplaces—with Revisions through ~~July 2016~~ February 2020	IFGC	IMC	IBC	IECC®	IRC®

ICC COMMITTEE ACTION HEARINGS ::: March 2022 **ADM246**

Page: 78

Mod_11673_Text_ADM52.pdf

F11673Text Modification

1316—~~1994~~ 2018	~~Glass~~ Fiber Reinforced ~~Plastic~~ Underground ~~Storage~~ Tanks for ~~Petroleum Products, Alcohols and Alcohol-gasoline Mixtures~~ Flammable and Combustible Liquids—with revisions through ~~May 2006~~ March 2019	IFC		
1369—18	~~Standard for~~ Aboveground Piping for Flammable and Combustible Liquids -with revisions through August 2020	IMC		
1370—11	Unvented Alcohol Fuel Burning Decorative Appliances—with revisions through March ~~25,~~ 2016	IMC		
1389—~~2017~~ 19	Plant Oil Extraction ~~Units~~ Equipment for Installation and Use in Ordinary (Unclassified) Locations and Hazardous (Classified) Locations - with revisions through October 2020	IFC		
142—2006	Steel Aboveground Tanks for Flammable and Combustible Liquids—with revisions through ~~August 2014~~ January 2021	IFC		
1479—2015	Fire Tests of Penetration Firestops with revisions through May 2021	IMC	IBC	IRC®
1482—2011	Solid-fuel Type Room Heaters—with Revisions through ~~August 2015~~ February 2020	IMC	IBC	IRC®
1489—2016	Fire Tests of Fire Resistant Pipe Protection Systems Carrying Combustible Liquids -with revisions through October 2021	IBC	IFC	
14B—2008	Sliding Hardware for Standard Horizontally Mounted Tin Clad Fire Doors—with Revisions through ~~July 2017~~ September 2021	IBC		
14C—2006	Swinging Hardware for Standard Tin Clad Fire Doors Mounted Singly and in Pairs—with Revisions through ~~July 2017~~ October 2021	IBC		

F11673Text Modification

1563—2009	Standard for Electric Spas, Hot Tubs and Associated Equipment —with revisions through ~~October 2017~~ September 2020	IMC	ISPSC	IRC®
1703—2002	Flat-plate Photovoltaic Modules and Panels—with Revisions through ~~September 2018~~ November 2019	IBC		IRC®
1738—2010	Venting Systems for Gas Burning Appliances, Categories II, III and IV ~~with revisions through November 2014~~ August 2021	IFGC		IRC®
1741—2010	Inverters, Converters, Controllers and Interconnection System Equipment for Use with Distributed Energy Resources—with Revisions through ~~February 2018~~ June 2021	IBC	IFC	IRC®
174—04	Household Electric Storage Tank Water Heaters—with revisions through ~~December 2016~~ October 2021	IMC		
1777—~~2007~~ 2015	Chimney Liners—with Revisions through April ~~2014~~ 2019	IFGC	IMC	IBC
1784—2015	Air Leakage Tests of Door Assemblies-with revisions through February 2020	IBC		
180—~~2012~~ 2019	Liquid-level Indicating Gauges for Oil Burner Fuels and Other Combustible Liquids—with revisions through ~~May 2017~~ August 2021	IMC		IRC®
1812—2013	Ducted Heat Recovery Ventilators—with revisions through ~~July 2018~~ April 2021	IMC		
1815—2012	Nonducted Heat Recovery Ventilators—with revisions through ~~July 2018~~ April 2021	IMC		
181—~~05~~ 13	Factory-made Air Ducts and Air Connectors~~—with revisions through April 2017~~	IMC		

Mod_11673_Text_ADM52.pdf

F11673Text Modification

1887—04	Fire Tests of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics—with revisions through ~~July 2017~~ October 2021	IMC			
1897—2015	Uplift Tests for Roof Covering Systems with revisions through September 2020	IBC	IRC®		
1974—~~2017~~ 2018	~~Standard for~~ Evaluation for Repurposing Batteries	IFC			
1978—2010	Grease Ducts—with revisions through ~~April 2017~~ October 2021	IMC			
1994—2015	Luminous Egress Path Marking Systems with revisions through July 2020	IBC	IFC		
1996—2009	Electric Duct Heaters—with revisions through ~~July 2016~~ September 2021	IMC	IRC®		
2011—2019	Outline for investigation for Machinery with revisions through October 2020	IFC			
2017—2008	General-purpose Signaling Devices and Systems—with revisions through ~~January 2016~~ December 2016	IFC	ISPSC		
2024—2014	~~Safety Optical fiber~~ Cable Routing Assemblies and Communications Cable Raceway —with revisions through August 2015	IMC			
2075—2013	~~Standard for~~ Gas and Vapor Detectors and Sensors-with Revisions through ~~December 2017~~ August 2021	IMC	IBC	IFC	IRC®
2079—2015	Tests for Fire Resistance of Building Joint Systems - with revisions through July 2020	IBC	IFC		
207—2009	Refrigerant-containing Components and Accessories, Nonelectrical—with revisions through ~~June 2014~~ January 2020	IMC			

F11673Text Modification

2152—~~2016~~ 2021	Outline of Investigation for Special Purpose Nonmetallic Containers and Tanks for Specific Combustible or Noncombustible Liquids	IFC				
2158A—2013	~~Outline of Investigation for~~ Clothes Dryer Transition Duct—with revisions through ~~April 2017~~ October 2021	IFGC	IMC	IRC®		
2158—~~2018~~ 2021	Electric Clothes Dryers	IMC				
2162—2014	~~Outline of Investigation for~~ Commercial Wood-fired Baking Ovens—Refractory Type - with revisions through August 2019	IMC				
217—2015	Single and Multiple Station Smoke Alarms—with Revisions through ~~November 2016~~ April 2021	IBC	IFC	IRC®		
2196—2017	~~Standard for~~ Fire Test for Circuit Integrity of Fire-Resistive Power, Instrumentation, Control and Data Cables - with revisions through December 2020	IBC	IFC			
2200—~~2012~~ 2020	Stationary Engine Generator Assemblies~~—with Revisions through October 2015~~	IFGC	IMC	IBC	IFC	IRC®
2208—2010	Solvent Distillation Units—with revisions through June 2020	IFC				
2518—2016	Air Dispersion Systems - with revisions June 2021	IMC				
2524—2019	~~Standard for~~ In-building 2-way Emergency Radio Communication Enhancement Systems - revisions through February 2019	IFC				
263—11	Fire Test~~s~~ of Building Construction and Materials—with Revisions through ~~March 2018~~ August 2021	IBC				
268A—2008	Smoke Detectors for Duct Application—with revisions through August ~~2016~~ 2020	IMC				

F11673Text Modification

268—2016	Smoke Detectors for Fire Alarm Systems-with revisions through ~~July 2016~~ October 2019	IMC	IPMC	IBC	IFC	IRC®
2703—2014	Mounting Systems, Mounting Devices, Clamping/Retention Devices and Ground Lugs for Use with Flat-plate Photovoltaic Modules and Panels-with Revisions through ~~December 2019~~ March 2021	IBC		IRC®		
2846—2014	Fire Test of Plastic Water Distribution Plumbing Pipe for Visible Flame and Smoke Characteristics—with revisions through ~~December 2016~~ January 2021	IMC				
300—~~2005~~ 2019	Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment~~—with revisions through December 2014~~	IFC				
30—1995	Metal Safety Cans—with revisions through ~~June 2014~~ September 2019	IFC				
325—2017	Door, Drapery, Gate, Louver and Window Operations and Systems with revisions through February 2020	IBC	IFC	IRC®		
343—~~2017~~ 2008	Pumps for Oil-burning Appliances with revisions through December 2017	IMC		IRC®		
372—2007	Automatic Electrical Controls for Household and Similar Use—Part 2: Particular Requirements for Burner Ignition Systems and Components—with revisions through ~~July 2012~~ June 2012	ISPSC				
391—2010	Solid-fuel and Combination-fuel Central and Supplementary Furnaces—with revisions through ~~June 2014~~ August 2019	IMC				
399—2017	Drinking-Water Coolers—with revisions through ~~August 2018~~ July 2020	IPC				

F11673Text Modification

427—11	Standard for Refrigerating Units with revisions through February 2014	IMC		
430—2015	Waste Disposers—with revisions through ~~February 2018~~ September 2021	IPC		
441—16	Gas Vents—with revisions through ~~July 2016~~ August 2019	IRC®		
471—2010	Commercial Refrigerators and Freezers—with revisions through ~~November 2018~~ September 2019	IMC		
484—14	~~Standard for~~ Room Air Conditioners with revisions through May 2019	IMC		
507—2017	Electric Fans—with revisions through ~~August 2018~~ May 2020	IMC	IRC®	
508—2018	Industrial Control Equipment with revisions through July 2021	IMC	IPC	IRC®
515—2015	~~Standard for~~ Electric~~al~~ Resistance Trace Heating for Commercial Applications	IECC®		
536—~~2014~~ 2021	Flexible Metallic Hose	IMC	IRC®	
555C—2014	Ceiling Dampers—with Revisions through ~~May 2017~~ January 2021	IMC	IBC	
555S—2014	Smoke Dampers—with Revisions through October ~~2016~~ 2020	IMC	IBC	
555—2006	Fire Dampers—with Revisions through October ~~2016~~ 2020	IBC		
55A—2004	Materials for Built-up Roof Coverings	IBC	IRC®	
580—2006	Test for Uplift Resistance of Roof Assemblies—with Revisions through ~~October 2018~~ March 2019	IBC	IRC®	

F11673Text Modification

60335-2-1000-17	~~Standard for~~ Household and Similar Electrical Appliances: Particular Requirements for Electrically Powered Pool Lifts~~, with revisions through September 29, 2017~~	ISPSC		
60601-1—2003	Medical Electrical Equipment, Part I: General Requirements for Safety - with revisions through April 2006	IFC		
60950-1—~~2014~~ 2007	Information Technology Equipment—Safety Requirements with revisions through May 2019	IFC		
61730-1—2017	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction - with revisions through April 2020	IBC	IRC®	
61730-2—2017	Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing - with revisions through April 2020	IBC	IRC®	
62368-1—~~2014 19~~	Audio/video, Information and Communication Technology Equipment—Safety Requirements - with revisions through October 2021	IFC		
651—2011	Schedule 40 and Schedule 80~~, Type EB and A~~ Rigid PVC Conduit and Fittings—with Revisions through ~~June 2016~~ March 2020	IFGC	IRC®	
705—2017	Power Ventilators—with revisions through ~~October 2018~~ August 2021	IFGC	IMC	IRC®
710B—2011	Recirculating Systems—with Revisions through ~~August 2014~~ February 2019	IMC	IBC	IFC
710—12	Exhaust Hoods for Commercial Cooking Equipment—with Revisions through ~~November 2013~~ February 2021	IECC®		

F11673Text Modification

791—2006	~~Standard for~~ Residential Incinerators—with revisions through ~~November 2014~~ February 2021	IMC		IFC
795—2016	Commercial-Industrial Gas Heating Equipment with revisions through 2020	IFGC		IRC®
80—2007	Steel Tanks for Oil-burner Fuels and Other Combustible Liquids—with revisions through ~~January 2014~~ April 2019	IFC		IRC®
817—2015	~~Standard for~~ Cord Sets and Power-supply Cords—with revisions through ~~August 2018~~ September 2021	IFC		
834—04	Heating, Water Supply and Power Boilers Electric—with revisions through ~~September 2018~~ July 2019	IMC		
834—2004	Heating, Water Supply and Power Boilers—Electric—with revisions through ~~September 2018~~ July 2019	IRC®		
842—~~2015~~ 2019	Valves for Flammable Fluids—~~with revisions through May 2015~~	IMC		IRC®
858—2014	Household Electric Ranges—with revisions through ~~June 2018~~ September 2019	IMC		IRC®
864—2014	Control Units and Accessories for Fire Alarm Systems—with Revisions through ~~March 2018~~ May 2020	IMC	IBC	IFC
867—2011	Electrostatic Air Cleaners—with revisions through August ~~2018~~ 2021	IMC		
875—09	Electric Dry-bath Heaters—with revisions through ~~September 2017~~ January 2021	IRC®		

F11673Text Modification

87A—2015	Power-operated Dispensing Devices for Gasoline and Gasoline/Ethanol Blends with Nominal Ethanol Concentrations up to 85 Percent—with revisions through ~~June 2017~~ September 2019	IFC		
923—2013	Microwave Cooking Appliances—with revisions through ~~July 2017~~ August 2020	IMC	IRC®	
924—2016	Standard for Safety Emergency Lighting and Power Equipment—with Revisions through May ~~2018~~ 2020	IBC	IFC	
9540A—~~2017~~ 2019	Standard for Safety Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems	IFC		
9540—~~2016~~ 2020	Energy Storage Systems and Equipment - with revisions through April 2021	IFC	IRC®	
959—2010	Medium Heat Appliance Factory-built Chimneys—with Revisions through ~~June 2014~~ August 2019	IFGC	IMC	IRC®
9—2009	Fire Tests of Window Assemblies—with Revisions through ~~February 2015~~ March 2020	IBC		
UL/CSA 60335-2-40—~~17~~ 2019	Household and Similar Electrical Appliances—Safety—Part 2-~~40~~: Particular Requirements for ~~Electrical Heat Pumps, Air-Conditioners and Dehumidifiers~~ Motor-Compressors	IMC		
UL/CSA 60335-2-89—~~17~~ 21	Household and Similar Electrical Appliances—Safety—Part 2-89: Particular Requirements for Commercial Refrigerating Appliances with an Incorporated or Remote Refrigerant Unit or Compressor	IMC		

WDMA	Window and Door Manufacturers Association	
Standard Reference Number	**Title**	**Referenced in Code(s):**

F11673Text Modification

AAMA/WDMA/CSA 101/I.S.2/A440—~~17~~ 22	Specifications for Windows, Doors and Unit Skylights	IBC	IECC®	IRC®

I.S. 11—~~16~~ 23	Industry Standard Analytical Method for Design Pressure (DP) Ratings of Fenestration Products	IRC®

WMA	**World Millwork Alliance (formerly Association of Millwork Distributors Standards AMD)**	
Standard Reference Number	**Title**	**Referenced in Code(s):**
ANSI WMA 100—~~2018~~ 2023	Standard Method of Determining Structural Performance Ratings of Side-Hinged Exterior Door Systems and Procedures for Component Substitution	IRC®

Reason: The CP28 Code Development Policy, Section 4.6 requires the updating of referenced standards to be accomplished administratively, and be processed as a Code Change Proposal for consideration by the Administrative Code Change Committee. In September 2021, a letter was sent to each developer of standards that is referenced in the International Codes, asking them to provide ICC with a list of their standards in order to update to the current edition. Listed are the referenced standards that are to be updated based upon responses received from standard developers.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Not applicable.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

233

F10604		/EB22-22			
Date Submitted	03/01/2024	**Section**	306.5	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This section does not exist in the 2023 FBC - EB.

Summary of Modification

See Attached

Rationale

See Attached

F10604Text Modification

See Attached

Mod10604_TextOfModification.pdf Page: 1

F10604Text Modification

EB22-22

Original Proposal

IEBC: 306.5

Proponents: China Clarke, New York State Department of State, NYS DOS Division of Building Standards and Codes (china.clarke@dos.ny.gov); Kevin Duerr-Clark, New York State Department of State, New York State Department of State (kevin.duerr-clark@dos.ny.gov)

2021 International Existing Building Code

Revise as follows:

306.5 Change of occupancy. *Existing buildings* that undergo a *change of occupancy* ~~change of group or occupancy~~ shall comply with Section 306.7.

Exception: Type B dwelling or sleeping units required by Section 1108 of the International Building Code are not required to be provided in *existing buildings* and *facilities* undergoing a *change of occupancy* in conjunction with *alterations* where the *work area* is 50 percent or less of the aggregate area of the building.

Reason: In the last code cycle, all references to “group” were removed from the IEBC definition of "change of occupancy", the definition was revised, and a definition for “change of use” was added (Code Change No: ADM 3-19 Part I). In light of those changes, the language of Section 306.5 of the 2021 IEBC no longer makes sense. The current use of the words “group or” in Section 305.4 implies that a “change of group” is something other than, or in addition to, a “change of occupancy,” but it is not. We propose to simplify the language of Section 306.5 of the IEBC by removing “group or” and italicizing “change of occupancy”.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is merely using the defined term "change of occupancy" and eliminates the term "Group" that is no longer used. The application of this section has not changed simply correlated more appropriately with a defined term.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal editorially revises the language to use the correctly defined term of "change of occupancy." (Vote: 13-0)

Final Hearing Results

EB22-22 AS

Page: 1

Mod_10604_Text_EB22-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

234

F10644		/EB32-22			
Date Submitted	03/04/2024	**Section**	308.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of this modification does not exist in the 2023 FBC - EB.

Summary of Modification

Broadens the scope of carbon monoxide detectors for existing buildings

Rationale

See attached

F10644Text Modification

See attached

Page: 1

Mod10644_TextOfModification.pdf

F10644Text Modification

EB32-22

Original Proposal

IEBC: SECTION 308, 308.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); John Williams, Committee on Healthcare (ahc@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

SECTION 308
CARBON MONOXIDE DETECTION

Revise as follows:

308.1 Carbon monoxide detection. Where an *addition*, *alteration*, *change of occupancy* or relocation of a building is made to an existing building ~~Group I-1, I-2, I-4 and R occupancies and classrooms of Group E occupancies~~, the *existing building* shall be provided with carbon monoxide detection in accordance with the International Fire Code or Section R315 of the *International Residential Code*.

Exceptions:

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or *repairs* of plumbing or mechanical systems, other than fuel-burning appliances.
3. Work classified as Level 1 *Alterations* in accordance with Chapter 7.
4. Carbon monoxide detection is not required in each sleeping unit where carbon monoxide detection, which transmits an alarm signal to an approved location, is provided in each space containing a carbon monoxide source.

Reason: The change to the first paragraph in Section 308.1 to make this section consistent with the actions taken on Group A on F102-21 and F116-21 which broadened the requirements for CO detection to all occupancies that present a CO hazard.

Regarding the addition of Exception 4, the revised text in F102-21 and F116-21 expands the CO source to include stoves and fireplaces, not just fuel fired appliances. The Healthcare committee identified that this would require CO detectors in every sleeping unit in hospitals and nursing homes that had a CO source in the building, such as a gas stove or a fireplace, no matter how far away the sleeping rooms were from the CO source. The 2024 IBC/IFC exceptions for CO detectors in the room where the source is located is only for furnaces. This is also a concern for other occupancies, such as jails, dorms or hotels. Since these locations are outside the scope of the Healthcare committee, the Healthcare committee worked with BCAC and FCAC to expand this proposal. The committees will work together next cycle to address this concern in the IBC/IFC.

Since the 2024 IBC/IFC is not yet available, the following 2024 draft is provided to show the concern. F102 -21 had an extensive public comment. The revisions to the current text would read as follows:

CARBON MONOXIDE SOURCE . A piece of commonly used equipment or permanently installed appliance, fireplace or process that produces or emits carbon monoxide gas.

915.1.1 Where required. Carbon monoxide detection shall be installed ~~provided in Group I-1, I-2 and I-4, and R occupancies~~in the locations specified in Section 915.2 where any of the following conditions ~~in Sections 915.1.2 through 915.1.6~~ exist.

1. In buildings that contain a CO source.
2. In buildings that contain or are supplied by a CO producing forced-air furnace
3. In buildings with attached *private garages*

Page: 1

Mod_10644_Text_EB32-22.pdf

F10644Text Modification

4. In buildings that have a CO producing vehicle that is used within the building.

915.2 Locations . ~~Where required by Section 915.1.1, carbon~~Carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.6 ~~915.2.3.~~

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in *sleeping units*.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the *sleeping unit* where the *sleeping unit* or its attached bathroom does not contain a ~~fuel-burning appliance~~ CO source and is not served by a carbon monoxide producing forced-air furnace.

915.2.4 CO producing forced-air furnace. Carbon monoxide detection, complying with Item 2 of Section 915.1.1 shall be installed in all enclosed rooms and spaces served by a fuel-burning, forced-air furnace.

Exceptions:

1. Where carbon monoxide detector is provided in the first room or space served by each main duct leaving the furnace, and the carbon monoxide alarm signals are transmitted to an approved locations.
2. Dwelling units that comply with Section 915.2.1.

This proposal is submitted by the ICC Building Code Action Committee (BCAC), ICC Fire Code Action Committee (FCAC) and the Committee on Healthcare (CHC)..

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

.

Cost Impact: The code change proposal will increase the cost of construction
This proposal is merely providing consistency with F102-21 and F116-21 which will in fact increase costs since it now requires CO detection more broadly across more occupancies types based upon the presence of CO sources. Without consistency with the revisions in the IBC and IFC will create confusion and difficulty in enforcement. The exception will help to reduce costs as it will allow the CO source for occupancies that have sleeping units to detect for CO at the source rather than in each sleeping unit or in each corridor in the area of sleeping units.

Page: 2

Mod_10644_Text_EB32-22.pdf

F10644Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification: 308.1 Carbon monoxide detection. Where an addition, alteration, change of occupancy or relocation of a building is made to an existing building, the existing building shall be provided with carbon monoxide detection in accordance with the International Fire Code or Section R315 of the International Residential Code.

Exceptions:

1. Work involving the exterior surfaces of buildings, such as the replacement of roofing or siding, the addition or replacement of windows or doors, or the addition of porches or decks.
2. Installation, alteration or repairs of plumbing or mechanical systems, other than fuel-burning appliances.
3. Work classified as Level 1 Alterations in accordance with Chapter 7.
4. In Group I-2 Occupancies, carbon ~~Carbon~~ monoxide detection is not required in each sleeping unit where carbon monoxide detection, which transmits an alarm signal to an approved location, is provided in each space containing a carbon monoxide source.

Committee Reason: This proposal is necessary for correlation with the actions taken in Group A for the IFC and IBC (F102-21 and F116-21). The modification reduces the application of the new exception to Group I-2 occupancies where the specific concern for sleeping unit coverage is critical. Applications for other occupancies is somewhat unclear and questions were raised regarding why dwelling units were not included. There were additional concerns with the broader definition of CO sources that will be found in the 2024 IFC and IBC. (Vote: 13-1)

Final Hearing Results

EB32-22 AM

Page: 3

Mod_10644_Text_EB32-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

235

F10645		/EB33-22			
Date Submitted	03/04/2024	**Section**	309.2.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Section 309 does not exist in the 2023 FBC-EB.

Summary of Modification

limits adding a combustible exterior wall covering to an existing high-rise building if the building is not protected with an automatic sprinkler system

Rationale

See attached

F10645Text Modification

See attached

Page: 1

Mod10645_TextOfModification.pdf

F10645Text Modification

EB33-22

Original Proposal

IEBC: 309.2.1 (New)

Proponents: Philip Oakes, National Association of State Fire Marshals (admin@firemarshals.org)

2021 International Existing Building Code

Add new text as follows:

309.2.1 Automatic sprinkler systems. Combustible exterior wall covering or combustible exterior wall envelopes shall not be added toan existing high-rise buildingthat is not protected throughout with an automatic sprinkler system

Exceptions:

1. Where such material is located on a single story and is less than15 percent of the wall area on any side of the building.
2. Water-resistive barriers installed in accordance with Section 1402.5 of the International Building Code.

Reason: The proposal limits adding a combustible exterior wall covering to an existing high-rise building if the building is not protected with an automatic sprinkler system. It is understood that the IFC requires some existing high-rise buildings to be protected with an automatic sprinkler system. However, where such a requirement has not been enforced or in those instances in which the IFC does not require sprinkler protection in existing buildings, either the wall covering being added should be non-combustible or the building should be protected with an automatic sprinkler protection.

While a good fire test, it is recognized that the NFPA 285 fire test has some limitations. If the combustible exterior wall assembly contributes to fire spread in a high-rise building, the fire service will be challenged to address the fire scenario. Sprinkler protection within the building reduces the likelihood that a combustible exterior wall assembly will become involved in the fire as the result of an interior fire event.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal will not require a building to be retro-fitted with interior fire sprinklers if exterior wall coverings or envelopes are contemplated, it will simply limit the type of materials to non-combustible types should an interior sprinkler system not be present.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved based upon concern for life safety in existing high-rise buildings where combustible cladding is added. The automatic sprinkler system will provide more time for evacuation and will increase life safety. (Vote: 9-5)

Final Hearing Results

EB33-22 AS

Page: 1

Mod_10645_Text_EB33-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

236

F10690 | **/EB44-22**

Date Submitted	03/04/2024	**Section**	502.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text for this modification is not consistent with that of the 2023 FBC-EB.

Summary of Modification

This proposal clarifies requirements for structural alterations based on 2018 SEAOC survey

Rationale

See attached

F10690Text Modification

See attached

Mod10690_TextOfModification.pdf

Page: 1

F10690Text Modification

EB44-22

Original Proposal

IEBC: 502.1, 503.1

Proponents: Michael Fillion, National Council of Structural Engineers Associations (mrf.structure@verizon.net)

2021 International Existing Building Code

Revise as follows:

502.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* to the *existing building* or structure shall be made to ensure that the *existing building* or structure together with the *addition* are not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*, unless explicitly permitted elsewhere in this section. An *existing building* together with its *additions* shall comply with the height and area provisions of Chapter 5 of the International Building Code.

503.1 General. *Alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration,* unless explicitly permitted elsewhere in this section.

.

Reason: Clarifies requirements for structural alterations based on 2018 SEAOC survey. Reference Survey Question 4, associated results, and discussion in the attached conference paper (Zepeda et al, 2019). Code is not clear on how to evaluate whether the building is considered “less complying.”
Revisions made by this proposal intend to clarify that the triggers for requiring structural upgrades are as defined in these sections for additions and alterations, with applicable exceptions, and that this statement is not the a trigger in itself.

https://www.cdpaccess.com/proposal/8703/25651/files/download/3153/

Bibliography: Zepeda, D., Hagen, G., O'Connell, K., McLellan, R., Buckalew, J., and Sumer, A., "Existing Buildings and the "10% Rule": Survey Results, Opinions, and Recommendations." 2019 SEAOC Convention Proceedings (pp. 116-147), Sacramento, CA: Structural Engineers Association of California.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The intent of this code change proposal is for clarification. As it does not change the intent of the code, it will not increase of decrease the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

502.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* to the *existing building* or structure shall be made to ensure that the *existing building* or structure together with the *addition* are not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*, ~~unless explicitly permitted elsewhere in this section~~ except that the structural elements need only comply with Sections 502.2 through 502.5. An *existing building* together with its *additions* shall comply with the height and area provisions of Chapter 5 of the International Building Code.

Page: 1

Mod_10690_Text_EB44-22.pdf

F10690Text Modification

503.1 General. *Alterations* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* shall be such that the *existing building* or structure is not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *alteration*, ~~unless explicitly permitted elsewhere in this section~~ except that the structural elements need only comply with Sections 503.2 through 503.12.

Committee Reason: The new language clarifies that the structural provisions of the IEBC intentionally do not always require full compliance with the IBC. The modification simply provides more specific direction that the intention was only related to structural requirements. The initial proposal included broader language that could be interpreted to apply to other aspects of a building. (Vote: 10-4)

Final Hearing Results

EB44-22 AM

Page: 2

Mod_10690_Text_EB44-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

237

F10692		/EB46-22			
Date Submitted	03/04/2024	**Section**	502.1	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of this modification is not consistent with that of the 2023 FBC-EB.

Summary of Modification

Provides guidance to the use of the code as to what is required when an occupiable roof is added to a building

Rationale

See attached

F10692Text Modification

See attached

Page: 1

Mod10692_TextOfModification.pdf

F10692Text Modification

EB46-22

Original Proposal

IEBC: 502.1, CHAPTER 11, SECTION 1101, 1101.1, 1101.2, 1101.3, 1101.4, 1101.5 (New), 1301.2.3

Proponents: Stephen Thomas, Shums Coda Associates, Self (sthomas@coloradocode.net)

2021 International Existing Building Code

Revise as follows:

502.1 General. *Additions* to any building or structure shall comply with the requirements of the *International Building Code* for new construction. *Alterations* to the *existing building* or structure shall be made to ensure that the *existing building* or structure together with the *addition* are not less complying with the provisions of the *International Building Code* than the *existing building* or structure was prior to the *addition*. An *existing building* together with its *additions* shall comply with the height and area provisions of Chapter 5 of the International Building Code.
Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

CHAPTER 11 ADDITIONS

SECTION 1101
GENERAL

1101.1 Scope. An *addition* to a building or structure shall comply with the International Codes as adopted for new construction without requiring the *existing building* or structure to comply with any requirements of those codes or of these provisions, except as required by this chapter. Where an *addition* impacts the *existing building* or structure, that portion shall comply with this code.

1101.2 Creation or extension of nonconformity. An *addition* shall not create or extend any nonconformity in the *existing building* to which the *addition* is being made with regard to accessibility, structural strength, fire safety, means of egress or the capacity of mechanical, plumbing or electrical systems.

1101.3 Other work. Any *repair* or *alteration* work within an *existing building* to which an *addition* is being made shall comply with the applicable requirements for the work as classified in Chapter 6.

1101.4 Enhanced classroom acoustics. In Group E occupancies, enhanced classroom acoustics shall be provided in all classrooms in the *addition* with a volume of 20,000 cubic feet (565 m^3) or less. Enhanced classroom acoustics shall comply with the reverberation time in Section 808 of ICC A117.1.

Add new text as follows:

1101.5 Occupiable Roofs. Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

Revise as follows:

1301.2.3 Additions. *Additions* to *existing buildings* shall comply with the requirements of the *International Building Code* or the *International Residential Code* for new construction. The combined height and area of the *existing building* and the new *addition* shall not exceed the height and area allowed by Chapter 5 of the International Building Code. Where a fire wall that complies with Section 706 of the International Building Code is provided between the *addition* and the *existing building*, the *addition* shall be considered a separate building.

Page: 1

Mod_10692_Text_EB46-22.pdf

F10692Text Modification

Where a new occupiable roof is added to a building or structure, the occupiable roof shall comply with the provisions of the International Building Code.

Reason: The purpose of this proposed language is to provide guidance to the use of the code as to what is required when an occupiable roof is added to a building. The proposal would confirm that the occupiable roof will need to comply with the provisions of the International Building Code. This could include the means of egress, accessibility and live load requirements. Many roofs are not designed to support the loads imposed when an occupiable roof is added to a building. This would require that the structure be upgraded to support the additional loads, that a means of egress is provided in accordance with Chapter 10 of the IBC and that an accessible route be provided if one is required by Chapter 11 of the IBC, to just name a few requirements.
The new language has been added to each of the three different options for compliance. The definition of an addition is "An extension or increase in floor area, number of stories, or height of a building or structure". I would argue that the new occupiable roof is an increase in the floor area. It is not an increase in building area, but is increasing the floor area for the purpose egress and accessibility.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The intent of this proposal is to clarify that a new occupiable roof must comply with the provisions of the building code. The requirements are essentially already in the code, but this change clarifies the requirement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: There was concern that without this proposed language occupiable roofs can create significant life safety and emergency responder safety hazards. Occupiable roofs can have significant occupant loads as they are often assembly occupancies. This proposal prevents an owner from constructing a building that is not initially classified as a high-rise then once occupied adding an occupiable roof with a high occupant load, which based upon the requirements of the 2024 IBC, would be considered a high-rise building. (Vote: 10-4)

Final Hearing Results

EB46-22 AS

Page: 2

Mod_10692_Text_EB46-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

238

F10707 | **/EB56-22**

Date Submitted	03/04/2024	**Section**	502.5	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal is to clarify what is required where an existing Group I-1, Condition 2 has an addition

Rationale

See attached

F10707Text Modification

See Attached

Mod10707_TextOfModification.pdf

Page: 1

F10707Text Modification

EB56-22

Original Proposal

IEBC: 502.5 (New), 1101.4 (New)

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

502.5 Smoke Barriers in Group I-1, Condition 2. Where an addition to an existing Group I-1, Condition 2 building adds sleeping areas that result in more than 50 care recipients on a story, smoke barriers shall be provided to subdivide such story into not fewer than two smoke compartments in accordance with Section 420.6 of the International Building Code.

Exception: Where the existing building is divided into smoke compartments, and the addition does not result in any individual smoke compartment exceeding the size and travel distance requirements in Section 420.6 of the International Building Code, additional smoke barriers are not required.

1101.4 Smoke Barriers in Group I-1, Condition 2. Where an addition to an existing Group I-1, Condition 2 building adds sleeping areas that result in more than 50 care recipients on a story, smoke barriers shall be provided to subdivide such story into not fewer than two smoke compartments in accordance with Section 420.6 of the International Building Code.

Exception: Where the existing building is divided into smoke compartments, and the addition does not result in any individual smoke compartment exceeding the size and travel distance requirements in Section 420.6 of the International Building Code, additional smoke barriers are not required.

Reason: The intent of this proposal is to clarify what is required where an existing Group I-1, Condition 2 has an addition. It is not reasonable for a small addition to trigger a major renovation to create smoke compartments (IBC Section 420.6).
This code change adds clarification for when smoke compartments are required to be added to existing Group I-1, Condition 2 buildings when being expanded with an addition. Many Group I-1 occupancy buildings, built prior to 2015, were not required to have smoke compartments. This code change triggers requirements to add smoke barriers to those buildings once a story reaches a certain size; sleeping rooms for 50 care recipients. The trigger for 50 care recipients is consistent with Section 420.6 of the *IBC* for new Group I-1 Conditions 2. This requirement does not address additions of other uses. Either the number of care recipients is not be increased in the facility, or the addition is large enough that new construction requirements would apply.

The exception clarifies that this only applies to buildings that do not already have smoke compartmentalization, and only if those additions expand the compartment size beyond the thresholds set by Section 420.6 of the *International Building Code*.

This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will increase the cost of construction
This proposal would potentially require smoke compartments to be constructed where the addition to an existing Group I-1, Condition 2 would result in more than 50 care recipients on a story. The exception provides some relief where existing smoke compartments still comply including the addition. Overall this section triggers the need for smoke compartments in existing buildings that was not required in the 2021 IEBC.

Page: 1

Mod_10707_Text_EB56-22.pdf

F10707Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement and because it provides a reasonable and necessary threshold for the addition of smoke compartments to Group I-1 Group 2 occupancies. (Vote: 14-0)

Final Hearing Results

EB56-22 AS

Mod_10707_Text_EB56-22.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

239

F10717 | **/EB71-22**

Date Submitted	03/04/2024	**Section**	503.15	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered by section 805.10 of the 2023 FBC -EB.

Summary of Modification

This proposal provides consistency across subcodes for the definition AMBULATORY CARE FACILITY

Rationale

See attached

F10717Text Modification

See attached

Page: 1

Mod10717_TextOfModification.pdf

F10717Text Modification

EB71-22

Original Proposal

IEBC: SECTION 202 (New), 503.15, 804.11

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Add new definition as follows:

AMBULATORY CARE FACILITY. Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on a less than 24-hour basis to persons who are rendered incapable of self-preservation by the services provided or staff has accepted responsibility for care recipients already incapable.

Revise as follows:

503.15 Refuge areas. Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code*.

Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and ~~Group B~~ ambulatory care *facilities* shall not be reduced below that required in Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the *International Building Code,* as applicable.

804.11 Refuge areas. Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code*. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and ~~Group B~~ ambulatory care *facilities* shall not be reduced below that required in Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the *International Building Code*, as applicable.

Reason: The definition proposed is the same definition used in the IBC. It is hoped that this definition can be scoped to the General committee so they will remain consistent.

The 'Group B' as part of 'ambulatory care' was utilized when this subject was originally added in the the I-codes. Removing this is no change to technical criteria, and would make these sections consistent with Sections 406.1.4, 408.3, 501.3, 707.1, 806.3, and 808.1.

This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This proposal is merely making the same revisions as made to the IBC. The use of the term "Group B" is not necessary and does not change the application of the code. The use of the definition is provided to assist in code application and will not change the cost of compliance. It is the same definition as used in the IBC.

Public Hearing Results

Page: 1

Mod_10717_Text_EB71-22.pdf

F10717Text Modification

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the first paragraph of the proponent's reason statement. (Vote: 14-0)

Final Hearing Results

EB71-22 AS

Mod_10717_Text_EB71-22.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

240

F10718	/EB72-22				
Date Submitted	03/04/2024	**Section**	503.16	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

To specify where an existing Group I-1 would need to subdivide into smoke compartments similar to Section 420.6 in the IBC

Rationale

See attached

F10718Text Modification

See attached

Page: 1

Mod10718_TextOfModification.pdf

F10718Text Modification

EB72-22

Original Proposal

IEBC: 503.16 (New), 503.16.1 (New), 902.2 (New), 902.2.1 (New)

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

503.16 Conditions for I-1 Occupancies. Group I-1 Occupancies that are being altered and where the work area is greater than 50 percent of the aggregate building area, shall be classified as Condition 1 or Condition 2 in accordance with Section 308.2 of the International Building Code.

503.16.1 Smoke Barriers in Group I-1, Condition 2. In Group I-1, Condition 2 occupancies where the work area is on a story used for sleeping rooms for more than 30 care recipients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 420.6 of the International Building Code.

902.2 Conditions for I-1 Occupancies. Group I-1 Occupancies shall be classified as Condition 1 or Condition 2 in accordance with Section 308.2 of the International Building Code.

902.2.1 Smoke Barriers in Group I-1, Condition 2. In Group I-1, Condition 2 occupancies where the work area is on a story used for sleeping rooms for more than 30 care recipients, the story shall be divided into not less than two compartments by smoke barrier walls in accordance with Section 420.6 of the International Building Code.

Reason: The intent of this proposal is to specify where an existing Group I-1 would need to subdivide into smoke compartments similar to Section 420.6 in the IBC.
Prior to changes to the 2015 I-Codes, many Assisted Living communities were already operating as I-1 Occupancies, without having a Condition 1 or Condition 2 declaration. A clear requirement is needed for when these buildings would need to declare a Condition and meet the current code requirements for Smoke Barriers and Sprinklers. This code change sets the threshold at a Level 3 Alteration (greater than 50% of the aggregate building area), because that level of work equates to a larger expenditure level, and it matches the requirements already in Section 904 requiring upgraded fire protection for I-2 occupancies.
Many Assisted Living and Memory care communities operate on very slim budgets. These communities should be able to operate as they currently are, and make certain cosmetic renovations to their building without triggering the current code requirements of a Condition 1 or Condition 2, Group I-1 Occupancy. However, once they reach the Level 3 alteration threshold (renovation of 50% of building) they must declare a condition, and if they choose Condition 2, they must add smoke barriers in the work area. The requirement to add sprinklers in the work area is already contained in Section 904.1.4 of the IEBC.

This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will increase the cost of construction
This proposal would required the addition of a smoke barrier in Group I-1 undergoing a Level 3 alteration. The 2021 IEBC does not require that existing Group I-1 occupancies must upgrade to providing smoke compartments when alterations are undertaken.

Page: 1

Mod_10718_Text_EB72-22.pdf

F10718Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal, which will require smoke barriers for existing Group I-1 Condition occupancies, was approved as is strikes the appropriate balance of maintaining life safety while not being onerous for those undertaking small additions or alterations. (Vote: 13-1)

Final Hearing Results

EB72-22 AS

Mod_10718_Text_EB72-22.pdf Page: 2

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

241

F10719 | **/EB73-22**

Date Submitted	03/04/2024	**Section**	503.16	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This code change intends to address ambulatory care facilities in building where a substantial renovation is occurring

Rationale

See attached

F10719Text Modification

See attached

Page: 1

Mod10719_TextOfModification.pdf

F10719Text Modification

EB73-22

Original Proposal

IEBC: 503.16 (New), 902.3 (New)

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

503.16 Ambulatory care facilities. Where a work area exceeds 50 percent of the building area the and work area includes an existing ambulatory care facility, the following shall be provided:

1. A smoke compartment in accordance with Section 422.3 of the International Building Code where the alteration results in an ambulatory care facility greater than 10,000 square feet on one story.
2. Separation from adjacent spaces in accordance with Section 422.2 of the International Building Code, where any such facility has the potential for four or more care recipients are to be incapable of self-preservation at any time.

902.3 Ambulatory care facilities.. Where a Level 3 work area includes an existing ambulatory care facility, the following shall be provided:

1. A smoke compartment in accordance with Section 422.3 of the International Building Code where the alteration results in an ambulatory care facility greater than 10,000 square feet on one story.
2. Separation from adjacent spaces in accordance with Section 422.2 of the International Building Code, where any such facility has the potential for four or more care recipients are to be incapable of self-preservation at any time.

Reason: This code change intends to address ambulatory care facilities in building where a substantial renovation is occurring. Ambulatory care presents a substantially different set of risks from a normal group B occupancy. To ensure that existing facilities in existing building address some of these unique risk, we are proposing that when there is a 50%/level 3 alteration of a building, and that alteration includes an existing ambulatory care facility, that users of the code are prompted to review two key aspects of the building code. The thresholds to add these requirements are the same as the building code requirement (10,000 square feet to add smoke compartment and 4 people incapable to add separation). Practically, existing care facilities that are certified through Medicare will already have these requirements. A subset of existing facilities will not, and since the special requirements in Chapter 4 of the building code did not exist prior to the 2009 version, these will require upgrade. The CHC considered several different thresholds to require upgrades. For Group I-2 facilities, smoke compartmentation is required at Level 2 alterations. Ambulatory care facilities are often located in multi-tenant buildings where other tenants could be impacted, so we are suggesting these requirements be triggered by a higher threshold.
This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will increase the cost of construction
While many existing facilities will already have separation and smoke compartmentation, some will require adding these features which will increase the cost of compliance for some facilities that must upgrade or add smoke barrier separations. .

Page: 1

Mod_10719_Text_EB73-22.pdf

F10719Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal strikes the correct balance between providing upgraded safety but only when the alteration is more substantial within an existing ambulatory care facility. (Vote: 13-1)

Final Hearing Results

EB73-22 AS

Page: 2

Mod_10719_Text_EB73-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

242

F10720		/EB74-22			
Date Submitted	03/04/2024	**Section**	505.2	**Proponent**	Mo Madani
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This code change is not needed. It is already part of the 2023 FBC-EB.

Summary of Modification

This proposal changes the titles of sections 505.2 and 702.4 and other editorial changes

Rationale

See attached

F10720Text Modification

See attached

Page: 1

Mod10720_TextOfModification.pdf

F10720Text Modification

EB74-22

Original Proposal

IEBC: 505.2, 702.4

Proponents: Jennifer Hatfield, J. Hatfield & Associates, Fenestration & Glazing Industry Alliance (formerly AAMA) (jen@jhatfieldandassociates.com); Craig Drumheller, WDMA, WDMA (cdrumheller@wdma.com)

2021 International Existing Building Code

Revise as follows:

505.2 Window fall prevention ~~opening control devices~~ on replacement windows. In Group R-2 or R-3 buildings containing dwelling units, and one- and two-family dwellings and townhouses regulated by the *International Residential Code*, window opening control devices or other window fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
   2.1. The window replacement includes replacement of the sash and frame.
   2.2. The window replacement includes the sash only where the existing frame remains.
3. One of the following applies:
   3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
   3.2. In one- and two-family dwellings and townhouses regulated by the*International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception: Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.

702.4 Window fall prevention ~~opening control devices~~ on replacement windows. In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices o other fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
   2.1. The window replacement includes replacement of the sash and frame.
   2.2. The window replacement includes the sash only where the existing frame remains.

Page: 1

Mod_10720_Text_EB74-22.pdf

F10720Text Modification

3. One of the following applies:
   3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
   3.2. In one- and two-family dwellings and townhouses regulated by the*International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.
4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception: Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.

Reason: These sections are about fall prevention and window opening control devices (WOCDs) are one of several options in addressing fall prevention. This proposal changes the titles of sections 505.2 and 702.4 to properly reflect that these sections are addressing fall prevention in replacement windows and not just specifically WOCDs.
Then within the body of each section the proposal clarifies that window opening control devices or other types of window fall prevention devices complying with ASTM F2090 must be installed during replacement when all the following existing code language applies.

This proposal will not change the current requirements but simply provides clarity and a more proper title to these sections. It also provides for consistency between the two sections as currently section 702.4 does not include "or other fall prevention devices" whereas section 505.2 does.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal will have no effect on the cost of construction as the changes presented are not meant to alter the current requirements but simply meant to provide better clarity that other methods of fall prevention are available. This will lead to more consistent enforcement.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

702.4 Window fall prevention on replacement windows.
In Group R-2 or R-3 buildings containing dwelling units and one- and two-family dwellings and townhouses regulated by the International Residential Code, window opening control devices or other window fall prevention devices complying with ASTM F2090 shall be installed where an existing window is replaced and where all of the following apply to the replacement window:

1. The window is operable.
2. One of the following applies:
   2.1. The window replacement includes replacement of the sash and frame.
   2.2. The window replacement includes the sash only where the existing frame remains.
3. One of the following applies:
   3.1. In Group R-2 or R-3 buildings containing dwelling units, the bottom of the clear opening of the window opening is at a height less than 36 inches (915 mm) above the finished floor.
   3.2. In one- and two-family dwellings and townhouses regulated by the*International Residential Code*, the bottom of the clear opening of the window opening is at a height less than 24 inches (610 mm) above the finished floor.

Page: 2

Mod_10720_Text_EB74-22.pdf

F10720Text Modification

4. The window will permit openings that will allow passage of a 4-inch-diameter (102 mm) sphere when the window is in its largest opened position.
5. The vertical distance from the bottom of the clear opening of the window opening to the finished grade or other surface below, on the exterior of the building, is greater than 72 inches (1829 mm).

Exception: Operable windows where the bottom of the clear opening of the window opening is located more than 75 feet (22 860 mm) above the finished grade or other surface below, on the exterior of the room, space or building, and that are provided with window fall prevention devices that comply with ASTM F2006.

Committee Reason: This proposal was approved based upon the proponents reason statement. The modification places the omitted word "window" to be consistent with Section 505.2. (Vote: 14-0)

Final Hearing Results

EB74-22 AM

Page: 3

Mod_10720_Text_EB74-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

243

F10731 | **/EB80-22**

Date Submitted	03/04/2024	**Section**	803.2.2	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered by section 84.2.2 of the 2023 FBC - B.

Summary of Modification

Clarifies language regarding water supplies for sprinkler systems

Rationale

See attached

F10731Text Modification

See attached

Page: 1

Mod10731_TextOfModification.pdf

F10731Text Modification

EB80-22

Original Proposal

IEBC: 803.2.2, 803.2.5

Proponents: Chad Sievers, New York State, Deparment of State (chad.sievers@dos.ny.gov); Kevin Duerr-Clark, New York State Department of State, New York State Department of State (kevin.duerr-clark@dos.ny.gov)

2021 International Existing Building Code

Revise as follows:

803.2.2 Groups A, B, E, F-1, H, I-1, I-3, I-4, M, R-1, R-2, R-4, S-1 and S-2. In buildings with occupancies in Groups A, B, E, F-1, H, I-1, I-3, I-4, M, R-1, R-2, R-4, S-1 and S-2, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with automatic sprinkler protection where both of the following conditions occur:

1. The *work area* is required to be provided with automatic sprinkler protection in accordance with the*International Building Code* as applicable to new construction.
2. The *work area* exceeds 50 percent of the floor area.

Exception: If the building does not have an existing ~~sufficient municipal~~ water supply present at ~~for~~ the floor of the proposed work area with sufficient pressure and flow for the design of a fire sprinkler system ~~available to the floor~~ and without installation of a new fire pump, the *work areas* shall be protected by an automatic smoke detection system throughout all occupiable spaces other than sleeping units or individual dwelling units that activates the occupant notification system in accordance with Sections 907.4, 907.5 and 907.6 of the International Building Code.

803.2.5 Other required automatic sprinkler systems. In buildings and areas listed in Table 903.2.11.6 of the *International Building Code*, *work areas* that have exits or corridors shared by more than one tenant or that have exits or corridors serving an occupant load greater than 30 shall be provided with an automatic sprinkler system under the following conditions

1. The *work area* is required to be provided with an automatic sprinkler system in accordance with the International Building Code applicable to new construction; and
2. The building has an existing ~~sufficient municipal~~ water supply present at ~~for~~ the floor of the proposed work area with sufficient presssure and flow for the design of an automatic sprinkler system ~~available to the floor~~ and without installation of a new fire pump.

Reason: There is confusion surrounding the language of the exception to this section. Some interpret that "sufficient municipal supply available to the floor" means the water main is in the ROW with adequate pressures and flow, and available to tap into with new piping to the building and work area. As supported by the ICC IEBC Interpretation No. 12-04 (see attached), it was never intended for a new water service/supply pipe or vertical/riser pipes to be installed which originated outside the floor of the work area as a requirement for "sufficient municipal supply" to satisfy this code section. The newly proposed language makes it clear that the existing sufficient water supply is to exist and be available to the floor where the work area is located without the installation of new supply piping, fire pump, or riser piping. Commentary to this code section states "One exception to these requirements states that if the building does not have a sufficient municipal water supply for a sprinkler system at the floor where the work area is located, then sprinklers are not required; however, that same exception does require an automatic smoke detection system throughout the work area. The smoke detection coverage is required throughout all occupiable spaces other than areas already required to install smoke alarms." While useful in understanding this code section, in many cases the Commentary is not available or enforceable. This proposal brings the stated intention of in the Commentary into the actual Code language. This code change should eliminate the need for code users to reference the Code Interpretation. New York State has made a similar change to the code and request for technical assistance on this topic has been eliminated.

Page: 1

Mod_10731_Text_EB80-22.pdf

F10731Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is simply a clarification of the language as already interpreted by ICC and the commentary, so no change in the construction cost is anticipated.

Mod_10731_Text_EB80-22.pdf Page: 2

F10731Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal clarifies the intent of the code as to what was considered as a sufficient water supply to require the installation of a sprinkler system in level 2 alterations. (Vote: 14-0)

Final Hearing Results

EB80-22 AS

Page: 3

Mod_10731_Text_EB80-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

244

F10733	/EB81-22				
Date Submitted	03/04/2024	**Section**	803.2.6	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered by section 804.2.4 of the 2013 FBC - EB.

Summary of Modification

I protects essential nonstructural systems and components in existing buildings being changed to Risk Category IV.

Rationale

See attached

F10733Text Modification

See attached

Page: 1

Mod10733_TextOfModification.pdf

F10733Text Modification

EB81-22

Original Proposal

IEBC: 803.2.6, NFPA Chapter 16

Proponents: Jeffrey M. Hugo, National Fire Sprinkler Association (NFSA), NFSA (hugo@nfsa.org)

2021 International Existing Building Code

Revise as follows:

803.2.6 Supervision. Automatic ~~Fire~~ sprinkler systems required by this section shall beelectrically supervised in accordance with the International Building Code. ~~by one of the following methods~~:

~~1. *Approved* central station system in accordance with NFPA 72~~.

~~2. *Approved* proprietary system in accordance with NFPA 72~~.

~~3. *Approved* remote station system of the jurisdiction in accordance with NFPA 72~~.

~~4. Where *approved* by the *code official*, *approved* local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.~~

Exception: ~~Supervision is not required for the following:~~

~~1. Underground key or hub gate valves in roadway boxes~~.

~~2. Halogenated extinguishing systems~~.

~~3. Carbon dioxide extinguishing systems~~.

~~4. Dry- and wet-chemical extinguishing systems~~.

~~5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.~~

Delete without substitution:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

~~NFPA 13R—19~~ ~~Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height~~

Reason: This proposal eliminates the conflict of having Level 2 and Level 3 alterations that require sprinkler systems with different supervision requirements. Correlating to the IBC for supervision provides a consistent and clearer installation of both sprinkler and alarm systems. Where automatic sprinkler systems are required by the IEBC, it refers the user to the IBC for installation and design to the appropriate sprinkler standard, i.e. NFPA 13, NFPA 13R, or NFPA 13D. With this reference to the IBC, sprinkler systems are required to be supervised per IBC, Section 903.4.1. However, the sprinkler system installation per IEBC, Section 803.2.6 has different supervision requirements and references than the IBC. The current 2024 IBC, Section 903.4.1 (see F73-21, Public Comment 1) list of exceptions is more robust than the current IEBC. Furthermore, the current IEBC, Section 803.2.6 exceptions 2,3, and 4 are not automatic sprinkler systems and those exceptions should not exist in the sprinkler section.
Reference to NFPA 13R is deleted to correlate with the removal of the reference in Section 803.2.6.

Page: 1

Mod_10733_Text_EB81-22.pdf

F10733Text Modification

F73-.21

Proposed Change as Submitted

Proponenls: Chase Brownlng, represenling Medford Fire Department

2021 International Are Code

Revise as follows:

900.4.2 Alarms. For *8/Jfomalic sprinkler sysfems* in51alled in accordance wilh Section 003.3.1.1 or 903.3.1.2: *J!n approvadaudble dBvice, localed on the exterlor ol the bullclng In an *apprwed* location, shall be connected to each *wromat/c sprin/i/er system.* Such sprinkler waternow alarm devlc-es shall be actillaled by water ow equillalentlo theflow of a single sprinkler of the smallesl or lce size Inslalled In the syslem. Where a fire alarm system is installed, actumii,n ol the ;ou/arru!!ti; *:,:prink sys/am* shall actuate the bwikling fire allirm system_

2021 International Building Code

Revise as follows:

[F] 903.4.2 Alarms. Ecr a1J/om!'llic sprin/ds, *systems* installBd in accordanc:.. with Wc.n 903.3.1.1 or 903.3.1.2. A,J!n approved audiblBdevica, 11:>cated c,n the e rli:,r c,f the b..clldir,g in an appmved loc1!1ion, shllll bc connected to each *l!utDm sprink.!Br* syst,,_,,,_ Such sprinklBr wat...-111:>w alarmdevices shall be a(tivated *oy* water now equivalent 10 the flo"w of a single sprinkler of lhe smallesl orlnce size Installed In lhe system. Where a fir1:at ilirm system is installed, actualioo mthe *aLJtomafic sprinklBr system* shall aciuate thtlbuiklinglira ail,rm sy51tlm.

Reason, It is appropriate to providB an audblB alarm for NFPA 13 and NFPA 13R sys.terns, howev..-, NFPA 13D(903-3.1.3) doeS oot require such a dlBvice.

Cost Im ct: The code charge proposalwill decrease the cool of constn.icfon
Not Including theexteriorbell will reduce costs.

F73-21

Public Hearing Results

Committee Action: Disapproved

Committ110 Rll9Son, ThecDmmillea staled that th1:r1easi,n tor disawrwal was that an exceptionalready exists in the =,.action chargir,gtext and all the other sections are soosections to1tia1 chargingtext Adclllionally, It was notedthal NFPA 13D sys1ems are allowed for some s1ructures that are not single family dwellings, whloh uould be hlstorloresources, andnot having a bell thal Is going lo tell you lhat !here's a waler flow goingon Inside Is poti>ntial ty goir,g to dl,m<19e those structures beyond repair. (Vote:8-7)

F73-2:1

Individual Consideration Agenda

Public Comment 1:

IFC: 903.4 (New), 903.4, 903.4.1, 903.4.2, 903.4.3; IBC: 903.4-(New}, [FI 903.4, [F] 903.4.1, [F] 903.4.2, [F] 903.4.3

Proponenls: Jeffrey **Shapiro,** representing Sell [)elf.shapiro@lntloodooonsullants.com);Chase Blownlng, represenlng Medford Fire Department requests A, I.lod isd by Public Comment

Replace as follows:

2021 International Fire Code

903.4 Sprfnklel' system supervision and al.arms . *Autom?tic sprinkler systems* uoorvlslon andalarms shall.:.omply with Sf!Qliotl§ 003.4.1 through 903.4.3.

803,4 Electronic supervision Sp.iRkle.s{SteRl S11pe.,isian end elB.1R1e. Valves CQntrolling the water supp!Y fur *automatic sprinkl,:,r*

Page: 2

Mod_10733_Text_EB81-22.pdf

F10733Text Modification

sys/ems, pumps, tanks, waler lsvels aoo lemperatur81', critical air pressures aoo waterllow switches onall sprinklBr systems shall be electrically supervised by ated-fire alarm conlml unil'.

Excep1 ions:

1. Au/oll1alc *sprinkler systems* protecting one- and two-family *dwBllin/}s.*
2. limited area sprinkler sys1 ems In accordaooewlth Section 903.3.8, provl(led 1001baQk!low m:evemioo (lev!ce 1rs1valves 1wa100 In limlt<>r,Jar aa sprinkllar 5ys1em supply oping shall he lockftl! In lb" open R9$11ionunless wrm1y1ng an ocrn panov requ1.e.110 re equipped with a fire alarmsy:st&m Ir which case theback/low mw•mw xalv....shallbe el&etricaltysvN'!•Yi:lf'dbv a tamper switch l'"ltalle:dr acoordaooe w11h NFPA 72 and soparately annuoo1a1ed.
3. *Auromatic sprinkler sysllllms* lmtalled In acoordance wlh NFPA 13A where a oommon supply main ls used to supply bolh dcmeslic water a.oo th!! *automatic ,;prink!Br sys/em,* and a sepi,r shutoff valve for the *automatic £prink!Br syst"m* is not provid@d_
4. Jockio/ pump control valv81' that are s!!aled or iDo;:kiod in th!! open position.
6. Cc,ntrol v;,lve,sto commen;i;,I kilcheri hoods, paint spray booths or dp tarics th!,! are se;,led or locked in the open position.
S, Valves oonlrolllng the fuel supply to 'fire pump engines lhat are sealed or locked In the open position.
7, Trim valves to pressure switches In dry, preactlon aoo deh:Jge sprinkler syslems lha!' are sealed or locked In lhe open position.
8, Undergru.md key or hub gate valves In roa:t>M1y boxes.

900,,4,+Monitoring. Alarm, s""ervisory and trQ<,Jbi.- signals shallbe distinctly different and sh;,,11b@wtc,mafically transmitted to an *approved* supervising station or, where *approved* by the *lite code olliclal,* shall sound an audiole signal at a cons1anlly attended locallon.

E eepl:11111. B!!<il(O'.. CV(ii lieR ee lee tee(aloes leoatee iii lIffiltee area d(l)ili !iiei e alefi S.U)!r.U!!li ol allille I.11ed ii lIle O(')R l(o(i:liiiOi!. Ii, aee ei.... 1eli!:li1ell le llo e "ippB!l ..iU. s liFo sleFFIi5i61etli llao lIseMls. 1310 olle. • sl. o.; .roall so eleeiiieel 51rai iorna li. s lelllpo. .... ela i'"!lt!!lll!<l ie aee.:.r.!"" " h iJFPA12 •d 3 •..NI' """ eeiat...d

Alarms. An *appr()ll.,d* a dlile aodvi:l11al sprinkler """IB!llow alaun device, lix:;,ted on th!! i.•te,lor of the b,,,ikling in an *approw,d* location, shall be connected to ee,:;h *001amalio sprink/9r sy61em,* Such sprinkler wa1ernow alarm devices shell be oolivated by water 'flow e<Jiivelenl to the flO\ll of a sing!!! sprinkl!!r of the sma1181lt orrric:e sizi,install!!!d in the system. Where a water flO\llsw ch is naguired by Section 903.4 1 to be e1ec1r1ca11vsupervised such sminkler wa1e111ow alarm devices shallbe oowered by a re alarm cot111o! vfJil or, where prcvided a fire alarm Where a fire alarm syslem ▮ ⊜ _ aotuellon of the *oo/oma/lo sprinkler system* shall actuale the building fire alarm system,

Exception: *AufQQWffl? srorli/i2r;* sys1ems a•QlWling oo<>; arn1t yo--iamlty dw<>lings

il2iYJl_sea:+.3 High-rise building 1ioor ntrol valves. ;'lo*proved* supervised Indicating oonlrol valves shall be provided al the polnl of connection0 the ris!!r on eech floor in high-risi, ruildings_

2021 International Building Code

900 4 sorlokler system auperv.J11ion and al.arms .
Auromatic sprm!Br sysfe.i1 swervision and ala ms snailcomply with Sections 9ll3-4.1 through 903A3.

[F] 911$:+ 903.4.1 Electron.c supervision **S..rii'llil•r 91'•""" Mtperui91.m aft.i ala-lt.** Valv!!, contrc,lling the water so,,pply for *,wtDmalic prinkw syst9111s,* pumps, tanks, waler levels and 1emperatures, erltl,;al air pressures and walerflow swltches on all sprinkJer sys1ems shall be electrically supervised by ated fire alarm conlrol unll'.

Exceptions:

1, *Auromalio sprinkler sys/ems* proteolng one- and two-family *dw9/l/ngs.*
2. limited area sprinkler sys1ems inaccordaooewlth Seqlion903.3.8, provided tilal backllow Pl""Ys'ltiPl.ldevic<>1rs1valv<>s loca1ft!l.In lim.ed arBa sprink!!r sysl@m supply oping shall be lockBdin the OOBn positionunle ss Sl.lllply ing an occupoocy required to bB.""! lipo@d w11h a tire alarm sys1em In which case 1he backflow preven1er valves shall be electrically supervised by a !flmper switch 1ns1a11ai.In acoordaocr w11h NFPA 72 and swarat<>lv annur.,::1w.:1.
3. Au/oll1alc *sprinkler systems* lnsi;,lled in accordance with NFPA 13A where a common supply main is used to suwly both domesfo wate, and th!! ?r;toowi,;, ,;:*prink!Br sy,iem,* and a separate, shutoffvalvi. for the *automi.t,i; ,prink , sy$1"m* lS not prc,vided_
4. Jockey pump control valves that are sealed or looked In the open posllion.
5. Control valves 10 (<Immercial klt(hen hoods, t):llnl spray booths or dp lail!<,s thal are sealed or locked In lhe open position.
S, Valves oonlrolllng the fuel supply to fire pump engines lhat are sealed or locked In the open position.
7, Trim valves to pressure swlt(hes In dry, preactlon and deluge sprinkler sys1ems lhat are sealed or locked In lhe open position.
8. Undergroond key or hub gate valves in ro;idway boxes_

Page: 3

Mod_10733_Text_EB81-22.pdf

F10733Text Modification

[F] ~~903.4.1~~ 903.4.2 **Monitoring .** Alarm, supervisory and trouble signals shall be distinctly different and shall be automatically transmitted to an *approved* supervising station or, where *approved* by the fire code official, shall sound an audible signal at a *constantly attended location.*

~~**Exception:** Backflow prevention device test valves located in limited area sprinkler system supply piping shall be locked in the open position. In occupancies required to be equipped with a fire alarm system, the backflow preventer valves shall be electrically supervised by a tamper switch installed in accordance with NFPA 72 and separately annunciated.~~

[F] ~~903.4.2~~ 903.4.3 **Alarms .** An *approved* audible and visual sprinkler waterflow alarm device, located on the exterior of the building in an *approved* location, shall be connected to each *automatic sprinkler system.* Such sprinkler waterflow alarm devices shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a water flow switch is required by Section 903.4.1 to be electrically supervised, such sprinkler waterflow alarm devices shall be powered by a fire alarm control unit or, where provided, a fire alarm system. Where a fire alarm system is provided ~~installed~~, actuation of the *automatic sprinkler system* shall actuate the building fire alarm system.

Exception: *Automatic sprinkler systems* protecting one- and two-family dwellings.

[F] ~~903.4.3~~ 903.3.9 **High-rise building floor ~~Floor~~ control valves .** *Approved* supervised indicating control valves shall be provided at the point of connection to the riser on each floor in high-rise buildings.

Commenter's Reason: Discussion at the committee hearing and the 8:7 vote clearly demonstrated varying interpretations of how Section 903.4 should be applied and that the section needs a more comprehensive rewrite to fix the existing issues. This public comment does the following to address all points of concern:

1. Creates a scoping section. Some interpret the existing exceptions in 903.4 as applying to the subsections under Section 903.4, while others do not. The revision clarifies scoping and that the exceptions in 903.4 of the 2021 edition only apply to that section, and not the subsections that followed.
2. Moves/merges the exception currently under 903.4.1 (monitoring) into the retitled section above (electronic supervision). The exception primarily relates to the need for electronic supervision, not monitoring by a supervising station or constantly attended location. Thereby, it was misplaced. Further, the current exception #2 in 903.4 exempted ALL limited area systems from any electronic supervision, so one could have argued that the exception under "monitoring" never applied. Merging the exceptions fixes that conflict in a way that clarifies logical application of the current code provisions.
3. Incorporates the committee recommendation on F74 but with improved text vs. the floor amendment that was accepted by the committee. The intent of F74 is to add visual alarm devices where audible devices are currently required. As modified by the committee, F74 also clarified that water flow switches required to be electrically supervised have to be be powered by a fire alarm control unit or a fire alarm system. If this public comment is approved, it is intended to replace the committee action on F74 since this will be the last action on this section in the 2024 edition cycle.
4. Section 903.4.3 is being relocated to Section 903.3 (installation). The requirement is more appropriately co-located with installation provisions because it is requiring floor control valves.
5. The original F73 proposed exception for one- and two-family dwellings is being added to Section 903.4.3. There was general agreement at the hearing that one- and two-family dwellings should not require exterior water flow alarms, but some felt that the original proposal was unnecessary (per the scoping misinterpretation issue discussed in #1 above). Others did not support extending an outdoor water flow alarm exception to all 13D installations, as originally proposed, so this public comment only applies the exception to one- and two-family dwellings.

Cost Impact: The net effect of the public comment and code change proposal will decrease the cost of construction
Outside alarm will now clearly not be required for one- and two-family dwelling sprinkler systems. Remainder of the proposal is cleanup of existing text and new provisions added by F74.

Public Comment# 2879

Public Comment 2:

Proponents: Dan Nichols, representing ICC Code Correlation Committee (ccc@iccsafe.org)

Commenter's Reason: The Code Correlation Committee (CCC) is not taking a position on this code change. The CCC submitted this public comment in order to bring a correlation issue to the attention of the full voting membership for the Public Comment Hearings and the Online Governmental Consensus Vote to allow the voting membership to coordinate actions on Code Changes F73-21 and F74-21. If the final actions on F73-21 is AMPC and F74-21 is AM, the resulting text will not be correlated.
The Code Correlation Committee is a standing committee of the International Code Council whose objectives, procedures and organization are set forth in Council Policy CP#44-13. The objective of the Code Correlation Committee is to maintain technical and editorial consistency among the International Codes and to assist staff in the evaluation and processing of code change proposals and comments that are exclusively editorial.

Cost Impact: The code change proposal will decrease the cost of construction
When fire sprinkler supervision requirements change or are different from other model codes, it adds construction and maintenance cost. The proposal correlates the supervision requirement across the IEBC, IBC, and IEBC. Removal of the standard is merely correlative to the revisions to Section 803.2.6

Page: 4

Mod_10733_Text_EB81-22.pdf

F10733Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
803.2.6 Supervision. Automatic sprinkler systems required by this section shall be provided ~~electrically~~ with supervison ~~ed~~ and alarms in accordance with Section 903.4 of the International Building Code.

Committee Reason: Approval was based upon the proponents reason statement. The modification provides a necessary pointer to the specific section of the IBC for supervision and alarms. (Vote: 14-0)

Final Hearing Results

EB81-22 AM

Page: 5

Mod_10733_Text_EB81-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

245

F10735 /EB82-22

Date Submitted	03/04/2024	**Section**	803.4	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposed change is based on clarifying the requirements for a Fire Alarm and detection system

Rationale

See attached

F10735Text Modification

See attached

Page: 1

Mod10735_TextOfModification.pdf

F10735Text Modification

EB82-22

Original Proposal

IEBC: 803.4, 803.4.1, 803.4.1.1, 803.4.1.5, 803.4.2, 803.4.3 (New)

Proponents: Michael O'Brian, Brighton Area Fire Authority, Brighton Area Fire Authority (mobrian@brightonareafire.com)

2021 International Existing Building Code

Revise as follows:

803.4 Fire alarm and detection. An *approved* fire alarm system shall be installed in accordance with Sections 803.4.1 through ~~803.4.2~~ 803.4.3. Where automatic sprinkler protection is provided in accordance with Section 803.2 and is connected to the building fire alarm system, automatic heat detection shall not be required.

~~An *approved* automatic fire detection system shall be installed in accordance with the provisions of this code and NFPA 72. Devices, combinations of devices, appliances, and equipment shall be *approved*. The automatic fire detectors shall be smoke detectors, except that an *approved* alternative type of detector shall be installed in spaces such as boiler rooms, where products of combustion are present during normal operation in sufficient quantity to actuate a smoke detector.~~

803.4.1 Occupancy requirements. A fire alarm system shall be installed in accordance with Sections 803.4.1.1 through 803.4.1.6. Existing alarm-notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm-notification appliances within the *work area* shall be provided and automatically activated.

Exceptions:

1. Occupancies with an existing, previously *approved* fire alarm system.
2. Where selective notification is permitted, alarm-notification appliances shall be automatically activated in the areas selected.

Revise as follows:

803.4.1.1 Group E. A fire alarm system shall be installed in *work areas* of Group E occupancies as required by Chapter 11 of the *International Fire Code* for ~~existing~~ Group E occupancies.

803.4.1.5 Group R-1. A fire alarm system shall be installed in Group R-1 occupancies as required by Chapter 11 of the *International Fire Code* for ~~existing~~ Group R-1 occupancies.

803.4.2 Supplemental fire alarm system requirements. Where the *work area* on any floor exceeds 50 percent of that floor area, Section 803.4.1 shall apply throughout the floor.

Exception: Alarm-initiating and notification appliances shall not be required to be installed in tenant spaces outside of the *work area*.

Add new text as follows:

803.4.3 Installation. Where a fire alarm system is required to be installed in accordance with Sections 803.4.1 or 803.4.2 the *fire alarm system* shall be installed in accordance with the provisions of this code, Section 907 of the *International Building Code* and NFPA 72

Reason: This proposed change is based on clarifying the requirements for a Fire Alarm and detection system in a level 2 alteration as well as clarifying that a Group E and Group R-1 are per Chapter 11 of the IFC.

The first paragraph is modified as the language does not appear to be consistent with the installation requirements found in the IFC/IBC. The language was re-worded and a new section 803.4.3 Installation is proposed to be added.

This section is intended to clarify that it installed per the provisions of 907 and NFPA 72. Section 907 contains specific installation requirements for systems that are beyond when systems are required. It is not the intention of this new language to require compliance with

Page: 1

Mod_10735_Text_EB82-22.pdf

F10735Text Modification

907.2 “where required for new systems” in a level 2 alteration.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is intended to clarify that the requirements for fire alarm installations are not required to be installed as would be required for new construction since these requirements are found in the alteration section and focus on existing buildings. This is simply a clarification of the intent of application and will not increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal properly revises the fire alarm provisions to reference the intended requirements for existing building in the IFC. (Vote: 11-3)

Final Hearing Results

EB82-22 AS

Page: 2

Mod_10735_Text_EB82-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

246

F10737	/EB83-22				
Date Submitted	03/04/2024	**Section**	804.4	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 805 of the 2023 FBC-EB.

Summary of Modification

Coordination with IBC Section 1006.3.4 and updates table e 804.4.1.1(1) for consistency

Rationale

See attached

F10737Text Modification

See attached

Page: 1

Mod10737_TextOfModification.pdf

F10737Text Modification

EB83-22

Original Proposal

IEBC: 804.4, 804.4.1, 804.4.1.1, TABLE 804.4.1.1(1), TABLE 804.4.1.1(2)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

804.4 Number of exits. The number of exits shall be in accordance with Sections 804.4.1 through 804.4.3.

Revise as follows:

804.4.1 Minimum number. Every story or occupied roof utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 804.4.1.1 and 804.4.1.2.

804.4.1.1 Single-exit buildings. A single exit or access to a single exit shall be permitted from spaces, any story or any ~~occupied~~ occupiable roof where one of the following conditions exists:

1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 804.4.1.1(1) or Table 804.4.1.1(2).
2. In Group R-1 or R-2, buildings without an *approved* automatic sprinkler system, individual single-story or multiple-story dwelling or sleeping units shall be permitted to have a single exit or access to a single exit from the dwelling or sleeping unit provided one of the following criteria are met:
   2.1. The occupant load is not greater than 10 and the exit access travel distance within the unit does not exceed 75 feet (22 860 mm).
   2.2. The building is not more than three stories in height; all third-story space is part of dwelling with an exit access doorway on the second story; and the portion of the exit access travel distance from the door to any habitable room within any such unit to the unit entrance doors does not exceed 50 feet (15 240 mm).
3. In buildings of Group R-2 occupancy of any number of stories with not more than four dwelling units per floor served by an interior exit stairway; with a smokeproof enclosure in accordance with Sections 909.20 and 1023.12 of the International Building Code or an exterior stairway as an exit; and where the portion of the exit access travel distance from the dwelling unit entrance door to the exit is not greater than 20 feet (6096 mm).

TABLE 804.4.1.1(1) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM NUMBER OF DWELLING UNITS	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
Basement, first, or second or third story above grade plane and occupiable roofs over the first or second floor above grade plane	R-2[a, b, c]	4 dwelling units	50 125 feet
Third Fourth story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. Buildings classified as Group R-2, equipped without an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 of the International Fire Code and provided with emergency escape and rescue openings in accordance with Section 1031 of the International Building Code.

Page: 1

Mod_10737_Text_EB83-22.pdf

F10737Text Modification

b. This table is used for Group R-2 occupancies consisting of dwelling units. For Group R-2 occupancies consisting of sleeping units, use Table 1006.3.4(2) of the International Building Code.

c. This table is for occupiable roofs accessed through and serving individual dwelling units in Group R-2 occupancies. For Group R-2 occupancies with occupiable roofs that are not access through and serving individual units, use Table 804.4.1.1(2).

TABLE 804.4.1.1(2) STORIES AND OCCUPIABLE ROOFS WITH ONE EXIT OR ACCESS TO ONE EXIT FOR OTHER OCCUPANCIES

STORY OR OCCUPIABLE ROOF	OCCUPANCY	MAXIMUM OCCUPANT LOAD PER STORY	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (feet)
First story above or below grade plane or occupable roofs over the first story above grade plane	B[b], F-2[b], ~~S-2[a]~~	35 49	75
	S-2 [a,b]	35	75
Second story above grade plane	B, F-2, S-2[a]	35	75
Third story above grade plane and higher	NP	NA	NA

For SI: 1 foot = 304.8 mm.

NP = Not Permitted.

NA = Not Applicable.

a. The length of exit access travel distance in a Group S-2 open parking garage shall be not more than 100 feet.

b. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or on the roof of such buildings shall have a maximum exit access travel distance of 100 feet.

Reason: This proposal has two reasons.

1. Coordination with IBC Section 1006.3.4 and E21-21 that added occupiable roofs to the single exit tables.

2. The current requirements in Table 804.4.1.1(1) is less that what is permitted for new construction for travel distance and could be read to not allow for a single exit from a 3rd floor. The current requirements for B and F-2 are less than permitted for new construction.

This has been approved for the 2024 IBC through the Approval of E21-21. Proposal E21-21 was approved as submitted and can be found at the following link. https://www.iccsafe.org/wp-content/uploads/IBC-Egress-2021-Group-A.pdf The committee reason statement is below:

Committee Reason:

This proposal was approved as an occupied roof is not a story, so the number of exits from the occupied roof needs to be clarified. The location of the occupied roof allowance in Table 1006.3.4(2) is appropriate as the occupied roof over the 1st floor is the same vertical travel as from the basement level. This is a good correlation with the occupied roof requirements in the code. (Vote: 10-4)

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a correlation revisions made to the IBC in Group A (2021). Without this correlation the IEBC requirements would be more restrictive than new thus increasing the cost of construction in existing buildings.

Page: 2

Mod_10737_Text_EB83-22.pdf

F10737Text Modification

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

804.4.1 Minimum number. Every story or occupiable ~~occupied~~ roof utilized for human occupancy on which there is a *work area* that includes exits or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 804.4.1.1 and 804.4.1.2.

Committee Reason: This proposal was approved for consistency with the approval of code change proposal E21-21. The modification simply updates to the approved terminology "occupiable" versus "occupied." (Vote: 11-3)

Final Hearing Results

EB83-22 AM

Page: 3

Mod_10737_Text_EB83-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

247

F10738	/EB84-22				
Date Submitted	03/04/2024	**Section**	804.4	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 805 of the 2023 FBC - EB.

Summary of Modification

adds a definition for “occupiable roof”and. changes terminology throughout the code to be consistent with use of “occupiable roof

Rationale

See attached

F10738Text Modification

See attached

Page: 1

Mod10738_TextOfModification.pdf

F10738Text Modification

EB84-22

Original Proposal

IEBC: SECTION 202 (New), 804.4.1.1, 902.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Add new definition as follows:

OCCUPIABLE ROOF. An exterior space on a roof that is designed for human occupancy, other than maintenance or repair, and which is equipped with a means of egress system meeting the requirements of this code.

Revise as follows:

804.4.1.1 Single-exit buildings. A single exit or access to a single exit shall be permitted from spaces, any story or any ~~occupied~~ occupiable roof where one of the following conditions exists:

1. The occupant load, number of dwelling units and exit access travel distance do not exceed the values in Table 804.4.1.1(1) or Table 804.4.1.1(2).
2. In Group R-1 or R-2, buildings without an *approved* automatic sprinkler system, individual single-story or multiple-story dwelling or sleeping units shall be permitted to have a single exit or access to a single exit from the dwelling or sleeping unit provided one of the following criteria are met:
   2.1. The occupant load is not greater than 10 and the exit access travel distance within the unit does not exceed 75 feet (22 860 mm).
   2.2. The building is not more than three stories in height; all third-story space is part of dwelling with an exit access doorway on the second story; and the portion of the exit access travel distance from the door to any habitable room within any such unit to the unit entrance doors does not exceed 50 feet (15 240 mm).
3. In buildings of Group R-2 occupancy of any number of stories with not more than four dwelling units per floor served by an interior exit stairway; with a smokeproof enclosure in accordance with Sections 909.20 and 1023.12 of the International Building Code or an exterior stairway as an exit; and where the portion of the exit access travel distance from the dwelling unit entrance door to the exit is not greater than 20 feet (6096 mm).

902.1 High-rise buildings. Any building having occupied floors or occupiable roof more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with the requirements of Sections 902.1.1 and 902.1.2.

Reason: This revision is for coordination with G12-21 and G20-21.
Over the last several cycles, code provisions have been added to address issues related to occupied/occupiable, vegetative and landscaped roofs. In some cases, the terms have been used interchangeably, in others applying to specific types of roof systems. With the increasing number of provisions, a definition is needed. A proposal last cycle (G7-19) attempted to add a definition for occupiable roof but was disapproved for several reasons including the fact it did not correlate with the fact the code uses “occupied roof” in some sections and “occupiable roof” in others.This code proposal both adds a definition for “occupiable roof”and. changes terminology throughout the code to be consistent with use of “occupiable roof” rather than “occupied roof”. The definition is intended to parallel the existing code definition for occupiable space:

[BG] OCCUPIABLE SPACE. A room or enclosed space designed for human occupancy in which individuals congregate for amusement, educational or similar purposes or in which occupants are engaged at labor, and which is equipped with means of egress and light and ventilation facilities meeting the requirements of this code.

The proposed definition is different in a few key ways: The laundry list of uses is left out, and the one clarification made that access for

Page: 1

Mod_10738_Text_EB84-22.pdf

F10738Text Modification

maintenance of rooftop mechanical equipment or other maintenance does not trigger assembly live load requirements or other provisions related to occupiable roofs. The references to light and ventilation are left out as occupiable roofs are exterior spaces. No mechanical ventilation is necessary, and the code does not require lighting for exterior spaces other than portions of the means of egress.

The change to 804.4.1.1 is using the defined term.

The change to 902.1 coordinates with the change to the definition for 'high-rise building' approved in G12-21.

This proposal is submitted by the ICC Fire Code Action Committee (FCAC) and the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at BCAC.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: FCAC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The code change is for consistency with the action taken on G12-21 and G20-21. Without consistency with the IBC proposals the IEBC would be more difficult and unclear to apply and enforce making compliance more complicated and expensive.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement. The revisions correlate the IEBC wih the the IBC as revised by G15-21 and G20-21 (Vote: 14-0)

Final Hearing Results

EB84-22 AS

Page: 2

Mod_10738_Text_EB84-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

248

F10740 | **/EB85-22**

Date Submitted	03/04/2024	**Section**	804.4	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 805 of the 2023 FBC - EB.

Summary of Modification

Provides consistency in language with regard to access to exits

Rationale

See attached

F10740Text Modification

See attached

Page: 1

Mod10740_TextOfModification.pdf

F10740Text Modification

EB85-22

Original Proposal

IEBC: 804.4, 804.4.1

Proponents: Daniel Nichols, MTA Construction and Development, MTA Construction and Development (dnichols@mnr.org)

2021 International Existing Building Code

Revise as follows:

804.4 Number of exits. The number of exits or access to exits shall be in accordance with Sections 804.4.1 through 804.4.3.

804.4.1 Minimum number. Every story utilized for human occupancy on which there is a *work area* that includes exits, access to exits, or corridors shared by more than one tenant within the *work area* shall be provided with the minimum number of exits or access to exits based on the occupancy and the occupant load in accordance with the *International Building Code*. In addition, the exits shall comply with Sections 804.4.1.1 and 804.4.1.2.

Reason: When utilizing the Alterations – Level 2 work area method, IEBC Section 804.4.1 requires that any work to a wok area that effects any exits or corridors shared by more than one tenant shall be provided with the minimum number of exits. With the recent changes to the IBC expanding the use of exit access stairways, it creates a double-edged sword for existing buildings:

1. For “newer” existing buildings constructed under the more recent editions of the IBC, any Alt. 2 rehab work on a multi-tenant story that effects a corridor with no longer be permitted to utilize the “exit access stairway” allowance that was allowed when first built since the language specifically states “minimum number of exits” without exception

2. In a more general sense, a code user that goes to the IBC looking for the minimum number of exits per story will start at IBC Section 1006.3.3 and Table 1006.3.3. Both the section and the table state “Exits, or access to exits per story.” This gives the IEBC code user little direction if they are limited to just exits, IBC compliant exits, or can use any access to exits? The latter can be very concerning since there is not any limitation to sizing, separation, or travel distances referenced anywhere for this type of application.

The purpose of IEBC 804.4.1.3 is to provide qualifiers to allow for a subset of IBC compliant exit access stairways to be permitted. The 2 sections referenced ensure that the exit access travel distance and the number of stories traveled are both considered in the determination of exit access stairways counting toward the number of “exits” within IEBC Section 804.4

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is to align the methodology of "number of exits" with current requirements within the IBC.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved to be consistent with the allowance of exit access stairways in the International Building Code. It was suggested that as corridors are currently mentioned in Section 804.4.1 and are considered exit access that the current language may need further refinement. (Vote: 14-0)

Final Hearing Results

EB85-22 AS

Mod_10740_Text_EB85-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

249

F10742		/EB86-22			
Date Submitted	03/04/2024	**Section**	804.5.2	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 805.4.2 of the 2024 FBC - EB.

Summary of Modification

This proposal is to make this section consistent with IBC

Rationale

See attached

F10742Text Modification

See attached

Page: 1

Mod10742_TextOfModification.pdf

F10742Text Modification

EB86-22

Original Proposal

IEBC: 804.5.2

Proponents: Kevin Scott, KH Scott & Associates LLC, KH Scott & Associates LLC (khscottassoc@gmail.com)

2021 International Existing Building Code

Revise as follows:

804.5.2 Door swing. In the *work area* and in the egress path from any*work area* to the exit discharge, all egress doors serving an occupant load ~~greater than~~ of 50 or more shall swing in the direction of exit travel.

Reason: This proposal is to make this section consistent with IBC Section 1010.1.2.1 for door swing which includes 50 occupants versus 51. See IBC section below.

1010.1.2.1 Direction of swing.

Side-hinged swinging doors, pivoted doors and balanced doors shall swing in the direction of egress travel where serving a room or area containing an occupant load of 50 or more persons or a Group H occupancy.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is simply to make the provisions for door swing consistent with the IBC and should not have an affect on the cost of construction or enforcement.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The revisions appropriately correlate the IEBC door swing requirements with the IBC. (Vote: 13-1)

Final Hearing Results

EB86-22 AS

Page: 1

Mod_10742_Text_EB86-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

250

F10744	/EB87-22				
Date Submitted	03/04/2024	**Section**	804.11	**Proponent**	Mo Madani
Chapter	8	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Covered under section 805 of the 2023 FBC-EB.

Summary of Modification

to put in the same allowances in the prescriptive method and work area method for 1) existing stairways being replaced, 2) handrail extensions and 3) escalators to below-grade transportation systems

Rationale

See attached

F10744Text Modification

See attached

Page: 1

Mod10744_TextOfModification.pdf

F10744Text Modification

EB87-22

Original Proposal

IEBC: 804.11 (New), 804.12 (New), 804.10, 804.10.1, 804.10.2, 804.12, 804.12.1, 804.12.2, 804.11

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

804.11 Stairways. An existing stairway shall not be required to comply with the requirements of Section 1011 of the *International Building Code* where the existing space and construction does not allow a reduction in pitch or slope.

804.12 Escalators. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

Revise as follows:

~~**804.10**~~ **804.13 Handrails.** The requirements of Sections ~~804.10.1~~ 804.13.1 and ~~804.10.2~~ 804.13.2 shall apply to handrails from the *work area* floor to, and including, the level of exit discharge.

~~804.10.1~~ **804.13.1 Minimum requirement.** Every required exit stairway that is part of the means of egress for any *work area* and that has three or more risers and is not provided with not fewer than one handrail, or in which the existing handrails are judged to be in danger of collapsing, shall be provided with handrails for the full length of the stairway on not fewer than one side. Exit stairways with a required egress width of more than 66 inches (1676 mm) shall have handrails on both sides.

804.10.2 804.13.2 Design. Handrails required in accordance with Section ~~804.10.1~~ 804.13.1 shall be designed and installed in accordance with the provisions of the *International Building Code*.

Exception: Handrails otherwise required to comply with Section 1011.11 of the *International Building Code* shall not be required to comply with the requirements of Section 1014.6 of the *International Building Code* regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.

~~**804.12**~~ **804.14 Guards.** The requirements of Sections ~~804.12.1~~ 804.14.1 and ~~804.12.2~~ 804.14.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

~~**804.12.1**~~ **804.14.1 Minimum requirement.** Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

~~**804.12.2**~~ **804.14.2 Design.** Guards required in accordance with Section ~~804.12.1~~ 804.14.1 shall be designed and installed in accordance with the *International Building Code*.

~~**804.11**~~ **804.4 Refuge areas.** Where *alterations* affect the configuration of an area utilized as a refuge area, the capacity of the refuge area shall not be reduced below the required capacity of the refuge area for horizontal exits in accordance with Section 1026.4 of the *International Building Code*. Where the horizontal exit also forms a smoke compartment, the capacity of the refuge area for Group I-1, I-2 and I-3 occupancies and Group B ambulatory care *facilities* shall not be reduced below that required in Sections 407.5.3, 408.6.2, 420.6.1 and 422.3.2 of the *International Building Code*, as applicable.

Reason: The intent of this proposal is to put in the same allowances in the prescriptive method and work area method for 1) existing stairways being replaced, 2) handrail extensions and 3) escalators to below-grade transportation systems. The prescriptive method

Page: 1

Mod_10744_Text_EB87-22.pdf

F10744Text Modification

contains these allowances in Section 503.1 for alterations.
503.1 General. Alterations to any building or structure shall comply with the requirements of the International Building Code for new construction. Alterations shall be such that the existing building or structure is not less complying with the provisions of the International Building Code than the existing building or structure was prior to the alteration.
Exceptions:
1. An existing stairway shall not be required to comply with the requirements of Section 1011 of the International Building Code where the existing space and construction does not allow a reduction in pitch or slope.
2. Handrails otherwise required to comply with Section 1011.11 of the International Building Code shall not be required to comply with the requirements of Section 1014.6 of the International Building Code regarding full extension of the handrails where such extensions would be hazardous because of plan configuration.3. Where provided in below-grade transportation stations, existing and new escalators shall be permitted to have a clear width of less than 32 inches (815 mm).

While the purpose of this change is for correlation between IEBC options, the BCAC was informed that there were an issue in the current section on escalators regarding coordination with the ADA (503.1). There is a proposal submitted by Marsha Mazz addressing this issue. If this proposal is successful, the text here should be coordinated.The reordering in Section 804 allows for the requirements for stairways, escalators, handrails and guards to be located together and refuge areas to be moved behind Group I-2. The end result would be as follows.

SECTION 804

MEANS OF EGRESS

804.1 Scope.

804.2 General.

804.3 Group I-2.

804.4 ~~804.11~~ Refuge areas.

804.5 ~~804.4~~ Number of exits.

804.6 ~~804.5~~ Egress doorways.

804.7 ~~804.6~~ Openings in corridor walls.

804.8 ~~804.7~~ Dead-end corridors.

804.9 ~~804.8~~ Means-of-egress lighting.

804.10 ~~804.9~~ Exit signs.

804.11 Stairways.

804.12 Escalators.

804.13 ~~804.10~~ Handrails.

804.14 ~~804.12~~ Guards.

Page: 2

Mod_10744_Text_EB87-22.pdf

F10744Text Modification

This proposal is submitted by the ICC Building Code Action Committee (BCAC).BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal merely correlates the stairway and handrail allowances and requirements for the prescriptive method with the work area method. Otherwise without this allowance when applying the work area method stairways and handrails would be required to strictly comply with the IBC whereas the prescriptive method may not require such compliance. Therefore the intent is provide the same allowanced which may either reduce or not change the cost of compliance for the work area method.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement. This proposal appropriately provides more correlation across design methods. (Vote: 13-1)

Final Hearing Results

EB87-22 AS

Page: 3

Mod_10744_Text_EB87-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

251

F10746 | **/EB88-22**

Date Submitted	03/04/2024	**Section**	904.1.8	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

clarify that buildings undergoing a level 3 alterations, their automatic sprinkler systems are required to be supervised in accordance with IBC 903

Rationale

See attached

F10746Text Modification

See attached

Page: 1

Mod10746_TextOfModification.pdf

F10746Text Modification

EB88-22

Original Proposal

IEBC: 904.1.8 (New)

Proponents: Michael O'Brian, Brighton Area Fire Authority, Brighton Area Fire Authority (mobrian@brightonareafire.com)

2021 International Existing Building Code

Add new text as follows:

904.1.8 Supervision and Alarms. Where an automatic sprinkler system is required by Sections 904.1.1 through 904.1.7 such systems shall be provided with supervision and alarms in accordance with Section 903.4 of the *International Building Code*.

Reason: This change is intended to clarify that buildings undergoing a level 3 alterations, their automatic sprinkler systems are required to be supervised in accordance with IBC 903. From time to time, AHJ's will find where sprinkler systems were not supervised electronically and this section would clarify on those level 3 alterations, the system would be electronically supervised.
In Group A this section in the IBC/IFC underwent a major revision and clarification for supervision of valves and alarm devices on automatic sprinkler systems.

Cost Impact: The code change proposal will increase the cost of construction
This change, although intended to clarify the existing requirement, could add costs to construction if the existing automatic sprinkler system is not supervised electronically. IBC 903 does include uniform provisions for where valves and sprinklers system do not need to be electronically supervised.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: Approval was based on consistency with the action taken on EB81-22 and correlation with the IBC and IFC for supervision. (Vote: 14-0)

Final Hearing Results

EB88-22 AS

Page: 1

Mod_10746_Text_EB88-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

252

F10747 | **/EB91-22**

Date Submitted	03/04/2024	**Section**	908.1	**Proponent**	Mo Madani
Chapter	9	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

adds a requirement for buildings to undergo an evaluation of the public communication system coverage during level 3 alteration

Rationale

See attached

F10747Text Modification

See attached

Page: 1

Mod10747_TextOfModification.pdf

F10747Text Modification

EB91-22

Original Proposal

IEBC: SECTION 908 (New), 908.1 (New), 908.1.1 (New), 908.1.2 (New)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

Add new text as follows:

SECTION 908
EMERGENCY RESPONDER COMMUNICATIONS ENHANCEMENT SYSTEM COVERAGE

908.1 Emergency Responder Communication Enhancement System Coverage. The existing building shall undergo an evaluation of the emergency responder communication signal strength and coverage area within the entire building in accordance with 908.1.1 and 908.1.2.

Exception: Where it is determined by the fire code official that the emergency responder communication enhancement system (ERCES) is not needed.

908.1.1 Evaluation. The evaluation shall determine the current signal strength and coverage capabilities of the public safety communication systems utilized by the jurisdiction, measured at the exterior of the building.

908.1.2 Compliance. The evaluation report shall be submitted for approval by the fire code official and the frequency license holder. Where the coverage area, signal strength or DAQ does not comply with Section 510 of the International Fire Code, the existing building shall be provided with emergency responder communication enhancement system coverage. The fire code official is authorized to establish the timeframe for such installation or modification.

Reason: Any building undergoing a Level 3 Alteration is likely to have a change in the ERCES coverage areas, signal strength and DAQ within that existing building. This proposal does not require an ERCES installation, The proposal simply adds a requirement for this building to undergo an evaluation of the public communication system coverage to ensure the altered building still complies with the IFC Section 510.

The exception in this proposal aligns with the current language in the IFC (510.1 Exception 2).

This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will increase the cost of construction

Page: 1

Mod_10747_Text_EB91-22.pdf

F10747Text Modification

The code change proposal will increase the cost of construction as there is a cost associated with the ERCES evaluation being required. Fees are typically $1K for the evaluation. The ERCES contractor would typically credit the evaluation fee against the purchase or upgrade of an ERCES system. There would be a cost associated with enhancing or installing a new ERCES system within a building that will vary based upon the characteristics of the building including size, location, type of construction and other factors.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: Level 3 alterations were seen as a reasonable level of work to reevaluate the effectiveness of these systems. It was suggested that this same trigger should be added to the prescriptive and performance method. (Vote: 14-0)

Final Hearing Results

EB91-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

253

F10748 | **/EB92-22**

Date Submitted	03/04/2024	**Section**	1001.2.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

cleans up the language by removing references to “change of group” and by modifying the language to include the defined terms “Change of Occupancy” and “Change of Use.”

Rationale

See attached

F10748Text Modification

See attached

Page: 1

Mod10748_TextOfModification.pdf

F10748Text Modification

EB92-22

Original Proposal

IEBC: 1001.2.1, 1001.2.2, 1001.2.2.1

Proponents: China Clarke, New York State Department of State, NYS DOS Division of Building Standards and Codes (china.clarke@dos.ny.gov); Kevin Duerr-Clark, New York State Department of State, New York State Department of State (kevin.duerr-clark@dos.ny.gov)

2021 International Existing Building Code

Revise as follows:

1001.2.1 Change of use. Any work undertaken in connection with a ~~change in use~~ *change of use* ~~that does not involve a *change of occupancy* classification or a change to another group within an occupancy classification~~shall conform to the applicable requirements for the work as classified in Chapter 6 and to the requirements of Sections 1002 through 1010.

Exception: As modified in Section 1204 for *historic buildings*.

1001.2.2 Change of occupancy classification ~~or group~~. Where a building undergoes a change of occupancy classification~~the occupancy classification of a building changes~~, the provisions of Sections 1002 through 1011 shall apply. ~~This includes a change of occupancy classification and a change to another group within an occupancy classification.~~

1001.2.2.1 Partial change of occupancy. Where a portion of an *existing building* undergoes a change of occupancyclassification ~~the occupancy classification or group of a portion of an *existing building* is changed~~, Section 1011 shall apply.

Reason: In the last code cycle, all references to “group” were removed from the IEBC definition of "change of occupancy", the definition was revised, and a definition for “change of use” was added (Code Change No: ADM 3-19 Part I). In light of those changes, the references to "group" in Sections 1001.2.1, 1001.2.2, and 1001.2.2.1 of the 2021 IEBC no longer make sense. We propose cleaning up the language by removing references to “change of group” and by modifying the language to include the defined terms “Change of Occupancy” and “Change of Use.”

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is simply aligning with the definitions for “change of occupancy” and “change of use” and is not intended to increase the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it appropriately uses the defined term "change of occupancy" and removes language no longer consistent with the term. (Vote: 13-0)

Final Hearing Results

EB92-22 AS

Page: 1

Mod_10748_Text_EB92-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

254

F10749		/EB93-22			
Date Submitted	03/04/2024	**Section**	1001.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of the proposed code change is not consistent with that of the 2023 FBC -EB

Summary of Modification

clarify that the fire safety features of the existing building are to be compared to the current requirements in the IBC

Rationale

See attached

F10749Text Modification

See attached

Page: 1

Mod10749_TextOfModification.pdf

F10749Text Modification

EB93-22

Original Proposal

IEBC: 1001.2, 1004.1, 1011.1, 1011.2, 1011.2.1, 1011.2.2

Proponents: Kevin Scott, KH Scott & Associates LLC, KH Scott & Associates LLC (khscottassoc@gmail.com)

2021 International Existing Building Code

Revise as follows:

1001.2 Certificate of occupancy. A *change of occupancy* or a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the current *International Building Code* than exists in the current building or space shall not be made to any structure without the approval of the *code official*. A certificate of occupancy shall be issued where it has been determined that the requirements for the *change of occupancy* have been met.

1004.1 General. Fire protection requirements ~~of~~in Section 1011 shall apply where either of the following occur:

1. ~~a~~A building, or portion~~s~~ thereof, ~~undergo~~ undergoes a *change of occupancy*. ~~classification or where~~
2. ~~there is a~~A building, or portion thereof, undergoes a *change of occupancy* ~~within a space where~~ and there is a different fire protection system threshold requirement in Chapter 9 of the current *International Building Code* than exists in the current building or portion thereof.

1011.1 General. The provisions of this section shall apply to buildings or portions thereof undergoing a *change of occupancy* classification. This includes a *change of occupancy* classification within a group as well as a *change of occupancy* classification from one group to a different group. The provisions of this section shall also apply ~~or~~ where there is a *change of occupancy* within a ~~space where~~building or portion thereof and there is a different fire protection system threshold requirement in Chapter 9 of the current *International Building Code* than exists in the current building or space. Such buildings shall also comply with Sections 1002 through 1010 of this code.

1011.2 Fire protection systems. Fire protection systems shall be provided in accordance with Sections 1011.2.1 and 1011.2.2.

1011.2.1 Fire sprinkler system. Where a *change in occupancy* classification occurs or where there is a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the current *International Building Code* than exists in the current building or space that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*. The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy* and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following:

1. Nonrated permanent partition and horizontal assemblies.
2. Fire partition.
3. Smoke partition.
4. Smoke barrier.
5. Fire barrier.
6. Fire wall.

Exceptions:

1. An automatic sprinkler system shall not be required in a one- or two-family dwelling constructed in accordance with the *International Residential Code*.

Page: 1

Mod_10749_Text_EB93-22.pdf

F10749Text Modification

2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the *International Residential Code*.
3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the *International Residential Code*.

1011.2.2 Fire alarm and detection system. Where a change in occupancy classification occurs or where there is a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the current *International Building Code* than exists in the current building or space that requires a fire alarm and detection system to be provided based on the new occupancy in accordance with Chapter 9 of the *International Building Code*, such system shall be provided throughout the area where the *change of occupancy* occurs. Existing alarm notification appliances shall be automatically activated throughout the building. Where the building is not equipped with a fire alarm system, alarm notification appliances shall be provided throughout the area where the *change of occupancy* occurs in accordance with Section 907 of the *International Building Code* as required for new construction.

Reason: The definition of change of occupancy was revised last cycle to specify that a change in the use or occupancy of a building, or portion thereof, shall be treated as a Change of Occupancy if the current IBC requires a greater degree of protection than exists in the building. This proposal intends to correlate other sections of the IEBC with the new definition and to clarify how this concept is to be applied. The intent of the IEBC is to compare the current fire safety requirements in the building with the fire safety requirements applicable to the proposed occupancy in the current IBC. However, this comparison has been erroneously made to compare the thresholds for each occupancy in the IBC. Consider a Group R-1 being converted to a Group R-2. The existing building is not sprinklered. The intent of the IEBC, and the clarification offered by this code change, is that the features of the existing building are compared to the requirements in the current IBC for the proposed occupancy. Unfortunately, it has occurred that the sprinkler thresholds for each occupancy in the current IBC are compared, and since the thresholds are the same, it has been determined that sprinklers are not required. This is not the intent of the IEBC or the code change that approved last cycle.

This proposal intends to clarify that the fire safety features of the existing building are to be compared to the current requirements in the IBC. The building needs to comply with the requirements in the current IBC for fire safety features.

This would specifically mean that if a nonsprinklered Group R-1 is changed to Group R-2, sprinklers would now be required in accordance with the IBC. In other words, even though those two occupancies have the same sprinkler threshold in the IBC, that is not what is compared. The existing building is compared to the current threshold for sprinklers in the IBC.

The same process would be followed for a Group M being changed to Group S-1. Even though the sprinkler threshold for both occupancies requires sprinklers where a fire area exceeds 12,000 square feet is not relevant. The question is - does the building comply with the sprinkler requirements in the current code for the proposed occupancy?

An extreme example is an existing Group I-3 being changed to a Group H-2. The fire sprinkler threshold for both occupancies is “sprinklers installed in all”. If the existing Group I-3 did not have sprinklers, would you require sprinklers for a change of occupancy to Group H-2? Of course! The existing building does not comply with the requirements in the current IBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is merely clarifying that the intent is that the current conditions of the existing building experiencing any change in occupancy be compared with the fire protection triggers in Chapter 9 of the current IBC. This may require the installation of a new system such as an automatic sprinkler system but that was the intent of the current language when it was placed in the code. Therefore it was not intended to change of the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement. (Vote: 8-6)

Page: 2

Mod_10749_Text_EB93-22.pdf

F10749Text Modification

Final Hearing Results

EB93-22 AS

Page: 3

Mod_10749_Text_EB93-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

255

F10750	/EB95-22				
Date Submitted	03/04/2024	**Section**	1002.3	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

clarify what is required where an existing Group I-1 has partial change of use within the facility

Rationale

See attached

F10750Text Modification

See attached

Page: 1

Mod10750_TextOfModification.pdf

F10750Text Modification

EB95-22

Original Proposal

IEBC: 1002.3

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

1002.3 Change of occupancy in health care. Where a *change of occupancy* occurs to a Group I-2 or I-1 *facility*, the *work area* with the *change of occupancy* shall comply with the International Building Code.

~~**Exception**~~ **Exceptions:**

1. A change in use or occupancy in the following cases shall not be required to meet the International Building Code:
   1.1. Group I-2, Condition 2 to Group I-2, Condition 1.
   1.2. Group I-2 to ambulatory health care.
   1.3. Group I-2 to Group I-1.
   1.4. Group I-1, Condition 2 to Group I-1, Condition 1.
2. In a Group I-1 occupancy, where a change of use is not in conjunction with a Level 3 alteration, a smoke barrier in accordance with Section 420.6 of the IBC is not required to be added.

Reason: The intent of this proposal is to clarify what is required where an existing Group I-1 has partial change of use within the facility. It is not reasonable for a small change of use to trigger a major renovation to create smoke compartments. This is consistent with the Healthcare committee proposal for alterations in these facilities.
Prior to changes to the 2015 I-Codes, many Assisted Living communities were already operating as I-1 Occupancies, without having a Condition 1 or Condition 2 declaration. A clear requirement is needed for when these buildings would need to declare a Condition and meet the current code requirements for Smoke Barriers and Sprinklers. This code change sets the threshold at a Level 3 Alteration (greater than 50% of the aggregate building area), because that level of work equates to a larger expenditure level, and it matches the requirements already in Section 904 requiring upgraded fire protection for Group I-1 occupancies.

Many Assisted Living and Memory care communities operate on very slim budgets. These communities should be able to operate as they currently are, and make certain cosmetic renovations to their building without triggering the current code requirements of a Condition 1 or Condition 2, Group I-1 Occupancy. However, once they reach the Level 3 alteration threshold (renovation of 50% of building) they must declare a condition, and if they choose Condition 2, they must add smoke barriers in the work area. The requirement to add sprinklers in the work area is already contained in Section 904.1.4 of the IEBC.

This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will increase the cost of construction
This proposal clarifies where compliance with the special use requirements for Group I-1 occupancies in accordance with the IBC apply. Such upgrades are required where there is a level 3 alteration in conjunction with a change in use. This then does allow minor changes (up through alteration level 2) to occur without full compliance. Where the exception cannot be met it may require installation of a smoke

Page: 1

Mod_10750_Text_EB95-22.pdf

F10750Text Modification

barrier thus increasing the cost of construction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement. The new exception provides a reasonable exception to full compliance with the International Building Code for a minor change of use in a Group I-1 Occupancy. (Vote: 13-1)

Final Hearing Results

EB95-22 AS

Page: 2

Mod_10750_Text_EB95-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

256

F10751 | **/EB96-22**

Date Submitted	03/04/2024	**Section**	1011.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text for the proposed code change is not consistent with that of the 2923 FBC-EB.

Summary of Modification

Fix language and sentence structure, editorial

Rationale

See attched

F10751Text Modification

See attched

Page: 1

Mod10751_TextOfModification.pdf

F10751Text Modification

EB96-22

Original Proposal

IEBC: 1011.2.1

Proponents: Jeffrey S. Grove, P.E. FSFPE, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Existing Building Code

Revise as follows:

1011.2.1 Fire sprinkler system. ~~Where a change in occupancy classification occurs or where there is a *change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code.~~ The installation of an automatic sprinkler system shall be required where there is a *change of occupancy classification* and Chapter 9 of the *International Building Code* requires an automatic fire sprinkler system based on the new occupancy or where there is a change of occupancy within the space where there is a different fire protection system threshold requirement in Chapter 9 of the *International Building Code*

The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy* and areas of the building not separated horizontally and vertically from the change of occupancy by a nonrated permanent partition and horizontal assemblies, fire partition, smoke partition, smoke barrier, fire barrier, or fire wall. ~~one of the following:~~

~~1. Nonrated permanent partition and horizontal assemblies.~~

~~2. Fire partition.~~

~~3. Smoke partition.~~

~~4. Smoke barrier.~~

~~5. Fire barrier.~~

~~6. Fire wall.~~

Exceptions:

1. An automatic sprinkler system shall not be required in a one- or two-family dwelling constructed in accordance with the International Residential Code.
2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the International Residential Code.
3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the *International Residential Code*.

Reason: This section was revised from the 2018 IEBC. In the 2021 IEBC, the section begins with a subordinate clause fragment. A revision is necessary to provide proper sentence structure and a complete thought. This is intended to clarify the intent and is not intended to be a substantive change.
Alternatively a simpler solution to addressing this issue could be as follows:

Revise as follows:

1011.2.1 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a change of occupancy within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code, ~~The~~ the installation of the automatic sprinkler system shall be required within the area of the change of occupancy and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following:

Page: 1

Mod_10751_Text_EB96-22.pdf

F10751Text Modification

1. Nonrated permanent partition and horizontal assemblies.
2. Fire partition.
3. Smoke partition.
4. Smoke barrier.
5. Fire barrier.
6. Fire wall.

Exceptions:

1. An automatic sprinkler system shall not be required in a one- or two-family dwelling constructed in accordance with the International Residential Code.
2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the International Residential Code.
3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the International Residential Code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no cost impact as it is an editorial change to fix the sentence structure to provide the proper regulatory language intended.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the proponents reason statement. The revision is primarily editorial but will clarify the enforcement of automatic sprinkler requirements. (Vote: 14-0)

Final Hearing Results

EB96-22 AS

Page: 2

Mod_10751_Text_EB96-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

257

F10752		/EB97-22			
Date Submitted	03/04/2024	**Section**	1011.2.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

allows for non required sprinkler systems to be removed

Rationale

See attached

F10752Text Modification

See attached

Page: 1

Mod10752_TextOfModification.pdf

F10752Text Modification

EB97-22

Original Proposal

IEBC: 1011.2.1, 1011.2.1.1 (New), 1011.2.1.1.1 (New)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org); Robert Marshall, FCAC, FCAC (fcac@iccsafe.org)

2021 International Existing Building Code

1011.2.1 Fire sprinkler system. Where a change in occupancy classification occurs or where there is a*change of occupancy* within a space where there is a different fire protection system threshold requirement in Chapter 9 of the International Building Code that requires an automatic fire sprinkler system to be provided based on the new occupancy in accordance with Chapter 9 of the International Building Code. The installation of the automatic sprinkler system shall be required within the area of the *change of occupancy* and areas of the building not separated horizontally and vertically from the change of occupancy by one of the following:

1. Nonrated permanent partition and horizontal assemblies.
2. Fire partition.
3. Smoke partition.
4. Smoke barrier.
5. Fire barrier.
6. Fire wall.

Exceptions:

1. An automatic sprinkler system shall not be required in a one- or two-family dwelling constructed in accordance with the International Residential Code.
2. Automatic sprinkler system shall not be required in a townhouse constructed in accordance with the International Residential Code.
3. The townhouse shall be separated from adjoining units in accordance with Section R302.2 of the *International Residential Code*.

Add new text as follows:

1011.2.1.1 Nonrequired automatic sprinkler systems.. The code official is authorized to permit the removal of existing automatic sprinkler system where all of the following conditions exist:

1. The system is not required for new construction.
2. Portions of the system that are obvious to the public are removed.
3. The system was not installed as part of any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building.

1011.2.1.1.1 Approval. Plans, investigation and evaluation reports, and other data shall be submitted documenting compliance Section 1011.2.1.1 for review and approval in support of a determination authorizing the removal of the automatic sprinkler system by the code official.

Reason: E103-19 was approved as modified. It was disapproved in the final action due because Section 1011.2.1.1.1 did not reference all three items in Section 1011.2.1.1. The concerns raised have been addressed in the revisions.

Page: 1

Mod_10752_Text_EB97-22.pdf

F10752Text Modification

A change of occupancy could be to an occupancy that did not require a sprinkler system. If the system was old, outdated or needed extensive reconfiguration, costs could be high. The new Section 1011.2.1.1 allows for non required systems to be removed. To be removed the designer/building owner would have to demonstrate to the code official that the building did not need the sprinklers for occupancy, fire areas or type of construction limitations, and that none of the trade off's for items such as travel distance or corridor rating were in effect in the building. The system would have to be removed totally – including the system in the ceiling, standpipes and the connections for the fire department outside of the building.
This proposal is submitted by the ICC Building Code Action Committee (BCAC) and ICC Fire Code Action Committee (FCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

The FCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance assigned International Codes with regard to fire and life safety in new and existing buildings and facilities as well as the protection of life and property in wildland urban interface areas. In 2020 and 2021 the Fire-CAC held multiple virtual meetings that were open to any interested party. In addition, there were numerous virtual specific working group meetings that were also open to any interested parties, to develop, discuss and debate the proposed changes. Related documentation and reports are posted on the FCAC website at: https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/fire-code-action-committee-fcac/

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This section is essentially providing the allowance to remove a system that is not required and may be providing a false sense of security. Any costs will simply be associated with the removal process. Once removed it will reduce maintenance and repair costs.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it is necessary for situations where existing systems needs to be removed and recognizes that existing buildings should not be held to a higher standard than new buildings. This also includes language to ensure that such systems are not removed where they are part of the approval of the building as originally constructed. The proposal also appropriately includes language to make sure all visible aspects of the system are removed to avoid a false sense of protection by the public. There was some concern of the use of the term "obvious" with regard to the visibility to the public and also on the location of the provisions within a section triggering automatic sprinklers. It was suggested that other types of non required fire safety systems should also be addressed. (Vote: 14-0)

Public Comments

Public Comment 1

Proponents: Kota Wharton, City of Grove City, City of Grove City (kwharton@grovecityohio.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Existing Building Code

1011.2.1.1 Nonrequired automatic sprinkler systems.. The code official is authorized to permit the removal of existing automatic sprinkler system where all of the following conditions exist:

Page: 2

Mod_10752_Text_EB97-22.pdf

F10752Text Modification

1. The system is not required for new construction.
2. Portions of the system that are ~~obvious~~ exposed to the public are removed.
3. The system was not installed as part of any special construction features, including fire-resistance-rated assemblies and smoke-resistive assemblies, conditions of occupancy, means of egress conditions, fire code deficiencies, approved modifications or approved alternative materials, design and methods of construction, and equipment applying to the building.

Commenter's Reason: Clarifies the intent of the word "obvious".
Expose. *v. To show publicly; to display*[...] (Staff et al., *Black's Law Dictionary* 1990)

Bibliography: Publisher's Editorial Staff, Haley, J. R., & Nolan-Haley, J. M. (1990).*Black's Law Dictionary* (6th ed.). West Publishing Co.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
See proposal cost impact statement.

Final Hearing Results

EB97-22 AMPC1

Page: 3

Mod_10752_Text_EB97-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

258

F10755 /EB98-22

Date Submitted	03/04/2024	**Section**	1011.5.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

To allow higher guards for patient safety around outdoor patient garden/exercise areas on the roof

Rationale

See attached

F10755Text Modification

See attached

Mod10755_TextOfModification.pdf

Page: 1

F10755Text Modification

EB98-22

Original Proposal

IEBC: 1011.5.1, 1011.5.2, 804.12, 804.12.1, 804.12.2

Proponents: John Williams, Committee on Healthcare (ahc@iccsafe.org)

2021 International Existing Building Code

Revise as follows:

1011.5.1 Means of egress for change to a higher-hazard category. Where a change of occupancy classification is made to a higher-hazard category (lower number) as shown in Table 1011.5, the means of egress shall comply with the requirements of Chapter 10 of the International Building Code.

Exceptions:

1. Stairways shall be enclosed in compliance with the applicable provisions of Section 903.1.
2. Existing stairways including handrails and guards complying with the requirements of Chapter 9 shall be permitted for continued use subject to approval of the *code official*.
3. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
4. Existing corridor walls constructed on both sides of wood lath and plaster in good condition or $^1/_2$-inch-thick (12.7 mm) gypsum wallboard shall be permitted. Such walls shall either terminate at the underside of a ceiling of equivalent construction or extend to the underside of the floor or roof next above.
5. Existing corridor doorways, transoms and other corridor openings shall comply with the requirements in Sections 804.6.1, 804.6.2 and 804.6.3.
6. Existing dead-end corridors shall comply with the requirements in Section 804.7.
7. An operable window complying with Section 1011.5.6 shall be accepted as an *emergency escape and rescue opening*.
8. In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

1011.5.2 Means of egress for change of use to an equal or lower-hazard category. Where a change of occupancy classification is made to an equal or lesser-hazard category (higher number) as shown in Table 1011.5, existing elements of the means of egress shall comply with the requirements of Section 905 for the new occupancy classification. Newly constructed or configured means of egress shall comply with the requirements of Chapter 10 of the International Building Code.

~~**Exception**~~ **Exceptions:**

1. Any stairway replacing an existing stairway within a space where the pitch or slope cannot be reduced because of existing construction shall not be required to comply with the maximum riser height and minimum tread depth requirements.
2. In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

~~**804.12**~~ **Guards.** The requirements of Sections 804.12.1 and 804.12.2 shall apply to guards from the *work area* floor to, and including, the level of exit discharge but shall be confined to the egress path of any *work area*.

804.12.1 Minimum requirement. Every open portion of a stairway, landing, or balcony that is more than 30 inches (762 mm) above the

Page: 1

Mod_10755_Text_EB98-22.pdf

F10755Text Modification

floor or grade below and is not provided with guards, or those portions in which existing guards are judged to be in danger of collapsing, shall be provided with guards.

Revise as follows:

804.12.2 Design. Guards required in accordance with Section 804.12.1 shall be designed and installed in accordance with the *International Building Code*.

Exception: In Group I-1 and I-2 facilities, required guards enclosing the occupiable roof areas shall be permitted to be greater than 48 inches (1219 mm) above the surface of the occupiable roof where the occupants, because of clinical needs, require restraint or containment as part of a function of a psychiatric or cognitive treatment area.

Reason: The intent of this proposal is to allow higher guards for patient safety around outdoor patient garden/exercise areas on the roof. The Healthcare committee understands the guard height limitation for low rise buildings was to allow for fire department access to the roof. However, we feel that the limitations proposed are reasonable.

Access to fresh air and getting outside is incredibly important for older adults who live in Group I-1&I-2 care facilities. These care recipients spend up to 90% of their time indoors and if the only choice of outdoor space requires staff or volunteers to take them downstairs, via an elevator, to get outside, some care recipients never get the opportunity to be outside. If a garden space or other outdoor area can be created on a roof adjacent to sleeping areas, this can make getting outside much easier.

Unfortunately, while we want care recipients to get outside, we also need to keep them safe. We know that exit seeking behavior is prevalent and a 48" barrier is not enough to protect from elopement or self harm.

Outdoor areas are important for patient mental health and wellness. Hospitals and nursing homes in a urban environment often don't have property that would allow for outdoor patient areas. The 'clinical needs' language is an attempt to balance care recipient wellness with safety. These types of facilities have extensive fire and safety evacuation plans and staff that is trained in assisting care recipients and guest for evacuation/defend-in-place during an emergency. Fire departments perform regular inspections of these buildings, to they would be very familiar with the layouts. In addition, these facilities have exceptionally good records for a small number of fire events.

There was a similar change in Group A, G105-21 that had an original intention of allowing for guards to exceed the height limitation required by IBC Section 503.1.4.1. The modification to broaden this allowance for "walls, parapets, rooftop structures (some of which are exempted in Exception 1), and wind screens" on roofs above the reach of fire departments (>75') was appropriate. However, there is still the issue with existing buildings that want to expand or add an occupied roof with the result being –

- If any structure or guard is above 48" high, this is now being considered an additional story so they could violate height limitations for the type of construction.
- If the building is less than 75' in height, you cannot have guards high enough to discourage people from jumping off the roof.

There is a suggestion for Sections 804.12.2, 1011.5.1 and 1011.5.2 for Group I-1 and I-2 where high guards are needed for patient safety. The language for the limitation of 'clinical needs' is the same as IBC Section 101.2.14 for Controlled Egress Doors.

Below are two pictures of a roof garden on a memory care facility. There are glass between the columns.

Page: 2

Mod_10755_Text_EB98-22.pdf

F10755Text Modification





Mod_10755_Text_EB98-22.pdf Page: 3

F10755Text Modification

This proposal is submitted by the Committee on Healthcare (CHC). The CHC was established by the ICC Board to evaluate and assess contemporary code issues relating to healthcare facilities. This is a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. In 2020 and 2021 of the committees as well as any interested parties, to discuss and debate the proposed changes. Information on the CHC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CHC effort can be downloaded from the CHC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-committee-on-healthcare/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an optional allowance for certain facilities so will provide design flexibility. It will cost more if such barriers are constructed but that is an option for the building owner.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it is consistent with the allowance in the IBC for such guards through the occupiable roof requirements and is critical to allow the ability for such occupancies to provide a safe outdoor space for occupants. There was some concern as to how this allowance relates to the occupiable roof requirements in the IBC as approved in Group A where they are addressed within Chapter 5 versus Chapter 10 of the IBC. (Vote: 10-4)

Final Hearing Results

EB98-22 AS

Page: 4

Mod_10755_Text_EB98-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

259

F10757	/EB99-22				
Date Submitted	03/04/2024	**Section**	1011.6.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Provides exceptions for fire protective systems

Rationale

See attached

F10757Text Modification

See attached

Page: 1

Mod10757_TextOfModification.pdf

F10757Text Modification

EB99-22

Original Proposal

IEBC: 1011.6.1

Proponents: Jeffrey S. Grove, P.E. FSFPE, Jensen Hughes, Jensen Hughes (jgrove@jensenhughes.com)

2021 International Existing Building Code

Revise as follows:

1011.6.1 Height and area for change to a higher-hazard category. Where a change of occupancy classification is made to a higher-hazard category as shown in Table 1011.6, heights and areas of buildings and structures shall comply with the requirements of Chapter 5 of the *International Building Code* for the new occupancy classification.

~~**Exception**~~ **Exceptions:**

1. For high-rise buildings constructed in compliance with a previously issued permit, the type of construction reduction specified in Section 403.2.1 of the *International Building Code* is permitted. This shall include the reduction for columns. The high-rise building is required to be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 of the *International Building Code*.
2. Buildings that were constructed in compliance with a previously issued permit that have floor assemblies with a 1-1/2 hour fire resistance rating shall not be required to comply with Chapter 5 of the *International Building Code* where all of the following apply:
   2.1. Chapter 5 of the *International Building Code* requires Type IB construction.
   2.2. The building does not include Group H occupancies.
   2.3. The building is protected throughout with an automatic sprinkler system in accordance Section 903.3.1.1 of the *International Building Code.*

Reason: In general, the IEBC is written such that the extent to which an existing building is required to comply with the requirements of the IBC is proportional to the extent to which the existing building is being changed. The IEBC requires compliance with IBC chapter 5 (which may require upgrading the fire resistance ratings of existing building elements) when there is a change of occupancy classification to a higher hazard. See IEBC section 1011.6.1.
The legacy BOCA code had a construction classification (type 2A) that consisted of 2 hour rated columns, 1-1/2 hour rated floors and a one hour rated roof. This construction type was permitted for buildings up to 8 stories in height.

Many existing office buildings are converted to residential use as part of adaptive reuse projects. Per IEBC section 1011.6.1, a change in occupancy classification to a higher hazard category (like B to R-1 or R-2) would require upgrading these existing floor assemblies from a 90 minute rating to a 2 hour fire resistance rating. Upgrading 90 minute rated floor assemblies to a 2 hour fire resistance rating would be disproportionate to the risk associated with change from business to residential use in a building 8 stories in height or less. In general, the occupant load of residential occupancies is less than the occupant load of business occupancies.

Although IBC section 403.2.1 permits reduction from type IB to type IIA construction in some high rise buildings, not all legacy BOCA type 2A buildings are high rises.

This new exception is proposed to be limited to fully sprinklered buildings and to buildings that do not include type H occupancies. Additionally, we do not propose applying this exception to buildings that are required by IBC chapter 5 to have type IA construction.

Cost Impact: The code change proposal will decrease the cost of construction
This code change would reduce the cost of construction such that this specific type of existing construction would not require fire resistance upgrades.

Page: 1

Mod_10757_Text_EB99-22.pdf

F10757Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This was felt to be a reasonable allowance that avoids having to upgrade the floor ratings from 90 minutes to 2 hours when changing occupancies from Group B to Group R-2. (Vote: 13-1)

Final Hearing Results

EB99-22 AS

Page: 2

Mod_10757_Text_EB99-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

260

F10760	/EB100-22				
Date Submitted	03/04/2024	**Section**	1011.7.1	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Covered under section 1012.7.1 of the 2023 FBC.

Summary of Modification

Clarifies language to be aware of the maximum allowable area of exterior openings and protectives

Rationale

See attached

F10760Text Modification

See attached

Page: 1

Mod10760_TextOfModification.pdf

F10760Text Modification

EB100-22

Original Proposal

IEBC: 1011.7.1

Proponents: China Clarke, New York State Department of State, NYS DOS Division of Building Standards and Codes; Kevin Duerr-Clark, New York State Department of State, New York State Department of State (kevin.duerr-clark@dos.ny.gov)

2021 International Existing Building Code

Revise as follows:

1011.7.1 Exterior wall rating for change of occupancy classification to a higher-hazard category. Where a change of occupancy classification is made to a higher hazard category as shown in Table 1011.7, exterior walls shall have fire resistance, ~~and~~ exterior opening areas, and opening protectives as required by the *International Building Code*.

Exception: A 2-hour fire-resistance rating shall be allowed where the building does not exceed three stories in height and is classified as one of the following groups: A-2 and A-3 with an occupant load of less than 300, B, F, M or S.

Reason: The exterior walls of buildings, or portions thereof, undergoing a change of occupancy classification to a higher-hazard category, are required to comply with the provisions of Section 1011.7.1. The provisions require that users comply with the "fire resistance" and the "exterior opening protectives" of the IBC. In instances where existing exterior walls have existing openings that are, either not allowed or their area exceeds the maximum area allowed by section 705.8 of the IBC, the existing language may be interpreted as allowing those openings to remain unchanged. We propose to clarify the intent of the section by adding language that directs the user to be aware of the maximum allowable area of those openings also.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is intended to make sure exterior openings including opening protectives comply with the IBC. Without this revision it is unclear whether this is the intent of the section. It was not intended to make a technical change.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it provides clarification of intent that the opening areas must also be be addressed for existing building undergoing a change of occupancy classification. (Vote: 13-0)

Final Hearing Results

EB100-22 AS

Page: 1

Mod_10760_Text_EB100-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

261

F10761 | **/EB101-22**

Date Submitted	03/04/2024	**Section**	1011.8.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Covered under section 1012.8.2 of the 2023 FBC - B.

Summary of Modification

Provides path to IBC for sprinkler systems

Rationale

See attached

F10761Text Modification

See attached

Page: 1

Mod10761_TextOfModification.pdf

F10761Text Modification

EB101-22

Original Proposal

IEBC: 1011.8.2

Proponents: Jeffrey M. Hugo, National Fire Sprinkler Association (NFSA), NFSA (hugo@nfsa.org)

2021 International Existing Building Code

Revise as follows:

1011.8.2 Stairways. Where a change of occupancy classification is made to a higher-hazard category as shown in Table 1011.5, interior stairways shall be enclosed as required by the *International Building Code*.

Exceptions:

1. In other than Group I occupancies, an enclosure shall not be required for openings serving only one adjacent floor and that are not connected with corridors or stairways serving other floors.
2. Unenclosed existing stairways need not be enclosed in a continuous vertical shaft if each story is separated from other stories by 1-hour fire-resistance-rated construction or *approved* wired glass set in steel frames and all exit corridors are sprinklered in accordance with the *International Building Code*. The openings between the corridor and the ~~occupant~~ tenant space shall have not fewer than one sprinkler ~~head~~ above the openings on the tenant side. ~~The sprinkler system shall be permitted to be supplied from the domestic water supply systems, provided that the system is of adequate pressure, capacity and sizing for the combined domestic and sprinkler requirements.~~
3. Existing penetrations of stairway enclosures shall be accepted if they are protected in accordance with the*International Building Code*.

Reason: The requirement for installation of automatic sprinkler systems in the IEBC goes back to the IBC, which therein references the installation standards, such as NFPA 13, NFPA 13R, etc. This change provides the same and constant IEBC path back to the IBC for new sprinkler installations. The allowance for the connection to domestic water systems, adequate pressure, and sizing of limited area systems is handled better through the IBC, Where this exception is used, a limited area sprinkler system per IBC, Section 903.3.8, has prescriptive rules for classification, water connections, supervision, and calculations.

Cost Impact: The code change proposal will decrease the cost of construction
This change decreases the cost of construction by referencing a known installation standard.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved based upon the consistency it provides with the IBC for the protection of unenclosed exit stairways. (Vote: 13-1)

Final Hearing Results

EB101-22 AS

Page: 1

Mod_10761_Text_EB101-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Existing Building

262

F10764		/EB106-22			
Date Submitted	03/04/2024	**Section**	1201.3	**Proponent**	Mo Madani
Chapter	12	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

The original text of the proposed code change is not consistent with that of the 2023 FBC - EB.

Summary of Modification

addresses the size of museums permitted to use the special provision applicable to small historic museums

Rationale

See attached

F10764Text Modification

See attached

Page: 1

Mod10764_TextOfModification.pdf

F10764Text Modification

EB106-22

Original Proposal

IEBC: 1201.3

Proponents: Mike Jackson, Mike Jackson, FAIA, Association for Preservation Technology (arch419@aol.com)

2021 International Existing Building Code

Revise as follows:

1201.3 Special occupancy exceptions—museums. Where a building in Group R-3 is used for Group A, B or M purposes such as museum tours, exhibits and other public assembly activities, or for museums less than 3,000 square feet (279 m^2) per floor, the occupancy shall be classified as Group B where life safety conditions are approved by the code official in accordance with Section 1201.2. ~~the *code official* is authorized to determine that the occupancy is Group B where life safety conditions can be demonstrated in accordance with Section 1201.2.~~ Adequate means of egress in such buildings, including, but not limited to, a means of maintaining doors in an ~~open~~ unlocked position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

Reason: This code change proposal addresses the size of museums permitted to use the special provision applicable to small historic museums. It is assumed that the original intent was to specify building size *by floor*, similar to other provisions for historic buildings, including accessibility, and how the existing provision is often interpreted. This code change proposal does not alter the requirements of the existing provision.

This clarification will benefit the nation's smallest museums, which are among the nation's most significant historic structures. Limitations related to means of egress, number of occupants, and supervision remain unchanged.

This is one of a series of 6 proposals intended to facilitate use of the code for historic building projects.

Bibliography: APT Building Codes and Historic Preservation Webliography https://www.apti.org/assets/Committees/technicalcommittees/CodesandStandards/2019/Building%20Codes%20and%20Histo%20Webliography.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction

This code change proposal has no construction cost impact but will support the ongoing operations of museums. This proposal extends the allowance to larger museum of 3000 sq ft per floor versus 3000 sq feet total. This will allow more museums to safely operate thus making no change or reducing the cost of compliance.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The increase to 3000 sq ft per floor was acceptable but there was concern with the removal of the decision making authority for the code official as to whether it can be classified as Group B. Additionally, the committee would like to see a limit to the number of stories to be consistent with the intent of 2 or 3 story buildings . (Vote: 12-1)

Public Comments

Public Comment 2

Page: 1

Mod_10764_Text_EB106-22.pdf

F10764Text Modification

Proponents: Mike Jackson, Mike Jackson, FAIA, Association for Preservation Technology (arch419@aol.com) requests As Modified by Public Comment

Modify as follows:

2021 International Existing Building Code

1201.3 Special occupancy exceptions—museums. Where a building in Group R-3 is used for Group A, B or M purposes such as museum tours, exhibits and other public assembly activities, or for museums less than 3,000 square feet (279 m^2) per floor and a maximum of three stories the occupancy shall be classified as Group B where life safety conditions are approved by the code official in accordance with Section 1201.2. Adequate means of egress in such buildings, including, but not limited to, a means of maintaining doors in an unlocked position to permit egress, a limit on building occupancy to an occupant load permitted by the means of egress capacity, a limit on occupancy of certain areas or floors, or supervision by a person knowledgeable in the emergency exiting procedures, shall be provided.

Commenter's Reason: The CAH recommended a limit to the size of the building covered by this proposal. Limiting the size of a property to three stories or a total of 9,000 sq. ft. would address this recommendation.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This proposal would limit the size of property that is covered by the special occupancy exception for museums.

Final Hearing Results	
EB106-22	AMPC2

Page: 2

Mod_10764_Text_EB106-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Mechanical

263

F11268 | **/M8-21 Part II**

Date Submitted	03/19/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This code change is specific to the IFC. This code is not part of the FBC.

Summary of Modification

Adds REFRIGERANT definition to IFC

Rationale

See attached

F11268Text Modification

See attached

Page: 1

Mod11268_TextOfModification.pdf

F11268Text Modification

M8-21 Part II

Original Proposal

IFC: SECTION 202

Proponents: Joeseph J. Summers, Chair of the PMGCAC, Plumbing, Mechanical and Fuel Gas Code Action Committee (pmgcac@iccsafe.org)

THIS IS A THREE PART CODE CHANGE. PART 1 WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. PART 2 WILL BE HEARD BY THE INTERNATIONAL FIRE CODE COMMITTEE AND PART 3 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL MECHANICAL/PLUMBING CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES

2021 International Fire Code

Revise as follows:

REFRIGERANT.

The fluid used for heat transfer in a refrigeration system; ~~the refrigerant~~ that undergoes a change of state to absorb heat.

Reason: There are three different definitions in the I-codes for "refrigerant". This proposal is to use the current definition for the term in the IFC. The IFC definition provides the best detail as to what a refrigerant is, and aligns with ASHRAE 15, which is referenced in the IMC. The IRC and IMC definitions are not as precise.
For information purposes, the following are the other definitions:

From the IRC: [MP] REFRIGERANT. A substance used to produce refrigeration by its expansion or evaporation.

From the IMC: REFRIGERANT. A substance utilized to produce refrigeration by its expansion or vaporization.

From ASHRAE 15: REFRIGERANT the fluid used for heat transfer in a refrigerating system; the refrigerant absorbs heat and transfers it at a higher temperature and a higher pressure, usually with a change of state.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change proposal will not increase or decrease the cost of construction. This proposal provides clarity and consistency for the use of this term throughout the I-codes.

Public Hearing Results

Committee Action: As Submitted

Committee Reason: This proposal was approved to make the definitions consistent between the IFC, IMC and IRC. (Vote: 13-1)

Final Hearing Results

M8-21 Part II AS

Page: 1

Mod_11268_Text_M8-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Mechanical

264

F11373 | **/M77-21 Part II**

Date Submitted	03/26/2024	**Section**	608.17	**Proponent**	Mo Madani
Chapter	11	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This code change is specific to the IFC. This code is not part of the FBC.

Summary of Modification

Updates IFC for updates to ASHRAE 15 language for A2L refrigerant

Rationale

See attached

F11373Text Modification

See attached

Page: 1

Mod11373_TextOfModification.pdf

F11373Text Modification

M77-21 Part II

Original Proposal

IFC: [M] 608.17

Proponents: Julius Ballanco, P.E., JB Engineering and Code Consulting, P.C., Daikin US (jbengineer@aol.com)

THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. PART 2 WILL BE HEARD BY THE MECHANICAL CODE COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

2021 International Fire Code

Revise as follows:

[M] 608.17 Electrical equipment. Where refrigerant of Groups A2, A3, B2 and B3, as defined in the*International Mechanical Code*, are used, refrigeration machinery rooms shall conform to the Class I, Division 2, hazardous location classification requirements of NFPA 70.

~~Exceptions~~ Exception:

1. Ammonia machinery rooms that are provided with ventilation in accordance with Section 1101.1.2, Exception 1 of the International Mechanical Code.
2. ~~Machinery rooms for systems containing Group A2L refrigerants that are provided with ventilation in accordance with Section 608.18.~~

Reason: The second exception in the Fire Code and the exception in the Mechanical Code are no long necessary with the revision in the 2021 International Mechanical Code regarding refrigerant classification. A2L is a separate group of refrigerant. Both sections state that the requirements apply to A2, A3, B2, and B3. Hence, A2L is not included in the requirements so the two exceptions proposed for deletion no longer are needed.
ASHRAE 15 has been modified removing the term "flammable refrigerant" and replacing it with the specific Class of refrigerant. Section 1106.3 has thus been modified to indicate Class 2 and 3 refrigerants.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is editorial in nature. As a result, there is no impact to the cost of construction.

Public Hearing Results

Committee Action: As Submitted

Committee Reason: The proposal passed as submitted because exception 608.17, limited flammability refrigeration, is no longer necessary. (Vote: 11-0)

Final Hearing Results

M77-21 Part II AS

Page: 1

Mod_11373_Text_M77-21 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

265

F11138 | **/S58-22 Part II**

Date Submitted	03/15/2024	**Section**	109.1.5.1	**Proponent**	Mo Madani
Chapter	1	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This section is marked reserved in the 2023 FBC -B.

Summary of Modification

Gypsum board is a type of gypsum panel product. These two sections erroneously use the term board instead of panel. Exterior products are often glass mat, which are panels but not boards, so panel is the appropriate term here.

Rationale

See attached

F11138Text Modification

See attached

Page: 1

Mod11138_TextOfModification.pdf

F11138Text Modification

S58-22 Part II

Original Proposal

IRC: R109.1.5.1

Proponents: Tim Earl, GBH International, the Gypsum Association (tearl@gbhint.com)

2021 International Residential Code

Revise as follows:

R109.1.5.1 Fire-resistance-rated construction inspection. Where fire-resistance-rated construction is required between *dwelling units* or due to location on property, the *building official* shall require an inspection of such construction after lathing or ~~gypsum board or~~ gypsum panel products are in place, but before any plaster is applied, or before ~~board or~~ panel joints and fasteners are taped and finished.

Reason: Gypsum board is a type of gypsum panel product. These two sections erroneously use the term board instead of panel. Exterior products are often glass mat, which are panels but not boards, so panel is the appropriate term here.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simple editorial cleanup with no impact on cost.

Public Hearing Results

Committee Action **As Submitted**

THIS CODE CHANGE WAS HEARD BY THE IRC-B COMMITTEE.

Committee Reason: The proposal was approved in coordination with G1-22. This removes redundant terminology, and is basically editorial. The recommendation is from the industry that should know the products best. (Vote: 10-0)

Final Hearing Results

S58-22 Part II AS

Page: 1

Mod_11138_Text_S58-22 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

266

F10943 | **/G5-22 Part II**

Date Submitted	03/08/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This clarifies the term already used in the code and harmonizes the terms and definitions to what is being used by ASTM and the industry. "Type X".

Rationale

See attached

F10943Text Modification

See attached

Page: 1

Mod10943_TextOfModification.pdf

F10943Text Modification

G5-22 Part II

Original Proposal

PART 1 - IBC: SECTION 202 (New); IFC: SECTION 202 (New)

PART 2 - IRC: SECTION 202 (New)

Proponents: Tim Earl, GBH International, The Gypsum Association (tearl@gbhint.com)

THIS IS A TWO PART CODE CHANGE. PART 1 WILL BE HEARD BY THE INTERNATIONAL BUILDING CODE-STRUCTURAL COMMITTEE, PART 2 WILL BE HEARD BY THE INTERNATIONAL RESIDENTIAL CODE BUILDING COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THESE COMMITTEES.

2021 International Residential Code

Add new definition as follows:

TYPE X. A type of gypsum panel product with special core additives to increase the fire resistance as specified by the applicable standards specified in Section R702.3 and Part IX. (see the definition of 'Gypsum panel product')

Reason: This clarifies the term already used in the code and harmonizes the terms and definitions to what is being used by ASTM and the industry.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simply adding a definition for a term already used in the code.

Public Hearing Results

Committee Action **As Submitted**

THIS CODE CHANGE WAS HEARD BY THE INTERNATIONAL RESIDENTIAL BUILDING COMMITTEE.

Committee Reason: 'Type X' is a common industry term and is used several times in the code requirements. This would be consistent with the committee action on G1-22. (Vote: 9-1)

Final Hearing Results

G5-22 Part II AS

Mod_10943_Text_G5-22 Part II.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

267

F11385 **/RB23-22**

Date Submitted	03/26/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

The definition for fire-retardant-treated wood in the IRC needs to be consistent with the definition in the 2021 IBC. See G10-19(AMPC2).

Rationale

See attached

F11385Text Modification

See attached

Page: 1

Mod11385_TextOfModification.pdf

F11385Text Modification

RB23-22

Original Proposal

IRC: SECTION 202

Proponents: Kristen Owen, Kris Owen, Consultant, Myself (kowen4568@gmail.com)

2021 International Residential Code

[RB] FIRE-RETARDANT-TREATED WOOD. Wood products that, when impregnated with chemicals by a pressure process or other means during manufacture, exhibit reduced surface burning characteristics and resist propagation of fire.

Revise as follows:

~~**Other means during manufacture.** A process where the wood raw material is treated with a fire-retardant formulation while undergoing creation as a finished product.~~

~~**Pressure process.** A process for treating wood using an initial vacuum followed by the introduction of pressure above atmospheric~~.

Reason: The definition for fire-retardant-treated wood in the IRC needs to be consistent with the definition in the 2021 IBC. See G10-19(AMPC2).

Cost Impact: The code change proposal will not increase or decrease the cost of construction
By matching the IBC definition to the IRC definition, there is no cost impact.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved the change would not prohibit any current treatment process; removes process descriptions that are not needed; and the revised proposal will provide coordination with the definition in the International Building Code (Vote: 10-0).

Final Hearing Results

RB23-22 AS

Page: 1

Mod_11385_Text_RB23-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

268

F11405 **/RB48-22**

Date Submitted	03/26/2024	**Section**	202	**Proponent**	Mo Madani
Chapter	2	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -R.

Summary of Modification

Modifies text of definition "[RB] FIRE SEPARATION DISTANCE". Modifies text of Section R302.1 "Exterior walls".

Rationale

See attached

F11405Text Modification

See attached

Page: 1

Mod11405_TextOfModification.pdf

F11405Text Modification

RB48-22

Original Proposal

IRC: SECTION 202, R302.1

Proponents: David Renn, PE, SE, City and County of Denver, Code Change Committee of Colorado Chapter of ICC (david.renn@denvergov.org)

2021 International Residential Code

Revise as follows:

[RB] FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior *lot line*.
2. To the centerline of a street, an alley or public way.
3. To an imaginary line between two buildings or *townhouse units* on the *lot*.

The distance shall be measured at a right angle from the face of the wall.

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of *dwellings* and accessory buildings shall comply with Table R302.1(1); or *dwellings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section P2904 shall comply with Table R302.1(2).

Where *lot lines* do not exist between *townhouse units*, an imaginary line shall be assumed between the *townhouse units* for the purpose of determining *fire separation distance*.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the *fire separation distance*.
2. Walls of *individual dwelling units* and their *accessory structures* located on the same *lot*.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from *permits* are not required to provide wall protection based on location on the *lot*. Projections beyond the exterior wall shall not extend over the *lot line*.
4. Detached garages accessory to a *dwelling* located within 2 feet (610 mm) of a *lot line* are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

Reason: Per definitions in Chapter 2, a "lot" is a measured portion of a parcel of land considered as a unit having fixed boundaries, and a "lot line" is a line that bounds a plot of ground described as a lot in the title to a property. For townhouse units that are individually owned, a lot line is the property line that describes the lot in the title to the property, and this lot line would be used for the purposes of determining fire separation distance and fire-resistance rated exterior wall requirements. However, the IRC does not require townhouse units to be individually owned and does not require lot lines, or property lines, between units. In many cases, a townhouse building is owned by one entity and the townhouse units are rented instead of owned. In this case, the lot is the larger parcel of land that the townhouse building is on and there are no lot lines between the units, which results in no exterior wall requirements for exterior walls close to another townhouse unit.

It should be noted that the commentary for Section R302.2, which gives requirements for walls separating townhouses, indicates that the application of this section has its basis in the exterior wall requirements of R302.1 that deal with the building's location on a lot, and goes on to discuss "Where adjacent townhouse dwelling units meet at common or imaginary lot lines...". Based on this it is clear the intent of the code is to assume imaginary lines where common lot lines do not exist, but there is no code requirement for this. To clarify the intent of the code, this proposal adds specific language to require an imaginary line between townhouse units where a lot line does not exist. The result is that the protection from fire between individual units is always provided, regardless of whether a lot line exists or not.

Page: 1

Mod_11405_Text_RB48-22.pdf

F11405Text Modification

The figures below show the fire hazard this proposal is intended to address. Note that this configuration of townhouse units is from a real project - it is not hypothetical. Figure 1 shows the configuration of townhouse units on a lot where lot lines do not exist between units. Figure 2 shows exterior walls from two units that are perpendicular to each other with garage door openings adjacent to the intersection of these two walls. A fire originating in one garage could easily spread to the next since these large door openings are adjacent to each other (a similar condition occurs between Garage 6 door and Garage 5 window). Note that this condition is completely compliant with exterior wall requirements of the IRC since fire separation distance of these walls is measured to the lot lines of the lot the building is on. Figure 3 shows this same condition with an assumed imaginary line for fire separation distance, which results in a fire-resistance rated wall with no openings at this wall intersection, helping to prevent the spread of fire between units.

Please support this proposal to bring clarity to the intent of the code regarding exterior walls of adjacent townhouse units.

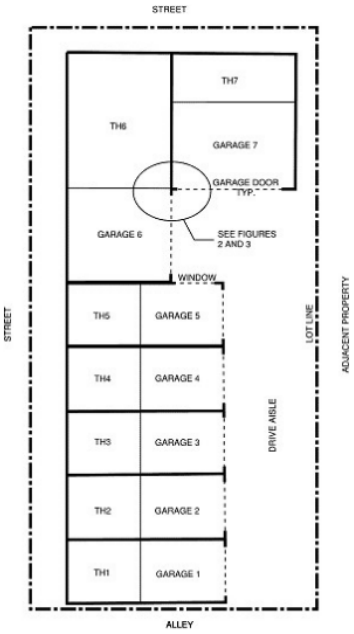


FIGURE 1 - TOWNHOUSE LAYOUT

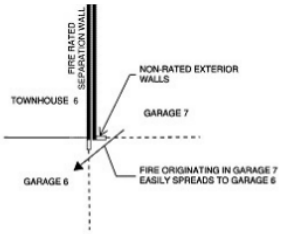


FIGURE 2 - NO IMAGINARY LINE FOR FSD

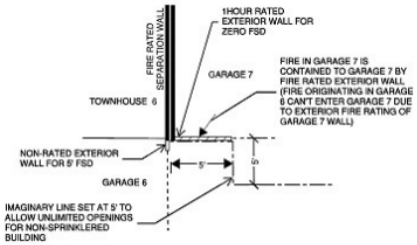


FIGURE 3 - IMAGINARY LINE FOR FSD

Cost Impact: The code change proposal will not increase or decrease the cost of construction

The intent of the code is to provide townhouse units with protection from fire in other units and this is typically provided by measuring fire separation distances to lot lines between townhouse units. This proposal applies this intent to townhouse units without lot lines to provide consistent requirements for all townhouse units, which matches common enforcement practices. Since there is not change to the intent of the codes, there should be no change in the cost of construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because the code does not require fire resistance for 90 degree walls - so the concerns raised during the testimony and in the reason statement are not addressed in the proposed text. Not all townhouses have lot lines, so this would add confusion. A common wall between townhouses is not addressed in Section R302.1 - this concern is addressed in the townhouse section with requirements for common walls. There were concerns expressed that there is not a consistent interpretation in the current text on how to address common walls that that are exterior walls on one side. (Vote: 6-5)

Page: 2

Mod_11405_Text_RB48-22.pdf

F11405Text Modification

Public Comments

Public Comment 1

Proponents: David Renn, PE, SE, City and County of Denver, Code Change Committee of Colorado Chapter of ICC (david.renn@denvergov.org) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

[RB] FIRE SEPARATION DISTANCE. The distance measured from the building face to one of the following:

1. To the closest interior *lot line*.
2. To the centerline of a street, an alley or public way.
3. To an imaginary line between two buildings or *townhouse units* on the *lot*.

The distance shall be measured at a right angle from the face of the wall.

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of *dwellings* and accessory buildings shall comply with Table R302.1(1); or *dwellings* equipped throughout with an *automatic sprinkler system* installed in accordance with Section P2904 shall comply with Table R302.1(2).

Where a *lot line* exists between adjacent *townhouse units*, *fire separation distance* of *exterior walls* shall be measured to the lot line. Where a *lot* ~~*lines*~~*line* ~~do~~does not exist between adjacent *townhouse units*, an imaginary line shall be assumed between the adjacent *townhouse units* ~~for the purpose of determine~~and *fire separation distance* of *exterior walls* shall be measured to the imaginary line. *Fire separation distance* and requirements of Section R302.1 shall not apply to walls separating townhouse units that are required by Section R302.2.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the *fire separation distance*.
2. Walls of *individual dwelling units* and their *accessory structures* located on the same *lot*.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from *permits* are not required to provide wall protection based on location on the *lot*. Projections beyond the exterior wall shall not extend over the *lot line*.
4. Detached garages accessory to a *dwelling* located within 2 feet (610 mm) of a *lot line* are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

Commenter's Reason: The opposition to this proposal raised concerns that walls of townhouse units are addressed in R302.2 so adding townhouse requirements in R302.1 would add confusion or conflict with R302.2. The opposition also stated that this concept may be OK if it only addresses portions of townhouse units that are not connected. We do not agree with these concerns since R302.1 is specific to exterior walls of the townhouse building (i.e., where the units are not connected) and R302.2 is specific to walls separating townhouse units (i.e., where the units are connected). These are two very different types of walls and there is no conflict or confusion created by this proposal - this proposal only addresses portions of the townhouse units that are not connected. However, to address these concerns and avoid any confusion this public comment makes the following modifications to the original proposal:

1. Wording is changed to "fire separation distance of exterior walls" instead of just "fire seperation distance". The intent with this change is to clarify that we are talking about exterior walls only, and not the townhouse separation walls required by R302.2.

2. A sentence is added that specifically states that fire separation distance and the requirements of R302.1 shall NOT apply at walls separating townhouse units that are required by R302.2. This is added to make it very clear that the separation walls are not in any way

Page: 3

Mod_11405_Text_RB48-22.pdf

F11405Text Modification

regulated by the exterior wall requirements of R302.1.

3. A sentence is added to state that where a lot line exists between adjacent units, fire separation distance of exterior walls is measured to this lot line. This is NOT a change to the code since the definition of fire separation distance already includes measurement to a lot line, and exterior wall requirements are currently enforced based on these lot lines between units. However, since the original proposal only dealt with the condition where a lot line does not exist between units, this sentence is added to clarify what is required where there is a lot line between units. Again, this is not a change to the code, just a clarification.

There was also concern raised by the committee that this proposal doesn't specifically address exterior walls that are perpendicular to each other. We disagree with this concern since this proposal addresses walls that are perpendicular to each other by requiring an imaginary line that fire separation distance for each unit is measured to. Figure 3 in the original proposal clearly shows how this would be applied at perpendicular walls and shows how one wall or the other would have to have a fire-resistance rating for some distance, which would provide protection against the spread of fire from one unit to the next. Note that the imaginary line could also be drawn at a 45-degree angle (or some other angle) which would then require a fire-resistance rating for some distance on both exterior walls.

With the modifications made in this public comment we believe the concerns raised at the committee action hearing have been addressed. This modified proposal will add an important requirement to the code to provide protection against the spread of fire from one townhouse unit to another. This protection will be provided whether there is a lot line or not between the units, which is appropriate since there should be equivalent protection for either case. Please support this proposal as modified by this public comment.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The intent of the code is to provide townhouse units with protection from fire in other units and this is typically provided by measuring fire separation distances to lot lines between townhouse units. This proposal applies this intent to the townhouse unites without lot lines to provide consistent requirements for all townhouse units, which matches common enforcement practices. Since there is no change to the intent of the code, there should be no change in the cost of construction.

Final Hearing Results

RB48-22 AMPC1

Page: 4

Mod_11405_Text_RB48-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

269

F11367	/RB105-22				
Date Submitted	03/25/2024	**Section**	311	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section R311.7.5.3 "Nosings".

Rationale

See attached

F11367Text Modification

See attached

Page: 1

Mod11367_TextOfModification.pdf

F11367Text Modification

RB105-22

Original Proposal

IRC: R311.7.5.3

Proponents: Thomas Zuzik Jr, Railingcodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Residential Code

SECTION R311
MEANS OF EGRESS

Revise as follows:

R311.7.5.3 Nosings. *Nosings* at treads, landings and floors of *stairways* shall have a radius of curvature at the *nosing* not greater than $^{9}/_{16}$ inch (14 mm) or a bevel not greater than $^{1}/_{2}$ inch (12.7 mm). A *nosing* projection not less than $^{3}/_{4}$ inch (19 mm) and not more than $1^{1}/_{4}$ inches (32 mm) shall be provided on *stairways*. The greatest *nosing* projection shall not exceed the smallest *nosing* projection by more than $^{3}/_{8}$ inch (9.5 mm) within a ~~*stairway*~~ *flight* and the landing at the top of the *flight*.

Exception: A *nosing* projection is not required where the tread depth is not less than 11 inches (279 mm).

[RB] FLIGHT. A continuous run of rectangular treads or *winders* or combination thereof from one landing to another.

[RB] NOSING. The leading edge of treads of stairs and of landings at the top of *stairway* flights.

[RB] RISER (STAIR). The vertical component of a step or *stair*.

[RB] STAIR. A change in elevation, consisting of one or more *risers*.

[RB] STAIRWAY. One or more flights of stairs, either interior or exterior, with the necessary landings and connecting platforms to form a continuous and uninterrupted passage from one level to another.

Reason: Both the IRC & the IBC regulate tread depth, *riser* height and *nosing* projection within a *flight* of *stair*s. *Stairways* are made up of multiple *flight*s of *stair*s with landings in between. Each *flight* is allowed to have different *riser* heights and tread depths, however the current language locks in the *nosing* projection to all the *flight*s within the *stairway*, rather than just the *flight*. The reason the current language uses *stairway* over *flight* is that the *nosing* on the top landing needs to be included with the *flight* to make sure the *nosing* projection on both meet the criteria within R311.7.5.3. Because the top landing's *nosing* is not a part of the definition of a *flight*, see definition, the additional text "and the landing at the top of the *flight*" is being added to tie-in the top landing's *nosing* to the *flight* it serves and clarify that the 3/8" maximum between the smallest and largest *nosing* projection includes the top landing for the *flight*.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal is not adding or subtracting any technical requirements within the code which will increase or decrease cost.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it did two things. It coordinated the nosing requirement for the flight of stairs the same

Page: 1

Mod_11367_Text_R105-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

270

F11401 **/RB47-22**

Date Submitted	03/26/2024	**Section**	302.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The main purpose of this proposal is to add language into the body of the code that specifically dictates where imaginary lines must be assumed to determine fire separation distance.

Rationale

See attached

F11401Text Modification

See attached

Page: 1

Mod11401_TextOfModification.pdf

F11401Text Modification

RB47-22

Original Proposal

IRC: R302.1

Proponents: David Renn, PE, SE, City and County of Denver, Code Change Committee of Colorado Chapter of ICC (david.renn@denvergov.org)

2021 International Residential Code

Revise as follows:

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of *dwellings*, *townhouses* and ~~accessory buildings~~*accessory structures* shall comply with Table R302.1(1) based on *fire separation distance*; or *dwellings* and *townhouses* equipped throughout with an *automatic sprinkler system* installed in accordance with Section P2904 shall comply with Table R302.1(2) based on *fire separation distance*.

For the purposes of determining *fire separation distance*, *buildings* on the same *lot* shall be assumed to have an imaginary line between them. Where a new *building* is to be erected on the same *lot* as an *existing building*, the location of the assumed imaginary line with relation to the *existing building* shall be such that the *existing building* meets requirements of this section.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the *fire separation distance*.
2. Walls of individual *dwelling units* and their *accessory structures* that face each other and are located on the same *lot*.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from *permits* are not required to provide wall protection based on location on the *lot*. Projections beyond the exterior wall shall not extend over the *lot line*.
4. Detached garages accessory to a *dwelling* or *townhouse* located within 2 feet (610 mm) of a *lot line* are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

Reason: The main purpose of this proposal is to add language into the body of the code that specifically dictates where imaginary lines must be assumed to determine fire separation distance. Currently, the definition of fire separation distance includes a distance to an imaginary line between two buildings on a lot, but the code doesn't tell you where an imaginary line must be assumed. Without specific language in the code that states where an imaginary line must be assumed, this part of the fire separation distance definition is somewhat moot. The proposed language addresses projects with multiple buildings on a lot, as well as when a new building is added to an existing lot. It should be noted that Exception 2 exempts walls between dwelling units and their accessory structures from fire-resistant exterior wall requirements and this proposal does not change this as the exception still applies.
There is a definite need to measure fire separation distance to an imaginary line between two buildings on lot as there are many projects with multiple dwellings or townhouses on the same lot and this requirement helps to prevent spread of fire from one building to the next (safety to property from fire is part of the intent of the code per Section 101.3). Furthermore, the alarm systems of these buildings are not tied together so it is appropriate to provide these buildings with the same protection as would be provided if the buildings were on separate lots (safety to life from fire is part of the intent of the code per Section 101.3).

This proposal also provides other improvements to this section as follows:

1. Adds the defined term "fire separation distance" into the body of this section. This defined term currently only occurs in an exception and in the tables referenced, which is not typical code language.

2. "accessory buildings" is changed to the defined term "accessory structures".

3. Townhouses are added to the scoping of the exterior wall requirements.

4. Exception 2 is revised to clarify that the exception only applies to walls of individual dwelling units and their accessory structures that face

Page: 1

Mod_11401_Text_RB47-22.pdf

F11401Text Modification

each other. As currently written, this exception could be read to apply to all walls of the dwelling units and accessory structures.

5. "Individual" in Exception 2 is revised to not be in italics as this is not a defined term.

6. Exception 4 for detached garages is revised to include garages accessory to a townhouse.

I urge your support of this proposal as it brings much needed clarity to the code regarding where imaginary lines must be assumed and provides several other improvements to the language of this section. These changes will aid in consistent interpretation and enforcement of fire-resistant exterior wall requirements.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Along with miscellaneous editorial changes, this proposal adds requirements to the body of the code that are already in the definition of 'fire separation distance', with no change in technical content of the code, therefore, there will be no change in cost of construction.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal was disapproved because it is not clear what the difference in hazard is with accessory building and the main building. The phrase "face each other" is not easy to understand. "Accessory structure" is too broad of a term (e.g. carports), so how would you separate them? (Vote: 8-2)

Public Comments

Public Comment 1

Proponents: David Renn, PE, SE, City and County of Denver, Code Change Committee of Colorado Chapter of ICC (david.renn@denvergov.org) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R302.1 Exterior walls. Construction, projections, openings and penetrations of exterior walls of *dwellings, townhouses* and ~~*accessory structures*~~accessory buildings shall comply with Table R302.1(1) based on*fire separation distance*; or *dwellings* and *townhouses* equipped throughout with an *automatic sprinkler system* installed in accordance with Section P2904 shall comply with Table R302.1(2) based on *fire separation distance*.

For the purposes of determining *fire separation distance*,~~*buildings*~~ *dwellings* and *townhouses* on the same *lot* shall be assumed to have an imaginary line between them. Where a new~~*building*~~ *dwelling* or *townhouse* is to be erected on the same*lot* as an *existing* ~~*building*~~*dwelling* or *townhouse*, the location of the assumed imaginary line with relation to the*existing* ~~*building*~~*dwelling* or *townhouse* shall be such that the *existing* ~~*building*~~*dwelling or townhouse* meets requirements of this section.

Exceptions:

1. Walls, projections, openings or penetrations in walls perpendicular to the line used to determine the*fire separation distance*.
2. Walls of individual *dwelling units* and their accessory buildings ~~*accessory structures* that face each other and are~~located on the same *lot*.
3. Detached tool sheds and storage sheds, playhouses and similar structures exempted from*permits* are not required to provide wall protection based on location on the *lot*. Projections beyond the exterior wall shall not extend over the*lot line*.

Page: 2

Mod_11401_Text_RB47-22.pdf

F11401Text Modification

4. Detached garages accessory to a *dwelling unit* ~~*or townhouse*~~ located within 2 feet (610 mm) of a *lot line* are permitted to have roof eave projections not exceeding 4 inches (102 mm).
5. Foundation vents installed in compliance with this code are permitted.

Commenter's Reason: This public comment modifies the original proposal to address concerns raised in the committee action hearings and to coordinate with another proposal that was approved in the committee action hearings. Modifications are as follows:
1. There was a concern that "accessory structures" is too broad of a term and would add non-building structures into this section that are not intended to be regulated by this section. This was not the intent of the proposal, so this public comment modifies the first sentence to change "accessory structures" back to "accessory buildings", which is the current IRC wording. Also, Exception 2 is revised to change "accessory structures" to "accessory buildings" to be consistent with the wording in first sentence. The intent of the original proposal was to make the wording in R302.1 consistent with the wording in exception 2 and this change is consistent with the original intent and resolves a current conflict in the wording.

2. For Exception 2, there was a concern that the added phrase "that face each other" is not clear and is open to interpretation. We agree with this concern and this public comment removes the added wording in this exception, so there is no change to the current wording of Exception 2 except as noted in Item 1 above.

3. To further clarify the intent of this proposal and avoid any confusion with accessory structures/buildings, the second paragraph for imaginary line requirements is modified to change "buildings" to "dwellings and townhouses". This is done since the definition of "building" includes "accessory structure", which would then bring in non-building structures. The definitions of "dwelling" and "townhouse" are clear that these are buildings that contain dwelling units, which is the main focus of the original proposal.

4. Exception 4 is changed simply to coordinate with proposal RB14-22 that was approved in the committee action hearing by a vote of 10-0. Proposal RB14-22 clarified the use of the defined words "dwellings" and "townhouses" throughout the IRC and it should be noted that the change in this proposal that adds townhouses to the scoping in the first sentence is also included in RB14-22 which has been approved.

Opposition to this proposal raised a concern that bringing townhouses into R302.1 may conflict with townhouse requirements in R302.2. As was stated during testimony, R302.1 is specific to exterior walls of a townhouse, which is now defined as a building that contains three or more attached townhouse units - in other words, R302.1 regulates the perimeter walls of the entire townhouse building. R302.2 on the other hand regulates walls that separate individual townhouse units. There is absolutely no conflict between these sections as they deal with two very different items. Also, as noted in Item 4 above, the addition of townhouses to this section was already approved in RB14-22.

With the modifications made in this public comment we believe all of the concerns raised in the committee action hearing have been addressed. The main purpose of this proposal is to address measurement of fire separation distance for the case where there are multiple dwelling or townhouse buildings on the same lot, which is needed to prevent the spread of fire from one building to another and protect property. The concept of an imaginary line between buildings currently only occurs in the definition of "fire separation distance" and this proposal will bring clarity to the code by adding specific requirements for when the imaginary line is to be used. Please support this proposal as modified by this public comment.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal and public comment add requirements to the body of the code that are already in the definition of "fire separation distance", with no change in the technical content or intent of the code; therefore, there will be no change in the cost of construction.

Final Hearing Results

RB47-22 AMPC1

Page: 3

Mod_11401_Text_RB47-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

271

F11406		/RB51-22			
Date Submitted	03/26/2024	**Section**	302.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The intent of this proposed code change is to address conditions where if there were no vents at the underside of the roof overhang, or in any gable end walls (both of which would allow fire to freely move into attic areas), then there should be no requirement to rate the underside of the overhang.

Rationale

See attached

F11406Text Modification

See attached

Page: 1

Mod11406_TextOfModification.pdf

F11406Text Modification

RB51-22

Original Proposal

IRC: TABLE R302.1(1), TABLE R302.1(2)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

TABLE R302.1(1) EXTERIOR WALLS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour–tested in accordance with ASTM E119, UL 263 or Section 703.3 of the International Building Code with exposure from both sides	0 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood[a, b]	≥ 2 feet to < 5 feet
	Not fire-resistance rated	0 hours	≥ 5 feet
Openings in walls	Not allowed	NA	< 3 feet
	25% maximum of wall area	0 hours	3 feet
	Unlimited	0 hours	5 feet
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where ~~gable~~ vent openings are not installed in the overhang or in any gable end walls that are common to attic areas .

TABLE R302.1(2) EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS

EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE
Walls	Fire-resistance rated	1 hour–tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code with exposure from the outside	0 feet
	Not fire-resistance rated	0 hours	3 feet[a]
Projections	Not allowed	NA	< 2 feet
	Fire-resistance rated	1 hour on the underside, or heavy timber, or fire-retardant-treated wood[b, c]	2 feet[a]
	Not fire-resistance rated	0 hours	3 feet
Openings in walls	Not allowed	NA	< 3 feet
	Unlimited	0 hours	3 feet[a]
Penetrations	All	Comply with Section R302.4	< 3 feet
		None required	3 feet[a]

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

Page: 1

Mod_11406_Text_RB51-22.pdf

F11406Text Modification

a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where~~gable~~ vent openings are not installed in the overhang or in any gable end walls that are common to attic areas .

Reason: The intent of this proposed code change is to address conditions where if there were no vents at the underside of the roof overhang, or in any gable end walls (both of which would allow fire to freely move into attic areas), then there should be no requirement to rate the underside of the overhang. This could be applied to gable, hip, and any other roof style overhangs. Where additional attic ventilation is required to make up for the loss of vents at overhangs where fire-separation distance is an issue in accordance with these tables and footnotes, additional vents could be added at the underside of eaves in other areas of the dwelling where fire-separation distance is not an issue, or at ridge vents.
This proposal change was submitted during the 2019 Group B code cycle but was disapproved. It was disapproved not based on the intent or principle, but on an editorial error to correlate the footnotes for both tables.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is a clarification of current code requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

TABLE R302.1(1) EXTERIOR WALLS

Portions of table not shown remain unchanged.

For SI: 1 foot = 304.8 mm.
NA = Not Applicable.

a. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where vent openings which communicate with the attic are not installed in the overhang or ~~in any gable end walls that are common to attic areas~~gable wall.

TABLE R302.1(2) EXTERIOR WALLS—DWELLINGS WITH FIRE SPRINKLERS

Portions of table not shown remain unchanged.

Page: 2

Mod_11406_Text_RB51-22.pdf

F11406Text Modification

For SI: 1 foot = 304.8 mm.

NA = Not Applicable.

a. For residential subdivisions where all dwellings are equipped throughout with an automatic sprinkler system installed in accordance with Section P2904, the fire separation distance for exterior walls not fire-resistance rated and for fire-resistance-rated projections shall be permitted to be reduced to 0 feet, and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6 feet or more in width on the opposite side of the property line.

b. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the eave overhang if fireblocking is provided from the wall top plate to the underside of the roof sheathing.

c. The fire-resistance rating shall be permitted to be reduced to 0 hours on the underside of the rake overhang where vent openings which communicate with the attic are not installed in the overhang or ~~in any gable end walls that are common to attic areas~~gable wall .

Committee Reason: The modification was to clarify that which walls are intended to be addressed in the proposal. The code change as a whole addresses gable walls where there is not connection to the attics - so this change does clarify the intent of the footnotes. (Vote: 10-0)

Final Hearing Results	
RB51-22	AM

Page: 3

Mod_11406_Text_RB51-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

272

F11407 | **/RB54-22**

Date Submitted	03/26/2024	**Section**	302.2.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This code change is a necessary clarification in the IRC that unlike the IBC the IRC does not intend for openings such as doors to be located within common walls.

Rationale

See attached

F11407Text Modification

See attached

Page: 1

Mod11407_TextOfModification.pdf

F11407Text Modification

RB58-22

Original Proposal

IRC: R302.2.4

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Residential Code

Revise as follows:

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for*townhouses* as an extension of exterior walls or common walls separating *townhouse units* in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

   Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of *noncombustible materials* or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.
3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher *roof deck* shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.Openings shall not be permitted in the wall.

Reason: The code change is necessary to address a significant omission in the IRC that predates the 2005 edition where exterior wall openings located in common walls extending above a lower roof in a stepped Townhouse are neither prohibited nor required to be protected. While the common wall is not a party-wall that is regulated in the IBC as a fire wall, common walls are protected similar to exterio walls located at zero fire separation distance; Section R302.2.2 does not permit openings in the common wall and restricts penetrations. Additionally, communicating openings are not permitted between dwelling units it would seem reasonable to prohibit exterior wall openings in exterior portions of the common wall.

The proposed code change takes an approach to solving the problem caused by the regulatory omission that is consistent with Table R302.1(1) and R302.1(2) where the IRC does not require fire protection for exterior wall openings but accomplishes the desired level of protection either prohibiting exterior wall openings or restricting their area. Additionally, the proposed code change is also consistent in the way that the IBC regulates party walls. Since the FSD at a common wall is zero the proposed code change takes the simplest solution to prevent fire from the dwelling unit below from reaching the dwelling unit above by prohibiting the exterior wall opening. This is consistent with approach R202.2.3 and R302.3.4 and it's sub parts.

The attached figures 1 and 2 attempt to illustrate the issue. Figure one shows a plan view of the third story and roof and figure 2 shows a building section depicting the elevation difference. The common wall is depicted in the dotted blue line.Proponent feels that the code change to be editorial and to add clarity for consistent and uniform code application.

Page: 1

Mod_11407_Text_RB58-22.pdf

F11407Text Modification

Figure 1

Figure 1

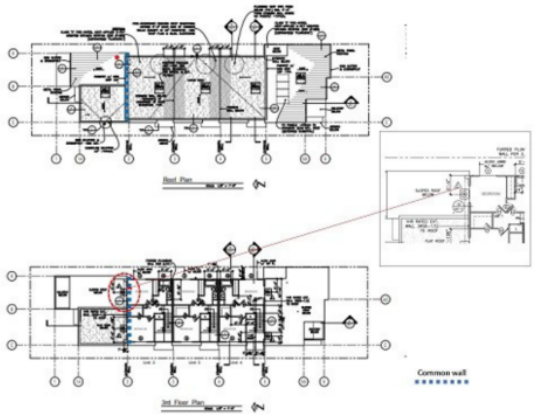
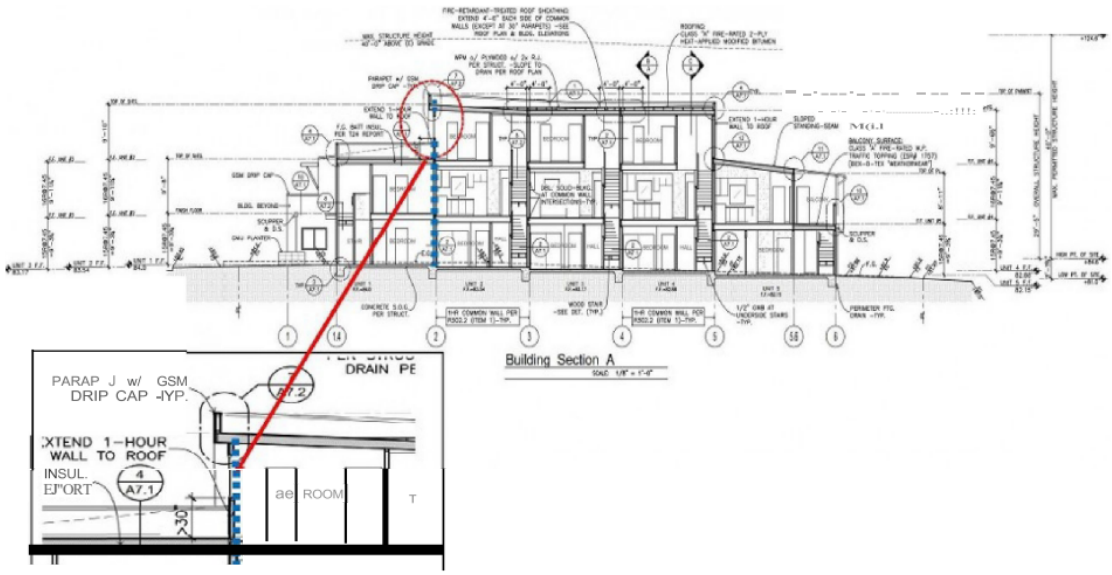
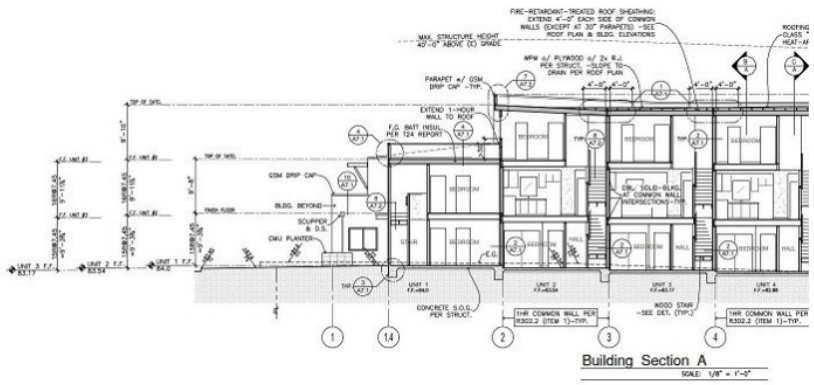


Figure 2



Mod_11407_Text_RB58-22.pdf Page: 2

F11407Text Modification



Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is editorial however it may be considered to increase the cost of construction in jurisdictions that previously considered the regulatory omission to be justification to permit exterior wall openings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal provides clarification on the intent of the code for common/exterior walls where the 1 hour rating is required. This option was preferred to RB59-22. (Vote: 10-0)

Final Hearing Results

RB58-22 AS

Page: 3

Mod_11407_Text_RB58-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

273

F11408		/RB58-22			
Date Submitted	03/26/2024	**Section**	302.2.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

FBC - R/R302.2.3

Summary of Modification

The code change is necessary to address a significant omission in the IRC that predates the 2005 edition where exterior wall openings located in common walls extending above a lower roof in a stepped Townhouse are neither prohibited nor required to be protected.

Rationale

See attached

F11408Text Modification

See attached

Page: 1

Mod11408_TextOfModification.pdf

F11408Text Modification

RB58-22

Original Proposal

IRC: R302.2.4

Proponents: Ali Fattah, City of San Diego Development Services Department, City of San Diego Development Services Department (afattah@sandiego.gov)

2021 International Residential Code

Revise as follows:

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for*townhouses* as an extension of exterior walls or common walls separating *townhouse units* in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

   Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of *noncombustible materials* or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.
3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher *roof deck* shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.Openings shall not be permitted in the wall.

Reason: The code change is necessary to address a significant omission in the IRC that predates the 2005 edition where exterior wall openings located in common walls extending above a lower roof in a stepped Townhouse are neither prohibited nor required to be protected. While the common wall is not a party-wall that is regulated in the IBC as a fire wall, common walls are protected similar to exterio walls located at zero fire separation distance; Section R302.2.2 does not permit openings in the common wall and restricts penetrations. Additionally, communicating openings are not permitted between dwelling units it would seem reasonable to prohibit exterior wall openings in exterior portions of the common wall.

The proposed code change takes an approach to solving the problem caused by the regulatory omission that is consistent with Table R302.1(1) and R302.1(2) where the IRC does not require fire protection for exterior wall openings but accomplishes the desired level of protection either prohibiting exterior wall openings or restricting their area. Additionally, the proposed code change is also consistent in the way that the IBC regulates party walls. Since the FSD at a common wall is zero the proposed code change takes the simplest solution to prevent fire from the dwelling unit below from reaching the dwelling unit above by prohibiting the exterior wall opening. This is consistent with approach R202.2.3 and R302.3.4 and it's sub parts.

The attached figures 1 and 2 attempt to illustrate the issue. Figure one shows a plan view of the third story and roof and figure 2 shows a building section depicting the elevation difference. The common wall is depicted in the dotted blue line.Proponent feels that the code change to be editorial and to add clarity for consistent and uniform code application.

Page: 1

Mod_11408_Text_RB58-22.pdf

F11408Text Modification

Figure 1

Figure 1

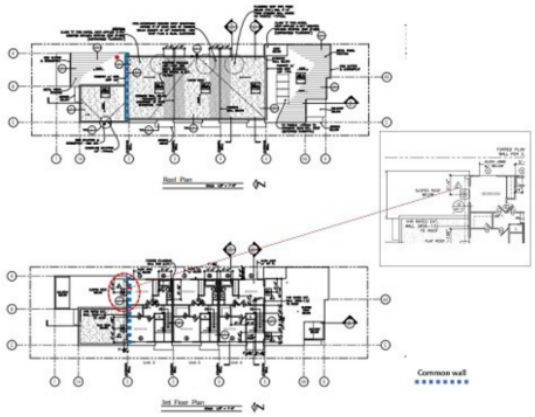
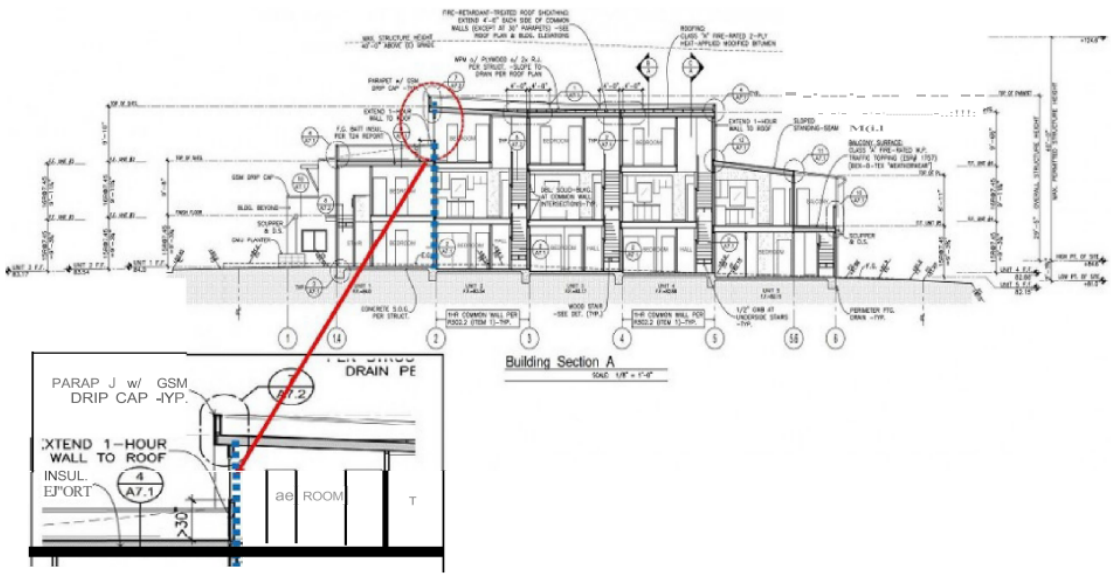


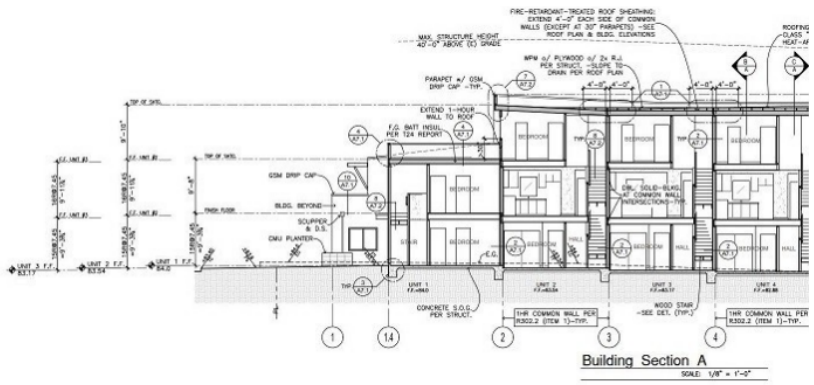
Figure 2



Page: 2

Mod_11408_Text_RB58-22.pdf

F11408Text Modification



Cost Impact: The code change proposal will not increase or decrease the cost of construction
This code change is editorial however it may be considered to increase the cost of construction in jurisdictions that previously considered the regulatory omission to be justification to permit exterior wall openings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal provides clarification on the intent of the code for common/exterior walls where the 1 hour rating is required. This option was preferred to RB59-22. (Vote: 10-0)

Final Hearing Results

RB58-22 AS

Page: 3

Mod_11408_Text_RB58-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

274

F11409 **/RB61-22**

Date Submitted	03/26/2024	**Section**	302.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The intent of this change is to pull out the construction requirement of the common wall as a subsection to align with proper code location.

Rationale

See attached

F11409Text Modification

See attached

Page: 1

Mod11409_TextOfModification.pdf

F11409Text Modification

RB61-22

Original Proposal

IRC: R302.3, R302.3.1 (New), R302.3.2 (New), R302.2.1

Proponents: Quyen Thai, City of Tacoma, Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Revise as follows:

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies ~~having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2of the International Building Code~~ constructed in accordance with Section R302.3.1 through R302.3.3. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. ~~Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.~~

~~**Exceptions:**~~

1. ~~A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.~~
2. ~~Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.~~

Add new text as follows:

R302.3.1 Separation. *Dwelling units* in two-family *dwellings* shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E 119, UL 263 or Section 703.3 of the *International Building Code*.

Exception: A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.

R302.3.2 Continuity. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exception: Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type-X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

Revise as follows:

R302.3.3 ~~R302.2.1~~ Supporting construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

Reason: The intent of this change is to pull out the construction requirement of the common wall as a subsection to align with proper code

Page: 1

Mod_11409_Text_RB61-22.pdf

F11409Text Modification

location. There is already a construction subsection in R302.3.1 and this just creates another subsection that discusses the construction of the common wall. All three subsections are not new language to the code but rather a reorganization.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no cost impact to this proposal because the language did not change. This is just a reorganization to create better readability.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R302.3.1 Separation. *Dwelling units* in two-family *dwellings* shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E 119, UL 263 or Section ~~703.3~~ 703.2.2 of the *International Building Code*.
Exception: A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.

Committee Reason: The modification was a correction in the referenced section. This proposal is reorganization of the current requirements that adds clarity. There were concerns that Section R302.3.2 would disallow platform construction. (Vote: 7-3)

Public Comments

Public Comment 1

Proponents: Jason Smart, American Wood Council (jsmart@awc.org) requests As Modified by Public Comment

Further modify as follows:

2021 International Residential Code

R302.3.2 Continuity. Vertical and horizontal assemblies separating dwelling units shall be constructed in a manner that provides continuity of the fire-resistance rating between the dwelling units. ~~Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the *exterior wall*, and wall assemblies shall extend from the foundation to the underside of the roof sheathing~~.

Exception: Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type-X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

Commenter's Reason: These modifications further clarify that the intent is to require continuity of the required fire-resistance rating of the horizontal or vertical assembly. This is consistent with the changes made to address platform construction under FS19-21.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The cost impact statement for RB61-22 is neutral, and the modification presented in this public comment simply clarifies the intent of the section on continuity. This modification is intended to use terminology that works with platform construction, where horizontal assemblies support walls above, and are supported by walls of the story below.

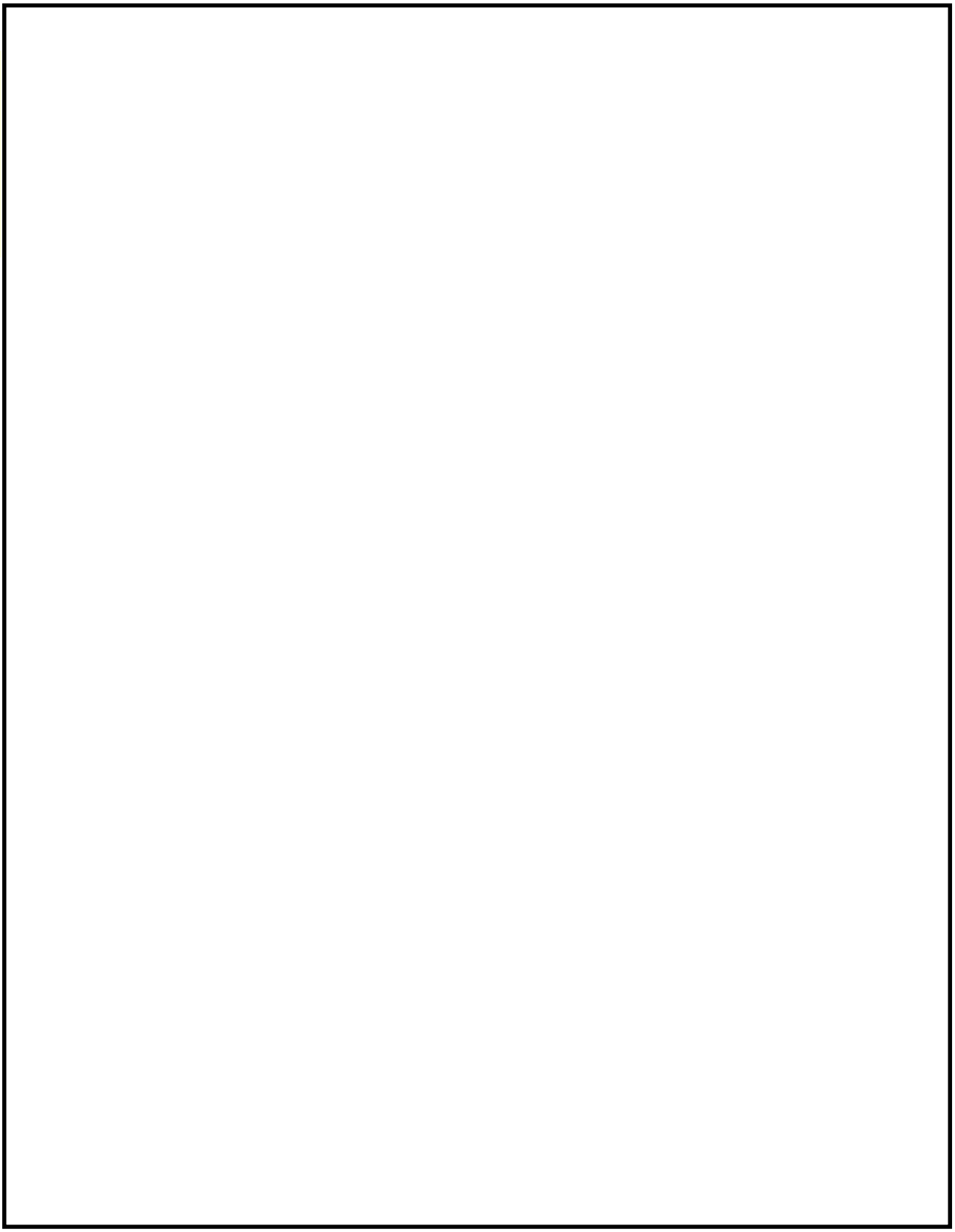
Final Hearing Results

RB61-22 AMPC1

Page: 2

Mod_11409_Text_RB61-22.pdf

F11409Text Modification



Mod_11409_Text_RB61-22.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

275

F11410 **/Rb63-22**

Date Submitted	03/26/2024	**Section**	302.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

Proposal provides a cleanup and update of Section R302.3, including moving the exceptions to the main code text.

Rationale

See attached

F11410Text Modification

See attached

Page: 1

Mod11410_TextOfModification.pdf

F11410Text Modification

RB63-22

Original Proposal

IRC: R302.3, R302.3.1, R302.3.2 (New), R302.3.3 (New), R302.3.3.1 (New), R302.3.3.2 (New), R302.3.5 (New)

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Residential Code

Delete and substitute as follows:

~~**R302.3 Two-family dwellings**. *Dwelling units* in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.2.2 of the International Building Code. Such separation shall be provided regardless of whether a *lot line* exists between the two *dwelling units* or not. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.~~

~~**Exceptions:**~~

1. ~~A fire-resistance rating of 1/2 hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904.~~
2. ~~Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the *dwellings* and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.~~

R302.3 Two-family dwellings. *Dwelling units* in two-family dwellings shall be separated from each other in accordance with Sections 302.3.1 through 302.3.5, regardless of whether a *lot line* exists between two *dwelling units*.

Add new text as follows:

R302.3.1 Dwelling unit separation. The two dwelling units shall be separated by fire-resistance rated assemblies that are vertical, horizontal, or a combination thereof.

R302.3.2 Fire-resistance rating. Vertical and horizontal assemblies separating dwelling units shall have a fire-resistance rating of 1-hour, or a fire-resistance rating of 1/2 hour in buildings equipped throughout with an automatic sprinkler system installed in accordance with Section P2904. Fire-resistance ratings shall be based on testing in accordance with ASTM E119 or UL 263, or an analytical method in accordance with Section 703.2.2 of the International Building Code.

R302.3.3 Continuity. Vertical and horizontal assemblies separating dwelling units shall be constructed in a manner that provides a continuous and complete separation between the dwelling units.

R302.3.3.1 Horizontal assemblies. Horizontal assemblies separating dwelling units shall extend to and be tight against exterior walls or vertical separation assemblies complying with Section 302.3.2.

R302.3.3.2 Vertical assemblies. Vertical assemblies separating dwelling units shall extend to and be tight against any combination of the following:

1. The foundation.
2. A horizontal assembly complying with Section 302.3.2

Page: 1

Mod_11410_Text_RB63-22.pdf

F11410Text Modification

3. The underside of roof sheathing.
4. The ceiling beneath an uninhabitable attic, provided that the ceiling is constructed using not less than 5/8-inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the vertical assembly terminating at the ceiling, and the structural framing supporting the ceiling is protected by not less than 1/2-inch (12.7 mm) gypsum board or equivalent.

Revise as follows:

R302.3.4 ~~R302.3.1~~ Supporting construction. ~~Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies have~~ Vertical and horizontal assemblies separating dwelling units shall be supported by construction having an equal or greater fire-resistance rating.

Add new text as follows:

R302.3.5 Vertically stacked dwelling units. Where one dwelling unit in a two-family dwelling is located above the other and an automatic sprinkler system complying with Section P2904 is not provided in both dwelling units, both of the following shall apply:

1. Horizontal and vertical assemblies separating the dwelling units, including an interior stairway serving as the means of egress for the upper dwelling unit, shall be constructed in a manner that limits the transfer of smoke.
2. A notification appliance connected to smoke alarms in the other dwelling unit shall be provided in each dwelling unit.

Reason: This proposal accomplishes two things. First, it provides a cleanup and update of Section R302.3, including moving the exceptions to the main code text. Provisions have been reorganized and divided into subsections to more clearly delineate current requirements, and the section has been broadened to recognize that separations between dwelling units might not be limited to either a floor assembly or a wall assembly. The current text restricts horizontal assemblies to only include floors, as opposed to floor-ceiling or ceiling-only assemblies, and it fails to clearly recognize and accommodate that separations may involve a combination of vertical and horizontal elements, which always occurs if an interior stairway is used as the means of egress for the upper unit. Terminology in IBC Section 707.3.10 has been used as guidance for the proposed IRC text.
Second, Section 302.3.5 has been added to recognize that stacked duplexes are inherently more hazardous than side-by-side duplexes, particularly with respect to the upper unit due to the tendency of smoke and flames to spread vertically, which increases the risk of charging the upper unit with smoke and cutting off the means of egress and the means of escape if/when fire vents through exterior doors or windows. Providing a smoke separation, in addition to the current requirement for a fire-rated separation, will delay smoke transmission to the upper unit. The proposed text related to construction of the smoke separation is derived from the IBC definition of "smoke partition," which establishes the performance requirement "...is constructed to limit the transfer of smoke."

Providing a remote sounder for the opposite dwelling unit will allow more escape time for occupants who are not in the unit of origin, recognizing that smoke alarms are designed to provide sufficient warning to escape an incipient fire but not necessarily a well-developed fire spreading from another part of the building. Additional warning is particularly important where: 1) The downstairs unit occupants are not home or are home but don't or are unable to warn the upstairs occupants, and 2) The upstairs unit is two stories tall, perhaps even with a habitable attic above, which increases escape distance and the associated escape time, particularly for individuals who may have difficulty rapidly traversing stairs or using a means of escape window that would be 3 or 4 stories above grade.

For disclosure, I am a consultant to NFSA, but this proposal is not submitted on NFSA's behalf and was not provided to NFSA prior to submittal. It is submitted as a personal proposal based on my personal interest in this topic.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Technically, the IRC requires all buildings to be sprinklered, so this doesn't have a cost impact with respect to the model code. However, in jurisdictions that choose to amend the IRC by removing the sprinkler requirement, there would be a cost. Alternately, the increased flexibility provided for using additional types of separation assemblies and a combination of vertical and horizontal assemblies may provide a reduction in the cost of construction.

Page: 2

Mod_11410_Text_RB63-22.pdf

F11410Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal addresses the continuity of horizontal and vertical separation for vertically stacked units. This is not addressed in the current text. This provides flexibility in design options. This would also address current housing needs that involves separating existing housing into two units. (Vote: 7-3)

Public Comments

Public Comment 3

Proponents: Jason Smart, American Wood Council (jsmart@awc.org); David Tyree, American Wood Council, American Wood Council (dtyree@awc.org) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R302.3.3 Continuity. Vertical and horizontal assemblies separating dwelling units shall be constructed in a manner that provides continuity of the fire-resistance rating ~~a continuous and complete separation~~ between the dwelling units.

Commenter's Reason: This modification further clarifies that the intent is to require continuity of the required fire-resistance rating of the horizontal or vertical assembly. This is consistent with the changes made to address platform construction under FS19-21.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The cost impact statement for RB63-22 is neutral, and the modification presented in this public comment simply clarifies the intent of the section on continuity. This modification is intended to use terminology that works with platform construction, where horizontal assemblies support walls above, and are supported by walls of the story below.

Final Hearing Results

RB63-22 AMPC3

Page: 3

Mod_11410_Text_RB63-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

276

F11411 **/RB64-22**

Date Submitted	03/26/2024	**Section**	302.3.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments Yes

Related Modifications

Summary of Modification

Adds new Section R302.3.2 "Common accessory rooms". Adds TABLE R302.3.2 "DWELLING-COMMON ACCESSORY ROOM SEPARATION".

Rationale

See attached

1st Comment Period History

F11411-G1

Proponent Brian Walsh - RCCIW Submitted 6/28/2024 10:11:48 AM Attachments No

Comment:

This change will have a cost impact of $300-$500 per common area. The code is currently silent on this scenario as it is not needed. Adding this modification will add costs based on an assumption that a common area should be treated the same as a garage.

F11411Text Modification

See attached

Page: 1

Mod11411_TextOfModification.pdf

F11411Text Modification

RB64-22

Original Proposal

IRC: R302.3.2 (New), TABLE R302.3.2 (New), R302.3.2.1 (New), R302.3.2.2 (New), R302.3.2.3 (New)

Proponents: Quyen Thai, City of Tacoma, Washington Association of Building Officials Technical Code Committee (qthai76@gmail.com); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Add new text as follows:

R302.3.2 Common accessory rooms. A common accessory room shall be separated as required by Table R302.3.2. Openings in a common accessory room shall comply with Section R302.3.2.1. Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table R302.3 shall not apply to common accessory room walls that are perpendicular to the adjacent dwelling unit wall.

TABLE R302.3.2 DWELLING-COMMON ACCESSORY ROOM SEPARATION

SEPARATION	MATERIAL
From the dwelling units and attics	Not less than 1/2-inch gypsum board or equivalent applied to the accessory room side wall
From habitable rooms above or below the common accessory room	Not less than 5/8-inch Type X gypsum board or equivalent
Structures supporting floor/ceiling and wall assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Common accessory rooms located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch=25.4 m, 1 foot=304.8 mm

R302.3.2.1 Opening protection. Openings from a common accessory room or area directly into a room used for sleeping purposes shall not be permitted. Other openings between the shared common accessory room or area and dwelling units shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or a fire door assembly with a 20-minute fire-protection rating, equipped with a self-closing or automatic-closing device.

R302.3.2.2 Duct penetration. Ducts penetrating the walls or ceilings separating the *dwelling* from the common accessory room shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall not have openings into the common accessory room.

R302.3.2.3 Other penetrations. Penetrations through the walls, ceiling, and floor level separation required in Section R302.3.2 shall be protected as required by Section R302.11, Item 4.

Reason: Designers are beginning to incorporate optional design common accessory rooms such as common laundry facilities and storage rooms that are connected to both dwelling units in their design. The IRC is currently silent on such a room but due to potential storage hazards as well as gas appliances of the washer/dryers and other appliances, there is a need to provide clear directions to protect the dwelling units from a shared common accessory space. The proposal is to treat these common rooms similar to garages and therefore, much of the proposed language draws from the dwelling-garage provision of the code.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Since this is just a clarifying addition where the code is silent, several jurisdictions have already required the construction of the separation wall between habitable space and their accessory spaces. Therefore no increase in cost is noted.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal addressed shared spaces in duplexes (e.g., bike storage, laundry facilities) where the code is currently silent. The proposal provides appropriate separation requirements. (Vote: 9-1)

Public Comments

Public Comment 1

Proponents: Jenifer Gilliland, Seattle Department of Construction and Inspections, Washington Association of Building Officials (jenifer.gilliland@seattle.gov); Richard Donald Pellinger, Seattle Dept of Const and Inspections, Washington Association of Building Officials (richard.pellinger@seattle.gov); Micah Chappell, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (micah.chappell@seattle.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R302.3.2 ~~Common~~ Shared accessory rooms. ~~A common~~ Shared accessory ~~room~~ rooms shall be separated from each individual dwelling unit ~~as required by~~ in accordance with Table R302.3.2. Openings ~~in a common~~ between the shared accessory room and dwelling unit shall comply with Section R302.3.2.1. Attachment of gypsum board shall comply with Table R702.3.5. ~~The wall separation provisions of Table R302.3 shall not apply to common accessory room walls that are perpendicular to the adjacent dwelling unit wall.~~

TABLE R302.3.2 DWELLING-~~COMMON~~SHARED ACCESSORY ROOM SEPARATION

SEPARATION	MATERIAL
From the dwelling units and attics	Not less than 1/2-inch gypsum board or equivalent applied to the accessory room side wall
From habitable rooms above or below the common shared accessory room	Not less than 5/8-inch Type X gypsum board or equivalent
Structures supporting floor/ceiling and wall assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Common accessory rooms located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch=25.4 m, 1 foot=304.8 mm

R302.3.2.1 Opening protection. Openings from a ~~common~~ shared accessory room or area directly into a room used for sleeping purposes shall not be permitted. Other openings between the shared ~~common~~ accessory room or area and dwelling units shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or a fire door assembly with a 20-minute fire-protection rating, equipped with a self-closing or automatic-closing device.

R302.3.2.2 Duct penetration. Ducts penetrating the walls or ceilings separating the *dwelling* from the ~~common~~ shared accessory room shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall not have openings into the ~~common~~shared accessory room.

R302.3.2.3 Other penetrations. Penetrations through the walls, ceiling, and floor level separation required in Section R302.3.2 shall be protected as required by Section R302.11, Item 4.

F11411Text Modification

Commenter's Reason: This PC is being submitted by the proponents of the original code proposal and refines the original proposal by:

- Replacing the word “common” throughout the proposal with an easily understood, plain language substitute, “shared".
- Adding language to clarify that the shared accessory room must be separated from each individual dwelling unit that shares the room.
- Eliminating the last sentence of the proposed R303.3.2 because it isn’t needed and is confusing.
- Eliminating "and wall" in the fourth row of the table as it duplicates the requirement in the second row of the table for separation from the dwelling units and attics.
- Eliminating the last row of TABLE R302.3.2 because the information, originally taken from the garage separation provisions, isn’t relevant in this situation where the shared accessory room is between the two units which are themselves within the two-family dwelling.

Designers are beginning to incorporate shared accessory rooms such as laundry facilities and storage rooms that are connected to both dwelling units in their design for two-family dwellings. The IRC is currently silent on such rooms, but due to potential storage hazards and the fossil fuel supplied to washer/dryers and other appliances, clear direction is needed to protect the dwelling units from a shared accessory space. The proposal treats these shared rooms in the same way that the separation of shared garages from dwelling units is handled in the code. As a result, much of the proposed language draws from the dwelling-garage provisions of the code.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This public comment would make it clearer how to protect these shared accessory rooms between units in a two-family dwelling. Right now, the topic is unaddressed by the code which means jurisdictions may be under- or over-regulating them. So, depending on the jurisdiction this could be an increase or decrease in cost.

Public Comment 2

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R302.3.6 ~~R302.3.2~~ Common accessory rooms. A common accessory room shall be separated as required by Table~~R302.3.2~~ R302.3.6. Openings in a common accessory room shall comply with Section ~~R302.3.2.1~~ R302.3.6.1. Attachment of gypsum board shall comply with Table R702.3.5. The wall separation provisions of Table ~~R302.3.2~~ R302.3.6 shall not apply to common accessory room walls that are perpendicular to the adjacent dwelling unit wall.

TABLE R302.3.6 ~~R302.3.2~~ DWELLING-COMMON ACCESSORY ROOM SEPARATION

SEPARATION	MATERIAL
From the dwelling units and attics	Not less than 1/2-inch gypsum board or equivalent applied to the accessory room side wall
From habitable rooms above or below the common accessory room	Not less than 5/8-inch Type X gypsum board or equivalent
Structures supporting floor/ceiling and wall assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Common accessory rooms located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch=25.4 m, 1 foot=304.8 mm

R302.3.6.1 ~~R302.3.2.1~~ Opening protection. Openings from a common accessory room or area directly into a room used for sleeping purposes shall not be permitted. Other openings between the shared common accessory room or area and dwelling units shall be equipped with solid wood doors not less than 1 3/8 inches in thickness, solid or honeycomb core steel doors not less than 1 3/8 inches thick, or a fire door assembly with a 20-minute fire-protection rating, equipped with a self-closing or automatic-closing device.

R302.3.6.2 ~~R302.3.2.2~~ Duct penetration. Ducts penetrating the walls or ceilings separating the *dwelling* from the common accessory room shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other *approved* material and shall not have openings into the

Page: 3

Mod_11411_Text_RB64-22.pdf

F11411Text Modification

common accessory room.

R302.3.6.3 ~~**R302.3.2.3**~~ **Other penetrations.** Penetrations through the walls, ceiling, and floor level separation required in Section ~~R302.3.2~~ R302.3.6 shall be protected as required by Section R302.11, Item 4.

Commenter's Reason: Editorial clarification of how this section is best integrated into the rewrite accomplished by RB63-22.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction editorial

Final Hearing Results

RB64-22 AMPC1,2

Page: 4

Mod_11411_Text_RB64-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

277

F11412 | **/RB71-22**

Date Submitted	03/26/2024	**Section**	302.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Table R302.6 "DWELLING-GARAGE SEPARATION".

Rationale

See attached

F11412Text Modification

See attached

Page: 1

Mod11412_TextOfModification.pdf

F11412Text Modification

RB71-22

Original Proposal

IRC: TABLE R302.6

Proponents: Glenn Mathewson, BuildingCodeCollege.com, Self (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

TABLE R302.6 DWELLING-GARAGE SEPARATION

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From *living space* habitable rooms above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

Reason: Habitable space is a defined term that specifically does not apply to bathrooms or storage rooms. This is a critical part of the definition so that code provisions related specifically to habitable space won't unnecessarily apply to rooms not typically inhabited for long periods, like bathrooms and storage rooms. However, this section is about protecting the dwelling from the fire hazard of the garage and that does not seem like a concern specific to "habitable space". If a bedroom connected to the remaining dwelling unit was over the garage, is there really a greater fire hazard than if the bathroom off the bedroom is the only thing over the garage? There may be no door between the two, as is common in master bedrooms. Use of the defined term "living space" will include rooms like a laundry room or bathroom when located over the garage. A storage room over the garage would still not be affected by this proposal. If others believe it should, please consider a public comment modification at that time.

Cost Impact: The code change proposal will increase the cost of construction
This proposal will increase the cost of construction when bathrooms or laundry rooms are built over a garage but no other habitable rooms are. The cost increase will depend on how large these spaces are and which walls are supporting the floor/ceiling separation, as they will require 5/8" type X gypsum board instead of 1/2".

The following prices were found online at a major home improvement retailer in Colorado. A standard 1/2" 4x8 sheet of gypsum board is listed at $13.94. A 5/8" 4x8 type X sheet is listed at $16.23. This is an approximately 16% increase in material costs. Assuming upwards of a 500 square foot master bathroom and laundry room, this would be approximately 16 to 17 sheets for the ceiling. If this area was 20 x 25 with the 20 foot length down two outside walls of the garage approximately 10 feet tall, this would be another 400 square feet and approximately 14 more sheets. This wall protection is required to support the horizontal assembly. If 32 sheets total were estimated at an increase of $2.29 per sheet the cost increase for materials is approximately $73.28 There would likely be a minimal increase in the labor costs for installing the heavier sheets. Total cost increase for a very large example should be under $500 conservatively. However, I welcome any better cost analysis from professional cost estimators.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: TABLE R302.6 DWELLING-GARAGE SEPARATION

SEPARATION	MATERIAL

Page: 1

Mod_11412_Text_RB71-22.pdf

F11412Text Modification

SEPARATION	MATERIAL
From the residence and attics	Not less than 1/2-inch gypsum board or equivalent applied to the garage side
From ~~*living space*~~ portions of the *dwelling unit* above the garage	Not less than 5/8-inch Type X gypsum board or equivalent
Structure(s) supporting floor/ceiling assemblies used for separation required by this section	Not less than 1/2-inch gypsum board or equivalent
Garages located less than 3 feet from a dwelling unit on the same lot	Not less than 1/2-inch gypsum board or equivalent applied to the interior side of exterior walls that are within this area

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

Committee Reason: The modification is an improvement over the original proposal. The modification would require not only bedrooms or family rooms over a garage to be separated, but also connected spaces such as closets or bathrooms that are part of dwelling portion of the structure. This will improve life safety. (Vote: 10-0)

Final Hearing Results

RB71-22 AM

Page: 2

Mod_11412_Text_RB71-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

278

F11413 | **/RB73-22**

Date Submitted	03/26/2024	**Section**	302.10.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Editorial cleanup. There is no reason to have a separate paragraph to tell readers which test applies to the preceding paragraph.

Rationale

See attached

F11413Text Modification

See attached

Page: 1

Mod11413_TextOfModification.pdf

F11413Text Modification

RB73-22

Original Proposal

IRC: R302.10.4, R302.10.5

Proponents: Tim Earl, GBH International, Self (tearl@gbhint.com)

2021 International Residential Code

Revise as follows:

R302.10.4 Exposed attic insulation. Exposed insulation materials installed on attic floors shall have a critical radiant flux of not less than 0.12 watt per square centimeter when tested in accordance with ASTM E970.

Delete without substitution:

~~**R302.10.5 Testing.** Tests for critical radiant flux shall be made in accordance with ASTM E970~~.

Reason: Editorial cleanup. There is no reason to have a separate paragraph to tell readers which test applies to the preceding paragraph.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Simple editorial cleanup.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This is an editorial combination of two sections dealing with the same topic. (Vote: 10-0)

Final Hearing Results

RB73-22 AS

Page: 1

Mod_11413_Text_RB73-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

279

F11414 | **/RB75-22**

Date Submitted	03/26/2024	**Section**	302.13	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Small haylofts or other small/ low/ limited occupancy or risk floor systems should not have to be held to the same standards as a dwelling unit because the likely-hood of an egress issue or the need for entrance to rescue or for fire suppression is so small in nonhabitable spaces and structures.

Rationale

See attached

F11414Text Modification

See attached

Page: 1

Mod11414_TextOfModification.pdf

F11414Text Modification

RB75-22

Original Proposal

IRC: R302.13

Proponents: Raymond Steadward Jr, Town Of Enfield CT, Town Of Enfield CT (rsteadward@enfield.org)

2021 International Residential Code

Revise as follows:

R302.13 Fire protection of floors. Floor assemblies that are not required elsewhere in this code to be fire-resistance rated, shall be provided with a $^{1}/_{2}$-inch (12.7 mm) gypsum wallboard membrane, $^{5}/_{8}$-inch (16 mm) *wood structural panel* membrane, or equivalent on the underside of the floor framing member. Penetrations or openings for ducts, vents, electrical outlets, lighting, devices, luminaires, wires, speakers, drainage, piping and similar openings or penetrations shall be permitted.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with Section P2904, NFPA 13D, or other *approved* equivalent sprinkler system.
2. Floor assemblies located directly over a *crawl space* not intended for storage or for the installation of fuel-fired or electric-powered heating *appliances*.
3. Portions of floor assemblies shall be permitted to be unprotected where complying with the following:
   3.1. The aggregate area of the unprotected portions does not exceed 80 square feet (7.4 m^2) per story.
   3.2. Fireblocking in accordance with Section R302.11.1 is installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.
4. Wood floor assemblies using dimension lumber or *structural composite lumber* equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other *approved* floor assemblies demonstrating equivalent fire performance.
5. Wood floor assemblies less than 600 square feet (55.7 m^2) within detached accessory structures with no habitable space above them.

Reason: Small haylofts or other small/ low/ limited occupancy or risk floor systems should not have to be held to the same standards as a dwelling unit because the likely-hood of an egress issue or the need for entrance to rescue or for fire suppression is so small in non-habitable spaces and structures. This will also close a small gap for "on-grade" prefab type structures that may not exempted by Exemption #2

Cost Impact: The code change proposal will decrease the cost of construction
This will lower the cost of construction for some small accessory structures.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because this is a reasonable option for small detached accessory structures. There were questions about the justification for the 600 sq.ft. area limitations. (Vote: 7-3)

Page: 1

Mod_11414_Text_RB75-22.pdf

F11414Text Modification

Final Hearing Results

RB75-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

280

F11415 | **/RB76-22**

Date Submitted	03/26/2024	**Section**	303.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Currently, the provisions and choices for light and ventilation are incredibly difficult to understand and scattered throughout sections that have been modified in pieces since the 2000 edition. Modifies text of Sections in R303.1.

Rationale

See attached

F11415Text Modification

See attached

Page: 1

Mod11415_TextOfModification.pdf

F11415Text Modification

RB76-22

Original Proposal

IRC: R303.1, R303.1.1 (New), R303.1.2 (New), R303.2, R303.9, R303.9.1

Proponents: Glenn Mathewson, BuildingCodeCollege.com, Self (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R303.1 Habitable rooms. *Habitable* *space* ~~rooms~~ shall be provided natural light and natural ventilation in accordance with Sections R303.1.1 through R303.1.3. ~~have an aggregate glazing area of not less than 8 percent of the floor area of such rooms. Natural *ventilation* shall be through windows, skylights, doors, louvers or other *approved* openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants. The openable area to the outdoors shall be not less than 4 percent of the floor area being ventilated.~~

Exceptions:

1. ~~For habitable rooms other than kitchens, the glazed areas need not be openable where the opening is not required by Section R310 and a whole-house mechanical *ventilation* system or a mechanical ventilation system capable of producing 0.35 air changes per hour in the habitable rooms is installed in accordance with Section M1505.~~
2. ~~For kitchens, the glazed areas need not be openable where the opening is not required by Section R310 and a local exhaust system is installed in accordance with Section M1505.~~
3. ~~The glazed areas need not be installed in rooms where Exception 1 is satisfied and artificial light is provided that is capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.~~
4. ~~Use of *sunroom* and patio covers, as defined in Section R202, shall be permitted for natural *ventilation* if in excess of 40 percent of the exterior *sunroom* walls are open, or are enclosed only by insect screening~~.

Add new text as follows:

R303.1.1 Natural light. Habitable rooms shall have an aggregate area of glazed openings not less than 8 percent of the floor area of such rooms. Required glazed openings shall open directly onto a street, alley or *public way*, or a *yard* or *court* located on the same *lot* as the *building*.

Exceptions:

1. Required glazed openings shall be permitted to face into a roofed porch, deck or patio adjacent to a street, alley, *public way*, *yard* or *court*, where there the longer side of the roofed area is not less than 65 percent unobstructed and the ceiling height is not less than 7 feet (2134 mm).
2. Required glazed openings shall be permitted to face into a sunroom adjacent to a street, alley, public way, yard or court.
3. Glazed openings are not required where artificial light is provided that is capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.
4. Eave projections shall not be considered as obstructing the clear open space of a yard or court.

R303.1.2 Natural ventilation. Habitable rooms shall have an aggregate area openable to the outdoors not less than 4 percent of the floor area of such rooms. Openings shall be through windows, skylights, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants.

Page: 1

Mod_11415_Text_RB76-22.pdf

F11415Text Modification

Exceptions:

1. Natural ventilation shall not be required in habitable rooms other than kitchens where a whole-house mechanical ventilation system or a mechanical ventilation system capable of producing 0.35 air changes per hour in the habitable rooms is installed in accordance with Section M1505.
2. Natural ventilation shall not be required in kitchens where a local exhaust system is installed in accordance with Section M1505.
3. Required ventilation openings shall be permitted to open into a thermally isolated sunroom or roofed porch, deck, or patio where not less than 40 percent of the roofed area perimeter is open to the outdoor air.
4. Required ventilation openings shall be permitted to open into a thermally isolated sunroom provided there is an openable area between the adjoining room and the sunroom of not less than one-tenth of the floor area of the interior room and not less than 20 square feet (2 m^2). The minimum openable area of the sunroom to outdoor air shall be based on the total floor area of the adjoining room and the sunroom.

Revise as follows:

~~**R303.2**~~ **R303.1.3 Adjoining rooms.** For the purpose of determining light and *ventilation* requirements, rooms shall be considered to be a portion of an adjoining room where not less than one-half of the area of the common wall is open and unobstructed and provides an opening of not less than one-tenth of the floor area of the interior room and not less than 25 square feet (2.3 m^2).

~~**Exception:** Openings required for light or *ventilation* shall be permitted to open into a *sunroom* with thermal isolation or a patio cover, provided that there is an openable area between the adjoining room and the *sunroom* or patio cover of not less than one-tenth of the floor area of the interior room and not less than 20 square feet (2 m^2). The minimum openable area to the outdoors shall be based on the total floor area being ventilated.~~

Delete without substitution:

~~**R303.9 Required glazed openings.** Required glazed openings shall open directly onto a street or public alley, or a*yard* or court located on the same *lot* as the building.~~

~~**Exceptions:**~~

1. ~~Required glazed openings that face into a roofed porch where the porch abuts a street, *yard* or court and the longer side of the porch is not less than 65 percent unobstructed and the ceiling height is not less than 7 feet (2134 mm).~~
2. ~~Eave projections shall not be considered as obstructing the clear open space of a *yard* or court.~~
3. ~~Required glazed openings that face into the area under a deck, balcony, bay or floor cantilever where a clear vertical space not less than 36 inches (914 mm) in height is provided.~~

~~**R303.9.1 Sunroom additions.** Required glazed openings shall be permitted to open into*sunroom additions* or patio covers that abut a street, *yard* or court if in excess of 40 percent of the exterior*sunroom* walls are open, or are enclosed only by insect screening, and the ceiling height of the *sunroom* is not less than 7 feet (2134 mm).~~

Reason: In the 1800's natural light and ventilation were married in the only feature to provide them, windows. Today, the IRC offers other ways to provide light and ventilation that are no longer the same feature, yet they are still married together in Section R303.1. It's time for the IRC to modernize and allow light and ventilation to be separately addressed. Currently, the provisions and choices for light and ventilation are incredibly difficult to understand and scattered throughout sections that have been modified in pieces since the 2000 edition. Nothing reveals just how confusion these provisions are presented than when you are trying to teach them to new professionals.
Very little has been removed or changed in the application of these provisions, but you have to carefully look them over to realize this. The majority of the deletions have simply been moved and reworded. They have been applied to what they are meant to apply to, light, ventilation, or both.

SOME MOTIVATION FOR THIS PROPOSAL.

Page: 2

Mod_11415_Text_RB76-22.pdf

F11415Text Modification

1) Glazed openings are required in Section R301.1. However, you have to skip ahead to R301.9 to get the full story of what they face into.

2) Ventilation can be provided through windows, skylights, doors and louvers, yet there is language like "the glazed area need not be openable". This would not need to be said if glazed openings and ventilation openings were looked at individually.

3) "Roofed porches" (R303.9) have different requirements for obstructed perimeters than "patio covers" (R303.1). I am unable to find anyway to interrupt these two features distinctly using the IRC. These terms are similar jargon.

4) Sunroom provisions are just plain confusing. There is no reason to site a definition, such as "as defined in Section R202". That is not standard form.

COMMENTARY EXPLAINING THE INTENT OF EACH MODIFICATION [WRITTEN AS IF APPROVED]

R303.1 Habitable rooms: Habitable space shall be provided natural light and natural ventilation in accordance with Sections R303.1.1 through R303.1.3.

This purposefully begins with the defined term "habitable space" which connects the entire section and use of the term "habitable rooms" back to the definition of habitable space. This sets the general requirement that they shall have light and ventilation.

R303.1.1 Natural light: Habitable rooms shall have an aggregate area of glazed openings not less than 8 percent of the floor area of such rooms. Required glazed openings shall open directly onto a street, alley or public way, or a yard or court located on the same lot as the building.

This allows the methods for natural light to be presented independently of them being an option for ventilation as well. "habitable room" is now used when referencing measurements of floor area, speaking to the presence of dividing walls that create "rooms" and affect where natural light will reach.

R303.1.1, Exception 1: Required glazed openings shall be permitted to face into a roofed porch, deck or patio adjacent to a street, alley, public way, yard or court, where there the longer side of the roofed area is not less than 65 percent unobstructed and the ceiling height is not less than 7 feet (2134 mm).

[relocated from R303.9 Ex. 1] This clarifies when the glazed openings face into an area covered with a roof. All jargon terms for the floor have been included as to not confuse interpretation (porch, deck, patio). This exception is from R303.9 which is specific to "glazed openings" not ventilation.

R303.1.1, Exception 2: Required glazed openings shall be permitted to face into a sunroom adjacent to a street, alley, public way, yard or court.

By definition, sunrooms have 40% of their wall and ceiling area in glazed openings. Sunrooms are sunny inside. Section R303.9.1 Sunroom additions is a subsection to "required glazed openings". These provisions appear to be about natural light. A sunroom that needs to bring light in to the room it adjoins need not be open to the outside air (ventilation). Glazed openings can open into sunrooms.

R303.1.1, Exception 3: Glazed openings are not required where artificial light is provided that is capable of producing an average illumination of 6 footcandles (65 lux)
over the area of the room at a height of 30 inches (762 mm) above the floor level.

[relocated from R303.1, ex 3] The original exception is rewritten simply in reference to glazed openings for natural light. It no longer must address the other exception about ventilation.

R303.1.1, Exception 4: Eave projections shall not be considered as obstructing the clear open space of a yard or court.

[relocated from R303.9, exception 2] Text unchanged.

R303.1.2 Natural ventilation: Habitable rooms shall have an aggregate area openable to the outdoors not less than 4 percent of the floor area of such rooms. Openings shall be through windows, skylights, doors, louvers or other approved openings to the outdoor air. Such openings shall be provided with ready access or shall otherwise be readily controllable by the building occupants.

This language from R303.1 related to ventilation has been relocated to it's own section. Text is unchanged.

R303.1.2, Exception 1: Natural ventilation shall not be required in habitable rooms other than kitchens where a whole-house mechanical ventilation system or a mechanical ventilation system capable of producing 0.35 air changes per hour in the habitable rooms is installed in accordance with Section M1505.

[relocated from R303.1, ex. 1] The original text is relocated as an exception only to ventilation, so the reference to "glazed areas need

Page: 3

Mod_11415_Text_RB76-22.pdf

F11415Text Modification

not be openable" is deleted.

R303.1.2, Exception 2: Natural ventilation shall not be required in kitchens where a local exhaust system is installed in accordance with Section M1505.

[relocated from R303.1, ex. 2] The original text is relocated as an exception only to ventilation, so the reference to "glazed areas need not be openable" is deleted.

R303.1.2, Exception 3: Required ventilation openings shall be permitted to open into a thermally isolated sunroom or roofed porch, deck, or patio where not less than 40 percent of the roofed area perimeter is open to the outdoor air.

[intent relocated from R303.1, ex 4 and 303.9.1] This change will require more explanation. This exception is for "exterior floor areas covered in a roof and partially enclosed with walls" and addresses how enclosed the walls are and if ventilation can get through. This is why the location of the openings in the walls are not important, as they are in the "roof porch exception for light to hit the windows under the natural lighting provisions". This is why thermally isolated sunrooms and roofed porch, deck, or patio is referenced. Often these floor areas will be larger than the portion that is covered. Therefore the proposed exception refers to the "roofed area perimeter". Using the term "area" is in lieu of repeating all the jargon terms.

R303.1.2 Exception 4: Required ventilation openings shall be permitted to open into a thermally isolated sunroom provided there is an openable area between the adjoining room and the sunroom of not less than one-tenth of the floor area of the interior room and not less than 20 square feet (2 m2). The minimum openable area of the sunroom to outdoor air shall be based on the total floor area of the adjoining room and the sunroom.

[relocated from R303.2] Though this exception is about an adjoining space, it is better suited in the exceptions for ventilation. A sun room has 40% glazing, so it's sunny glazed openings can open into any of them under proposed R303.1.1, ex 2. A thermally isolated sunroom according to the categories in R301.2.1.1.1 is always nonhabitable. Therefore the sunroom does not require ventilation. The goal of this exception is for fully enclosed sunrooms and how much openable area is required to pass through the sunroom and reach the adjoining habitable space. The original motivation for this exception is related to sunroom additions and not requiring relocation of windows for ventilation. Thus the provisions for a large opening between the two that occupants can open to "connect" the air of the sunroom and adjoining room. Though the sunroom is not "required" to be ventilated, the air does not know this and the sunroom is ventilated regardless. Therefore the minimum openable area of the sunroom walls must account for 4% percent of the floor area for the sunroom and the adjoining room combined.

DELETIONS THAT WERE NOT REWRITTEN.

Exception 3 of R303.9 is unnecessary. 303.9 is about glazed openings which is about natural light reaching the opening. It makes no sense to expect a window under a deck of unlimited size and unlimited percent of perimeter enclosed to the ground would provide natural light to a window. For a glazed opening under a "roofed porch" to get sunlight, the ceiling must be seven feet high and open around 65% of the perimeter. This does NOT equate to burying a glazed opening under a deck. This exception appears to be included due to emergency escape and rescue opening provisions, which is unnecessary and confusing. This has been deleted.

Mentions of "insect screening" has been deleted. There is no mention of screens on windows, a common practice and requirement of the IPMC. Any reasonable interpretation of ventilation should not be affected by screens.

A FEW MORE NOTES:

All mentions of glazed openings toward obstructions have been worded as "facing into". The term "glazed openings" is a noun. When used in a sentence as "Required glazed openings shall be permitted to OPEN into a..." the term "open" is read more as a verb, an action and appears to be about ventilation. Therefore all glazed opening provisions are written as "facing into"

All mention of ventilation opens are phrased "open into" to further assist in interpretation.

The goal of this proposal is for the provisions to make logical sense, to be specific in language, and to most effectively "Present the Intent"

Page: 4

Mod_11415_Text_RB76-22.pdf

F11415Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is editorial in nature and does not change the original intent in any manner that creates a substantial cost impact in either direction. Readers will save money on headache medicine from not reading these sections as is ever again.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R303.1.1 Natural light. Habitable rooms shall have an aggregate area of glazed openings not less than 8 percent of the floor area of such rooms. Required glazed openings shall face ~~open~~ directly onto a street, alley or *public way*, or a *yard* or *court* located on the same *lot* as the *building*.
Exceptions:

1. Required glazed openings shall be permitted to face into a roofed porch, deck or patio adjacent to a street, alley, *public way*, *yard* or *court*, where there the longer side of the roofed area is not less than 65 percent unobstructed and the ceiling height is not less than 7 feet (2134 mm).
2. Required glazed openings shall be permitted to face into a sunroom adjacent to a street, alley, public way, yard or court.
3. Glazed openings are not required where artificial light is provided that is capable of producing an average illumination of 6 footcandles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.
4. Eave projections shall not be considered as obstructing the clear open space of a yard or court.

Committee Reason: The modification to Section R301.1.1 was for consistent terminology for glazed openings throughout this proposal. The proposal was approved as modified as it separates the requirements for natural light and ventilation. There were concerns the Section R303.1.1 Exception 4 does appear to be an exception. (Vote: 10-0)

Final Hearing Results

RB76-22 AM

Mod_11415_Text_RB76-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

281

F11416		/RB82-22			
Date Submitted	03/26/2024	**Section**	305.1.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code.

Rationale

See attached

F11416Text Modification

See attached

Page: 1

Mod11416_TextOfModification.pdf

F11416Text Modification

RB82-22

Original Proposal

IRC: R305.1.2 (New), AJ109.7

Proponents: Ardel Jala, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Micah Chappell, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (micah.chappell@seattle.gov)

2021 International Residential Code

R305.1 Minimum height. *Habitable space*, hallways and portions of *basements* containing these spaces shall have a ceiling height of not less than 7 feet (2134 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 7 feet (2134 mm).
2. The ceiling height above bathroom and toilet room fixtures shall be such that the fixture is capable of being used for its intended purpose. A shower or tub equipped with a showerhead shall have a ceiling height of not less than 6 feet 8 inches (2032 mm) above an area of not less than 30 inches (762 mm) by 30 inches (762 mm) at the showerhead.
3. Beams, girders, ducts or other obstructions in *basements* containing *habitable space* shall be permitted to project to within 6 feet 4 inches (1931 mm) of the finished floor.
4. Beams and girders spaced apart not less than 36 inches (914 mm) in clear finished width shall project not more than 78 inches (1981 mm) from the finished floor.

R305.1.1 Basements. Portions of *basements* that do not contain *habitable space* or hallways shall have a ceiling height of not less than 6 feet 8 inches (2032 mm).

Exception: At beams, girders, ducts or other obstructions, the ceiling height shall be not less than 6 feet 4 inches (1931 mm) from the finished floor.

Add new text as follows:

R305.1.2 Habitable attics and basements in existing buildings. Where a *change of occupancy* creates a *habitable attic* or *habitable* space in a *basement*, ceiling height shall not be less than 6 foot 8 inches (2032 mm

Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 6 feet 8 inches (2134 mm).
2. At beams, girders, ducts or other obstructions, the ceiling height shall be not less than 6 feet 4 inches (1931 mm) from the finished floor.

Delete without substitution:

~~**AJ109.7 Ceiling height.** *Habitable spaces* created in existing *basements* shall have ceiling heights of not less than 6 feet, 8 inches (2032 mm), except that the ceiling height at obstructions shall be not less than 6 feet 4 inches (1930 mm) from the *basement* floor. Existing finished ceiling heights in nonhabitable spaces in *basements* shall not be reduced.~~

Page: 1

Mod_11416_Text_RB82-22.pdf

F11416Text Modification

Reason: This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code. Each proposal permits flexibility from meeting full code compliance for existing construction while maintaining a reasonable level of safety. This proposal deletes the provision for ceiling height in existing buildings from Appendix J section AJ109.7 and moves it into the ceiling height provisions of section R305. This proposal permits a lower ceiling height in basements and habitable attics in existing buildings.

Historic minimum ceiling heights varied across the legacy codes over time. For example, the Uniform Building codes prior to 1979 permitted habitable space ceiling height as low as 6 foot 4 inches. The 1979 Uniform Building Code established minimum ceiling heights of 7 feet 6 inches in habitable spaces and 7 feet in other spaces. This was the UBC standard until the 1997 Uniform Building Code which adopted 7 feet as the minimum ceiling height. Habitable spaces under current code must maintain 7 feet minimum ceiling height per section R305.1. Homeowners regularly convert unfinished attics and basements into habitable space as a way to maximize the usable square footage in their existing home. Though the space may have been established with a legal ceiling height per a legacy code, it is often impractical to lower existing basement floors or raise existing roof construction to achieve the ceiling heights for habitable space in new construction as per current code. The code's ceiling height requirements for new construction also make it difficult to incorporate attached accessory dwelling units into existing buildings, which runs counter to the goals of many zoning codes. In response some jurisdictions, including Seattle, approve lower ceiling heights for converting to habitable space in existing buildings when they were constructed and met ceiling heights allowed in previous legacy codes.

This proposal provides flexibility for ceiling height in basements and habitable attics in existing buildings. It permits a ceiling height of not less than 6 feet 8 inches as is currently permitted in Appendix J section AJ109.7. It extends this flexibility to habitable attics. The first exception maintains the sloped ceiling height provisions per R305.1 for new construction but lowers the minimum ceiling height requirement for 50% of the room from 7 feet to 6 feet 8 inches. The second exception maintains the allowance for beams, girders, and other obstructions that is permitted in new construction.

Cost Impact: The code change proposal will decrease the cost of construction
This code change proposal reduces when a basement floor must be lowered or an existing roof raised to meet ceiling height requirements when converting existing basements or habitable attics to habitable space.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R305.1.2 Habitable attics and basements in existing buildings. Where ~~*a change of occupancy* creates~~ a *habitable attic* or *habitable* space in a *basement* is created in an existing building, ceiling height shall not be less than 6 foot 8 inches (2032 mm). Bathrooms, toilet rooms and laundry rooms shall have a ceiling height of not less than 6 feet 4 inches (1931 mm).
Exceptions:

1. For rooms with sloped ceilings, the required floor area of the room shall have a ceiling height of not less than 5 feet (1524 mm) and not less than 50 percent of the required floor area shall have a ceiling height of not less than 6 feet 8 inches (2134 mm).
2. At beams, girders, ducts or other obstructions, the ceiling height shall be not less than 6 feet 4 inches (1931 mm) from the finished floor.

Committee Reason: The modification to remove 'change of occupancy' was because this term is not used in the IRC. The addition of the last sentence in Section R305.1.2 allows for a lower height in occupiable, but not habitable spaces. The proposal was approved as modified because lower heights in a basement are not a life safety issue. It is a good item to move from the appendix and into the body of the code. This option is needed for flexibility in existing homes to extend living space. This is a common request. Allowing for this will encourage people to apply for permits for lower height basements. (Vote: 7-3)

F11416Text Modification

Final Hearing Results

RB82-22 AM

Page: 3

Mod_11416_Text_RB82-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

282

F11417 | **/RB84-22**

Date Submitted	03/26/2024	**Section**	308.4.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The title of this section references “stairs”. A “stairway” includes all necessary landings, such as top, bottom, and intermediate. Proposal to address this concern.

Rationale

See attached

F11417Text Modification

See attached

Page: 1

Mod11417_TextOfModification.pdf

F11417Text Modification

RB84-22

Original Proposal

IRC: R308.4.6

Proponents: Glenn Mathewson, BuildingCodeCollege.com, North American Deck and Railing Association (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R308.4.6 Glazing adjacent to stairs and ramps. Glazing where the bottom exposed edge of the glazing is less than 36 inches (914 mm) above the plane of the adjacent walking surface of ***stairs*** ~~*stairways*~~, landings between flights of stairs and *ramps* shall be considered to be a hazardous location.

Exceptions:

1. Where glazing is adjacent to a walking surface and a horizontal rail is installed at 34 to 38 inches (864 to 965 mm) above the walking surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and have a cross-sectional height of not less than $1^1/_2$ inches (38 mm).
2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.

Reason: The title of this section references “stairs”. A “stairway” includes all necessary landings, such as top, bottom, and intermediate. In this section, after listing “stairways” it then refers to “landings between flights”. This is because the intent of this section is not “stairways”, but rather “stairs”.

There is already a hazardous location at the bottom of a stairway, as specified in Section R308.4.7, which extends for 5 feet horizontally from the nosing. There is no need for section 308.4.6 to reference “stairways” and capture the bottom landing, as otherwise it would result in a hazardous location 3 feet from the outer edge of the 3-foot landing, effectively 6 feet from the bottom tread nosing. This would result in a larger area at the bottom of stairways than the section specifically addressing the bottom of stairways.

If the top landing were included in this using the term “stairway” as defined, it would require glazing just under 6 feet away from the top of the stairway to be safety glazed. This does not sound like the intent of this section. Changing stairway to stairs clarifies a better minimum application of the code.

Cost Impact: The code change proposal will decrease the cost of construction

Where this section is interpreted precisely as the terms are defined, this proposal will reduce the cost of construction by reducing the area a the top and bottom of stairways where safety glazing is required. Where this is interpreted more practically, there will be no change in the cost of construction.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R308.4.6 Glazing adjacent to stairs and ramps. Glazing where the bottom exposed edge of the glazing is less than 36 inches (914 mm) above the plane of the adjacent walking surface of *flights of stairs* , ramp runs, landings between flights of stairs and landings between ramp runs ~~*ramps*~~ shall be considered to be a hazardous location.

Exceptions:

1. Where glazing is adjacent to a walking surface and a horizontal rail is installed at 34 to 38 inches (864 to 965 mm) above the walkin surface. The rail shall be capable of withstanding a horizontal load of 50 pounds per linear foot (730 N/m) without contacting the glass and have a cross-sectional height of not less than $1^1/_2$ inches (38 mm).

Page: 1

Mod_11417_Text_RB84-22.pdf

F11417Text Modification

2. Glazing 36 inches (914 mm) or more measured horizontally from the walking surface.

Committee Reason: The modification was to make the terminology consistent for flights of stairs in the section and to add landings associated with ramp runs. The committee requested staff add the additional words needed to clarify that the landings are between stair flights and between ramp runs, not between a stair flight and a ramp run. The proposal was approved as modified because it clarifies that this section is to apply to stairs with one step or greater, ramp runs and and any required associated landings. (Vote: 10-0)

Final Hearing Results	
RB84-22	AM

Page: 2

Mod_11417_Text_RB84-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

283

F11418 | **/RB85-22**

Date Submitted	03/26/2024	**Section**	308.6.5	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of R308.6.5 "Screens not required", Item 2.

Rationale

See attached

F11418Text Modification

See attached

Page: 1

Mod11418_TextOfModification.pdf

F11418Text Modification

RB85-22

Original Proposal

IRC: R308.6.5

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R308.6.5 Screens not required. Screens shall not be required where laminated glass complying with Item 1 of Section R308.6.2 is used as single glazing or the inboard pane in multiple glazing. Screens shall not be required where fully tempered glass is used as single glazing or the inboard pane in multiple glazing and either of the following conditions is met:

1. The glass area is 16 square feet (1.49 m^2) or less; the highest point of glass is not more than 12 feet (3658 mm) above a walking surface; the nominal glass thickness is not more than $^3/_{16}$ inch (4.8 mm); and for multiple glazing only the other pane or panes are fully tempered, laminated or wired glass.
2. The ~~glass area is greater than 16 square feet (1.49 m^2); the~~ glass is sloped 30 degrees (0.52 rad) or less from vertical; and the highest point of glass is not more than 10 feet (3048 mm) above a walking surface.

Reason: Reason: R308.6.5, Item 2 is not consistent with IBC 2405.3, Item 1. This change would provide consistency and eliminate an issue in the IRC where glass areas smaller than 16 square feet would require a screen if glass thickness exceeds 3/16". See below 2405.3

2405.3 Screening

. Exception: In monolithic and multiple-layer sloped glazing systems, the following applies:

1. Fully tempered glass installed without protective screens where glazed between intervening floors at a slope of 30 degrees (0.52 rad) or less from the vertical plane shall have the highest point of the glass 10 feet (3048 mm) or less above the walking surface.

For clarification, the tables below show Examples R308.6.5 Glass Retention Screens NOT Required, and IBC 2405.3 Glass Retention Screens NOT Required:

Page: 1

Mod_11418_Text_RB85-22.pdf

F11418Text Modification

R308.6.5 Glass Retention Screens NOT Required – Shaded Cells

Glazing Area – A (ft^2)	Glazing Slope (degrees)	Height above Walking Surface – H (ft)	Glass Thickness - t (in)
> 16	≤ 30°	≤ 10	n/a
≤ 16	n/a	≤ 12	≤ 3/16
Examples			
20	30°	10	any
20	45°	10	any
20	30°	11	any
16	any	12	3/16
16	any	13	3/16
16	any	12	1/4
4	any	10	1/4
4	any	10	1/4
4	any	11	1/4

Thicker glass (>3/16") means screens are required even for small glass areas? Why?

IBC 2405.3 Glass Retention Screens NOT Required – Shaded Cells

Glazing Area – A (ft^2)	Glazing Slope (degrees)	Height above Walking Surface – H (ft)	Glass Thickness - t (in)
n/a	≤ 30°	≤ 10	n/a
≤ 16	n/a	≤ 12	≤ 3/16
Examples			
any	30°	10	any
any	45°	10	any
any	30°	11	any
16	any	12	3/16
16	any	13	3/16
16	any	12	1/4

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

Page: 2

Mod_11418_Text_RB85-22.pdf

F11418Text Modification

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is for clarification and consistency between codes only. There are no technical changes.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved because it allows smaller skylights to use exception 2. This would be consistency between IRC and IBC. (Vote: 9-1)

Final Hearing Results

RB85-22 AS

Mod_11418_Text_RB85-22.pdf Page: 3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

284

F11419 | **/RB86-22**

Date Submitted	03/26/2024	**Section**	309.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Garage door openers are required to comply with UL 325. It is important that the installer follow the manufacturers instructions and the requirements of UL 325.

Rationale

See attached

F11419Text Modification

See attached

Page: 1

Mod11419_TextOfModification.pdf

F11419Text Modification

RB86-22

Original Proposal

IRC: R309.4

Proponents: Mike Fischer, Kellen, International Door Association (mfischer@kellencompany.com)

2021 International Residential Code

Revise as follows:

R309.4 Automatic garage door openers. Automatic garage door openers, if provided, shall be *listed* and *labeled* in accordance with UL 325, and shall be installed in accordance with UL 325 and the manufacturer's installation instructions.

Reason: Garage door openers are required to comply with UL 325. Typical residential garage door openers include devices such as photoelectric sensors, wall-mounted controls, and release mechanisms. It is important that the installer follow the manufacturers instructions and the requirements of UL 325. DASMA publishes a series of technical data sheets covering a variety of topics related to garage door opener safety and compliance to UL 325.
One example included in the DASMA TDS 364 is the following: "to reduce the risk of severe injury or death, it is essential that photoelectric sensors be installed properly according to manufacturer's instructions."

IDA supports the proper installation of garage doors and automatic openers to help ensure that appropriate safety standards are met. This proposal will help improve compliance and safety of installed products.

Bibliography: DASMA TDS 364: Installation Location of Photoelectric Sensors on Residential Garage Doors
https://www.dasma.com/wp-content/uploads/2021/12/TDS364.pdf

DASMA TDS 369: Frequently Asked Questions Regarding Automated Residential Garage Door Systems

https://www.dasma.com/wp-content/uploads/pubs/TechDataSheets/OperatorElectronics/TDS369.pdf

DASMA TDS 167: Residential Sectional Garage Door and Electric Operator Checklist for Home Inspectors and Consumers

https://www.dasma.com/wp-content/uploads/2021/06/TDS167.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Proper installation of garage door openers is part of the requirements to meet listings and labels. The proposal does not add additional requirements but clarifies the intent of the code and referenced standards.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R309.4 Automatic garage door openers. Automatic garage door openers, if provided, shall be *listed* and *labeled* in accordance with UL 325, and shall be installed in accordance with ~~UL 325 and~~ the manufacturer's installation instructions.

Page: 1

Mod_11419_Text_RB86-22.pdf

F11419Text Modification

Committee Reason: The modification deleting UL325 because the instructions will already include UL325 testing and installation instructions for entrapment issues. Keeping this reference in would add confusion in the field. The proposal was approved as modified because the installation instructions improved safety for garage doors. (Vote: 10-0)

Final Hearing Results

RB86-22 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

285

F11421 | **/RB87-22**

Date Submitted	03/26/2024	**Section**	309.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Concerning Automotive Lifts. New section to the IRC is to close the loophole where uncertified products with a real threat to lifesafety are being installed in the residence and bypassing all safety requirements and to make sure that automotive lift products are safe.

Rationale

See attached

F11421Text Modification

See attached

Page: 1

Mod11421_TextOfModification.pdf

F11421Text Modification

RB87-22

Original Proposal

IRC: 309.6 (New), 309.6.1 (New), 309.6.2 (New), ALI (New)

Proponents: Dale Soos, Automotive Lift Institute, Inc. (ALI), Automotive Lift Institute, Inc. (ALI) (dale@autolift.org); RW Bob O'Gorman, Automotive Lift Institute (ALI), Automotive Lift Institute (ALI) (bob@autolift.org)

2021 International Residential Code

Add new text as follows:

309.6 Automotive Lifts.
Where provided, automotive lifts shall comply with ANSI/ALI ALCTV and Sections 309.6.1 and 309.6.2.

309.6.1 Installation.
Automotive lifts shall be installed in accordance with ANSI/ALI ALIS, the lift manufacturer's installation instructions, and listing and labeling requirements. Consideration shall be given to the foundation where an automotive lift will be affixed, to ensure it will support the weight and structural reactions of an installed automotive lift. Automotive lifts shall not be installed within the habitable space of a dwelling unit.

309.6.2 Electrical Installation.
Automotive lifts shall be installed in accordance with NFPA 70, and shall be*listed* and *labeled* to UL 201 and other standards as determined by the listing agency when evaluated to the requirements of ANSI/ALI ALCTV.

Add new standard(s) as follows:

ALI ALCTV-2017. Standard for Automotive Lifts-Safety Requirements for Construction, Testing and Validation (ANSI)

Reason: The reason for adding this new section to the IRC is to close the loophole where uncertified products with a real threat to life-safety are being installed in the residence and bypassing all safety requirements and to make sure that automotive lift products are safe. Uncertified automotive lift products are available to the homeowner, who assumes that all products on the marketplace must be tested and certified to meet applicable product standards. This is not the case for automotive lift products. Retailers are often not aware they are marketing uncertified products. They are being dumped on the marketplace and the unsuspecting homeowner purchases these, to his detriment. By including already a requirement in the *International Building Code*, the homeowner can have a product which is backed by a valid certification such as those available in the workplace.

Other life-safety devices such as furnaces, boilers, water heaters, A/C units & heat pumps and more mundane products such as fans, water heaters, computers, televisions, luminaires, home appliances, etc. now carry product safety listings. The ANSI/ALI ALCTV automotive lift standard does not have separate performance criteria to establish or define commercial, industrial or homeowner categories . Chapter 30 of the *International Building Code* specifies in both Section & Table 3001.3 the ANSI/ALI ALCTV standard is used for the design, construction, installation, alteration, repair and maintenance of these automotive lifting products. This entry is an attempt to harmonize the *International Building Code* and the *International Residential Code* for these products.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Other industries have discovered that, by making mandatory certification of products a requirement, there has been little to no increase in the overall cost to the consumer by increasing manufacturing efficiencies and having a defined standard to work toward. There are currently 21 reputable manufacturer's producing automotive lifts for the marketplace, both commercial and residential. Any impact created by inclusion of these requirements will be to those importers that are skirting North America's safety standards.

Page: 1

Mod_11421_Text_RB87-22.pdf

F11421Text Modification

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because the automotive lift requirements proposed did not include structural information and foundation requirements. (Vote: 7-3)

Public Comments

Public Comment 1

Proponents: Dale Soos, Automotive Lift Institute, Inc. (ALI), Automotive Lift Institute, Inc. (ALI) (dale@autolift.org) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

309.6 Automotive Lifts.
Where provided, automotive lifts shall ~~comply~~ be *listed* and *labeled* in accordance with ANSI/ALI ALCTV and Sections 309.6.1 and 309.6.2.

309.6.1 Installation.
Automotive lifts shall be installed in accordance with~~ANSI/ALI ALIS~~ANSI/ALI ALCTV, the listing, and the lift manufacturer's installation instructions~~, andlisting and labeling requirements~~. ~~Consideration shall be given to the foundation where an automotive lift will be affixed, to ensure it will support the weight and structural reactions of an installed automotive lift.~~ Automotive lifts shall not be installed within the habitable space of a dwelling unit.

309.6.2 ~~Electrical Installation~~.
~~Automotive lifts shall be installed in accordance with NFPA 70,~~the listing, and the manufacturer's installation instructions~~. and shall be *listed* and *labeled* to UL 201 and other standards as determined by the listing agency when evaluated to the requirements of ANSI/ALI ALCTV~~.

Commenter's Reason: These Public Comments reflect changes made as a result of reviewing the *International Residential Code* Committee's reason for Disapproving the original submittal, as well as those changes made by a Floor Modification (RB87-22-SOOS-1) to more closely align with language present, and the terms defined, within the existing Code.
It should be noted the ANSI/ALI ALCTV standard does now and has always required a third-party product certification for any product claiming compliance. Part of the standard's evaluation criteria is examination of the lift product's strength factors, the minimum of which are defined within ALCTV, as well as specifications for the specific lift's foundation, floor and anchoring structural requirements. To clarify, the automotive lifts are to be installed per the standard, the product's listing requirements, and the manufacturer's instructions.

Originally submitted section 309.6.2 (Electrical Installation) is being removed because the electrical requirements are covered in the ANSI/ALI ALCTV standard and the previous paragraph.

As is noted in the original Reason Statement for RB87-22, this is an extremely important change to the Code for reasons of threat to life safety when using an automotive lift.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Other industries have discovered that, by making mandatory certification of products a requirement, there has been little to no increase in the overall cost to the consumer by increasing manufacturing efficiencies and having a defined standard to work toward. There are currently 21 reputable manufacturer's producing automotive lifts for the marketplace, both commercial and residential. Any impact created by inclusion of these requirements will be to those importers that are skirting North America's safety standards.

Page: 2

Mod_11421_Text_RB87-22.pdf

F11421Text Modification

Final Hearing Results

RB87-22 AMPC1

Page: 3

Mod_11421_Text_RB87-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

286

F11423 **/RB89-22**

Date Submitted	03/26/2024	**Section**	310.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The intent is to remove redundant language Code change RB86-19 AM.

Rationale

See attached

F11423Text Modification

See attached

Page: 1

Mod11423_TextOfModification.pdf

F11423Text Modification

RB89-22

Original Proposal

IRC: SECTION R310.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R310
EMERGENCY ESCAPE AND RESCUE OPENINGS

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court ~~having a minimum width of 36 inches (914 mm)~~ that opens to a *public way*.

Exceptions:

1. *Storm shelters* and *basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m^2).
2. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   2.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
   2.2. Two means of egress complying with Section R311.
3. A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).

Reason: The intent is to remove redundant language Code change RB86-19 AM added a 36" wide route to the public way to the main text, and RB87-19 AS added exception 3 which is intended to also require a 36" wide route to the public way. The exception addresses a specific concern, so the 36" requirement is not needed in the main paragraph.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are not changes to construction requirements for the route from the EERO to the public way. These are clarifications only by a removal of duplicate language.

Public Hearing Results

Page: 1

Mod_11423_Text_RB89-22.pdf

F11423Text Modification

Committee Action **As Submitted**

Committee Reason: The proposal was approved as this removes redundant language found in the main body of Section R310.1 and Exception 3. (Vote: 10-0)

Final Hearing Results

RB89-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

287

F11424 **/RB92-22**

Date Submitted	03/26/2024	**Section**	310.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The intent of this proposal is to eliminate a possible mis-interpretation. Modifies Exceptions to R310.1 "Emergency escape and rescue opening required".

Rationale

See attached

F11424Text Modification

See attached

Page: 1

Mod11424_TextOfModification.pdf

F11424Text Modification

RB92-22

Original Proposal

IRC: R310.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

CHAPTER 3 BUILDING PLANNING

SECTION R310
EMERGENCY ESCAPE AND RESCUE OPENINGS

Revise as follows:

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics* and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court having a minimum width of 36 inches (914 mm) that opens to a *public way*.

Exceptions:

1. ~~*Storm shelters* and *basements*~~ *Basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m^2).
2. Storm shelters constructed in accordance with ICC 500.
3. ~~2.~~ 3. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   ~~2.1.~~ 3.1. One means of egress complying with Section R311 and one *emergency escape and rescue opening*.
   ~~2.2.~~ 3.2. Two means of egress complying with Section R311.
4. ~~3.~~ 4. A *yard* shall not be required to open directly into a *public way* where the *yard* opens to an unobstructed path from the *yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).

Reason: The intent of this proposal is to eliminate a possible mis-interpretation. The 200 sq.ft. limit is meant to be only for basements used to house mechanical equipment. The EERO should not be installed in any size residential shelter because the additional opening is a reduction in safety for the occupants in the storm shelter during a tornado. Residential shelters have specific criteria in ICC 500.
This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no changes to construction requirements. These are clarifications only for storm shelters.

Page: 1

Mod_11424_Text_RB92-22.pdf

F11424Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: By splitting Exception 1 into two parts it is clear that the storm shelters are not limited to the 200 sq.ft.. That size limitation is applicable for mechanical equipment rooms. (Vote: 10-0)

Final Hearing Results

RB92-22 AS

Page: 2

Mod_11424_Text_RB92-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

288

F11425 | **/RB98-22**

Date Submitted	03/26/2024	**Section**	310.5	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

Change concerning R310.5. For consistency with IEBC 505.3, 702.5.1 and IRC R310.7.1 and Appendix J AJ102.4.3.1.

Rationale

See attached

F11425Text Modification

See attached

Page: 1

Mod11425_TextOfModification.pdf

F11425Text Modification

RB98-22

Original Proposal

IRC: R310.5

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

R310.5 Replacement windows for emergency escape and rescue openings. Replacement windows installed in buildings meeting the scope of this code shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Thereplacement window is not part of a change of occupancy.

Reason: The change to shall be permitted is for two reasons:
1) Consistency with IEBC 505.3, 702.5.1 and IRC R310.7.1 and Appendix J AJ102.4.3.1

2) Allows for the largest window with or without a change in the style of the window.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This increases options for the designer for replacement windows.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: This proposal was approved as it improves consistency in terminology across sections that deal with replacement windows. (Vote: 10-0)

Final Hearing Results

RB98-22 AS

Page: 1

Mod_11425_Text_RB98-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

289

F11432 **/RB99-22**

Date Submitted	03/26/2024	**Section**	310.5.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code.

Rationale

See attached

F11432Text Modification

See attached

Page: 1

Mod11432_TextOfModification.pdf

F11432Text Modification

RB99-22

Original Proposal

IRC: R310.5.1 (New), AJ102.4.3, AJ102.4.3.1

Proponents: Ardel Jala, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Micah Chappell, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (micah.chappell@seattle.gov)

2021 International Residential Code

R310.5 Replacement windows for emergency escape and rescue openings. Replacement windows installed in buildings meeting the scope of this code shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. The replacement window is not part of a change of occupancy.

Add new text as follows:

R310.5.1 Window opening control device and fall protection device height. Window opening control devices or fall protection device shall be located at a height in accordance with Section R310.1.1 or at as low a height as the device can be installed within the existing clear opening.

Delete without substitution:

~~**AJ102.4.3 Replacement windows for emergency escape and rescue openings.** Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4.4 provided that the replacement window meets the following conditions:~~

~~1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.~~
~~2. Where the replacement window is not part of a change of occupancy.~~

~~Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as required emergency escape and rescue openings.~~

~~**AJ102.4.3.1 Control devices.** Emergency escape and rescue openings with window opening control devices or fall prevention devices complying with ASTM F2090, after operation to release the control device allowing the window to fully open, shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.~~

Reason: This is one of (4) proposals that pulls existing "breaks" found in Appendix J for Existing Buildings into the main body of the code. Each proposal permits flexibility from meeting full code compliance for existing construction while maintaining a reasonable level of safety. Appendix J section AJ102.4.3 and section R310.5 both provide a break on full compliance for replacement windows for emergency escape and rescue openings. This proposal provides flexibility for the vertical height of the window opening control devices and fall protection devices in existing construction. This proposal deletes Appendix J section AJ102.4.3 which is already covered in sections R310.5 and

Page: 1

Mod_11432_Text_RB99-22.pdf

F11432Text Modification

R310.1.1.

The maximum height to the bottom of the clear opening, i.e. the sill height, of an emergency escape and rescue opening is 44" per section R310.2.3. Under limited conditions, section R310.5 permits replacement windows to re-use the existing frame or existing rough opening and waives the requirements of section R310.2 including the maximum height from floor requirement of section R310.2.3.
The maximum height of window opening control devices and fall prevention devices for emergency escape and rescue openings is 70 inches above the finished floor per section R310.1.1. However since replacement windows for emergency escape and rescue openings have no maximum sill height requirement, the existing sill height could be located at a height 70 inches above the finished floor or higher.

This proposal adds a new section R310.5.1 that permits window opening control devices and fall prevention devices for replacement windows in emergency escape and rescue openings to be installed at the lowest height that the device can be installed within the clear opening when the bottom of the clear opening is higher than 70 inches and cannot be installed at the maximum height of 70 inches above the finished floor as per section R310.1.1. The proposal aligns the required window opening control device or fall prevention device height for a replacement window with the break given to replacement windows on maximum sill height.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal clarifies the height the window control device or fall prevention device may be installed under certain conditions. It does not change the technical requirements for when a control window device is required so there is no cost impact.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R310.5 Replacement windows for emergency escape and rescue openings. Replacement windows for emergency escape and rescue openings installed in buildings meeting the scope of this code shall be exempt from Sections R310.2 and R310.4.4, provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window is of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.

2. The replacement window is not part of a change of occupancy.

Committee Reason: The purpose of the modification was to move the title into the code text to better describe the intent of the section. The provides good guidance for remodels in the code text and is therefore no longer needed in the appendix. (Vote: 10-0)

Final Hearing Results

RB99-22 AM

Page: 2

Mod_11432_Text_RB99-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

290

F11433		/RB100-22			
Date Submitted	03/26/2024	**Section**	311.3.2	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

Adds Exceptions to R311.7.6 "Landings for stairways".

Rationale

See attached

F11433Text Modification

See attached

Mod11433_TextOfModification.pdf

Page: 1

F11433Text Modification

RB100-22

Original Proposal

IRC: R311.3.2, R311.7.6

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

R311.3 Floors and landings at exterior doors. There shall be a landing or floor on each side of each exterior door. The width of each landing shall be not less than the door served. Landings shall have a dimension of not less than 36 inches (914 mm) measured in the direction of travel. The slope at exterior landings shall not exceed $^1/_4$ unit vertical in 12 units horizontal (2 percent).

Exception: Exterior balconies less than 60 square feet (5.6 m^2) and only *accessed* from a door are permitted to have a landing that is less than 36 inches (914 mm) measured in the direction of travel.

R311.3.1 Floor elevations at the required egress doors. Landings or finished floors at the required egress door shall be not more than $1^1/_2$ inches (38 mm) lower than the top of the threshold.

Exception: The landing or floor on the exterior side shall be not more than $7^3/_4$ inches (196 mm) below the top of the threshold provided that the door does not swing over the landing or floor.

Where exterior landings or floors serving the required egress door are not at*grade*, they shall be provided with access to*grade* by means of a *ramp* in accordance with Section R311.8 or a*stairway* in accordance with Section R311.7.

Revise as follows:

R311.3.2 Floor elevations at other exterior doors. At exterior ~~Doors~~ doors other than the required egress door, the exterior side shall be provided with landings or floors not more than $7^3/_4$ inches (196 mm) below the top of the threshold.

Exception: ~~A top~~ An exterior landing or floor is not required at the exterior doorway where a *stairway* of not more than two *risers* is located on the exterior side of the door, provided that the door does not swing over the *stairway*.

R311.3.3 Storm and screen doors. Storm and screen doors shall be permitted to swing over exterior stairs and landings.

Revise as follows:

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each*stairway*. The width perpendicular to the direction of travel shall be not less than the width of the flight served. For landings of shapes other than square or rectangular, the depth at the walk line and the total area shall be not less than that of a quarter circle with a radius equal to the required landing width. Where the *stairway* has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

~~**Exception**~~ Exceptions:

1. A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.
2. At an enclosed garage, the top landing at the stair shall be permitted to be not more than 7 3/4 inches (196 mm) below the top of the threshold.
3. At exterior doors, a top landing is not required for an exterior stairway of not more than two risers, provided that the door does not swing over the stairway.

R311.7.8 Handrails. *Handrails* shall be provided on not less than one side of each flight of stairs with four or more*risers*.

Reason: This proposal started as question - Can the landing or steps into a garage be the same as permitted for exterior doors or not?

Page: 1

Mod_11433_Text_RB100-22.pdf

F11433Text Modification

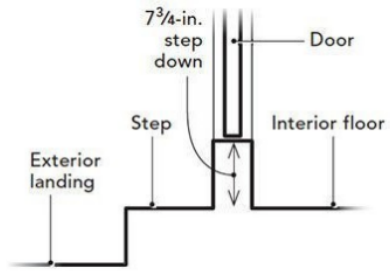
The following are current requirements - There is a requirement for landings at exterior doors (R311.3) and a requirement for landings at the top and bottom of stairways (R311.7.6). The required egress door has to open directly into a public way, yard or court (R311.1), so it has to be an exterior door. Egress is not permitted through a garage (R311.1).

Interior doors not have requirements for landings, so going out to a single step or multiple steps would be covered by the stairway landing requirement in Section R311.7.6. The current exception clarifies that steps into a garage are considered interior stairways.

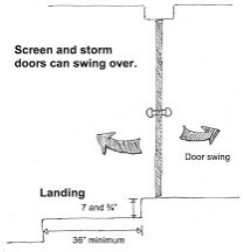
The modifications -

R311.3.2 – This is a requirement for a landing or floor at both sides of an exterior doorway. This section has 'exterior' in the title, and is a subsection of 'exterior doors', but does not have 'exterior' in the text. Since titles are not part of the text, this could be read as all door, or it could be read to allow a 7-3/4" drop between the floor and the threshold on both sides of the door. The modification to the body of the text would limit this to exterior doors and the exterior side for the step down. The current exception is for a stairway landing, not a door landing, so this needs to be more specific to door landings to match the requirement in the main paragraph. "Floor" is added to address balconies and decks.

This is what is permitted with current text for exterior doors other than the means of egress doorway. While perhaps there should be a threshold limit (not proposed here), the current allowances is a serious tripping hazard.



Was this not the intended allowance?



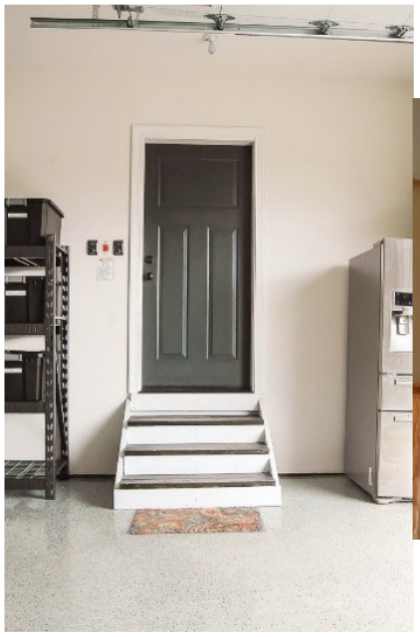
R311.7.6 – This is the section for stairway landings. Interior doors do not have a doorway landing requirement in the IRC. The new exception #2 allows for a garage access door to swing out over a landing that is a step down, similar to an exterior door. The current exception #1 says the door has to swing in. Exception 3 for stairway landings at exterior stairways is added so that R311.3.2 and R311.7.6 are coordinated for landings at exterior doors with steps – literally this is the same landing space, but from two different requirements.

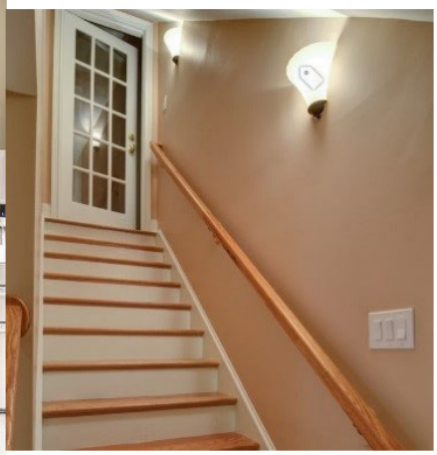
This is an example of the R311.7.6 with the current Exception 1.

Page: 2

Mod_11433_Text_RB100-22.pdf

F11433Text Modification





This is an example of R311.7.6 new exception 2 - allowing for a step down to a landing or floor in a garage - the door can swing in or out. This is currently permitted for exterior doors (R311.3.2)





This is an example of R311.7.6 new exception 3 - which is equal to the intent of R311.3.2 exception.

Page: 3

Mod_11433_Text_RB100-22.pdf





This proposal is submitted by the ICC Building Code Action Committee (BCAC)..

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

F11433Text Modification

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal clarifies existing requirements and provides additional design options for door leading into attached garages. This option could improve safety without additional costs.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The proposal was disapproved because a 7-3/4" high threshold is needed to help at exterior doors with snow and water intrusion. (Vote: 10-0).

Public Comments

Public Comment 1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R311.3.2 Floor elevations at other exterior doors. ~~At e~~ Exterior doors other than the required egress door~~, the exterior side~~ shall be provided with landings or floors not more than $7^{3}/_{4}$ inches (196 mm) below the top of the threshold.

Exception: An exterior landing or floor is not required at the exterior doorway where a *stairway* of not more than two *risers* is located on the exterior side of the door, provided that the door does not swing over the *stairway*.

Commenter's Reason: The testimony and committee reason were all against not loosing the 7-3/4" threshold at exterior doors due to water and snow infiltration. That portion has been removed from the change with the above deletion. The rest of the language at this section is strictly a clarification that Section R311.3.2 is applicable to exterior doors. This was in the title, but not in the text.
The original intent of this proposal was to allow for a step or landing in step down at a door into a garage similar to what is permitted at an exterior door. That remains as submitted. There was no testimony against this idea.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This proposal clarifies existing requirements and provides additional design options for door leading into attached garages. This option could improve safety without additional costs.

Final Hearing Results

RB100-22 AMPC1

Page: 5

Mod_11433_Text_RB100-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

291

F11435 | **/RB101-22**

Date Submitted	03/26/2024	**Section**	311.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The way this section is worded has provided some confusion in interpretation by the code enforcement community. Concerning basements in Section R311.4 "Vertical egress".

Rationale

See attached

F11435Text Modification

See attached

Page: 1

Mod11435_TextOfModification.pdf

F11435Text Modification

RB101-22

Original Proposal

IRC: R311.4

Proponents: Kevin Duerr-Clark, New York State Department of State, New York State Department of State (kevin.duerr-clark@dos.ny.gov); Gerard Hathaway, New York State Department of State, self (gerard.hathaway@dos.ny.gov); Daniel Carroll, New York State Department of State (daniel.carroll@dos.ny.gov)

2021 International Residential Code

Revise as follows:

R311.4 Vertical egress. Egress from basements andhabitable levels ~~including habitable attics and *basements*~~ that are not provided with an egress door in accordance with Section R311.2 shall be by a *ramp* in accordance with Section R311.8 or a *stairway* in accordance with Section R311.7.

Reason: The way this section is worded has provided some confusion in interpretation by the code enforcement community. By placing basements at the end, and including the term habitable attics before it, some have interpreted that the word habitable applies to both attics and basements. As supported by the ICC commentary to this section of code, this is intended to apply to all basements, not just habitable ones. Additionally, by saying habitable levels, habitable attics is already included. Therefore, to make it even cleaner, habitable attics can be removed from the statement. If it is preferred to leave habitable attics in to insure it is included, moving basements to the beginning is still necessary.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is simply a clean up of existing text to increase clarity. It does not change the actual provision based on how the ICC commentary interprets the text.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as because egress should apply to all basements, not just habitable basements. This is a clarification of the intent of the code. (Vote 10-0)

Final Hearing Results

RB101-22 AS

Page: 1

Mod_11435_Text_RB101-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

292

F11436	/RB103-22				
Date Submitted	03/26/2024	**Section**	311.7.5.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

FBC -R/ Section R311.7.5.3.

Summary of Modification

Deleting the confusing redundant use of the term at the beginning of the sentence is editorial and clarifies. R311.7.5.3 "Nosings".

Rationale

See attached

F11436Text Modification

See attached

Page: 1

Mod11436_TextOfModification.pdf

F11436Text Modification

RB103-22

Original Proposal

IRC: R311.7.5.3

Proponents: David Cooper, Stair Design and Manufacturing Consultants, Stairbuilders and Manufacturers Association (coderep@stairways.org)

2021 International Residential Code

Revise as follows:

R311.7.5.3 Nosings. ~~*Nosings* at treads~~Treads, landings and floors of *stairways* shall have a radius of curvature at the *nosing* not greater than $^{9}/_{16}$ inch (14 mm) or a bevel not greater than $^{1}/_{2}$ inch (12.7 mm). A *nosing* projection not less than $^{3}/_{4}$ inch (19 mm) and not more than $1^{1}/_{4}$ inches (32 mm) shall be provided on *stairways*. The greatest *nosing* projection shall not exceed the smallest *nosing* projection by more than $^{3}/_{8}$ inch (9.5 mm) within a *stairway*.

Exception: A *nosing* projection is not required where the tread depth is not less than 11 inches (279 mm).

Reason: Nosing is a defined term in both the IRC and IBC as:*"The leading edge of treads of stairs and of landings at the top of stairway flights"*. Deleting the confusing redundant use of the term at the beginning of the sentence is editorial and clarifies. Please approve as submitted.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is and editorial revision for clarification with no technical changes to the requirements for nosings.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The proposal was approved as it removes redundant language. (Vote: 9-0)

Final Hearing Results

RB103-22 AS

Page: 1

Mod_11436_Text_RB103-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

293

F11452 | **/RB106-22**

Date Submitted	03/27/2024	**Section**	311.7.5.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This is the second of 2 code change proposals to allow an exception to the code to exceed the maximum nosing projection limit of 1-1/4" on stair treads when open risers are allowed and installed within a stair flight.

Rationale

See attached

F11452Text Modification

See attached

Page: 1

Mod11452_TextOfModification.pdf

F11452Text Modification

RB106-22

Original Proposal

IRC: R311.7.5.3

Proponents: Thomas Zuzik Jr, Railingcodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Residential Code

SECTION R311
MEANS OF EGRESS

Revise as follows:

R311.7.5.3 Nosings. *Nosings* at treads, landings and floors of *stairways* shall have a radius of curvature at the *nosing* not greater than $^{9}/_{16}$ inch (14 mm) or a bevel not greater than $^{1}/_{2}$ inch (12.7 mm). A *nosing* projection not less than $^{3}/_{4}$ inch (19 mm) and not more than $1^{1}/_{4}$ inches (32 mm) shall be provided on *stairways*. The greatest *nosing* projection shall not exceed the smallest *nosing* projection by more than $^{3}/_{8}$ inch (9.5 mm) within a *stairway*.

~~**Exception**~~ **Exceptions:**

1. A *nosing* projection is not required where the tread depth is not less than 11 inches (279 mm).
2. Where risers are *open*, the maximum nosing projection shall be permitted to exceed 1 1/4 inches (32 mm).

[RB] FLIGHT. A continuous run of rectangular treads or *winders* or combination thereof from one landing to another.

[RB] NOSING. The leading edge of treads of stairs and of landings at the top of *stairway* flights.

[RB] STAIR. A change in elevation, consisting of one or more *risers*.

[RB] STAIRWAY. One or more flights of stairs, either interior or exterior, with the necessary landings and connecting platforms to form a continuous and uninterrupted passage from one level to another.

Reason: This is the second of 2 code change proposals to allow an exception to the code to exceed the maximum nosing projection limit of 1-1/4" on stair treads when open risers are allowed and installed within a stair flight. The first code change was submitted during the Part A portion of this current code cycle, proposal number E64-21 was approved by the means of egress committee in the spring of 2021, the final action hearing vote in the fall of 2021 and the government members vote in 2021 and is slated to be published in the model 2024 IBC. The code change allows for when open risers are within a stair flight, a user's foot can exceed the end of the tread on ascent. Allowing the tread to be extended further under the tread above, nosing, allows for more tread surface and foot support. This code change will provide uniformity between the IBC and IRC.

Bibliography: Approved Code Change E64-21 for the PART A Means of Egress 2024 Code Cycle

Cost Impact: The code change proposal will decrease the cost of construction
Any cost impact will be through the non-alteration of stock materials by the manufacture and or installer during fabrication and or installation, which would now not be required to be altered.

EX: Stock 12-inch tread, where the location can only accommodate a 10-inch tread depth, the material would not be required to be cut down or altered for the 3/4-inch, to reduce the nosing projection to meet the maximum 1.25-inch current requirement (10" + 1.25" = 11.25").

Page: 1

Mod_11452_Text_RB106-22.pdf

F11452Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The addition of Exception 2 to Section R311.7.5.3 was approved in recognition of the difficulty to measure nosings for open stairways - where there are no risers to measure against. (Vote: 8-1)

Final Hearing Results

RB106-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

294

F11453 | **/RB107-22**

Date Submitted	03/27/2024	**Section**	311.7.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

The current exception for interior stairway top landings is poorly worded and does not present the intent.

Rationale

See attached

F11453Text Modification

See attached

Page: 1

Mod11453_TextOfModification.pdf

F11453Text Modification

RB107-22

Original Proposal

IRC: R311.7.6

Proponents: Glenn Mathewson, BuildingCodeCollege.com, Self (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each *flight of stairs* ~~*stairway*~~. The width perpendicular to the direction of travel shall be not less than the width of the flight served. For landings of shapes other than square or rectangular, the depth at the walk line and the total area shall be not less than that of a quarter circle with a radius equal to the required landing width. Where the *stairway* has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

Exception. The top landing of an interior *stairway*, including those in an enclosed garage, shall be permitted to be on the other side of a door located at the top of the *stairway* ~~A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage~~, provided ~~that a~~ the door does not swing over the *stairs*.

Reason: A stairway is defined as all stairs and necessary landings. It may be made up of multiple stairs/flights. Therefore, it is actually each “flight of stairs” that requires a landing at top and bottom. The current exception for interior stairway top landings is poorly worded and does not present the intent. The intent is that there is still a landing surface at the top of interior stairways, but that it can be on the other side of a door. As worded, the sentence literally states that a landing is not required at the top of the stairway. Period. The mention of a door is only that it can’t swing over the stairs, not that there must be a door at all. But worse… it says a landing is not required at the top of a “flight of stairs” not the whole stairway. So that could be an intermediate landing between two “flights of stairs” that is not required, when the real intent is on the top landing of the “stairway” The top landing of the top flight of stairs.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal clarifies the intent of the code as it is most likely already being interpreted. Therefore there is no definitive change in the cost of construction in any direction.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The revised exception to Section R311.7.6 is a clarification of the landing requirements for stairways at an interior door. (Vote: 10-0)

Final Hearing Results

RB107-22 AS

Page: 1

Mod_11453_Text_RB107-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

295

F11454 | **/RB108-22**

Date Submitted	03/27/2024	**Section**	311.7.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds a new Exception 2 to Section R311.7.6 "Landings for stairways".

Rationale

See attached

F11454Text Modification

See attached

Page: 1

Mod11454_TextOfModification.pdf

F11454Text Modification

RB108-22

Original Proposal

IRC: R311.7.6

Proponents: Glenn Mathewson, BuildingCodeCollege.com, Self (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R311.7.6 Landings for stairways. There shall be a floor or landing at the top and bottom of each*stairway*. The width perpendicular to the direction of travel shall be not less than the width of the flight served. For landings of shapes other than square or rectangular, the depth at the walk line and the total area shall be not less than that of a quarter circle with a radius equal to the required landing width. Where the *stairway* has a straight run, the depth in the direction of travel shall be not less than 36 inches (914 mm).

~~**Exception:**~~ **Exceptions:**

1. A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided that a door does not swing over the stairs.
2. Exterior *stairways* to grade with three or fewer risers serving a deck, porch or patio shall have a minimum bottom landing width of 36 inches, provided the stairway is not the required access to grade serving the required egress door.

Reason: This proposal specifically addresses the popular design of ground level backyard decks desired by your fellow Americans. Ground level decks with monumental wrap-around stairs are a wonderful way to create a deck that is an extension of the house and an extension of the yard. However, once a single tread is built around the edge of a deck only 14 inches above grade, two risers are created and you now have a flight of stairs and a stairway, and that means a landing at the bottom. In increasing frequency, building authorities across the country are interpreting the bottom landing of a stairways to require a solid, manufactured surface, such as concrete, flagstone, or other hardscaping. Some of these authorities would require the lawn cut out and a manufactured surface installed around the entire edge of the deck (width of the stairs) and 3 feet out into the yard. For a single tread this is nearly four feet into the yard. It is my opinion that this is excessive guidance to governments for the regulation of our backyards, and will only serve to further alienate the public's trust in the code.

This proposal will retain a "landing", however interpreted, for only a minimum width of 36 inches on very specific stairways. It is expected that occupants seeking a safer stairway portion in a private home will choose this portion of the stairway. The IBC acknowledges an expectation for the general public in an unfamiliar location to similarly recognize the safer place for their travel on monumental stairways. Though in regard to handrails and not landings, the idea of reduced safety features dependent on the purposefully choice of travel by the occupant is identical. Section 1014.9 of the IBC does not require intermediate handrails on monumental stairways outside of the direct path of egress travel, regardless of the number of risers.
I think we cant trust our neighbors to navigate their own backyard monumental stairways without our complete protection.

The limit of 3 risers was selected as another recognition of reduced hazard, as a handrail is not required. The photo below is just one example of many found in happy backyards across the US. This is an example of how a minimum width landing, as required or interpreted, is provided. However, the remaining edge of the deck can flow into the yard without removing the yard. To tell this homeowner that to meet the minimum safety codes they need to either remove the steps and leave a 20 inch drop, or cut out the grass and install pavers is likely the last conversation any inspector will ever have with them.

Page: 1

Mod_11454_Text_RB108-22.pdf



Cost Impact: The code change proposal will decrease the cost of construction
This proposal will decrease the cost of construction by whatever excessive expense of landing material and labor is being required by certain building officials.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The new Exception 2 to Section R311.7.2.6 clarifies where landings are required at decks stairs that lead to a yard. This would result in an exception for bottom landings where a deck had steps down around the perimeter except for where the steps were part of the required exit discharge. (Vote: 10-0)

Final Hearing Results

RB108-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

296

F11455		/RB110-22			
Date Submitted	03/27/2024	**Section**	311.7.8	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC-R.

Summary of Modification

This proposal creates a separate new section for all Handrail's and consolidates the duplicated information in the code.

Rationale

See attached

F11455Text Modification

See attached

Page: 1

Mod11455_TextOfModification.pdf

F11455Text Modification

RB110-22

Original Proposal

IRC: R311.7.8, R311.7.11.2, R311.7.12.2, R311.8.3, R311.8.3.1, R311.8.3.2, R311.8.3.3, SECTION R312 (New), R312.1 (New), R311.7.8.1, R311.7.8.2, R311.7.8.3, R311.7.8.4, R311.7.8.5, R311.7.8.6

Proponents: Thomas Zuzik Jr, Railingcodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Residential Code

[RB] HANDRAIL. A horizontal or sloping rail intended for grasping by the hand for guidance or support.

SECTION R311
MEANS OF EGRESS

Revise as follows:

R311.7.8 Handrails. *Handrails* shall be provided on not less than one side of each flight of stairs with four or more*risers*and shall comply with Section R312.

R311.7.11.2 Handrails of alternating tread devices.*Handrails* shall be provided on both sides of alternating tread devices and shall comply with Section R312. ~~Sections R311.7.8.2 through R311.7.8.6. *Handrail* height shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).~~

R311.7.12.2 Handrails of ship's ladders. *Handrails* shall be provided on both sides of ship's ladders and shall comply withSection R312. ~~Sections R311.7.8.2 through R311.7.8.6. *Handrail* height shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).~~

R311.8.3 Handrails required. *Handrails* shall be provided on not less than one side of*ramps* exceeding a slope of 1 unit vertical in 12 units horizontal (8.33-percent slope)and shall comply with Section R312.

Delete without substitution:

~~**R311.8.3.1 Height.** *Handrail* height, measured above the finished surface of the*ramp* slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).~~

~~**R311.8.3.2 Grip size**. *Handrails* on *ramps* shall comply with Section R311.7.8.5.~~

~~**R311.8.3.3 Continuity**. *Handrails* where required on *ramps* shall be continuous for the full length of the*ramp*. *Handrail* ends shall be returned or shall terminate in newel posts or safety terminals. *Handrails* adjacent to a wall shall have a space of not less than 1 1/2 inches (38 mm) between the wall and the *handrails*.~~

Add new text as follows:

SECTION R312
HANDRAILS

R312.1 General. Handrails shall comply with Section R312.

Page: 1

Mod_11455_Text_RB110-22.pdf

F11455Text Modification

Revise as follows:

~~R311.7.8.1~~ **R312.2 Height.** *Handrail* height, measured vertically from the sloped plane adjoining the tread*nosing*, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height on alternating tread devices and ship's ladders shall be uniform and not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

Exceptions:

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. Where *handrail* fittings or bendings are used to provide continuous transition between flights, transitions at*winder* treads, the transition from *handrail* to *guard*, or used at the start of a flight, the*handrail* height at the fittings or bendings shall be permitted to exceed 38 inches (965 mm).

~~R311.7.8.2~~ **R312.3 Handrail projection.** *Handrails* shall not project more than $4^1/_2$ inches (114 mm) on either side of the*stairway or ramp*.

Exception: Where *nosings* of landings, floors or passing flights project into the*stairway* reducing the clearance at passing *handrails*, *handrails* shall project not more than $6^1/_2$ inches (165 mm) into the *stairway*, provided that the stair width and *handrail* clearance are not reduced to less than that required.

~~R311.7.8.3~~ **R312.4 Handrail clearance.** *Handrails* adjacent to a wall shall have a space of not less than $1^1/_2$ inches (38 mm) between the wall and the *handrails*.

~~R311.7.8.4~~ **R312.5 Continuity.** Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrails where required for ramps shall be continuous for the full length of the ramp. Handrail ends shall be returned toward a wall, guard walking surface continuous to itself, or terminate to a post.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top landing.

~~R311.7.8.5~~ **R312.6 Grip size.** Required *handrails* shall be of one of the following types or provide equivalent graspability.

1. Type I. *Handrails* with a circular cross section shall have an outside diameter of not less than $1^1/_4$ inches (32 mm) and not greater than 2 inches (51 mm). If the *handrail* is not circular, it shall have a perimeter of not less than 4 inches (102 mm) and not greater than $6^1/_4$ inches (160 mm) and a cross section of not more than $2^1/_4$ inches (57 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).
2. Type II. *Handrails* with a perimeter greater than $6^1/_4$ inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within $^3/_4$ inch (19 mm) measured vertically from the tallest portion of the profile and have a depth of not less than $^5/_{16}$ inch (8 mm) within $^7/_8$ inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than $^3/_8$ inch (10 mm) to a level that is not less than $1^3/_4$ inches (45 mm) below the tallest portion of the profile. The width of the *handrail* above the recess shall be not less than $1^1/_4$ inches (32 mm) and not more than $2^3/_4$ inches (70 mm). Edges shall have a radius of not less than 0.01 inch (0.25 mm).

~~R311.7.8.6~~ **R312.7 Exterior plastic composite handrails.** *Plastic composite* exterior *handrails* shall also comply with the requirements of Section R507.2.2.

Reason: Currently the 2021 IRC and prior editions duplicated the requirements for handrails under both the stairway and ramp sections, while also duplicating height requirements under alternating treads and ships ladders.
This proposal creates a separate new section for all Handrail's and consolidates the duplicated information in the code, without changing any of the parameters except as noted below.

Specific changes to the text Noted:

1. When moving section R311.8.3.3 to R311.9.4, changed "on" to "for"
    1. "required **on** ramps" now reads "required **for** ramps"

Page: 2

Mod_11455_Text_RB110-22.pdf

F11455Text Modification

2. In the 2021 IRC code cycle Section R311.7.8.4 removed the catch all wording Safety Terminals, and replaced it with "shall be returned toward a wall, guard walking surface continuous to itself, or terminate to a post.". However, the same change was not updated to Section R311.8.3.3 for ramps. This left the code with 2 different termination requirements, one for stairs and one for ramps. This code change returns handrails on stairways and ramps to the same requirements.
3. The pointers in R311.11.2 and R311.12.2 text deleted and moved to Section R312.2 Height.
4. "or ramp" was added to the section R312.3 Handrail Projection, this does add a new requirement to ramp handrails within the IRC, it is the same in the IBC.
5. We inserted "also" in Section R312.7 which was moved from R311.7.8.6, this was done to clarify that plastic composite handrails need to comply with R312 and R507.2.2, not just R507.2.2.

This code change clarifies and consolidates the handrail requirements under one area within the code and we believe simplifies the code by removing all the duplications.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal consolidates duplicate information spread out over many sections and rearranges the provisions into one logical section. There is only one slight technical change is section R312.3, which I believe does not increase cost, as the same pre-manufactured handrail bracket materials are used on stairs as ramps, and stairs have the requirement already in place. Except for this one technical change the rest of the content is just editorial and rearrangement of the text into a more logical order and therefore, there will be no cost impact when approving this proposal.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee favored this reorganization and consolidation of the handrail requirements. This also added some additional needed language and appropriate pointers. This proposal aligns with IBC egress format. (Vote 8-2)

Final Hearing Results

RB110-22 AS

Page: 3

Mod_11455_Text_RB110-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

297

F11456		/RB111-22			
Date Submitted	03/27/2024	**Section**	311.7.8.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

This change clarifies that a handrail can terminate at any of the described surfaces not just a post as well as be returned toward all these same surfaces.

Rationale

See attached

F11456Text Modification

See attached

Page: 1

Mod11456_TextOfModification.pdf

F11456Text Modification

RB111-22

Original Proposal

IRC: R311.7.8.4, R311.8.3.3

Proponents: David Cooper, Stair Design and Manufacturing Consultants, Stairbuilders and Manufacturers Association (coderep@stairways.org)

2021 International Residential Code

Revise as follows:

R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned toward or terminate at a post, wall, guard, walking surface, or wrap continuous to itself ~~or terminate to a post~~. The end of the handrail shall not form a gap more than 1/4 inch (6.4 mm) from the adjacent surface.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top landing.

R311.8.3.3 Continuity. *Handrails* where required on *ramps* shall be continuous for the full length of the *ramp*. *Handrail* ends shall be returned toward or shall terminate ~~in~~ at ~~newel posts or safety terminals~~ a post, wall , guard, walking surface, or wrap continuous to itself. The end of the handrail shall not form a gap more than 1/4 inch (6.4 mm) from the adjacent surface. *Handrails* adjacent to a wall shall have a space of not less than $1^1/_2$ inches (38 mm) between the wall and the *handrails*.

Reason: In addition to providing for a continuous handrail the intent of this section has been to restrict open handrails such that they do not snag loose clothing or objects carried that might cause an accidental fall. In the last cycle we worked with others to successfully eliminate the term safety terminal that had been open to wide interpretation. In doing so we tried to better define what should be considered safe terminations of the end of the handrail. This change clarifies that a handrail can terminate at any of the described surfaces not just a post as well as be returned toward all these same surfaces. In the added sentence we have included a limitation for any gap that might be formed between the end of the handrail and the adjacent surface when handrails are returned *toward* a surface to maintain the intent to restrict the possibility of snagging loose clothing or carried objects.
ICC staff pointed out that the term safety terminal still remained in the ramp section under continuity and requested we address this in this cycle. This proposal does so and if passed both sections will have parallel language.

This proposal provides needed clarification for interpretation and enforcement of handrail terminations on both stairs and ramps.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal follows the original intent of the provisions for handrail extensions and provides additional information on what is required to meet that intent, however, there are no technical changes to the requirements that will result in an increase in cost.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned toward or terminate at a post, wall, guard, walking surface,

Page: 1

Mod_11456_Text_RB111-22.pdf

F11456Text Modification

or wrap continuous to itself. ~~The end of the handrail~~Handrail returns shall not form a gap more than 1/4 inch (6.4 mm) from the adjacent wall~~surface~~.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top landing.

R311.8.3.3Continuity. *Handrails* where required on *ramps* shall be continuous for the full length of the*ramp*. *Handrail* ends shall be returned toward or shall terminate at a post, wall , guard, walking surface, or wrap continuous to itself. ~~The end of the handrail~~Handrail returns shall not form a gap more than 1/4 inch (6.4 mm) from the adjacentwall~~surface~~. *Handrails* adjacent to a wall shall have a space of not less than $1^1/_2$ inches (38 mm) between the wall and the*handrails*.

Committee Reason: The modification for the last sentence ins Sections R311.7.8.4 and R311.8.3.3 provided more consistent terminology. The committee concluded this proposal as modified helps minimize the chance of accidental falls by snagging clothes on handrails ends. (Vote: 10-0)

Final Hearing Results	
RB111-22	AM

Page: 2

Mod_11456_Text_RB111-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

298

F11457		/RB112-22			
Date Submitted	03/27/2024	**Section**	311.7.8.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

With the addition of the defined term nosing in both the IRC and IBC the use of "riser" for the vertical and horizontal intersection point of the lowest tread edge and top landing edge is no longer correct and the correct term is nosing.

Rationale

See attached

F11457Text Modification

See attached

Page: 1

Mod11457_TextOfModification.pdf

F11457Text Modification

RB112-22

Original Proposal

IRC: R311.7.8.4

Proponents: Thomas Zuzik Jr, Railingcodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Residential Code

SECTION R311
MEANS OF EGRESS

Revise as follows:

R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top~~riser~~ nosing of the flight to a point directly above the lowest ~~riser~~nosing of the flight. Handrail ends shall be returned toward a wall, guard walking surface continuous to itself, or terminate to a post.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top landing.

Reason: With the addition of the defined term nosing in both the IRC and IBC the use of "riser" for the vertical and horizontal intersection point of the lowest tread edge and top landing edge is no longer correct and the correct term is nosing. This term and measuring point were changed in the Part A cycle and will be the point of measurement where handrail extensions are to be measured from in the 2024 IBC. Keeping the terminology, the same in both codes will prevent confusion within the industry as adoption of the newest model codes are done over time.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is an editorial reorganization of two defined terms within the requirement to the more appropriate term and does not change any technical requirements that will increase or decrease cost.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the~~top~~ nosing of the landing at the top of the flight to a point directly above the lowest nosing of the flight. Handrail ends shall be returned toward a wall, guard walking surface continuous to itself, or terminate to a post.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top landing.

Page: 1

Mod_11457_Text_RB112-22.pdf

F11457Text Modification

Committee Reason: This modification is an important clarification for the reference point for the handrail continuity at the top of the flight. The committee concluded this proposal as modified clarifies the reference point for the handrail continuity at both ends of the flight. (Vote 9-0)

Final Hearing Results

RB112-22 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

299

F11458 | **/RB113-22**

Date Submitted	03/27/2024	**Section**	311.7.8.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

Exception 2 for volutes, turnouts and starting easing's, added terminating over the top landing allowed. However, it left out bottom landings for volutes, turnouts and starting easing's. This proposal adds the clarification to the exception.

Rationale

See attached

F11458Text Modification

See attached

Page: 1

Mod11458_TextOfModification.pdf

F11458Text Modification

RB113-22

Original Proposal

IRC: R311.7.8.4

Proponents: Thomas Zuzik Jr, Railingcodes.com, National Ornamental & Miscellaneous Metals Association (NOMMA) (coderep@railingcodes.com)

2021 International Residential Code

Revise as follows:

R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned toward a wall, guard, walking surface, continuous to itself, or terminate to a post.

Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread and over the top<u>or bottom landings</u> ~~landing~~.

Reason: Exception 2 for volutes, turnouts and starting easing's, added terminating over the top landing allowed. However, it left out bottom landings for volutes, turnouts and starting easing's. This proposal adds the clarification to the exception.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal is adding minimal technical clarification which was removed with the deletion of the generalized term “Safety Termination” last model 2021 IRC publication within the code and just reaffirming an implied allowance which will not increase or decrease cost.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R311.7.8.4 Continuity. Handrails shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned toward a wall, guard, walking surface, continuous to itself, or terminate to a post.
Exceptions:

1. Handrail continuity shall be permitted to be interrupted by a newel post at a turn in a flight with winders, at a landing, or over the lowest tread.
2. A volute, turnout or starting easing shall be allowed to terminate over the lowest tread~~and over the top or bottom landings~~ .

Committee Reason: The modification to remove the landing for Section R311.7.8.4 Exception 2 is appropriate because the requirements for the stairway handrails are only from top nosing to the bottom nosing - so this does not include the bottom landing. Therefore in clarifies the current intent of the code. The committee concluded this proposal as modified clarifies that this removed redundant language and clarifies that the volute at the bottom of the stairway is over the bottom riser and not over the landing. (Vote 9-0)

Page: 1

Mod_11458_Text_RB113-22.pdf

F11458Text Modification

Final Hearing Results

RB113-22 AM

Page: 2

Mod_11458_Text_RB113-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

300

F11459 /RB114-22

Date Submitted	03/27/2024	**Section**	311.7.9	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - B.

Summary of Modification

This proposal creates a new section for existing stairs that incorporates provisions from Section AJ109.8 into the main body of the code and aligns the IRC existing stair requirements with flexibility currently found in IEBC.

Rationale

See attached

F11459Text Modification

See attached

Page: 1

Mod11459_TextOfModification.pdf

F11459Text Modification

RB114-22

Original Proposal

IRC: R311.7.9 (New), R311.7.9.1 (New), R311.7.9.2 (New), R311.7.9.3 (New), R311.7.9.4 (New), AJ109.8, AJ109.8.1, AJ109.8.2, AJ109.8.3

Proponents: Ardel Jala, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (ardel.jala@seattle.gov); Micah Chappell, Seattle Department of Construction & Inspections, Seattle Department of Construction & Inspections (micah.chappell@seattle.gov)

2021 International Residential Code

Add new text as follows:

R311.7.9 Stairways in existing buildings. Where an existing stair is completely reconstructed or an existing stair serves *habitable space* created by a *change of occupancy*, the stairs shall comply with the requirements of this code for new construction. Alterations to existing stairs shall comply with the Sections R311.7.8 and R311.7.9.1 through R311.7.9.4.

R311.7.9.1 Stair width.
Existing stairs not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing *handrails*.

R311.7.9.2 Stair headroom.
Headroom height on existing stairs being altered or modified shall not be reduced below the existing *stairway* finished headroom. Existing stairs not otherwise being altered shall be permitted to maintain the current finished headroom.

R311.7.9.3 Stair landing. Landings serving existing stairs being altered or modified shall not be reduced below the existing *stairway* landing depth and width. Existing stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.

R311.7.9.4 Stair treads and risers. An existing stairway shall not be required to comply with Section R311.7.5 wherethe existing space and construction does not allow a reduction in pitch or slope. Where *risers* are added to an existing stair, the tread and riser dimensions of the added *risers* shall match the existing stair.

Revise as follows:

~~**AJ109.8 Stairs.** -~~

Delete without substitution:

~~**AJ109.8.1 Stair width.** Existing *basement* stairs and *handrails* not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing *handrails*.~~

~~**AJ109.8.2 Stair headroom.** Headroom height on existing *basement* stairs being altered or modified shall not be reduced below the existing *stairway* finished headroom. Existing *basement* stairs not otherwise being altered shall be permitted to maintain the current finished headroom.~~

~~**AJ109.8.3 Stair landing.** Landings serving existing *basement* stairs being altered or modified shall not be reduced below the existing *stairway* landing depth and width. Existing *basement* stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.~~

Mod_11459_Text_RB114-22.pdf

F11459Text Modification

Reason: This is one of (4) proposals that pull existing "breaks" found in Appendix J for Existing Buildings into the main body of the code. Each proposal permits flexibility from meeting full code compliance for existing construction while maintaining a reasonable level of safety.

This proposal creates a new section for existing stairs that incorporates provisions from Section AJ109.8 into the main body of the code and aligns the IRC existing stair requirements with flexibility currently found in IEBC. The proposal provides breaks on full compliance for stair width, headroom and landings for alterations to existing stairs. The proposal also gives a break for stair treads and risers that is consistent with a more general break for existing stairs in IEBC Section 506.3.

Alterations, repairs, and reconfiguration of spaces often require altering, extending or completely rebuilding the existing stairs. However, existing stairs may not conform to current code though they were compliant at the time they were built. For example, legacy codes permitted a residential stair to have an 8 inch riser and a 9 inch tread versus today's rise/run requirements of 7 3/4 inches and 10 inches. Reducing the pitch to make the stair comply requires enlarging the stair footprint. It can be impractical to reframe the stair opening or reconfigure the floor plan where the existing space and construction does not easily accommodate a larger stair footprint.

In this proposal, alterations to existing stairs are permitted some flexibility. Existing stairs not being altered are allowed to remain as existing non-conforming. Sections R311.7.9.1 through R311.7.9.3 brings the code provisions from Appendix J Sections AJ109.8.1 through AJ109.8.3 into the main body of the code and deletes them from Appendix J. These sections state that stair width, headroom, and landing shall not be made more non-conforming but otherwise are permitted to maintain their current dimensions. While the breaks in Appendix J apply to existing basement stairs only, these allowances seemed reasonable to extend to all existing stairs.

Section R311.7.9.4 of this proposal applies to stair treads and risers in existing buildings. This section is based on IEBC Section 506.3 which permits a stair to not comply with new stair provisions when the existing space does not permit the reduced pitch or slope. In the proposal, I did not copy the IEBC language over in its entirety because the other sections of this proposal already provide breaks on stair width, headroom and landing. For clarity, I revised the IEBC language to apply to the tread and riser requirements for the existing stairs.

Section R311.7.9.4 also adds an allowance to match the tread and riser dimensions of an existing stair when extending the run of a stair. This allows an owner to extend an existing stair that has an 8 inch rise and 9 inch tread to be extended with risers that match the existing rise and run and that do not create a tripping hazard by a reduction in pitch mid-run.

Section R311.7.9 makes it clear that when a stair in an existing building is completely rebuilt, those stairs must be made fully compliant. For example, an existing stair is demolished and a new stair constructed as part of alterations. This should be regulated as a new stair as this is an opportunity for the stair to be built compliant to current code.

Section R3117.9 also makes it clear that when a stair is serving an area where a change of occupancy creates habitable space, that the existing stair must be made fully compliant. This requirement is consistent with Section R102.7.1 which states the alterations shall not cause an existing structure to become less compliant.

In summary, while Section R104.10 allows the building official discretion to offer flexibility where full compliance is not practical, the code does not provide explicit relief from full compliance with new code requirements for alterations to existing stairs. This proposal clarifies when full compliance is required and provides flexibility from full code compliance for alterations to an existing stair. This proposal provides greater flexibility for existing stair code compliance to homeowners wanting to maximize the usable square footage in their home.

Cost Impact: The code change proposal will decrease the cost of construction
This code change proposal reduces the extent that an existing stair must be altered to meet new code requirements for an existing building that falls under the scoping of the IRC. With this additional flexibility explicitly stated in the code it eliminates the need for reframing floor openings to accommodate larger stairs to meet current code, resulting in a savings in construction cost.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R311.7.9 Stairways in existing buildings. ~~Where an existing stair is completely reconstructed or an existing stair serves *habitable space* created by a *change of occupancy*, the stairs shall comply with the requirements of this code for new construction. Alterations to existing stairs shall comply with the Sections R311.7.8 and R311.7.9.1 through R311.7.9.4.~~ Alterations to existing stairs shall not be

Page: 2

Mod_11459_Text_RB114-22.pdf

required to comply with the requirements of this code where the existing space and construction does not allow a reduction in pitch or slope.

~~R311.7.9.1 Stair width.~~ ~~Existing stairs not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing *handrails*.~~

~~R311.7.9.2 Stair headroom.~~ ~~Headroom height on existing stairs being altered or modified shall not be reduced below the existing *stairway* finished headroom. Existing stairs not otherwise being altered shall be permitted to maintain the current finished headroom.~~

~~R311.7.9.3 Stair landing.~~ ~~Landings serving existing stairs being altered or modified shall not be reduced below the existing *stairway* landing depth and width. Existing stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.~~

~~R311.7.9.4 Stair treads and risers.~~ ~~An existing stairway shall not be required to comply with Section R311.7.5 where the existing space and construction does not allow a reduction in pitch or slope. Where *risers* are added to an existing stair, the tread and riser dimensions of the added *risers* shall match the existing stair.~~

AJ109.8 Stairs.

AJ109.8.1 Stair width. Existing *basement* stairs and *handrails* not otherwise being altered or modified shall be permitted to maintain their current clear width at, above and below existing *handrails*.

AJ109.8.2 Stair headroom. Headroom height on existing *basement* stairs being altered or modified shall not be reduced below the existing *stairway* finished headroom. Existing *basement* stairs not otherwise being altered shall be permitted to maintain the current finished headroom.

AJ109.8.3 Stair landing. Landings serving existing *basement* stairs being altered or modified shall not be reduced below the existing *stairway* landing depth and width. Existing *basement* stairs not otherwise being altered shall be permitted to maintain the current landing depth and width.

Committee Reason: The modification reinstates what was being taken out of Appendix J, AJ109.8.1 through AJ109.8.3, so options for stairs are not lost in the appendix. The committee requested that the title for the section in AJ109.8 also be restored. The modification to the new proposal Sections R311.7.9 through R311.7.9.4, removed the language moved into the text from the appendix and replaced it with a one sentence allowance for existing stairways. This allowance is consistent with IEBC. This proposal as modified now gives the break for pitch and slope in existing buildings based on current conditions. (Vote 10-0)

Final Hearing Results

RB114-22 AM

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

301

F11460 /RB121-22

Date Submitted	03/27/2024	**Section**	314.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This change correlates the IRC requirements for smoke alarms with the changes to the IFC and IPMC as approved by F89-21.

Rationale

See attached

F11460Text Modification

See attached

Page: 1

Mod11460_TextOfModification.pdf

F11460Text Modification

RB121-22

Original Proposal

IRC: R314.1, R314.3.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

SECTION R314
SMOKE ALARMS

Revise as follows:

R314.1 General. Smoke alarms shall comply with NFPA 72, ~~and~~ Section R314 and the manufacturer's installation instructions .

R314.1.1 Listings. Smoke alarms shall be *listed* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

Revise as follows:

R314.3.1 Installation near cooking appliances. Smoke alarms shall ~~not~~ be installed a minimum of 10 ft. (3.0 m) horizontally from a permanently installed cooking appliance. ~~in the following locations unless this would prevent placement of a smoke alarm in a location required by Section R314.3.~~

1. ~~Ionization smoke alarms shall not be installed less than 20 feet (6096 mm) horizontally from a permanently installed cooking *appliance*.~~
2. ~~Ionization smoke alarms with an alarm-silencing switch shall not be installed less than 10 feet (3048 mm) horizontally from a permanently installed cooking *appliance*.~~
3. ~~Photoelectric smoke alarms shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking *appliance*.~~
4. ~~Smoke alarms *listed* and marked "helps reduce cooking nuisance alarms" shall not be installed less than 6 feet (1828 mm) horizontally from a permanently installed cooking *appliance*.~~

Exception: Smoke alarms shall be permitted to be installed a minimum of 6 ft. (1.8 m) horizontally from a permanently installed cooking appliance where necessary to comply with Section R314.3.

Reason: This change correlates the IRC requirements for smoke alarms with the changes to the IFC and IPMC as approved by F89-21. This proposal simply aligns the code requirements in the I-Codes with the current edition of NFPA 72 and the 8th Edition of UL 217.

This proposal removes the outdated requirements related to specifying ionization or photoelectric smoke alarm technologies because all smoke alarms will be listed for resistance to common nuisance sources from cooking when the 2024 edition of the IRC is published.

NFPA 72 Section 29.11.3.4(4)(2) requires smoke alarms to be listed for resistance to common nuisance sources from cooking in accordance with the 8th Edition of UL 217 or subsequent editions. The reason UL smoke alarm and detector standards have new performance tests is to reduce the frequency of unwanted alarm activation from normal cooking activities such as pan-frying, sauteing or baking. The new cooking resistance tests are necessary because normal cooking activities are the leading cause of unwanted alarm activations that result in homeowners removing or deactivating their smoke alarms. Therefore, the technology specific requirement for devices installed between 6 and 20 feet are now longer relevant.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International

Page: 1

Mod_11460_Text_RB121-22.pdf

Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal simply aligns the IRC with NFPA 72 and UL 217. Since this is already required by the standards, this change to the code will not change the technical requirements.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal removes outdated requirements and takes into consideration new technologies and advancements for smoke alarms. (Vote 10-0)

Final Hearing Results

RB121-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

302

F11461 /RB122-22

Date Submitted	03/27/2024	**Section**	314.1.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires smoke alarms to be installed in accordance with the listing and the manufacturer's installation instructions.

Rationale

See attached

F11461Text Modification

See attached

Page: 1

Mod11461_TextOfModification.pdf

F11461Text Modification

RB122-22

Original Proposal

IRC: R314.1.1, R314.1.2 (New)

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R314.1.1 Listings. Smoke alarms shall be *listed* and *labeled* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* in accordance with UL 217 and UL 2034.

Add new text as follows:

R314.1.2 Installation. Smoke alarms shall be installed in accordance with their listing and the manufacturer's instructions.

Reason: This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires smoke alarms to be installed in accordance with the listing and the manufacturer's installation instructions. "Listed" and "Labeled" are both defined terms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Listed smoke alarms are already identified by a label, and there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R314.1.1 Listings. Smoke alarms shall be *listed* and *labeled* in accordance with UL 217. Combination smoke and carbon monoxide alarms shall be *listed* and *labeled* in accordance with UL 217 and UL 2034.

Committee Reason: The committee felt that the modification adding "and labeled" to the 2nd sentence of Section 314.1.1 is important for the combination smoke and carbon monoxide alarms - and would be consistent with the rest of the proposal.The committee concluded this proposal as modified is an improvement for the installation requirements for the alarms. The committee would like to see combination smoke and carbon monoxide alarms added to the installation Section R314.1.2 through public comment. See also RB124-22. (Vote 10-0)

Public Comments

Public Comment 1

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com) requests As Modified by Public Comment

Further modify as follows:

2021 International Residential Code

Page: 1

Mod_11461_Text_RB122-22.pdf

F11461Text Modification

R314.1.2 Installation. Smoke alarms and combination smoke and carbon monoxide alarms shall be installed in accordance with their listing and the manufacturer's instructions.

Commenter's Reason: This proposal adds the requirement for combination smoke and carbon monoxide alarms to be installed in accordance with the listing and the manufacturer's installation instructions. The same requirement currently exists for smoke alarms, and this expands the requirement to include combination alarms as well similar to what was done in RB124-22.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Listed smoke alarms and combination smoke and carbon monoxide alarms are already being installed in the same fashion so there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

Final Hearing Results

RB122-22 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

303

F11462 | **/RB124-22**

Date Submitted	03/27/2024	**Section**	315.1.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer’s installation instructions.

Rationale

See attached

F11462Text Modification

See attached

Page: 1

Mod11462_TextOfModification.pdf

F11462Text Modification

RB124-22

Original Proposal

IRC: R315.1.1, R315.1.2 (New)

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R315.1.1 Listings. Carbon monoxide alarms shall be *listed* and *labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed* and *labeled* in accordance with UL 2034 and UL 217.

Add new text as follows:

R315.1.2 Installation. Carbon monoxide alarms shall be installed in accordance with their*listing* and the manufacturer's instructions.

Reason: This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer's installation instructions. "Listed" and "Labeled" are both defined terms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
Listed carbon monoxide alarms are already identified by a label, and there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R315.1.2 Installation. Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their *listing* and the manufacturer's instructions.

Committee Reason: The modification to Section R315.1.2 added combination carbon monoxide/smoke alarms to the installation requirements. This is consistent with the committee recommendation for RB122-22 and would coordinate with the two types of systems addressed in Section R315.1.1. The committee approved this proposal as modified for consistency with committee's action on RB122-22 and ensure the proper installation of carbon monoxide alarms and combination carbon monoxide/smoke alarms. (Vote: 10-0)

Final Hearing Results

RB124-22 AM

Page: 1

Mod_11462_Text_RB124-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

304

F11463		/RB125-22			
Date Submitted	03/27/2024	**Section**	315.7.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -R.

Summary of Modification

NFPA 720 has been discontinued after the 2015 edition. All carbon monoxide alarm and detection criteria has been relocated and is now addressed in NFPA 72.

Rationale

See attached

F11463Text Modification

See attached

Page: 1

Mod11463_TextOfModification.pdf

F11463Text Modification

RB125-22

Original Proposal

IRC: R315.7.1, R315.7.2, NFPA Chapter 44

Proponents: John Swanson, National Fire Sprinkler Association, National Fire Sprinkler Association (swanson@nfsa.org)

2021 International Residential Code

Revise as follows:

R315.7.1 General. Household carbon monoxide detection systems shall comply with NFPA ~~720~~ 72. Carbon monoxide detectors shall be *listed* in accordance with UL 2075.

R315.7.2 Location. Carbon monoxide detectors shall be installed in the locations specified in Section R315.3. These locations supersede the locations specified in NFPA ~~720~~ 72.

Delete without substitution:

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169-7471

~~720–15~~ ~~Standard for the Installation of Carbon Monoxide (CO) Detectors and Warning Equipment~~

Reason: NFPA 720 has been discontinued after the 2015 edition. All carbon monoxide alarm and detection criteria has been relocated and is now addressed in NFPA 72.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There are no technical changes to this code section. This proposal is being made to clarify the NFPA standard now addressing carbon monoxide alarms/detection equipment.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee approved this proposal because it incorporates the replacement of a discontinued standard, NFPA 720, for the correct one, NFPA 72. (Vote: 10-0)

Final Hearing Results

RB125-22 AS

Page: 1

Mod_11463_Text_RB125-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

305

F11465 /RB127-22

Date Submitted	03/27/2024	**Section**	316.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal provides references to applicable standards that govern material characteristics in addition to the requirements in Section R316.

Rationale

See attached

F11465Text Modification

See attached

Page: 1

Mod11465_TextOfModification.pdf

F11465Text Modification

RB127-22

Original Proposal

IRC: SECTION R316.1.1 (New), R316.1.2 (New), TABLE R316.1.2 (New), ICC Chapter 44 (New)

Proponents: Jay Crandell, P.E., ABTG/ARES Consulting, Foam Sheathing Committee of the American Chemistry Council (jcrandell@aresconsulting.biz)

2021 International Residential Code

SECTION R316
FOAM PLASTIC

R316.1 General. The provisions of this section shall govern the materials, design, application, construction and installation of foam plastic materials.

Add new text as follows:

R316.1.1 Spray-applied foam plastic. Single- and multiple-component spray-applied foam plastic insulation shall comply with the provisions of Section R316 and ICC 1100.

R316.1.2 Insulating sheathing. Foam plastic materials used as *insulating sheathing* shall comply with the provisions of Section R316 and the material standards in Table R316.1.2.

TABLE R316.1.2 MATERIAL STANDARDS FOR FOAM PLASTIC INSULATING SHEATHING

Expanded Polystyrene (EPS)	ASTM C578
Extruded Polystyrene (XPS)	ASTM C578
Polyisocyanurate	ASTM C1289

Add new standard(s) as follows:

ICC

International Code Council, Inc.
500 New Jersey Avenue NW 6th Floor
Washington, DC 20001

1100-2018 Standard for Spray-applied Foam Plastic Insulation

Reason: This proposal provides references to applicable standards that govern material characteristics in addition to the requirements in Section R316. This proposal also coordinates with identical provisions in the 2021 IBC Section 2603.1 including revisions that were approved as submitted by FS152-21 for the 2024 IBC.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal consolidates reference material standards that are applicable to foam plastic materials already addressed in the code.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_11465_Text_RB127-22.pdf

F11465Text Modification

Committee Reason: This proposal establishes the minimum physical and performance properties as well as application requirements for spray applied foam plastics. It also fills a void by provides material standards for spray foam and plastics. (Vote: 10-0)

Final Hearing Results	
RB127-22	AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

306

F11466 **/RB129-22**

Date Submitted	03/27/2024	**Section**	316.6	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Section R316.6 "Specific approval".

Rationale

See attached

F11466Text Modification

See attached

Page: 1

Mod11466_TextOfModification.pdf

F11466Text Modification

RB129-22

Original Proposal

IRC: R316.6

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Residential Code

Revise as follows:

R316.6 Specific approval. Foam plastic not meeting the requirements of Sections R316.3 through R316.5 shall be specifically *approved* on the basis of one of the following *approved* tests: NFPA 286 with the acceptance criteria of Section R302.9.4, FM 4880, UL 1040 or UL 1715, ~~or fire tests related to actual end-use configurations~~. Approval shall be based on a large-scale test reflecting the actual end-use configuration and shall be performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall include seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use.

Reason: This change correlates with a change made to the IBC by F60-21, Part II, which eliminated a loophole in the IBC that permitted creative testing of foam plastics without use of controls in Chapter 1 that are applicable to every other case where someone would want to propose an alternative method or material. When this "loose" code text was added to legacy codes, standardized testing of foam plastics had not yet reached maturity. Today however, we have several recognized and standardized tests for this purpose cited in the code text and additional options developed by evaluation services that can be considered as alternative methods under Chapter 1. Continuing to maintain "loose" text in this section that circumvents Chapter 1 is unjustified. If the general alternative methods provisions are good enough for everything else in the code, there is no reason for foam plastics to be treated differently. The technical committee agreed with this in Group A (vote 13-0), and the members rejected a public comment asking for that action to be overturned and upheld the committee in the OGCV.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
The proposal does not add any requirements but deletes a permitted approach for approval of foam plastic materials. There is the potential that materials that had been approved based on non-standard tests would have to be retested.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal was disapproved because it eliminates a fire test option for compliance and the committee feels a large scale test is excessive for small applications that happen with residential. This requirement could actually increase costs. Some of the committee supported the proposal for its correlation with the the IBC and approved proposal F60-21 n Group A. The committee recommended that the proponents of RB129-22 and RB130-22 work together. (Vote: 6-5)

Public Comments

Public Comment 1

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com) requests As Modified by Public Comment

Page: 1

Mod_11466_Text_RB129-22.pdf

F11466Text Modification

Modify as follows:

2021 International Residential Code

R316.6 Specific approval. Foam plastic not meeting the requirements of Sections R316.3 through R316.5 shall be specifically *approved* on the basis of ~~one of the following *approved* tests: NFPA 286 with the acceptance criteria of Section R302.9.4, FM 4880, UL 1040 or UL 1715,. Approval shall be based on a~~ an *approved* large-scale test reflecting the actual end-use configuration and~~shall be~~ performed on the finished foam plastic assembly in the maximum thickness intended for use. Assemblies tested shall include seams, joints and other typical details used in the installation of the assembly and shall be tested in the manner intended for use. The *approved* large-scale test shall comply with one of the following: NFPA 286 with the acceptance criteria of Section R302.9.4, FM 4880, UL 1040 or UL 1715.

Commenter's Reason: There was significant support (a vote of 6:5) for this proposal in its original form. But rather than simply ask for APPROVAL AS SUBMITTED, this public comment seeks to address some of the opponent concerns expressed at the Rochester hearing. Primary opposition to the original proposal has related to the question of whether the text might have been read to require more than one test. This revision makes it clear that a only a single test is required. Regarding the committee statement suggesting that large scale tests might be excessive for residential applications, I've not heard any previous suggestions that we should be looking to permit foam plastics to skirt large scale testing. Would we now be looking for two approval levels for foam plastics that differ between residential and commercial applications? It is widely agreed by industry and the fire service that foam plastics need sufficient testing and approvals to ensure safe use in the built environment, both residential and commercial. This proposal sought to maintain that intent by ensuring that foam plastics that don't meet the prescriptive provisions of the code in R316 must go through the normal alternative method process for a thorough evaluation of equivalency.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The public comment is consistent with the intent of the original proposal.

Final Hearing Results	
RB129-22	AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

307

F11470 **/RB135-22**

Date Submitted	03/27/2024	**Section**	321.1.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

The proposed code change has the potential of being in conflict with Section R321.4 as mandated by Florida Statutes.

Summary of Modification

Excessive clearances between the car door and the hoistway door on private residence elevators presents a serious hazard to young children and slight built adolescents or adults. Proposal to address concern.

Rationale

See attached

F11470Text Modification

See attached

Page: 1

Mod11470_TextOfModification.pdf

F11470Text Modification

RB135-22

Original Proposal

IRC: SECTION R321.1.1 (New), R321.1.1.1 (New), R321.1.1.2 (New)

Proponents: Kevin Brinkman, National Elevator Industry, Inc. (klbrinkman@neii.org)

2021 International Residential Code

SECTION R321
ELEVATORS AND PLATFORM LIFTS

R321.1 Elevators. Where provided, passenger elevators, limited-use and limited-application elevators or private residence elevators shall comply with ASME A17.1/CSA B44.

Add new text as follows:

R321.1.1 Private Residence Elevators. The design, construction, and installation of private residence elevators installed within a residential unit or providing access to one individual dwelling unit shall conform to ASME A17.1/CSA B44, Section 5.3.

R321.1.1.1 Hoistway Enclosures.. Hoistway enclosures for private residence elevators shall comply with ASME A17.1/CSA B44, Requirement 5.3.1.1

R321.1.1.2 Hoistway Opening Protection. Hoistway landing doors for private residence elevators shall comply with ASME A17.1/CSA B44, Requirements 5.3.1.8.1 through 5.3.1.8.3.

R321.2 Platform lifts. Where provided, platform lifts shall comply with ASME A18.1.

R321.3 Accessibility. Elevators or platform lifts that are part of an accessible route required by Chapter 11 of the International Building Code, shall comply with ICC A117.1.

Reason: Excessive clearances between the car door and the hoistway door on private residence elevators presents a serious hazard to young children and slight built adolescents or adults. Proper installation of the hoistway landing doors is critical to ensuring the gap between the hoistway door and the car door or gate does not exceed a 4 inch gap. The 4 inch maximum clearance is based on anthropometric data for young children. However, private residence elevators are not inspected by elevator inspectors in most jurisdictions and the few jurisdictions that do inspect them are mostly limited to the installation of new equipment. On the other hand, almost all private residence construction is inspected by construction officials.
The General Contractor typically constructs the hoistway enclosure and installs the hoistway doors on private residence elevators. Ensuring the installation of the hoistway doors to the 0.75 inch requirement, will greatly increase the likelihood that the clearance between the hoistway and car doors will comply with the 4 inch gap. The proposed language increases awareness for the building designers, contractors and building code officials to the need to mitigate this serious hazard, while retaining the actual code requirements in A17.1/B44.

The proposed changes are consistent with similar changes approved for Chapter 30 of the IBC during the Group A hearings.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
There is no additional cost because these requirements are already contained in the A17.1/B44 code referenced in Section 3001.3. This is being added to alert builders to these requirements.

Page: 1

Mod_11470_Text_RB135-22.pdf

F11470Text Modification

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal coordinates with IBC and also provides users of the IRC pointers for application where elevators may be installed. (Vote: 9-1)

Final Hearing Results

RB135-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

308

F11480 /RB149-22

Date Submitted	03/27/2024	**Section**	324.6.4	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new Section R324.6.4 and reference standard UL 3741-2020. This provides fire fighters with means to determine where the BIPV is on the roof, and aligns with the requirements in the 2021 IFC Section 1205.2.3.

Rationale

See attached

F11480Text Modification

See attached

Page: 1

Mod11480_TextOfModification.pdf

F11480Text Modification

RB149-22

Original Proposal

IRC: R324.6.4 (New), UL Chapter 44 (New)

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Sustainable Energy Action Committee (Larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Philip Oakes, National Association of State Fire Marshals, National Association of State Fire Marshals; Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2021 International Residential Code

Add new text as follows:

R324.6.4 Building-integrated photovoltaic (BIPV) systems. Where building-integrated photovoltaic (BIPV) systems are installed in a manner that creates areas with electrical hazards to be hidden from view, markings shall be provided to identify the hazardous areas to avoid for ladder placement. The markings shall be reflective and be visible from grade beneath the eaves or other location *approved* by the fire code official.

Exception: BIPV systems *listed* in accordance with UL 3741, where the removal or cutting away of portions of the BIPV system during fire-fighting operations have been determined to not expose a fire fighter to electrical shock hazards.

Add new standard(s) as follows:

UL

UL LLC
333 Pfingsten Road
Northbrook, IL 60062

3741-2020 Photovoltaic Hazard Control

Reason:
This aligns with IFC Section 1205.2.3 and F129-21 from the Group A cycle.

This provides fire fighters with means to determine where the BIPV is on the roof, and aligns with the requirements in the 2021 IFC Section 1205.2.3. The original intent is for reflective marking that could be under an eave and visible from grade, or could be in some other location visible from grade, such that the reflective marking identifies locations where a ladder should not be placed. The BIPV roof covering products themselves do not all need to be reflectorized.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Bibliography: F129-21
IFC: 1205.2.3, UL Chapter 80 (New)

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal aligns with the fire code requirements.

Page: 1

Mod_11480_Text_RB149-22.pdf

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee disapproved this proposals because few manufacturers are using this detail now. The exception should be the rule or the charging statement. What are the roof access and pathway requirements? The phrase "under the eaves" is confusing for enforcement. The hazard exists on the roof, not under the eaves where this proposal requires markings are indicated - the markings should be on the roof. Most municipalities are also taking care of this locally; they should be able to continue to take care of it locally. The language needs to be reworked on the marking details for appropriate visibility. This should not be required for all systems. The new standard was approved in RB147-22. (Vote: 8-2)

Public Comments

Public Comment 2

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Solar Energy Action Committee (larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com); Philip Oakes, National Association of State Fire Marshals (admin@firemarshals.org) requests As Submitted

Commenter's Reason: This proposed requirement already exists in the ICC codes (IFC Section 1205.2.3). That section was further refined by Proposal F129-21 that was approved by the membership in the Group A cycle. Consistency in code requirements in the family of ICC codes is important in order to have consistency in interpretation and enforcement. Roof access and pathway requirements are already covered in Section R324.6. The reason for the required markings to be located under the eaves is to enable the firefighters to properly locate their ladders as well as identify where the hazards may be in the event of a fire.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This proposal aligns with the fire code requirements.

Final Hearing Results

RB149-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

309

F11481 **/RB150-22**

Date Submitted	03/27/2024	**Section**	324.7	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

The primary purpose of this proposal is to establish appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them.

Rationale

See attached

1st Comment Period History

F11481-G1

Proponent David Hilman - RCCIW Submitted 7/1/2024 4:33:23 PM Attachments No

Comment:

Just putting a cover over something does not make it another story. if this does create another "story" it could prevent certain license types from constructing it , designing it or may even create a situation that a building could not get PV because of number of stories in height depending on local codes. it could be very onerous, restrictive and costly. Also if this definition is used by putting it over a parking lot you have created a one story building and all sorts of different things can happen.

F11481Text Modification

See attached

Page: 1

Mod11481_TextOfModification.pdf

F11481Text Modification

RB150-22

Original Proposal

IRC: SECTION 202 (New), R324.7 (New), R324.7.1 (New), 324.7.2 (New)

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Sustainable Energy Action Committee (Larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Philip Oakes, NASFM, National Association of State Fire Marshals; Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2021 International Residential Code

Add new definition as follows:

PHOTOVOLTAIC (PV) SUPPORT STRUCTURE, ELEVATED. An independent photovoltaic (PV) panel support structure designed with useable space underneath with minimum clear height of 7 feet 6 inches (2286 mm), intended for secondary use such as providing shade or parking of motor vehicles.

Add new text as follows:

R324.7 Elevated photovoltaic (PV) support structures. Elevated PV support structures used as an accessory structure shall comply with either Section R324.7.1 or R324.7.2.

R324.7.1 PV panels installed over open-grid framing or non-combustible deck. Elevated PV support structures with PV panels installed over open-grid framing or over a noncombustible deck shall have PV panels tested, *listed*, and *labeled* with a fire type rating in accordance with UL 1703 or with both UL 61730-1 and UL 61730-2. Photovoltaic panels marked "not fire rated" shall not be installed on elevated PV support structures.

324.7.2 PV panels installed over a roof assembly. Elevated PV support structures with a PV panel system installed over a roof assembly shall have a fire classification in accordance with Section R902.4.

Reason:

This is in alignment with G193-21 for the IBC in the Group A cycle.

The primary purpose of this proposal is to establish appropriate fire testing and listing criteria for overhead photovoltaic (PV) support structures that could have people or vehicles in the space beneath them. Sometimes referred to as "solar shade structures," they are most commonly constructed over vehicle parking spaces of surface parking lots, but could be built in a variety of locations with or without cars parked beneath.

This addresses structures with open grid framing and without a roof deck or sheathing, which supports the photovoltaic panel systems.

Most PV panels in the marketplace have been fire tested and assigned a "type rating" in accordance with UL 1703. However, some PV panels might not have that fire testing, and could be marked "not fire rated." This proposal clarifies that PV panels marked "not fire rated" cannot be used on elevated/overhead PV structures that could have people or cars beneath them, with or without a full roof assembly.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Page: 1

Mod_11481_Text_RB150-22.pdf

F11481Text Modification

The code change proposal will not increase or decrease the cost of construction. This proposal provides more options in construction with clear requirements for another type of photovoltaic installation (i.e. an alternative to rooftop mounted PV or building-integrated PV).

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee concluded this proposal gives clarity for the type of photovoltaic support structures that's not currently addressed in the code. This gives the code user guidance and standards to comply with. It provides options that weren't there before. There were concerns raised about the definition and if this structure could be constructed over a roof. (Vote: 6-5)

Public Comments

Public Comment 1

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, Washington Association of Building Officials Technical Code Development Committee (jonsiuconsulting@gmail.com); Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov); C Ray Allshouse, City of Shoreline, Washington Association of Building Officials Technical Code Development Committee (rallshouse@shorelinewa.gov) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

R324.7 Elevated photovoltaic (PV) support structures. Elevated PV support structures used as an accessory structure shall comply with either Section R324.7.1 or R324.7.2. Elevated PV support structures shall be considered a roof for the purposes of establishing the number of stories and fire separation distances.

Commenter's Reason: This public comment is intended to address two issues: elevated PV structure on top of a building creates another story, and it creates a condition akin to having roof eaves extend close to the property line. It is intended to address the comment made by the Committee, as published in the 2022 Report of the Committee Action Hearings regarding the number of stories.
WABO TCD raised this issue at the 2021 Group A Public Comment Hearings, on a proposal that is closely related to RB150-22 (G193-21). We submitted a public comment to disapprove G193 because the definition implies the space below the elevated PV can be used for any occupancy, which could create confusion regarding story count and fire separation distances. However, under heavy pressure from several proponents of G193 (some of whom recognized the issues we were raising), we ultimately we agreed to provisionally support the proposal as submitted in order not to torpedo the whole proposal because it dealt with some other important fire safety issues. Story count and fire separation distance are still issues that will need to be addressed in the IBC, but unfortunately, the same issues are being propagated into the IRC via the identical definition.

As pointed out in our objections to G193 in Group A, this is not a theoretical issue. Since an accessory structure isn't necessarily detached from a building, Section R324.7.2 can be read to allow elevated PV to be mounted on the roof of a building. Once it is there, does it or does it not create a story? Our members have had to deal with projects submitted for permit with large elevated PV systems "shading" occupied roofs on mid-rise residential buildings, where the designers contended that they weren't a roof, and therefore, didn't create an additional story or create fire separation distance issues. For IRC structures, the issue is the same--would adding elevated PV above a roof deck (occupiable roof) on top of a 3-story house create a fourth story, thereby creating a non-conformity with the IRC? We contend the answer is "yes." We would also like to point out that no technical justification has been presented to demonstrate these should be treated differently, from a fire spread standpoint.

Instead of modifying the definition for elevated PV structures or arguing for disapproval, this public comment more directly addresses the

Page: 2

Mod_11481_Text_RB150-22.pdf

issues we've raised by requiring the elevated PV to comply with story count and fire separation distances:

- We contend that an elevated PV structure, with aminimum of 7' clearance below creates a roof-like structure, as far as fire is concerned--it will contain heat and smoke just as much as a roof eave or a roof providing shade over an occupied roof. This is especially true given there are no requirements or criteria for openness of an elevated PV structure.
- The proposed definition clearly intends the space below to be usable, else there would be no reason for including "providing shade" in the definition. Once you have a usable space with a roof-like structure overhead, you clearly have created a story. If this does not create a story, then why would any other roof structure such as a 500 square foot hard roof over an occupiable roof create a story?
- Where there is occupiable space below the elevated PV, and where the PV extends close to the property line, you should be considering spread of fire to and from the adjacent property, which is the purpose of establishing fire separation distances.

In discussions with one of the organizers of the effort to introduce the code change, it was suggested that instead of language that would prohibit placing elevated PV on a roof where it would create an over-story condition, that we propose language instead that describes where it would be allowed. Because of the difficulty in trying to address all the variables of where this would be allowed, this public comment takes the approach of saying if you put elevated PV on a roof, treat it like another roof, just as you would any other roof structure.

We want to emphasize that this public comment states the elevated PV gets**treated as** a roof for story count and fire separation distance purposes. It does **not** say the PV **is** a roof--it's just treated as such for those two issues, and those two issues only. Effectively, elevated PV can't be put on top of a 3-story IRC building, because that would create a 4th story, which is not in the scope of the IRC. The building official can then apply their normal policies regarding roofs near the property line, for fire separation/adjacent property protection purposes.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The cost impact statement for the original proposal states the proposal will not increase or decrease the cost of construction, as it is just adding options. This public comment does not change the fact that these are options, so it will have no effect on the original cost impact statement.

Final Hearing Results

RB150-22 AMPC1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

310

F11482		/RB152-22			
Date Submitted	03/27/2024	**Section**	325.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC -R.

Summary of Modification

Modifies Exception 1 of Section R325.5 "Openness". Deletes Exception 2 of Section R325.5.

Rationale

See attached

F11482Text Modification

See attached

Page: 1

Mod11482_TextOfModification.pdf

F11482Text Modification

RB152-22

Original Proposal

IRC: R325.3, R325.5

Proponents: Gary Ehrlich, NAHB, NAHB (gehrlich@nahb.org)

2021 International Residential Code

SECTION R325
MEZZANINES

R325.1 General. *Mezzanines* shall comply with Sections R325 through R325.5.

R325.2 Mezzanines. The clear height above and below *mezzanine* floor construction shall be not less than 7 feet (2134 mm).

Revise as follows:

R325.3 Area limitation. The aggregate area of a *mezzanine* or *mezzanines* shall be not greater than one-third of the floor area of the room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the *mezzanine* is located.

Exception: The aggregate area of a *mezzanine* located within a *dwelling unit* equipped with an automatic sprinkler system in accordance with Section P2904 shall not be greater than one-half of the floor area of the room, provided that the *mezzanine* meets all of the following requirements:

1. Except for enclosed closets and bathrooms, the *mezzanine* is open to the room in which such *mezzanine* is located.
2. The opening to the room is unobstructed except for walls not more than 36 ~~42~~ inches (914 ~~1067~~ mm) in height, columns and posts.
3. The exceptions to Section R325.5 are not applied.

R325.4 Means of egress. The means of egress for *mezzanines* shall comply with the applicable provisions of Section R311.

Revise as follows:

R325.5 Openness. *Mezzanines* shall be open and unobstructed to the room in which they are located except for walls not more than 36 inches (914 mm) in height, columns and posts.

~~Exceptions~~ Exception:

1. ~~1.~~ *Mezzanines* or portions thereof are not required to be open to the room in which they are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the *mezzanine* area.
2. ~~2. In buildings that are not more than two stories above *grade plane* and equipped throughout with an automatic sprinkler system in accordance with Section R313, a *mezzanine* shall not be required to be open to the room in which the *mezzanine* is located.~~

Reason:

This amendment reduces the allowable height of a wall enclosing a mezzanine that is greater than one-third of the room below but less than one-half of the room below to 36" to match the standard guard height required in the IBC as well as matching the allowable wall height in section R325.5 and adds beams to exception #2 and section R325.5 as part of the list of structural components.

This change also deletes exception #2 to the openness requirements of the mezzanine. This exception was extracted directly from the IBC and addresses mezzanines in office buildings, supermarkets, industrial facilities, and other types of buildings where it may be desirable to

Page: 1

Mod_11482_Text_RB152-22.pdf

F11482Text Modification

fully enclose a mezzanine to provide office space, employee breakrooms, storage rooms, or similar uses. In a typical one- and two-family dwelling or a townhouse, mezzanines are generally open to the floor below except for the guard required by code or any closets or bathrooms. If a homeowner or builder desires an enclosed mezzanine, they could apply IBC Section 505 to the construction of the mezzanine.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposed change should provide some reduction in cost by allowing a 36" wall in lieu of the current requirement of 42".

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R325.3 Area limitation. The aggregate area of a *mezzanine* or *mezzanines* shall be not greater than one-third of the floor area of the room or space in which they are located. The enclosed portion of a room shall not be included in a determination of the floor area of the room in which the *mezzanine* is located.

Exception: The aggregate area of a *mezzanine* located within a *dwelling unit* equipped with an automatic sprinkler system in accordance with Section P2904 shall not be greater than one-half of the floor area of the room, provided that the *mezzanine* meets all of the following requirements:

1. Except for enclosed closets and bathrooms, the *mezzanine* is open to the room in which such *mezzanine* is located.
2. The opening to the room is unobstructed except for walls not more than 42 ~~36~~ inches (1067~~914~~ mm) in height, columns, beams and posts.
3. The exceptions to Section R325.5 are not applied.

R325.5 Openness. *Mezzanines* shall be open and unobstructed to the room in which they are located except for walls not more than 42 ~~36~~ inches (1067~~914~~ mm) in height, columns, beams and posts.

Exception:

Mezzanines or portions thereof are not required to be open to the room in which they are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the *mezzanine* area.

Committee Reason: The modification in Sections R325.3 Exception 2 and R325.5 changed the 36 inches to 42 inches for an additional level of safety and/or some tolerance in the guard height. This also allows for a lowered beam at this same location. The committee supported this proposal as modified because this removes an exception for the enclosed mezzanine that is more typical of commercial buildings rather than residential buildings. (Vote: 9-0)

Final Hearing Results

RB152-22 AM

Page: 2

Mod_11482_Text_RB152-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

311

F11483		/RB153-22			
Date Submitted	03/27/2024	**Section**	314.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review			Staff Classification	Correlates Directly

Comments

General Comments No

Related Modifications

Summary of Modification

Lofts in dwelling units and sleeping units are being designed and built around the country, but there is nothing in the codes to give designers or code officials guidance as to what's acceptable.

Rationale

See attached

F11483Text Modification

See attached

Page: 1

Mod11483_TextOfModification.pdf

F11483Text Modification

RB153-22

Original Proposal

IRC: SECTION 202 (New), SECTION R314.3, SECTION R325.1, SECTION R326 (New), R326.1 (New), R326.2 (New), R326.3 (New), R326.4 (New), R326.5 (New), R326.5.1 (New), R326.5.2 (New), R326.5.2.1 (New), R326.5.2.2 (New), R326.5.2.3 (New), R326.5.3 (New), R326.5.3.1 (New), R326.5.3.2 (New)

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov)

2021 International Residential Code

Add new definition as follows:

SLEEPING LOFT. A space on an intermediate level or levels between the floor and ceiling of a story, open on one or more sides to the room in which the space is located, and in accordance with Section R326.

Add new text as follows:

SECTION R326
SLEEPING LOFTS

R326.1 Sleeping lofts. Where provided in dwelling units or sleeping units, sleeping lofts shall comply with this code as modified by Sections R326.2 through R326.5. Sleeping lofts constructed in compliance with this section shall be considered a portion of the story below. Such sleeping lofts shall not contribute to the number of stories as regulated by this code.

Exception: Sleeping lofts need not comply with Section R326 where they meet any of the following conditions:

1. The sleeping loft has a maximum depth of less than 3 feet (914 mm).
2. The sleeping loft has a floor area of less than 35 square feet (3.3 m).
3. The sleeping loft is not provided with a permanent means of egress.

R326.2 Sleeping loft limitations. Sleeping lofts shall comply with the following conditions:

1. The sleeping loft floor area shall be less than 70 square feet (6.5 m).
2. The sleeping loft ceiling height shall not exceed 7 feet (2134 mm) for more than one-half of the sleeping loft floor area.

The provisions of Sections R326.3 through R326.5 shall not apply to sleeping lofts that do not comply with Items 1 and 2.

R326.3 Sleeping loft ceiling height. The clear height below the sleeping loft floor construction shall not be less than 7 feet (2134 mm). The ceiling height above the finished floor of the sleeping loft shall not be less than 3 feet (914 mm). Spaces adjacent to the sleeping loft with a sloped ceiling measuring less than 3 feet (914 mm) from the finished floor to the finished ceiling shall not contribute to the sleeping loft floor area.

R326.4 Sleeping loft area. The aggregate area of all sleeping lofts and mezzanines within a room shall comply with Section R325.3.

Page: 1

Mod_11483_Text_RB153-22.pdf

F11483Text Modification

Exception: The area of a single sleeping loft located within a dwelling unit or sleeping unit equipped with an automatic sprinkler system in accordance with Section P2094 shall not be greater than two-thirds of the area of the room in which it is located, provided that no other sleeping lofts or mezzanines are open to the room in which the sleeping loft is located.

R326.5 Permanent egress for sleeping lofts. A permanent means of egress shall be provided for sleeping lofts. The means of egress shall comply with Section 311 as modified by Sections R326.5.1 through R326.5.3.

R326.5.1 Ceiling height at sleeping loft means of egress. A minimum ceiling height of 3 feet (914 mm) shall be provided for the entire width of the means of egress from the sleeping loft.

R326.5.2 Stairways. Stairways providing egress from sleeping lofts shall be permitted to comply with Sections R326.5.2.1 through R326.5.2.3.

R326.5.2.1 Width. Stairways providing egress from a sleeping loft shall not be less than 17 inches (432 mm) in clear width at or above the handrail. The width below the handrail shall be not less than 20 inches (508 mm).

R326.5.2.2 Treads and risers. Risers for stairs providing egress from a sleeping loft shall be not less than 7 inches (178 mm) and not more than 12 inches (305 mm) in height. Tread depth and riser height shall be calculated in accordance with one of the following formulas:

1. The tread depth shall be 20 inches (508 mm) minus four-thirds of the riser height.
2. The riser height shall be 15 inches (381 mm) minus three-fourths of the tread depth.

R326.5.2.3 Landings. Landings at stairways providing egress from sleeping lofts shall comply with Section R311.7.6, except that the depth of landings in the direction of travel shall be not less than 24 inches (508 mm).

R326.5.3 Ladders. Ladders complying with Sections R326.5.3.1 and R326.5.3.2 shall be permitted as a means of egress from sleeping lofts.

R326.5.3.1 Size and capacity. Ladders providing egress from sleeping lofts shall have a rung width of not less than 12 inches (305 mm), and 10-inch (254 mm) to 14-inch (356 mm) spacing between rungs. Ladders shall be capable of supporting a 300-pound (136 kg) load on any rung. Rung spacing shall be uniform within 3/8 inch (9.5 mm).

R326.5.3.2 Incline. Ladders shall be inclined at 70 to 80 degrees from horizontal.

SECTION R314
SMOKE ALARMS

Revise as follows:

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of~~the~~ bedrooms and sleeping lofts.
3. On each additional story of the *dwelling*, including *basements* and *habitable attics* and not including crawl spaces and uninhabitable *attics*. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full *story* below the upper level.
4. Not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.

Page: 2

Mod_11483_Text_RB153-22.pdf

F11483Text Modification

5. In the hallway and in the room open to the hallway in*dwelling units* where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches (610 mm) or more.

SECTION R325
MEZZANINES

Revise as follows:

R325.1 General. *Mezzanines* shall comply with Sections R325 through R325.5.

Exception: Sleeping lofts in dwelling units and sleeping units shall be permitted to comply with Section R326, subject to the limitations in Section R326.2.

Reason: Lofts in dwelling units and sleeping units are being designed and built around the country, but there is nothing in the codes to give designers or code officials guidance as to what's acceptable. This proposal places provisions into the body of the code that balance flexibility of design with maintaining a reasonable minimum standard of safety for these spaces.
A similar proposal placing this option into the appendix of the IBC was approved in Group A (G112-21, AMPC 2). Because we believe the issue of how to reasonably regulate sleeping lofts is prevalent and important enough to warrant placement in the body of the code, and because there was substantial support from a range of stakeholders at the Group A Public Comment Hearings (61% of the voters at the PCH supported the public comment that would have placed this in the body of the code), we are placing these provisions into the main body of the IRC, not in an appendix.

Figure 1 below shows a very recent example of an as-built (but not as-approved) sleeping loft constructed as part of a larger bedroom in a one-family dwelling in eastern Washington State. Figure 2 shows the same photo with an approximation of an IRC-compliant guard added.

Technical features of this proposal:

- We've inserted the sleeping loft provisions into a new Section R326, between mezzanines and habitable attics. We think sleeping lofts are more closely related to mezzanines (R325) than they are to habitable attics (current R326). (Note: This does not replace the existing Section R326. We expect ICC Staff will renumber the remaining sections in the chapter.)
- Sleeping lofts are an option (R326.1, "Where provided….") It will be up to the designer to decide whether or not to designate these areas as sleeping lofts.
- Sleeping lofts are required to comply with the base code, except where the provisions of this new section modify them (R326.1).
- Small spaces that might technically meet the definition of a sleeping loft, or sleeping loft-like spaces that don't have a permanent means of egress are exempt from the requirements of this section (R326.1, Exception).
- Similar to mezzanines, sleeping lofts are considered a portion of the story to which they open, and do not add to the number of stories of the building (R326.1).
- Sleeping lofts must be smaller than 70 square feet, and any ceiling height above the sleeping loft cannot exceed 7 feet for more than half of its area. The intent is to keep sleeping lofts as small spaces. Once the space is provided with dimensions that are equivalent to habitable residential living spaces, the breaks for height, ceiling height, area, and means of egress in this section no longer apply, and the space must meet the full requirements of the code (R326.2)
- The requirement for 7 feet below the sleeping loft (R326.3) is drawn from Section R325.2 regarding clear height below mezzanines. This was added in our Group A proposal last year in response to comments we received from a General Committee member. We actually don't see an issue with having shorter, usable spaces below sleeping lofts, but the 7-foot dimension is consistent with the required height of spaces below mezzanines, and also reflects what we have seen in real-world project proposals (see Figure 1 below). Ceiling heights in sleeping lofts can be as little as 3 feet.
- One or more sleeping lofts and mezzanines are allowed, but only if the cumulative area complies with the Section R325.3 area limitations for mezzanines (R326.4). The exception allows a single sleeping loft in a smaller room in a sprinklered dwelling unit up to 69.9 square feet (R326.2), as long as the sleeping loft area does not exceed two-thirds of the area of the main room. The two-thirds figure is based on IBC allowances for mezzanines and equipment platforms (see IBC 505.2.1.1).

Page: 3

Mod_11483_Text_RB153-22.pdf

F11483Text Modification

- A permanent means of egress is required for sleeping lofts complying with this new section (R326.5). (The exception to R326.1 kicks you out of this section if you don't have a permanent means of egress.) Although for the most part, the means of egress is required to comply with Section R311, this section allows some modifications:
  - Steeper and narrower stairs (R236.5.2) are allowed, based on the stair requirements in IRC Appendix Q for lofts in tiny houses.
  - Permanently installed ladders are permitted as the means of egress (R326.5.3), again using the tiny house parameters from IRC Appendix Q.
  - Note: Sections R311.7.11 and R311.7.12 already allow the use of alternating tread devices or ship's ladders "to be used as an element of the means of egress for **lofts** [emphasis added] … of 200 gross square feet or less …," and therefore do not need to be mentioned in this section.
- Smoke alarms are required to be installed in the "immediate vicinity" of sleeping lofts (revised R314.3, Item 2). At the Group A PCH last year, we received feedback from two former fire officials that smoke alarms shouldn't be required in the sleeping loft itself, but because there are cases where a smoke alarm may not be nearby, we believe one should be located in the vicinity of the loft to provide early warning. Looking at Figure 1 below, because this is a bedroom, a smoke alarm is required to be located in the vaulted area per the smoke alarm listing, not in the hallway as constructed. However, if instead this sleeping loft opened to a living room, the current Section R314.3 would not require a smoke alarm in the vaulted ceiling area.
- Sleeping lofts may be confused with mezzanines, so the exception to R325.1 points the user from the mezzanine section to the sleeping loft section.

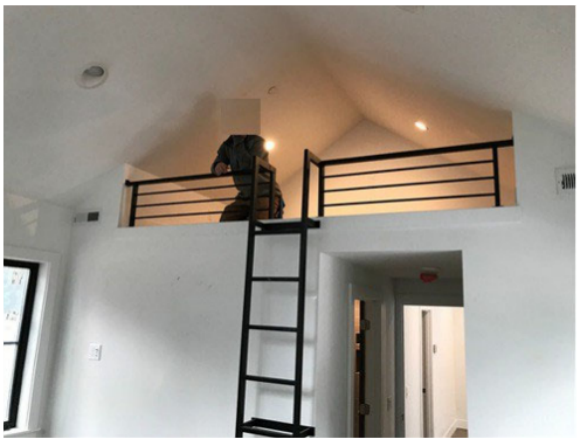


FIGURE 1: Sleeping loft in a bedroom (as built)

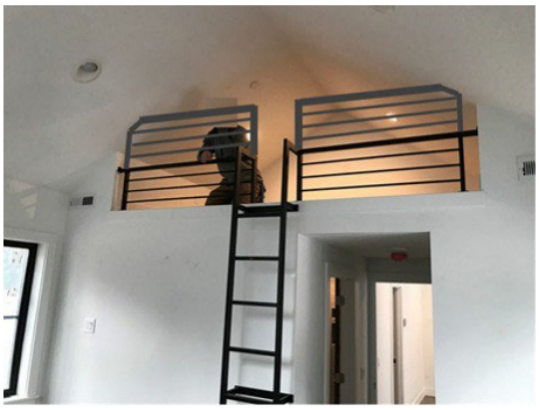


FIGURE 2: Sleeping loft in a bedroom, with code-compliant guard

Cost Impact: The code change proposal will not increase or decrease the cost of construction

Page: 4

Mod_11483_Text_RB153-22.pdf

Because sleeping lofts are an option, not a requirement, this proposal has no impact on the cost of construction. When a sleeping loft is provided, this proposal provides a uniform set of requirements.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R326.2 Sleeping loft limitations. Sleeping lofts shall comply with the following conditions:

1. The sleeping loft floor area shall be less than 70 square feet (6.5 m).
2. The sleeping loft ceiling height shall not exceed 7 feet (2134 mm) for more than one-half of the sleeping loft floor area.

~~The provisions of Sections R326.3 through R326.5 shall not apply to sleeping lofts that do not comply with Items 1 and 2~~.

Committee Reason: The modification removed the confusing sentence at the end of Section R326.2 which is also covered in the definition. The committee decided this proposal as modified provides an option for sleeping lofts that are becoming more popular in the design of homes. Despite expectations of more difficult access, the committee felt use of sleeping lofts will be more by youth that are adept at climbing ladders. Some of the committee was concerned about the safety aspects with the smoke detector in the general vicinity which means it's usually outside in the hallway. Concern was also expressed that the title sleeping lofts implies a sleeping room which then kicks in emergency escape and rescue and habitable space requirements. (Vote: 7-2)

Public Comments

Public Comment 1

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov) requests As Modified by Public Comment

Further modify as follows:

2021 International Residential Code

SECTION R314
SMOKE ALARMS

R314.3 Location. Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of<u>the</u> bedrooms ~~and sleeping lofts~~.
3. On each additional story of the *dwelling*, including *basements* and *habitable attics* and not including crawl spaces and uninhabitable *attics*. In *dwellings* or *dwelling units* with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full *story* below the upper level.
4. Not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by this section.

F11483Text Modification

5. In the hallway and in the room open to the hallway in *dwelling units* where the ceiling height of a room open to a hallway serving bedrooms exceeds that of the hallway by 24 inches (610 mm) or more.
6. Within the room to which a sleeping loft is open, in the immediate vicinity of the sleeping loft.

Commenter's Reason: This public comment was developed in response to comments received from IRC-B Committee members and others after the Committee Action Hearings. It is intended to clarify that the smoke alarm that is required for sleeping lofts must be located in close proximity to the sleeping loft.
The approved code change proposal required that the smoke alarm be located "in the immediate vicinity" of the sleeping loft. Our intent was that a nearby device would provide early warning of a fire to anyone who was in the sleeping loft, to somewhat compensate for the non-traditional egress and lower ceiling height. The comment we received was that since the requirement appeared in the same item as bedrooms, if the loft was located within a bedroom, the code language could be interpreted to allow the required smoke alarm to be located in the hallway outside of the bedroom. In addition, as we were working on the public comment to clarify our intent, it was noted that if the sleeping loft opened into a very large room, the language should not allow the smoke alarm to be located at the far end of the room.

For this public comment, because we thought it would be clearer to separate the sleeping loft requirement from the current requirement for bedrooms, we are proposing a new Item 6 to deal with sleeping lofts, and have returned the text in Item 2 to the original language in the 2021 IRC. The new Item 6 clarifies:

1. The smoke alarm must be located within the room to which the sleeping loft opens. This should address the concern regarding locating the alarm in the hallway.
2. Within the room, the smoke alarm must be located in close proximity to the sleeping loft ("in the immediate vicinity"). This allows some flexibility in locating the smoke alarm, but should address the concern that it could be located a long distance away if the sleeping loft is open to a very large room.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This public comment is a clarification of the original proposal, and therefore has no effect on the cost impact statement for the original code change: "Because sleeping lofts are an option, not a requirement, this proposal has no impact on the cost of construction. When a sleeping loft is provided, this proposal provides a uniform set of requirements."

Public Comment 2

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, Washington Association of Building Officials Technical Code Development Committee; Micah Chappell, Seattle Department of Construction and Inspections, Washington Association of Building Officials Technical Code Development Committee (micah.chappell@seattle.gov) requests As Modified by Public Comment

Further modify as follows:

2021 International Residential Code

SECTION R310
EMERGENCY ESCAPE AND RESCUE OPENINGS

R310.1 Emergency escape and rescue opening required. *Basements, habitable attics*, the room to which a sleeping loft is open, and every sleeping room shall have not less than one operable *emergency escape and rescue opening*. Where *basements* contain one or more sleeping rooms, an *emergency escape and rescue opening* shall be required in each sleeping room. *Emergency escape and rescue openings* shall open directly into a *public way*, or to a *yard* or court having a minimum width of 36 inches (914 mm) that opens to a *public way*.

Exceptions:

1. *Storm shelters* and *basements* used only to house mechanical *equipment* not exceeding a total floor area of 200 square feet (18.58 m^2).

Page: 6

Mod_11483_Text_RB153-22.pdf

F11483Text Modification

2. Where the *dwelling unit* or *townhouse unit* is equipped with an automatic sprinkler system installed in accordance with Section P2904, sleeping rooms in *basements* shall not be required to have *emergency escape and rescue openings* provided that the *basement* has one of the following:
   2.1. One means of egress complying with Section R311 and one*emergency escape and rescue opening*.
   2.2. Two means of egress complying with Section R311.
3. A *yard* shall not be required to open directly into a*public way* where the *yard* opens to an unobstructed path from the*yard* to the *public way*. Such path shall have a width of not less than 36 inches (914 mm).

Commenter's Reason: This public comment is being submitted in response to concerns raised by IRC-B Committee members regarding "safety" during the Committee Action Hearings. In discussions with the members outside of the hearings after the proposal was heard, the specific safety concern appears to boil down to the fact that they felt the code should require an emergency escape and rescue opening (EERO) for occupants of the sleeping loft. In those discussions, we broached the concept being proposed in this public comment, and the members indicated they agreed it would address their concerns.
This public comment adds a requirement that an EERO is required to be provided from the room to which a sleeping loft opens. Whereas IRC Appendix Q for Tiny Homes requires an EERO or similar opening in the roof be provided from a loft, in this proposal, the EERO does not need to be located in the sleeping loft itself, since this would be impractical in many of the dwelling unit configurations that we have seen. Such a requirement would also severely limit designs wanting to incorporate sleeping lofts--the lofts would either have to abut an exterior wall or be located just below a roof. Given there will also be good early warning for sleeping loft occupants (the sleeping loft must be open to the space and have a smoke alarm in close proximity), having an EERO from the space should provide adequate safety.

We also received some comments to the effect that in some building officials' interpretations, opening a sleeping loft to another room makes that other room a sleeping room, and would thus require a EERO. This public comment will not conflict with that interpretation, but makes the requirement clear without codifying that interpretation, since not all building officials agree with it.

In bringing sleeping loft provisions into the appendix of the 2024 IBC during the 2021 Group A cycle (G112-21), we received conflicting comments from different members of the fire service on whether the EERO should be required. Ultimately, the appendix was approved without the EERO, but if this public comment is approved, our intent would be to align the IBC with the IRC in the next cycle.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
While this public comment could increase the cost of construction for sleeping lofts as compared to the original proposal, as stated for the original proposal, "because sleeping lofts are an option, not a requirement, this proposal has no impact on the cost of construction. When a sleeping loft is provided, this proposal provides a uniform set of requirements."

Public Comment 3

Proponents: Jonathan Siu, Jon Siu Consulting, LLC, Self (jonsiuconsulting@gmail.com); Micah Chappell, Seattle Department of Construction and Inspections, Self (micah.chappell@seattle.gov) requests As Modified by Public Comment

Further modify as follows:

2021 International Residential Code

SLEEPING LOFT. A space designated for sleeping on an intermediate level or levels between the floor and ceiling of a story, open on one or more sides to the room in which the space is located, and in accordance with Section R326.

Commenter's Reason: This public comment is being submitted in response to a last-minute observation from one of the supporting speakers at the Committee Action Hearings, that while the original proposal uses the term "sleeping loft" throughout, nowhere in the proposal does it actually say the space is used for sleeping. There was no testimony from the floor or by the committee on this issue, so everyone seems to understand that "sleeping" is part of what makes these "sleeping lofts." However, if others feel this is a hole in the proposal, this public comment adds to the definition, saying the space has to be designated for sleeping in order for it to be a sleeping loft. We anticipate that normally, the space would be designated as a "sleeping loft" on the plans.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The original cost impact statement states that since sleeping lofts are an option, there is no impact to the cost of construction. This public

Page: 7

Mod_11483_Text_RB153-22.pdf

F11483Text Modification

comment merely clarifies the definition to state the obvious, so there is no effect on the original cost impact statement.

Final Hearing Results

RB153-22 AMPC1,2,3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

312

F11484		/RB154-22			
Date Submitted	03/27/2024	**Section**	326.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

This section is not part of the 2023 FBC - R.

Summary of Modification

This revision corrects an oversight in the existing text that could be interpreted to not require sprinklers in both dwelling units beneath a habitable attic if the attic were located above a stacked duplex.

Rationale

See attached

F11484Text Modification

See attached

Page: 1

Mod11484_TextOfModification.pdf

F11484Text Modification

RB154-22

Original Proposal

IRC: R326.3

Proponents: Jeffrey Shapiro, International Code Consultants, Self (jeff.shapiro@intlcodeconsultants.com)

2021 International Residential Code

Revise as follows:

R326.3 Story above grade plane. A habitable attic shall be considered a story above grade plane.

Exceptions: A habitable attic shall not be considered to be a story above grade plane provided that the habitable attic meets all the following:

1. The aggregate area of the habitable attic is either of the following:
   1.1. Not greater than one-third of the floor area of the story below.
   1.2. Not greater than one-half of the floor area of the story below where the habitable attic is located within a dwelling unit equipped with a fire sprinkler system in accordance with Section P2904.
2. The occupiable space is enclosed by the roof assembly above, knee walls, if applicable, on the sides and the floor-ceiling assembly below.
3. The floor of the habitable attic does not extend beyond the exterior walls of the story below.
4. Where a habitable attic is located above a third story, ~~the dwelling unit or townhouse unit shall be equipped with a~~ fire sprinkler system in accordance with Section P2904 shall be installed in the habitable attic and the townhouse unit or dwelling unit or units located beneath the habitable attic.

Reason: This revision corrects an oversight in the existing text that could be interpreted to not require sprinklers in both dwelling units beneath a habitable attic if the attic were located above a stacked duplex. This was the intent of the current provision but was not clearly stated.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is intended as a clarification of how the existing provisions are to be applied.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R326.3Story above grade plane. A habitable attic shall be considered a story above grade plane.
Exceptions: A habitable attic shall not be considered to be a story above grade plane provided that the habitable attic meets all the following:

1. The aggregate area of the habitable attic is either of the following:
   1.1. Not greater than one-third of the floor area of the story below.
   1.2. Not greater than one-half of the floor area of the story below where the habitable attic is located within a dwelling unit equipped with a fire sprinkler system in accordance with Section P2904.

Page: 1

Mod_11484_Text_RB154-22.pdf

F11484Text Modification

2. The occupiable space is enclosed by the roof assembly above, knee walls, if applicable, on the sides and the floor-ceiling assembly below.
3. The floor of the habitable attic does not extend beyond the exterior walls of the story below.
4. Where a habitable attic is located above a third story, a fire sprinkler system in accordance with Section P2904 shall be installed in the habitable attic and remaining portion of the townhouse unit or dwelling unit or units located beneath the habitable attic.

Committee Reason: The modification to Section R326.3 clarifies that the habitable attic is part of the unit. The committee felt this proposal as modified provides clarity for where and when the sprinklers are required to be installed. (Vote: 9-0)

Final Hearing Results	
RB154-22	AM

Page: 2

Mod_11484_Text_RB154-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

313

F11485	/RB157-22				
Date Submitted	03/27/2024	**Section**	328.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

The energy storage system presents a fire hazard to the occupants of the dwelling. Requiring a fire-rated door or equivalent and to seal any penetrations.

Rationale

See attached

1st Comment Period History

F11485-G1

Proponent Brian Walsh - RCCIW Submitted 6/28/2024 1:01:56 PM Attachments No

Comment:

This code modification will have a increased cost to construction between $300-$500 per structure.

F11485Text Modification

See attached

Page: 1

Mod11485_TextOfModification.pdf

F11485Text Modification

RB157-22

Original Proposal

IRC: R328.4

Proponents: Chad Sievers, New York State, Deparment of State (chad.sievers@dos.ny.gov)

2021 International Residential Code

Revise as follows:

R328.4 Locations. *ESS* shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.
3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.
4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than $^{5}/_{8}$-inch (15.9 mm) Type X gypsum wallboard. Openings shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35 mm) thick, or door with a 20-minute fire protection rating. Doors shall be self-latching and equipped with a self-closing or automatic-closing device. Penetrations through the required gypsum wallboard shall be protected as required by Section R302.11, Item 4.

ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms.

Reason: The energy storage system presents a fire hazard to the occupants of the dwelling. The code already requires a fire protective envelope around ESS but the code has left holes in this envelope, including penetrations and the door. To reduce the chance of fire spread and allow its occupants ample amount of time to evacuate the building the envelope must be sealed. This can easily be done by requiring a fire-rated door or equivalent and to seal any penetrations.

Cost Impact: The code change proposal will increase the cost of construction
The additional cost of the door and sealants will increase the cost of a dwelling with an energy storage system but will be a small fraction of the total cost for an ESS installed.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
R328.4 Locations. *ESS* shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.
3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.

Page: 1

Mod_11485_Text_RB157-22.pdf

F11485Text Modification

4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than $^{5}/_{8}$-inch (15.9 mm) Type X gypsum wallboard. Openings into the dwelling shall be equipped with solid wood doors not less than 1-3/8 inches (35 mm) in thickness, solid or honeycomb-core steel doors not less than 1-3/8 inches (35 mm) thick, or door with a 20-minute fire protection rating. Doors shall be self-latching and equipped with a self-closing or automatic-closing device. Penetrations through the required gypsum wallboard into the dwelling shall be protected as required by Section R302.11, Item 4.

ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms.

Committee Reason: The modification on Section R328.4 Item 4, by adding "into the dwelling", specified protected openings and penetrations relative to the dwelling and not to the outside. The proposal as modified makes the level of protection similar to garages for doors and penetrations, and having a car and an ESS in the garage should have at least the same level of protection. Concern was shared that these systems are evolving and there's going to be more of them and therefore more instances of failure. (Vote 6-4)

Final Hearing Results

RB157-22 AM

Page: 2

Mod_11485_Text_RB157-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

314

F11486 | **/RB158-22**

Date Submitted	03/27/2024	**Section**	328.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Proposal intended to clarify what the product marking actually is. To align with the wording that will ultimately be in the standard. Concerning Energy storage systems.

Rationale

See attached

F11486Text Modification

See attached

Page: 1

Mod11486_TextOfModification.pdf

F11486Text Modification

RB158-22

Original Proposal

IRC: R328.1

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Sustainable Energy Action Committee (Larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Philip Oakes, NASFM, National Association of State Fire Marshals; Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2021 International Residential Code

Revise as follows:

R328.1 General. *Energy storage systems (ESS)* shall comply with the provisions of this section.

Exceptions:

1. *ESS listed* and *labeled* in accordance with UL 9540 and marked "~~For~~ Suitable for use in residential ~~dwelling units~~ habitable spaces" where installed in accordance with the manufacturer's instructions and NFPA 70.
2. *ESS* less than 1 kWh (3.6 megajoules).

Reason: Intended to clarify what the product marking actually is. To align with the wording that will ultimately be in the standard.
This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
It aligns with the marking requirements in UL 9540.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: The committee was not comfortable with the language for marking an ESS because the felt the proposed text is ambiguous and misleading when it comes to dwelling units. The testimony was that the testing standard, UL9540, is so high, no technology meets it yet. For ESS's in dwelling units it is important to be sure the standard is done correctly. (Vote 8-2)

Public Comments

Public Comment 1

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Solar Energy Action Committee (larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin

Page: 1

Mod_11486_Text_RB158-22.pdf

F11486Text Modification

Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com); Philip Oakes, National Association of State Fire Marshals (admin@firemarshals.org) requests As Modified by Public Comment

Replace as follows:

2021 International Residential Code

R328.1 General. *Energy storage systems (ESS)* shall comply with the provisions of this section.

Exceptions:

1. *ESS listed* and *labeled* for use in habitable spaces in accordance with UL 9540 and ~~marked "For use in residential dwelling units"~~ where installed in accordance with the listing, the manufacturer's instructions and NFPA 70.
2. *ESS* less than 1 kWh (3.6 megajoules).

Commenter's Reason: The purpose of this code change proposal is to provide clarity where there is currently confusion regarding product markings.

As background, the text for the product marking that is currently in the code is in the current edition of the product standard UL 9540. This was added in the code by Public Comment 1 to RB154-19. That Public Comment was a consensus of all the ESS stakeholders. As noted in the Reason Statement for that Public Comment, the marking proposed in Section R327.1 was intended to exempt a UL 9540 listed ESS that will not go into thermal runaway or produce flammable gas when subjected to the UL 9540A Cell Level Test (for further detail, please also see the reason statement for Proposal RB157-18).

There is currently a proposal to UL 9540 to change the text of that marking, as well as additional clarifications on the testing required for the ability to apply such marking on an ESS. The reason for the proposed change to UL 9540 is because there has been a lot of confusion in the field regarding the current markings in UL 9540A pertaining to residential systems that may or may not employ battery technologies that meet the cell level performance criteria of UL 9540A, which is that thermal runaway was not able to be initiated and there was no venting of flammable gas. This is a very severe criteria, but if met, it would suggest that the battery energy storage system (BESS) does not present any greater fire hazard then another electrical appliance and can be installed anywhere in a residence including the habitable spaces. As of this date, we are not aware of technologies that can meet these criteria. Further, this marking has created considerable confusion in the market.

The Standards Technical Panel for UL 9540 is working on improving the markings to clarify what ESS products have been tested to appropriate requirements to determine suitability for use in habitable spaces. UL's Collaborative Standards Development System (CSDS) provides online access to review and submit proposals for UL's Standards development process. General access is available for information on STP meetings, submitting proposals, and access to free proposals. **For more information, click here**, or go to www.ul.com/standards.

To address the confusion of the text of the marking currently identified in the IRC, this Public Comment is proposing to identify the intent, which is that this exception applies only where the ESS has been listed and labeled for specific use in habitable spaces, based on specific testing criteria in UL 9540.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
The modifications to this section removes confusion created by the specific text of the marking, will retaining the intent and purpose of the exception.

Final Hearing Results

RB158-22 AMPC1

Page: 2

Mod_11486_Text_RB158-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

315

F11487	/RB161-22				
Date Submitted	03/27/2024	**Section**	328.8	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

This proposal aligns with F155-21 in the Group A cycle for the IFC. The intent is to provide clear methods for providing vehicle impact protection. Concerning energy storage and garages.

Rationale

See attached

1st Comment Period History

F11487-G1

Proponent Brian Walsh - RCCIW Submitted 6/28/2024 1:07:37 PM Attachments No

Comment:

This modification will have a cost increase of $300-$1,000 per structure depending on the number of ESS that must be protected.

F11487Text Modification

See attached

Page: 1

Mod11487_TextOfModification.pdf

F11487Text Modification

RB161-22

Original Proposal

IRC: R328.8, R328.8.1 (New), FIGURE R328.8.1 (New), R328.8.2 (New), R328.8.3 (New)

Proponents: Larry Sherwood, INTERSTATE RENEWABLE ENERGY COUNCIL, Sustainable Energy Action Committee (Larry@irecusa.org); Kevin Reinertson, Riverside County Fire Dept. OFM, California Fire Chiefs Association FPO (kevin.reinertson@fire.ca.gov); Benjamin Davis, California Solar & Storage Association, California Solar & Storage Association (ben@calssa.org); Philip Oakes, National Association of State Fire Marshals, National Association of State Fire Marshals; Joseph H. Cain, P.E., Solar Energy Industries Association (SEIA), Solar Energy Industries Association (SEIA) (joecainpe@gmail.com)

2021 International Residential Code

Revise as follows:

R328.8 Protection from impact. *ESS* installed in a location subject to vehicle damage shall be protected~~by *approved* barriers~~ in accordance with Section R328.8.1 or R328.8.2.

Add new text as follows:

R328.8.1 Garages. Where an ESS is installed in the normal driving path of vehicle travel within a garage, impact protection complying with Section R328.8.3 shall be provided. The normal driving path is a space between the garage vehicle opening and the interior face of the back wall to a height of 48 inches (1219 mm) above the finished floor. The width of the normal driving path shall be equal to the width of the garage door opening. Impact protection shall also be provided for an ESS installed at either of the following locations (see Figure R328.8.1):

1. On the interior face of the back wall and located within 36 inches (914 mm) to the left or to the right of the normal driving path.
2. On the interior face of a side wall and located within 24 inches (610 mm) from the back wall and 36 inches (914 mm) of the normal driving path.

Exception: Where the clear height of the vehicle garage opening is 7 feet 6 inch (2286 mm) or less, ESS installed not less than 36 inches (914 mm) above finished floor are not subject to vehicle impact protection requirements.

Page: 1

Mod_11487_Text_RB161-22.pdf

F11487Text Modification

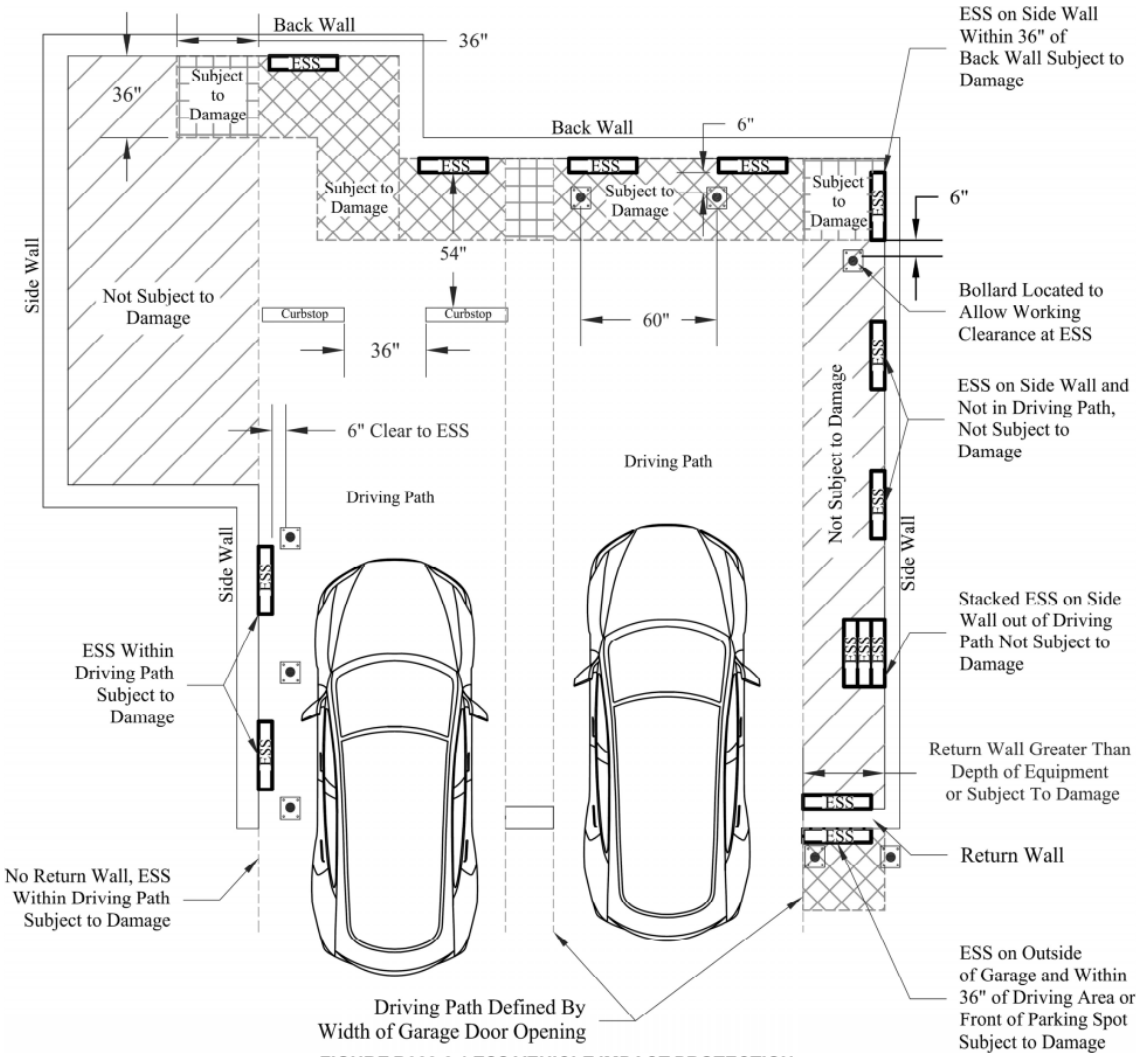


FIGURE R328.8.1 ESS VEHICLE IMPACT PROTECTION

R328.8.2 Other locations subject to vehicle impact. Where an ESS is installed in a location other than as defined in Section R328.8.1, and is subject to vehicle damage, impact protection shall be provided in accordance with Section R328.8.3.

R328.8.3 Impact protection options. ESS protection shall comply with one of the following:

Page: 2

Mod_11487_Text_RB161-22.pdf

F11487Text Modification

1. Bollards constructed in accordance with one of the following:
   1.1. Minimum 48 inches (1219 mm) in length by 3 inches (76 mm) in diameter schedule 80 steel pipe embedded in a concrete pier not less than 12 inches (304 mm) deep and 6 inches (152 mm) in diameter, with at least 36 inches (914 mm) of pipe exposed, filled with concrete, and spaced at a maximum interval of 5 feet (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from an ESS.
   1.2. Minimum 36 inches (914 mm) in height by 3 inches (76 mm) in diameter schedule 80 steel pipe fully welded to a minimum 8 inches (203 mm) by ¼ inch (6.4 mm) thick steel plate and bolted to a concrete floor by means of 4-1/2 inch (114 mm) concrete anchors with 3 inch (76 mm) minimum embedment. Spacing shall be not greater than 60 inches (1524 mm), and each bollard shall be located not less than 6 inches (152 mm) from the ESS.
   1.3. Pre-manufactured steel pipe bollards filled with concrete and anchored in accordance with the manufacturer's installation instructions, with spacing not greater than 60 inches (1524 mm). Each bollard shall be located not less than 6 inches (152 mm) from the ESS.

2. Wheel barriers constructed in accordance with one of the following:
   2.1. Four inches (102 mm) in height by 5 inches (127 mm) in width by 70 inches (1778 mm) in length wheel barrier made of concrete or polymer, anchored to the concrete floor not less than every 36 inches (914 mm) and located not less than 54 inches (1372 mm) from the ESS. Minimum 3- ½ inch (90 mm) diameter concrete anchors with 3 inch (76 mm) embedment per barrier shall be used. Spacing between barriers shall be no greater than 36 inches (914 mm).
   2.2. Pre-manufactured wheel barriers shall be anchored in accordance with the manufacturer's installation instructions.

3. *Approved* method designed to resist a 2000 pounds per square foot (8899 Newtons) impact in the direction of travel at 24 inches (608 mm) above grade.

Reason: This proposal aligns with F155-21 in the Group A cycle for the IFC. The intent is to provide clear methods for providing vehicle impact protection.
This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Technical Justification
An engineering review of the impact protection guidance found across the I-Codes and ASCE 7-16 was completed. Specifically Section 312 of both the prior and existing IFC, Section 4.5.3 of ASCE 7-16, and commentary language and figures associated with Section 304.6 of the IMC.

It is important to recognize that the prescription of the IFC Section 312 for bollards in public driving areas does not lead to a bollard that will resist 12k lbs. as prior editions of the code suggested.. In actual testing ((Harrison (SwRI), Evaluation of collision protection provided by vehicle impact bollards and propane cylinder exchange cabinets 2013)) the static resistance was between 900 lbs. at 36" (2.7k lbs. reaction) and 11k lbs. at 36" (33k lbs. reaction).

ASCE 7-16 specifies vehicle barrier systems must resist 6k lbs. load at between 18" and 27" (9k to 13.5k lbs. reaction.) There are no commonly available retrofittable bollards that can do this in an average residential garage without adding thickness to the concrete.

The IMC commentary figure when back calculated sets a bar of physical resistance which seems more appropriate to this risk and allows for solutions that are more practical to apply. For example, the bollard shown in IMC commentary Figure 304.6(2) will take an impact of about 625 lbs. load applied at 24", resulting in a 1250 lb reaction force at the post to base plate connection. Likely outcomes based on this force include:

Page: 3

Mod_11487_Text_RB161-22.pdf

F11487Text Modification

No damage at 0.5 mph impact from an average passenger car.

Bollard would deflect permanently a few inches at a 2 mph collision speed

Anchor bolts would shear off or blowout at a 5 mph collision speed.

The limitation is mostly the concrete to base plate connection. The IRC requires a 2500-3000 psi mix for garages, and garages are often of stronger mix, especially in freeze prone areas. The average garage concrete slab will fall within these specifications: 2500 - 4000 psi concrete with 5" min thickness. Using 1/2" epoxy anchors this equates to roughly a 2mph impact that could be sustained without significant damage to the bollard. This is aligned with a standard Uline 4.5" bollard with 1/8" wall thickness and a 8x8x3/8" base plate. More strength requires a larger base plate, as the limitation is the connection to the concrete.

The bolt down bollard specified in this proposal will take a 2000 lb impact, 24" off the ground with no damage, given 3000 psi concrete. More than 6" of permanent deflection would require a very significant force, and then only touching the face of the ESS. This seems a reasonable level of protection, and clearance distance.

This proposal was prepared by the Sustainable Energy Action Committee (SEAC), a forum for all stakeholders (including, but not limited to, AHJs, designers, engineers, contractors, first responders, manufacturers, suppliers, utilities, and testing labs) to collaboratively identify and find solutions for issues that affect the installation and use of solar energy systems, energy storage systems, demand response, and energy efficiency. The purpose is to facilitate the deployment and use of affordable, clean and renewable energy in a safe, efficient, and sustainable manner.

All recommendations from SEAC are approved by diverse stakeholders through a consensus process.

Bibliography: Harrison, O. (2013). Evaluation of Collision Protection provided by vehicle impact bollards and propane cylinder exchange cabinets (Rep. No. 18.19083.01.107.FR1). Southwest Research Institute.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal clarifies existing code language, and aligns with the IFC.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee approved this proposal because it gives some clarity and guidance on ESS impact protection in a garage from cars. Caution was given that creativity and field modifications were lost by putting in prescriptive items. (Vote: 8-2)

Final Hearing Results

RB161-22 AS

Page: 4

Mod_11487_Text_RB161-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

316

F11522 **/RB221-22**

Date Submitted	04/01/2024	**Section**	314.1.1	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

This proposal is a clean-up to ensure WRB requirements and installation are based on Section R703.2 which more completely addresses the subject.

Rationale

See attached

F11522Text Modification

See attached

Page: 1

Mod11522_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

317

F11567		/RB254-22			
Date Submitted	04/01/2024	**Section**	302.2.3	**Proponent**	Mo Madani
Chapter	3	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

The purpose of this proposal is to use common terminology throughout section 905 in regard to roof decks and sheathing. The subsections under 905 cover different roof coverings and are organized similar to each other, but with variation in titles.

Rationale

See attached

F11567Text Modification

See attached

Page: 1

Mod11567_TextOfModification.pdf

F11567Text Modification

RB254-22

Original Proposal

IRC: R302.2.3, R302.2.4, R902.1, R905.1.1, R905.2.1, R905.3.1, R905.3.2, R905.3.6, R905.4.1, R905.4.2, R905.4.4.1, R905.5.1, R905.5.2 R905.6.1, R905.6.2, R905.7.1, R905.7.1.1, R905.7.2, R905.8.1, R905.8.1.1, R905.8.2, R905.10.1, R905.16.1, R905.16.2, R905.17.1, R905.17.2

Proponents: Glenn Mathewson, BuildingCodeCollege.com, Self (glenn@glennmathewson.com)

2021 International Residential Code

Revise as follows:

R302.2.3 Continuity. The fire-resistance-rated wall or assembly separating *townhouse units shall be continuous from the* foundation to the underside of the roof sheathing, *roof deck* or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed *accessory structures.*

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for *townhouses* as an extension of exterior walls or common walls separating *townhouse units* in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where *roof decks* ~~surfaces~~ adjacent to the wall or walls are at different elevations and the higher *roof deck* is not more than 30 inches (762 mm) above the lower *roof deck*, the parapet shall extend not less than 30 inches (762 mm) above the lower *roof deck* ~~surface~~.

   Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the ~~roof decking~~ *roof deck* or sheathing is of *noncombustible materials* or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $^{5}/_{8}$-inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the *roof deck* are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher *roof deck* is more than 30 inches (762 mm) above the lower *roof deck*. The common wall construction from the lower *roof deck* to the underside of the higher *roof deck* shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

R902.1 Roof covering materials. ~~Roofs~~ *Roof decks* shall be covered with materials as set forth in Sections R904 and R905. Class A, B or C roofing shall be installed in *jurisdictions* designated by law as requiring their use or where the edge of the *roof deck* is less than 3 feet (914 mm) from a *lot line*. Class A, B and C roofing required by this section to be *listed* shall be tested in accordance with ASTM E108 or UL 790.

Exceptions:

1. Class A *roof assemblies* include those with coverings of brick, masonry and exposed concrete *roof deck*.
2. Class A *roof assemblies* include ferrous or copper shingles or sheets, metal sheets and shingles, clay or concrete roof tile, or slate installed on noncombustible *roof decks.*
3. Class A *roof assemblies* include minimum 16 ounces per square foot copper sheets installed over combustible *roof decks.*
4. Class A *roof assemblies* include slate installed over *underlayment* over combustible *roof decks*.

R905.1.1 Underlayment. *Underlayment* for asphalt shingles, clay and concrete tile, *metal roof shingles*, mineral-surfaced roll roofing, slate

Page: 1

Mod_11567_Text_RB254-22.pdf

F11567Text Modification

and slate-type shingles, wood shingles, wood shakes, *metal roof panels* and *photovoltaic shingles* shall conform to the applicable standards listed in this chapter. *Underlayment* materials required to comply with ASTM D226, D1970, D4869 and D6757 shall bear a*label* indicating compliance to the standard designation and, if applicable, type classification indicated in Table R905.1.1(1). *Underlayment* shall be applied in accordance with Table R905.1.1(2). *Underlayment* shall be attached in accordance with Table R905.1.1(3).

Exceptions:

1. As an alternative, self-adhering polymer-modified bitumen underlayment bearing a label indicating compliance with ASTM D1970 and installed in accordance with both the *underlayment* manufacturer's and roof covering manufacturer's instructions for the *roof deck* material, roof ventilation configuration and climate exposure for the roof covering to be installed, shall be permitted.
2. As an alternative, a minimum 4-inch-wide (102 mm) strip of self-adhering polymer-modified bitumen membrane bearing a*label* indicating compliance with ASTM D1970, installed in accordance with the *manufacturer's installation instructions* for the *roof deck* material, shall be applied over all joints in the*roof deck* ~~decking~~. An *approved underlayment* complying with Table R905.1.1(1) for the applicable roof covering

R905.2.1 Sheathing requirements. Asphalt shingles shall be fastened to *wood structural panels* or solid lumber sheathing. ~~solidly sheathed decks~~.

R905.3.1 ~~Deck~~ Sheathing requirements. Concrete and clay tile shall be installed~~only~~ over ~~solid sheathing.~~ *wood structural panels* or solid lumber sheathing.

Exception: Spaced lumber sheathing in accordance with Section R803.1 shall be permitted in*Seismic Design Categories* A, B and C.

R905.3.2 ~~Deck slope~~ Slope. Clay and concrete roof tile shall be installed on roof slopes of $2^1/_2$ units vertical in 12 units horizontal (25-percent slope) or greater. For roof slopes from $2^1/_2$ units vertical in 12 units horizontal (25-percent slope) to 4 units vertical in 12 units horizontal (33-percent slope), double *underlayment* application is required in accordance with Section R905.3.3.

R905.3.6 Fasteners. Nails shall be corrosion resistant and not less than 11-gage [0.120 inch (3 mm)], $^5/_{16}$-inch (11 mm) head, and of sufficient length to penetrate the *roof deck* not less than $^3/_4$ inch (19 mm) or through the thickness of the *roof deck*, whichever is less. Attaching wire for clay or concrete tile shall not be smaller than 0.083 inch (2 mm). Perimeter fastening areas include three tile courses but not less than 36 inches (914 mm) from either side of hips or ridges and edges of eaves and gable rakes.

R905.4.1 ~~Deck~~ Sheathing requirements. *Metal roof shingles* shall be fastened to *wood structural panels*, solid lumber sheathing, or closely-fitted lumber sheathing ~~applied to a solid or closely-fitted deck,~~ except where the roof covering is specifically designed to be applied to spaced lumber sheathing.

R905.4.2 ~~Deck slope~~ Slope. *Metal roof shingles* shall not be installed on roof slopes below 3 units vertical in 12 units horizontal (25-percent slope).

R905.4.4.1 Wind resistance of metal roof shingles.*Metal roof shingles* ~~applied~~ fastened to wood structural panels, solid lumber sheathing or closely-fitted lumber sheathing ~~a solid or closely fitted deck~~ shall be tested in accordance with ASTM D3161, FM 4474, UL 580 or UL 1897. *Metal roof shingles* tested in accordance with ASTM D3161 shall meet the classification requirements of Table R905.4.4.1 for the appropriate maximum basic wind speed and the metal shingle packaging shall bear a *label* to indicate compliance with ASTM D3161 and the required classification in Table R905.2.4.1.

R905.5.1 ~~Deck~~ Sheathing requirements. Mineral-surfaced roll roofing shall be fastened to *wood structural panels* or solid lumber sheathing. ~~solidly sheathed roofs~~.

R905.5.2 ~~Deck slope~~ Slope. Mineral-surfaced roll roofing shall not be applied on roof slopes below 1 unit vertical in 12 units horizontal (8-percent slope).

R905.6.1 ~~Deck~~ Sheathing requirements. Slate shingles shall be fastened to *wood structural panels* or solid lumber sheathing. ~~solidly~~

Page: 2

Mod_11567_Text_RB254-22.pdf

F11567Text Modification

~~sheathed roofs.~~

R905.6.2 ~~Deck slope~~ Slope. Slate shingles shall be used only on slopes of 4 units vertical in 12 units horizontal (33-percent slope) or greater.

R905.7.1 ~~Deck~~ Sheathing requirements. Wood shingles shall be fastened to *wood structural panels*, solid lumber sheathing, or spaced lumber sheathing. ~~installed on solid or spaced sheathing~~. Where spaced lumber sheathing is used, sheathing boards shall be not less than 1-inch by 4-inch (25 mm by 102 mm) nominal dimensions and shall be spaced on centers equal to the weather exposure to coincide with the placement of fasteners.

R905.7.1.1 Solid sheathing required. In areas where the average daily temperature in January is 25°F (-4°C) or less, *wood structural panels* or solid lumber sheathing is required on that portion of the *roof deck* requiring the application of an ice barrier.

R905.7.2 ~~Deck slope~~ Slope. Wood shingles shall be installed on slopes of 3 units vertical in 12 units horizontal (25-percent slope) or greater.

R905.8.1 ~~Deck~~ Sheathing requirements. Wood shakes shall be fastened to *wood structural panels*, solid lumber sheathing, or spaced lumber sheathing. ~~used only on solid or spaced sheathing~~. Where spaced lumber sheathing is used, sheathing boards shall be not less than 1-inch by 4-inch (25 mm by 102 mm) nominal dimensions and shall be spaced on centers equal to the weather exposure to coincide with the placement of fasteners. Where 1-inch by 4-inch (25 mm by 102 mm) spaced lumber sheathing is installed at 10 inches (254 mm) on center, additional 1-inch by 4-inch (25 mm by 102 mm) boards shall be installed between the sheathing boards.

R905.8.1.1 Solid sheathing required. In areas where the average daily temperature in January is 25°F (-4°C) or less, *wood structural panels* or solid lumber sheathing is required on that portion of the *roof deck* requiring an ice barrier.

R905.8.2 ~~Deck slope~~ Slope. Wood shakes shall only be used on slopes of 3 units vertical in 12 units horizontal (25-percent slope) or greater.

R905.10.1 ~~Deck~~ Sheathing requirements. *Metal roof panel* roof coverings shall be fastened to *wood structural panels*, solid lumber sheathing, or ~~applied to solid or~~ spaced lumber sheathing, except where the roof covering is specifically designed to be applied to spaced supports.

R905.16.1 ~~Deck~~ Sheathing requirements. *Photovoltaic shingles* shall be fastened to *wood structural panels*, solid lumber sheathing, or closely-fitted lumber sheathing. ~~applied to a solid or closely-fitted deck~~, except where the roof covering is specifically designed to be applied over spaced lumber sheathing.

R905.16.2 ~~Deck slope~~ Slope. *Photovoltaic shingles* shall be used only on roof slopes of 2 units vertical in 12 units horizontal (2:12) or greater.

R905.17.1 ~~Deck~~ Sheathing requirements. *BIPV roof panels* shall be fastened to *wood structural panels*, solid lumber sheathing, or closely-fitted lumber sheathing. ~~applied to a solid or closely-fitted deck~~, except where the *roof covering* is specifically designed to be applied over spaced lumber sheathing.

R905.17.2 ~~Deck slope~~ Slope. *BIPV roof panels* shall be used only on roof slopes of 2 units vertical in 12 units horizontal (17-percent slope) or greater.

Reason: The purpose of this proposal is to use common terminology throughout section 905 in regard to roof decks and sheathing. The subsections under 905 cover different roof coverings and are organized similar to each other, but with variation in titles. The IRC is a professional standard, but developed piece by piece in cycles. Every so often non glamorous code proposals are necessary to correlate the mess. We just have to wait for someone to take the time to do the work.
1) "Roof deck" has been defined in the IRC since the first draft over two decades ago. However, over time, proposals have used the term "deck" or "roof" in references that would fall under the defined term. Where "roof deck" is appropriate, it has been corrected in this

Page: 3

Mod_11567_Text_RB254-22.pdf

F11567Text Modification

proposal.

2) Use of the term "solid sheathing" in the IRC is often misunderstood as implying "wood structural panel" and not permitting "lumber sheathing". "Spaced sheathing" in the IRC is not interpreted or understood consistently either. Many incorrectly believe this to be any "lumber sheathing" due to the inconsistencies of milled width and shrinkage that result in small gaps (1/8 to 1/4) between boards, "spaces". This incorrect interpretation has lead to many existing roof decks constructed with lumber sheathing to be unnecessarily re-sheathed with wood structural panel sheathing during roof replacement projects with asphalt shingles. This proposal clarifies three different lumber sheathing applications that affect different roof coverings.

"Spaced lumber sheathing". This term has a very specific meaning for wood shake and wood shingles. This is an installation method where the lumber boards are spaced upward of 10 inches on center and only function as nailing strips for the ends of the shingles. Spaced lumber sheathing, also referred to in the industry as "skip sheathing" is an older method of construction, but is still provided for in the IRC today. However, it is very important that the IRC be more specific in references to this sheathing method so the various provisions can be appropriately understood. It is the observation of this proponent that fewer professionals in the industry have the historical understanding of "spaced sheathing" and thus modern times require more clarification to support accurate intepretations. Please reference Sections R905.7.1 and 905.8.1 for applications of spaced sheathing.

"Solid lumber sheathing" and wood structural panel sheathing are now terms used in place of "solid sheathing" in order to clarify that this applies to both lumber sheathing and wood structural panels.

"closely-fitted lumber sheathing" is a term this proponent finds a little ambiguous and inconsistent, yet this proposal does not intend to challenge any existing intent or application. Therefore only "lumber" was added anywhere this term was used in order to stay consistent with the other installations of lumber sheathing.

3) The section titles for slope were both "Deck slope" and "Slope". This proponent simply chose one and it was "Slope". If opponents disagree, please draft a public comment to change it. Just make it consistent, please.

4) The section titles for the "deck or sheathing requirements" were not consistent. Since these sections specifically discuss the different sheathing products and installations, this proponent chose "Sheathing requirements'. If opponents disagree, please draft a public comment to change it. Just make it consistent, please.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal only clarifies the current intent of the IRC roof covering applications and does not directly affect the cost of construction. However, it will reduce the cost of construction where the inconsistent terms are better understood and roof decks with lumber sheathing are no longer required to be re-sheathed due to inaccurate interpretations no longer occurring.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for townhouses as an extension of exterior walls or common walls separating townhouse units in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof decks adjacent to the wall or walls are at different elevations and the higher roof deck is not more than 30 inches (762 mm) above the lower roof deck, the parapet shall extend not less than 30 inches (762 mm) above the lower roof deck .

   Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof deck or sheathing is of noncombustible materials or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of / -inch (15.9 mm) Type X gypsum board is installed directly beneath the roof deck ~~decking~~ or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof deck are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

Page: 4

Mod_11567_Text_RB254-22.pdf

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof deck is more than 30 inches (762 mm) above the lower roof deck. The common wall construction from the lower roof deck to the underside of the higher roof deck shall have not less than a 1-hour fire-resistance rating. The wall shall be rated for exposure from both sides.

R905.7.1.1 Wood Structural Panels. Wood structural panels used as sheathing for wood shingles shall be plywood that conforms to DOC PS1 and shall be identified by a grade mark or certificate of inspection issued by an approved agency.

R905.7.1.1 2 Solid sheathing required. In areas where the average daily temperature in January is 25°F (-4°C) or less, wood structural panels or solid lumber sheathing is required on that portion of the roof deck requiring the application of an ice barrier

R905.8.1.1 Wood Structural Panels. Wood structural panels used as sheathing for wood shakes shall be plywood that conforms to DOC PS1 and shall be identified by a grade mark or certificate of inspection issued by an approved agency.

R905.8.1.1 2 Solid sheathing required. In areas where the average daily temperature in January is 25°F (-4°C) or less, wood structural panels or solid lumber sheathing is required on that portion of the roof deck requiring an ice barrier.

Committee Reason: The committee decided that the modification corrects "decking" to "deck" and adds new sections for Wood Structural Panels. The modification also adds a reasonable reference to DOC PS1. In addition, the committee determined that the proposal as modified provides good reorganization and simplification to the sections. The proposal also brings consistency to the code requirements (Vote: 10-0).

Public Comments

Public Comment 2

Proponents: David Tyree, American Wood Council, American Wood Council (dtyree@awc.org) requests As Submitted

Commenter's Reason: The inclusion of Sections R905.7.1.1 and R905.8.1.1 "Wood Structural Panels" was recommended by the Cedar Shake and Shingle Bureau during the Committee Action Hearings. Based on their installation guidelines "plywood" is not the only material option for these applications and OSB was incorrectly struck from the proposal. Although plywood might be recommended for roof sheathing in wood shingle and shake applications, OSB is included in the installation manual and should not be deleted as an acceptable material.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction Clarification of requirements and more consistent terminology have no cost impact.

Public Comment 3

Proponents: Borjen Yeh, APA - The Engineered Wood Association, APA - The Engineered Wood Association (borjen.yeh@apawood.org) requests As Submitted

Commenter's Reason: The change proposal that has been approved as modified includes a limitation of wood structural panel roof sheathing to plywood only for wood shingles (Section R905.7.1.1) and wood shakes (Section R905.8.1.1). This limitation is inconsistent with the definition of wood structural panels in the IRC, as specified in the approved parent Section R905.7.1, which states “Wood shingles shall be fastened to wood structural panels, solid lumber sheathing, or spaced lumber sheathing.” and parent Section R905.8.1, which states “Wood shakes shall be fastened to wood structural panels, solid lumber sheathing, or spaced lumber sheathing.”

The modification was introduced at the last Committee Action Hearing by the Cedar Shake & Shingle Bureau (CSSB, https://www.cedarbureau.org/). In the “Installation FAQ” of the CSSB website (https://www.cedarbureau.org/literature-education/installation-faq/) under “Oriented Strand Board,” it is not the CSSB recommendation to exclude the installation of cedar shakes and shingles over oriented strand board as a wood structural panel by definition.

The original change proposal without the modification correctly made proper changes. Therefore, it is requested that RB254-22 be

F11567Text Modification

approved as submitted (without the modification) to correct the unnecessary confusion induced by the modification.

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction
This public comment clarifies the intent of the code and removes the unnecessary restriction of wood structural panel sheathing types.

Final Hearing Results

RB254-22 AS

Page: 6

Mod_11567_Text_RB254-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

318

F11585 /RB283-22

Date Submitted	04/02/2024	**Section**	1001.11	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of Section R1001.11 "Fireplace clearance".

Rationale

See attached

F11585Text Modification

See attached

Page: 1

Mod11585_TextOfModification.pdf

F11585Text Modification

RB283-22

Original Proposal

IRC: R1001.11

Proponents: James Buckley, Buckley Rumford Co., MACS, CFLI (buckley@rumford.com)

2021 International Residential Code

Revise as follows:

R1001.11 Fireplace clearance. Wood beams, joists, studs and other *combustible material* shall have a clearance of not less than 2 inches (51 mm) from the front faces and sides of masonry fireplaces and not less than 4 inches (102 mm) from the back faces of masonry fireplaces. The airspace shall not be filled, except for noncombustible insulation or to provide fireblocking in accordance with Section R1001.12.

Exceptions:

1. Masonry fireplaces *listed* and *labeled* for use in contact with combustibles in accordance with UL 127 and installed in accordance with the manufacturer's instructions are permitted to have *combustible material* in contact with their exterior surfaces.
2. Where masonry fireplaces are part of masonry or concrete walls, *combustible materials* shall not be in contact with the masonry or concrete walls less than 12 inches (306 mm) from the inside surface of the nearest firebox lining.
3. Exposed combustible *trim* and the edges of sheathing materials such as wood siding, flooring and gypsum board shall be permitted to abut the masonry fireplace sidewalls and hearth extension in accordance with Figure R1001.11, provided such combustible *trim* or sheathing is not less than 12 inches (305 mm) from the inside surface of the nearest firebox lining.
4. Exposed combustible mantels or *trim* is permitted to be placed directly on the masonry fireplace front surrounding the fireplace opening providing such *combustible materials* are not placed within 6 inches (152 mm) of a fireplace opening. *Combustible material* within 12 inches (306 mm) of the fireplace opening shall not project more than $^1/_8$ inch (3 mm) for each 1-inch (25 mm) distance from such an opening.

Reason: Studies have shown that the heat transferred through an insulated space is less than through an airspace because the heat transfer in air is by convection - not conduction. see engineering report at https://www.rumford.com/articleairspace.html

Bibliography: See engineering report at https://www.rumford.com/articleairspace.html

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change provides an opting to include noncombustible insulation but it is not required.

Public Hearing Results

Committee Action **As Modified**

Committee Modification: R1001.11 Fireplace clearance. Wood beams, joists, studs and other combustible material shall have a clearance of not less than 2 inches (51 mm) from the front faces and sides of masonry fireplaces and not less than 4 inches (102 mm) from the back faces of masonry fireplaces. The airspace shall not be filled, except for ~~noncombustible insulation~~ noncombustible material or to provide fireblocking in accordance with Section R1001.12.
Exceptions:

1. Masonry fireplaces listed and labeled for use in contact with combustibles in accordance with UL 127 and installed in accordance with the manufacturer's instructions are permitted to have combustible material in contact with their exterior surfaces

Page: 1

Mod_11585_Text_RB283-22.pdf

F11585Text Modification

2. Where masonry fireplaces are part of masonry or concrete walls, combustible materials shall not be in contact with the masonry or concrete walls less than 12 inches (306 mm) from the inside surface of the nearest firebox lining.
3. Exposed combustible trim and the edges of sheathing materials such as wood siding, flooring and gypsum board shall be permitted to abut the masonry fireplace sidewalls and hearth extension in accordance with Figure R1001.11, provided such combustible trim or sheathing is not less than 12 inches (305 mm) from the inside surface of the nearest firebox lining.
4. Exposed combustible mantels or trim is permitted to be placed directly on the masonry fireplace front surrounding the fireplace opening providing such combustible materials are not placed within 6 inches (152 mm) of a fireplace opening. Combustible material within 12 inches (306 mm) of the fireplace opening shall not project more than / inch (3 mm) for each 1-inch (25 mm) distance from such an opening.

Committee Reason: The committee concluded that the proposed modification correctly changed "noncombustible insulation" to "noncombustible material". The committee decided that the modified proposal incorporates the allowance for noncombustible material without adding a reference to other sections to make it easier for the code users (Vote: 9-1).

Final Hearing Results

RB283-22 AM

Page: 2

Mod_11585_Text_RB283-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

319

F11586 **/RB284-22**

Date Submitted	04/02/2024	**Section**	1001.11	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Exception R1001.11 "Fireplace clearance".

Rationale

See attached

F11586Text Modification

See attached

Page: 1

Mod11586_TextOfModification.pdf

F11586Text Modification

RB284-22

Original Proposal

IRC: R1001.11

Proponents: James Buckley, Buckley Rumford Co., MACS, CFLI (buckley@rumford.com)

2021 International Residential Code

Revise as follows:

R1001.11 Fireplace clearance. Wood beams, joists, studs and other *combustible material* shall have a clearance of not less than 2 inches (51 mm) from the front faces and sides of masonry fireplaces and not less than 4 inches (102 mm) from the back faces of masonry fireplaces. The airspace shall not be filled, except to provide fireblocking in accordance with Section R1001.12.

Exceptions:

1. Masonry fireplaces *listed* and *labeled* for use in contact with combustibles in accordance with UL 127 and installed in accordance with the manufacturer's instructions are permitted to have *combustible material* in contact with their exterior surfaces.
2. Where masonry fireplaces are part of masonry or concrete walls, *combustible materials* shall not be in contact with the masonry or concrete walls less than 12 inches (306 mm) from the inside surface of the nearest firebox lining.
3. Exposed combustible *trim* and the edges of sheathing materials such as wood siding, flooring and gypsum board shall be permitted to abut the masonry fireplace sidewalls and hearth extension in accordance with Figure R1001.11, provided such combustible *trim* or sheathing is not less than ~~12 inches (305 mm)~~ 8 inches (203 mm) from the inside surface of the nearest firebox lining. Where the fireplace opening is 6 square feet (0.6 m2) or larger such combustible or sheathing shall be permitted to abut the masonry fireplace sidewalls and hearth extension provided such combustible or sheathing is not less than 12 inches (305 mm) from the inside surface of the nearest firebox lining.
4. Exposed combustible mantels or *trim* is permitted to be placed directly on the masonry fireplace front surrounding the fireplace opening providing such *combustible materials* are not placed within 6 inches (152 mm) of a fireplace opening. *Combustible material* within 12 inches (306 mm) of the fireplace opening shall not project more than 1/8 inch (3 mm) for each 1-inch (25 mm) distance from such an opening.

Reason: To make this section of code consistent with Section R1001.10. If a fireplace with an opening 6 square feet or smaller is built with the hearth extension only 8" beyond each side of the fireplace opening, as is permitted by R1001.10, then the flooring and trim cannot abut the hearth extension if it must be 12 inches from the inside surface of the firebox lining.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal is just a change in required dimensions which will cost nothing.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee approved this proposal considering the fact that the proposal makes Section R1001.11 consistent with Section R1001.10 (Vote: 10-0).

Page: 1

Mod_11586_Text_RB284-22.pdf

F11586Text Modification

Final Hearing Results

RB284-22 AS

Page: 2

Mod_11586_Text_RB284-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

320

F11587 **/RB287-22**

Date Submitted	04/02/2024	**Section**	1003.18	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies the text of Exception 3, Section R1003.8 "Chimney clearances".

Rationale

See attached

F11587Text Modification

See attached

Page: 1

Mod11587_TextOfModification.pdf

F11587Text Modification

RB287-22

Original Proposal

IRC: R1003.18

Proponents: James Buckley, Buckley Rumford Co., MACS, CFLI (buckley@rumford.com)

2021 International Residential Code

Revise as follows:

R1003.18 Chimney clearances. Any portion of a *masonry chimney* located in the interior of the building or within the exterior wall of the building shall have a minimum airspace clearance to combustibles of 2 inches (51 mm). Chimneys located entirely outside the exterior walls of the building, including chimneys that pass through the soffit or cornice, shall have a minimum airspace clearance of 1 inch (25 mm). The airspace shall not be filled, except to provide fire blocking in accordance with Section R1003.19.

Exceptions:

1. Masonry chimneys equipped with a chimney lining system *listed* and *labeled* for use in chimneys in contact with combustibles in accordance with UL 1777 and installed in accordance with the manufacturer's instructions are permitted to have *combustible material* in contact with their exterior surfaces.
2. Where masonry chimneys are constructed as part of masonry or concrete walls, *combustible materials* shall not be in contact with the masonry or concrete wall less than 12 inches (305 mm) from the inside surface of the nearest flue lining.
3. ~~Exposed combustible *trim* and the edges of sheathing materials, such as wood siding and flooring,~~Combustible materials shall be permitted to abut the *masonry chimney* side walls, in accordance with Figure R1003.18, provided such combustible~~trim or sheathing~~ material is not less than 8 inches (203 mm) from the inside surface of the nearest flue lining.

Reason: The engineering study - https://www.rumford.com/code/EightInchThickTestReport.pdf - supporting the change from 12" to 8" in 2013 (RB458 - 13) compared an 8" thick chimney in contact with a combustible frame wall to a code-compliant 4" masonry wall plus 2" of air space to the framing and found the 8" thick masonry wall in contact with combustible framing was safer. There is no reason to limit the requirement for 8" thick chimney walls to "Exposed combustible trim and the edges of sheathing materials, such as wood siding and flooring".

Bibliography: Engineering study - https://www.rumford.com/code/EightInchThickTestReport.pdf

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This change is just a clarification consistent with testing.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined that the proposal provides good clarification for Section R1003.18, Exception #3. The committee approval was based on the submitted engineering study for eight-inch thick Masonry chimney test report (Vote: 9-1).

Final Hearing Results

RB287-22 AS

Page: 1

Mod_11587_Text_RB287-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

321

F11589	/RB289-22				
Date Submitted	04/02/2024	**Section**	1004.4	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments Yes

Related Modifications

Summary of Modification

Modifies text of Section R1004.4 "Unvented gas log heaters".

Rationale

See attached

1st Comment Period History

F11589-G1

Proponent Alan Gremillion Submitted 6/27/2024 3:23:59 PM Attachments No

Comment:

Expected increase of $300 - $2,000 per fireplace insert. Price variation is dependent upon fireplace insert manufacturer.

F11589Text Modification

See attached

Page: 1

Mod11589_TextOfModification.pdf

F11589Text Modification

RB289-22

Original Proposal

IRC: R1004.4

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R1004.4 Unvented gas log heaters. An unvented gas log heater or a fireplace insert shall not be installed in a factory-built fireplace unless the fireplace system has been specifically tested, *listed* and *labeled* for such use in accordance with UL 127.

Reason: An unvented gas log heater is not permitted in a factory-built fireplace, unless the fire place system has been specifically tested, listed and labeled for such use in accordance with UL 127. This is because the addition of an unvented gas log heater within a firebox can alter the temperatures on the outside of the factory-built fireplace, which are typically installed with zero clearances to combustible materials. The same fire safety concern applies to the addition of a fireplace insert within a factory-built fireplace.

Cost Impact: The code change proposal will increase the cost of construction
It is possible that listed fireplace inserts might be slightly more expensive than unlisted units, but we are not aware of specific cost differences between the two.

Public Hearing Results

Committee Action **As Submitted**

Committee Reason: The committee determined that the proposal addresses a gap in the code for fireplace insert. In addition, the proposal clarifies that the same fire safety concern applies to the addition of a fireplace insert within a factory-built fireplace (Vote: 10-0).

Final Hearing Results

RB289-22 AS

Page: 1

Mod_11589_Text_RB289-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

322

F11594		/RB298-22			
Date Submitted	04/02/2024	**Section**	102.4.3	**Proponent**	Mo Madani
Chapter	3310	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Overlap
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Original text of mod is not consistent with that of the 2023 FBC - R.

Summary of Modification

This is a coordination item. Modifies text of Section AJ102.4.3, AJ102.4.3.1.

Rationale

See attached

F11594Text Modification

See attached

Page: 1

Mod11594_TextOfModification.pdf

F11594Text Modification

RB298-22

Original Proposal

IRC: AJ102.4.3, AJ102.4.3.1

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Revise as follows:

AJ102.4.3 Replacement windows for emergency escape and rescue openings. Where windows are required to provide emergency escape and rescue openings, replacement windows shall be exempt from Sections R310.2 and R310.4.4 provided that the replacement window meets the following conditions:

1. The replacement window is the manufacturer's largest standard size window that will fit within the existing frame or existing rough opening. The replacement window shall be permitted to be of the same operating style as the existing window or a style that provides for an equal or greater window opening area than the existing window.
2. Where the replacement window is not part of a change of occupancy.
3. Window opening control devices complying with F409–2017 shall be permitted for use on windows required to provide emergency escape and rescue openings.

~~Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as required emergency escape and rescue openings.~~

AJ102.4.3.1 Control devices. Window opening control devices or fall prevention devices complying with ASTM F2090 shall be permitted for use on windows required to provide emergency escape and rescue openings. ~~Emergency escape and rescue openings with window opening control devices or fall prevention devices complying with ASTM F2090,~~ After operation to release the control device allowing the window to fully open, the control device shall not reduce the net clear opening area of the window unit. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools.

Reason: This is a coordination item. The proposed text is what is found in IEBC Section 505.3.1 and 702.5.1 for control devices on existing windows that are used for emergency escape and rescue. The same phraseology/intent is in appendix J, but is written differently. This could be read as asking for something different, which is not the case. This also better coordinates with R310.5.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This is a clarification/coordination of requirements. It has no technical changes.

Public Hearing Results

Committee Action **As Submitted**

Page: 1

Mod_11594_Text_RB298-22.pdf

F11594Text Modification

Committee Reason: This proposal to the appendix for Existing Buildings is a necessary clarification in correlation with the other ICC codes for replacement windows and control devices. Consistent requirements should lead to consistent enforcement. (Vote:10-0)

Final Hearing Results

RB298-22 AS

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

323

F11602 **/RB310-22**

Date Submitted	04/02/2024	**Section**	105.3	**Proponent**	Mo Madani
Chapter	3321	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Modifies text of Table AU103.5 "OUT-OF-PLANE RESISTANCE METHODS AND UNRESTRAINED WALL HEIGHT LIMITS". Adds TABLE AU108.1 "TWO-HOUR FIRE-RESISTANCE RATED COB WALLS".

Rationale

See attached

F11602Text Modification

See attached

Page: 1

Mod11602_TextOfModification.pdf

F11602Text Modification

RB310-22

Original Proposal

IRC: AU108.1, TABLE AU108.1 (New), TABLE AU105.3

Proponents: Anthony Dente, PE, Verdant Structural Engineers (anthony@verdantstructural.com); Martin Hammer, Martin Hammer, Architect (mfhammer@pacbell.net); David Eisenberg, DCAT (strawnet@gmail.com); Kevin Donahue, Verdant Structural Engineers, Verdant Structural Engineers (kevin@verdantstructural.com); David Rich, Reax Engineering Inc., Reax Engineering Inc. (rich@reaxengineering.com); Nicholas Bartlett, National Renewable Energy Laboratory, Self (bartster84@gmail.com)

2021 International Residential Code

Revise as follows:

AU108.1 Fire-resistance rating. ~~*Cob* walls are not fire-resistance rated.~~ Cob walls that comply with Table AU108.1 shall be considered to provide a two-hour fire-resistance rating.

Add new text as follows:

TABLE AU108.1 TWO-HOUR FIRE-RESISTANCE RATED COB WALLS

Allowable superimposed load (plf)	Density[a] (pcf)	Minimum compressive strength per Section AU106.6.1 (psi)	Wall type reinforcementper Table AU105.3	Minimum thickness[c] at top of wall (inches)	Minimum thickness[c] at bottom of wall (inches)
1,200	100	85	E	9	12
475	50 pcf for the top 40 inches of wall height, maximum	40[d]	E or F	8	12
	70 pcf for the top 80 inches of wall height, maximum	55[d]			
non load-bearing	50 to 100[d]	>60 psi <60 psi[b]	E or F	9	9

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.45 kg

a. Density is to be measured at equilibrium moisture content. Average wall density shall be within +/- 5 pcf of the tabulated value.

b. Requires an *approved* engineered design per Section AU106.6.

c. Cob thickness only. The interior and exterior cob faces shall be permitted to be unfinished or receive any plaster finish allowed by this appendix.

d. Cob walls with more than one density shall be built with heavier densities below lighter densities.

Revise as follows:

TABLE AU105.3 OUT-OF-PLANE RESISTANCE METHODS AND UNRESTRAINED WALL HEIGHT LIMITS

WALL TYPE[a, g, h] AND METHOD OF OUT-OF-PLANE LOAD RESISTANCE	FOR ULTIMATE DESIGN WIND SPEEDS (mph)	FOR SEISMIC DESIGN CATEGORIES	UNRESTRAINED COB WALL HEIGHT H[b, c]		TOP ANCHOR[e] SPACING (inches)	TENSION TIE[f] SPACING (inches)
			Absolute Limit (feet)	Limit Based on Wall Thickness T[d] (feet)		
Wall 1[i]: no anchors, no steel wall reinforcing	≤ 110	A	$H \le 8$	$H \le 6T$	None	48

Page: 1

Mod_11602_Text_RB310-22.pdf

F11602Text Modification

Wall 2: top anchors,[j] continuous vertical 6" × 6" × 6" 6-inch x 6-inch 6-gage steel mesh in center of wall embedded in foundation 12 inches	≤ 140	A, B, C	$H \leq 8$	$H \leq 8T$	12	24
Wall A[i]: top anchors, no vertical steel reinforcing	≤ 120	A, B	$H \leq 8$	$H \leq 6T$	12	48
Wall B[i]: top and bottom anchors, no vertical steel reinforcing	≤ 130	A, B	$H \leq 8$	$H \leq 6T$	12	48
Wall C: top and bottom anchors, continuous vertical threaded rod at 4 feet on center embedded in foundation and connected to bond beam	≤ 140	A, B, C	$H \leq 8$	$H \leq 8T$	12	24
Wall D: continuous vertical threaded rod at 1 foot on center embedded in foundation and connected to bond beam	≤ 140	A, B, C	$H \leq 8$	$H \leq 8T$	N/A	24
Wall E: top anchors, continuous vertical 6" × 6" × 6" 6-inch x 6-inch 6-gage steel mesh 2 inches from each face of wall embedded in foundation	≤ 140	A, B, C	$H \leq 8$	$H \leq 8T$	12	24
Wall F: top anchors, continuous vertical 6-inch × 6-inch 10-gage steel mesh 2 inches from each face of wall embedded in foundation	≤ 140	A, B, C	$H \leq 8$	$H \leq 8T$	12	24

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.
N/A = Not Applicable

a. See Table AU106.11(1) for reinforcing and anchorage specifications for wall Types A, B, C, D and E.

b. *H* = height of the cob portion of the wall only. See Figure AU101.4. The maximum*H* is the absolute limit or the limit based on wall thickness, whichever is more restrictive.

c. Bond beams or other horizontal restraints are capable of separating a wall into more than one unrestrained wall height with an approved engineered design.

d. *T* = Cob wall thickness (in feet) at its minimum, without plaster.

e. $^5/_8$-inch threaded rod anchors at prescribed spacing with 12-inch embedment in cob, full embedment in concrete bond beams or full penetration in wood bond beam with a nut and washer.

f. Attach rafters to bond beam with 4-inch by 3-inch by 3-inch by 18 gage tension tie angles at prescribed spacing. See Figure AU106.9.5. Where rafters are attached to tension ties, roof sheathing shall be edge nailed.

g. All walls shall be tested for compressive strength in accordance with Section AU106.6.

h. For curved walls with an arc length to radius ratio of 1.5:1 or greater, the*H*/*T* factor shall be increased by 1, and the absolute height limit by 1 foot.

i. Wall type requires a modulus of rupture test in accordance with Section AU106.7.

j. See wall Type A in Table AU106.11(1) for top anchor requirements.

Reason: A fire-resistance-rated cob wall assembly is added based on ASTM E119 test reports and an accompanying letter from the NTA/ICC testing engineers as well as Reax Engineering, which can be found at: https://www.cobcode.org/cobcode-documents. All Elements of Row 1 and 2, except for column 1 row 1 are references to the exact assembly tested in the ASTM E119 test with a field-common, 5% margin allowance for density. The requirement of column 1, row 1 is based on the ASTM E119 test and accompanying Engineering Judgment letters from NTA/ICC engineers and Reax Engineering. The requirement in footnote c is based on the unplastered assembly that was tested in the ASTM E119 test with the conservative allowance of the optional addition of plaster. The final row on the chart is based on conservatively removing the allowable superimposed load for the range of densities (50-100 pcf) tested in the ASTM E119 test. The reinforcing matches the ASTM E119 tests and the minimum thickness matches the minimum thickness of the ASTM E119 test for the highest density present (100pcf). An additional wall assembly was added to Table AU105.3 to allow for the exact gauge of reinforcing steel used in one of the ASTM E119 tests. Concerning out-of-plane loading, this system is stronger than the one tested and governing Table AU105.3, therefore this addition is conservative.

Cost Impact: The code change proposal will not increase or decrease the cost of construction

F11602Text Modification

This change simply offers options for tested fire-resistance-rated cob walls, which are no more costly than other non-rated cob walls.

Public Hearing Results

Committee Action **Disapproved**

Committee Reason: This proposal for the appendix for Cob Construction was disapproved because there was concern that only two systems were tested, and it seems like the codes require every potential variable for other wall assemblies and other materials in the codes. Some felt this proposal does clarify the direction to achieve a fire resistance rating. (Vote: 6-3)

Public Comments

Public Comment 1

Proponents: Anthony Dente, PE, Verdant Structural Engineers (anthony@verdantstructural.com); David Eisenberg, DCAT (strawnet@gmail.com); Martin Hammer, Martin Hammer, Architect (mfhammer@pacbell.net); David Rich, Reax Engineering Inc., Reax Engineering Inc. (rich@reaxengineering.com) requests As Modified by Public Comment

Modify as follows:

2021 International Residential Code

AU108.1 Fire-resistance rating. Cob walls that comply with Table AU108.1 ~~shall be considered to provide~~ have a two-hour fire-resistance rating.

TABLE AU108.1 TWO-HOUR FIRE-RESISTANCE RATED COB WALLS

Allowable superimposed load (plf)	Density[a, u] (pcf)	Minimum compressive strength per Section AU106.6.1 (psi)	Wall type reinforcement per Table AU105.3	Minimum thickness[c, u] at top of wall (inches)	Minimum thickness[c, u] at bottom of wall (inches)
1,200	100	85	E	9	12
475	≥ 50 pcf: top of wall to for the top 40 inches from top of wall height, maximum.	40[b]	E or F	8	12
	≥ 70 pcf: 40 inches from for the top of wall to 80 inches from top of wall height, maximum.	55[b]			
	≥ 90 pcf: 80 inches from top of wall to bottom of wall.	85			
non load-bearing	50 to 100[d]	~~>~~≥ 60 psi < 60 psi[b]	E or F	9	9

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound = 0.45 kg

a. Density is to be measured at equilibrium moisture content. Average wall density shall be within +/- 5 pcf of the tabulated value.

b. Requires an *approved* engineered design per Section AU106.6.

c. Cob thickness only. The interior and exterior cob faces shall be permitted to be unfinished or receive any plaster finish allowed by this appendix.

d. Cob walls with more than one density shall be built with heavier densities below lighter densities.

e. Minimum cob wall thickness shall be whichever is greater in Table AU105.3, Table AU106.11(1) and Table AU108.1.

f. Wall thicknesses less than 10" require an engineered design.

Commenter's Reason: In both opposition testimony and comments by the IRC Committee inaccurate statements were made at the CAH

Page: 3

Mod_11602_Text_RB310-22.pdf

F11602Text Modification

that created unwarranted doubt or confusion about this proposal. These include that multiple tests are required for an assembly or material to be given a fire-resistance rating in the code; that only one test had been performed; and that the proposal did not specify material makeup requirements to ensure that constructed rated walls would match what was tested. In addition to refuting those incorrect assertions, this Public Comment rewords some of RB310-22's code language to address legitimate concerns raised at the CAH and makes other improvements for greater clarity.

First, the language in the IRC and IBC indicates that a fire-resistance rating can be attained for an assembly by passing the required test, in this case ASTM E119 or UL 263 for walls. There is no language in the code requiring multiple tests to receive recognition as a rated assembly. Only that the required test is performed by an approved lab, is successful, properly documented, and that the code requirements for the rated assembly or material match what was tested, all of which the proposed code change in RB310 does. The proposed Table AU108.1 provides options by carefully matching what was tested to what is required for a fire-resistance rated cob wall. Additional footnotes further clarify the limitations and requirements in this table.

This is not a case where the tested walls barely passed the fire tests, or that a change in material makeup allowable in Appendix AU could affect the fire-resistance of the wall. Two full-scale 2-hour ASTM E119 tests were conducted with virtually no heat rise on the cool side of the wall, and both then passed the hose stream test. Importantly, the same materials required or allowed for cob walls in this appendix and this code change proposal – clay soil, sand and straw - have been used for centuries to build ovens and kilns specifically because of their ability to contain fire.

Cob density is governed by the proportion of straw in the mix. Within the material requirements of Appendix AU and density range tested and allowed in this proposal, there is no material makeup that wouldn't easily achieve a 2-hour rating. Furthermore, Appendix AU requires a shrinkage test (Section AU103.4.1) for *all* cob mixes, to minimize or eliminate cracking in service. This ensures that a rated cob wall subjected to fire, regardless of its exact material makeup, will not contain cracks that could compromise its ability to perform to its rated fire-resistance.

As stated in support testimony, the original proposal for Appendix AU for the 2021 IRC included a 1-hour fire-resistance rating without an ASTM E119 or UL 263 test, which drew opposition that resulted in disapproval at the 2019 CAH. A subsequent public comment removed the fire rating, resulting in the approval of Appendix AU. RB310-22 directly follows the recommendations of the committee and those who spoke in opposition, by conducting the needed testing and providing associated code provisions for those rated walls. The testing conducted and documented is more than adequate to support the proposed fire-resistance ratings for the cob walls described in RB310.

It should be noted that the fire-safety experts who opposed Appendix AU's original proposal because of the lack of testing, were consulted about the ASTM E119 tests conducted and the test results were shared with them in preparation for the RB310 code change proposal. They testified in support of RB310 at the CAH. Also, individuals who testified in opposition to the current proposal at the CAH were engaged before the Public Comment was submitted. Misunderstandings were clarified and we attempted to address their concerns.

Second, two cob walls were tested, each with differing densities and thickness, and both easily passed ASTM E119 2-Hour tests, including the hose stream test. Several comments in testimony claimed only one test was performed. Laboratory reports of the tests were and are available at a linked website (see below) along with other supporting information.

Third, the specifics of the two tested walls are reflected in the requirements in RB310's Table AU108.1, with corresponding densities, compressive strength, reinforcement, and thickness. One tested wall contained three densities from bottom to top, that all performed exceedingly well in the test. The other wall was of a different, single density. Thus, four different densities ranging from 50 pcf to 100 pcf, were tested and proven to easily pass the 2-hour E119 fire test.

Fourth, for important context: Australia has had standards for earthen wall systems including for fire safety for decades. The Australian Earth Building Handbook, HB195-2002, in Section 4.6 Fire Resistance Level, states, "In the absence of specific test data, the general fire resistance level (FRL) of earth walls satisfying the minimum thickness requirements outlined in Clause 4.3.4 may be taken as not greater than 120/120/120, or 90/90/90 where wall thickness is less than 200 mm." Clause 4.3.4 Structural Adequacy states: "Minimum recommended thicknesses for mud brick, stabilized pressed block and rammed earth are as follows: External walling - 200 mm, Internal walling - 125 mm. The minimum wall thickness for poured earth and cob wall construction is also recommended to be 200 mm, though in practice wall thickness will often exceed this value."

The three numbers in the FRL represent minutes before failure for structural adequacy/integrity/insulation. In other words, the time for the wall to be able to maintain a load, maintain its integrity, and before heat increase on the unheated side of the wall exceeds accepted limits. Thus, Australia gives a 2-hour fire resistance rating for a 200 mm (7.87") earth wall, including for cob walls.

Further, Australian Standard AS 3959-2009, "Construction of Buildings in Bushfire-Prone Areas," was produced in response to the many severe bushfires they have suffered. Based on the actual performance of earthen wall buildings in Australia, mud brick with a minimum

Page: 4

Mod_11602_Text_RB310-22.pdf

F11602Text Modification

thickness of 90mm (3.54") is listed as one of only three exterior wall materials allowed to be used in the highest bushfire exposure zones without need of additional testing (the other two being full masonry and concrete). The minimum thickness of cob walls in this public comment is 8 inches, more than double the minimum thickness in the Australian standard.These Australian documents are available via the supporting documents link: https://www.cobcode.org/cobcode-documents

See photo below of one of two cob wall specimens tested at the independent testing laboratory.



Bibliography: The test reports and other supporting documents for this Public Comment as well as the code change proposal and the original proposal for Appendix AU are available for download and review here: https://www.cobcode.org/cobcode-documents

Cost Impact: The net effect of the Public Comment and code change proposal will not increase or decrease the cost of construction This change simply offers options for tested fire-resistance-rated cob walls, which are no more costly than non-rated cob walls.

Final Hearing Results

RB310-22 AMPC1

Page: 5

Mod_11602_Text_RB310-22.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 324**

Total Mods for report: 324

Sub Code: Residential

F11605	/RB314-22				324
Date Submitted	04/02/2024	**Section**	101	**Proponent**	Mo Madani
Chapter	3321	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review			Staff Classification	Correlates Directly
Commission Action	Pending Review				

Comments

General Comments No

Related Modifications

Summary of Modification

Adds new Appendix AY "Accessory Dwelling Units (ADUs)".

Rationale

See attached

F11605Text Modification

See attached

Page: 1

Mod11605_TextOfModification.pdf

F11605Text Modification

RB314-22

Original Proposal

IRC: (New), APPENDIX AY (New), AY101 (New), AY101.1 (New), AY101.1.1 (New), AY101.2 (New), AY102 (New), AY201.1 (New), SECTION 202 (New), AY103 (New), AY103.1 (New), AY104 (New), AY104.1 (New), AY104.1.2 (New), AY104.1.3 (New), AY104.1.4 (New), AY105 (New), A105.1 (New), AY105.2 (New), AY105.3 (New), AY105.4 (New)

Proponents: Mike Nugent, Chair, Building Code Action Committee (bcac@iccsafe.org)

2021 International Residential Code

Add new text as follows:

Users note. *The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.*
About this appendix: *Appendix AY provides for the design and construction of accessory dwelling units (ADUs), an alternative to two- and multi-family residential construction that promotes increased housing supply and affordability.*

APPENDIX AY ACCESSORY DWELLING UNITS (ADUs)

AY101 GENERAL

AY101.1 Scope. ADUs proposed for existing residential construction shall be in accordance with this appendix, other applicable requirements in this code and shall not exceed the scoping limitations of Section R101.2.

AY101.1.1 Prohibited Conditions. An ADU shall not be permitted within:

1. Live/work units located in townhouses.
2. Owner-occupied *lodging houses* with five or fewer guestrooms.
3. A care-facility with five or fewer persons receiving medical care or custodial care within a *dwelling unit.*
4. A care-facility with five or fewer persons receiving care within a single-family dwelling.

AY101.2 Conditions. ADUs shall be permitted without requiring a *change of occupancy* to either a two-or multi-family *dwelling* where in compliance with all of the following:

1. Only one ADU shall be permitted for each primary dwelling unit.
2. The owner of a property containing an ADU shall reside in either the primary dwelling unit or the ADU, as of the date of permit approval.
3. An ADU shall have a separate house number from the primary dwelling unit.
4. ADUs shall be secondary in size and function to the primary dwelling unit and shall comply with all of the following limits.
   - 4.1. Not less than 190 square feet (17.65 m^2) in area.
   - 4.2. Not more than 50 percent of the area of the primary dwelling unit.
   - 4.3. Not more than 1,200 square feet (111 m^2) in area.
5. An ADU shall be provided with a separate entrance than that serving the primary dwelling unit either from the exterior of the building or from a common hallway located within the building.

Page: 1

Mod_11605_Text_RB314-22.pdf

F11605Text Modification

6. An ADU shall have a maximum number of two bedrooms.
7. The location of a detached ADU shall comply with Section R302.
8. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.

AY102
DEFINITIONS

AY201.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein.

Add new definition as follows:

ACCESSORY DWELLING UNIT (ADU). An additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

Add new text as follows:

AY103
PERMITS

AY103.1 Required. Any owner or owner's agent who intends to construct an ADU within an existing or proposed building or structure shall first make application to the building official and obtain the required permit.

AY104
ADU PLANNING

AY104.1 Design. Except as modified by this section, building planning shall be in accordance with Chapter 3 and building structure shall comply with Part III of this code.

AY104.1.2 Means of egress. The path of egress travel from an ADU to a public way or to a yard or court that opens to a public way shall be independent of, and not pass through the primary dwelling unit.

AY104.1.3 Fire separation. For ADUs adjoining the primary dwelling unit, the 1-hour fire-resistance rated wall and floor assembly provisions of Section R302.3 shall not be required provided that both of the following conditions have been met:

1. The interconnection of smoke alarms per Section R314.4 activates the smoke alarms in both the primary dwelling unit and the ADU.
2. The interconnection of carbon monoxide alarms per Section R315.5 activates the carbon monoxide alarms in both the primary dwelling unit and the ADU.

AY104.1.4 Smoke and carbon monoxide alarms. For ADUs adjoining the primary dwelling unit, the interconnectivity of smoke alarms and carbon monoxide alarms may be independent for the primary dwelling unit and the ADU provided that a 1-hour fire-resistance rating is provided for walls and floor assemblies as per R302.3.

AY105
UTILITIES

A105.1 Heating, ventilation and air-conditioning systems. A primary dwelling unit and an ADU shall be provided with:

Page: 2

Mod_11605_Text_RB314-22.pdf

F11605Text Modification

1. A separate heating system.
2. Separate ducting for heating and cooling systems. Return air openings for heating, ventilation and air-conditioning shall not be taken from another dwelling unit.
3. Separate climate controls.

AY105.2 Electrical systems. A primary dwelling unit and an ADU shall be provided with:

1. Ready access to the service disconnecting means serving the dwelling unit.
2. Ready access for each occupant to all overcurrent devices protecting the conductors supplying the dwelling unit in which they reside.

AY105.3 Gas piping. A primary dwelling unit and an ADU shall be provided with:

1. Ready access to shutoff valves serving the dwelling unit in which they reside.
2. Ready access to appliance shutoff valves serving appliances in the dwelling unit in which they reside.

AY105.4 Water service. A primary dwelling unit and an ADU may share a common potable water system provided that there are separate, accessible main shutoff valves allowing the water to be turned off on one-side without affecting the other.

Reason: Accessory dwelling unit (ADU) is a term already in use across the United States – including Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, the District of Columbia, Florida, Hawaii, Idaho, Illinois, Indiana, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Hampshire, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Texas, Utah, Vermont, Virginia, Washington, and Wisconsin. However, the definition of an ADU and associated code requirements vary significantly not only state to state, but from jurisdiction to jurisdiction. Changes were made to the *International Zoning Code* (IZC) during the recent Group A Code Development Cycle to provide a definition and framework of requirements in an effort to create a uniform understanding of ADUs. It is also important to note the lack of building codes and standards has created circumstances where the requirements are being determined through local and state legislative processes, instead of ICC's code change process, which is a consensus process driven by the knowledge and experience of code officials.
This code change proposal to create a new voluntary appendix to the IRC incorporates those portions adopted into the IZC that are not inextricably tied to zoning conditions, while adding fundamental building design criteria affecting life safety.

Section A _ 101

is nearly identical to the parameters established in the IZC. The distinctions being:

1) Clarifying language that creating / proposing an ADU does not automatically trigger a*change of occupancy* from a one-family to a two-family, or from a two-family to a multi-family, provided all conditions are met.

2) The IZC included one requirement affecting off-street parking which is beyond the scope of the IRC.

3) New language is provided that the additional design parameters for an ADU not addressed in this Appendix default back to the IRC.

4) New language makes it clear that ADUs within existing residential dwellings shall not be in addition to live/work units, lodging houses, or care facilities with five or fewer people.

As explained in the reason statement provided previously to the IZC:

Section A….101.1 Conditions

propose eight (8) requirements that ensure the ADU does not become a "duplex" or second single-family home on the same lot. Should these conditions not be met, the proposed ADU must be considered as a separate *dwelling unit* with all applicable regulations of the IBC, IEBC, or IRC in effect.

- Item 1 re-affirms the subordinate nature of the ADU to the primary dwelling unit;
- Item 2 establishes an Owner-occupancy requirement;

Page: 3

Mod_11605_Text_RB314-22.pdf

F11605Text Modification

· Item 3 requires a separate address for the ADU from the primary unit.

· Item 4 sets size parameters for the ADU.

o The minimum square footage of 190 SF aligns with the IBC minimum for an efficiency unit.

o The maximum size is based on a comparison of requirements in effect in CO, OR, MA, CA, and VA which ranged from 750 SF to 1,400 SF; most between 1,000 SF and 1,200 SF.

o A similar comparison between percentages of the primary unit showed 30% to 50% with more jurisdictions favoring the higher value.

· Item 5 requires a separate entrance to prevent a house that has a second kitchen (such as a recreation room in a basement with a cooking area), but are not an ADU from being mandated to meet the ADU requirements.

· Item 6 limits the unit to two bedrooms to minimize parking demands normally associated with zoning ordinances while still allowing the ADU to address housing market demands and cost concerns.

· Item 7 is a pointer to the multiple buildings on a single lot requirements of Section R302.

· Item 8 recognizes the need for an ADU to have adequate utilities.

Section A__102 creates two definitions matching those added to the IZC. The first recognizes the common parlance of an Accessory Dwelling Unit (ADU) and points to the second definition, which describes the use more accurately as a subset of a *dwelling unit* defined in Chapter 2.

The content of the definition for an ADUwas developed based on similarities found in existing Zoning ordinances in effect around the United States, and distinguishing the difference between and ADU and a Two-Family Dwelling; i.e., the subordinate nature of the size and function to the primary or second dwelling unit. Though subordinate is not a defined term in Chapter 2, there is precedent in the I-Codes for using the term (for example see the IZC definitions for *Accessory Building* – "an incidental subordinate building…" and *Home Occupation* – "the partial use of a home for commercial or nonresidential uses by a resident thereof, which is subordinate and incidental…"

The definition is intended for integration throughout the I-Codes, as further code development cycles address specific code regulations for the IBC, and IEBC, depending on the type of ADU proposed. This definition recognizes that an ADU features the same components of a dwelling unit in terms of living, sleeping, eating, cooking and sanitation which presently can only be defined in the I-Codes as a *dwelling unit*. The reality is that the application of the ADU concept in different jurisdictions is inconsistent, and at times may allow deviation from the full requirements the code prescribes for a two-family dwelling unit arrangement. It is necessary to recognize the unique circumstances wherein an ADU must comply with those two-family dwelling unit requirements, and when alternative arrangements are acceptable that do not compromise the health, safety, and welfare of the Public. The definition also recognizes that the ADU can either be within the primary dwelling unit (such as in the basement of a single-family home) or a detached accessory structure (similar to a detached garage).

The definition avoids non-enforceable provisions such as if the ADU is rented, the relationship between the person(s) in the ADU and the primary dwelling, and characteristics that would preclude placement within the IBC, IEBC, IRC, and IZC.

Section A _ 103

establishes consistent permitting criteria for an ADU as is expected for a*dwelling unit*.

Section A__104 establishes that the design of an ADU is similar in most respects to a*dwelling unit* but with a few allowances to avoid triggering a change of occupancy. The most important distinction pertains to an ADU that adjoins the primary dwelling unit whereby the design professional may consider an either / or proposition regarding the installation of fire-resistance rated separations tantamount to a two-family dwelling **or** making the smoke alarm and carbon monoxide alarms interconnected between both the primary and accessory dwelling units.

Section A__105 establishes consistency for both the primary and accessory dwelling units to access to / control of the utility connections affecting their respective spaces.

This proposal is submitted by the ICC Building Code Action Committee (BCAC).

BCAC was established by the ICC Board of Directors in July 2011 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2020 and 2021 the BCAC has held several virtual meetings open to any interested party. In addition, there were numerous virtual Working Group meetings for the current code development cycle, which included members of the committee as well as interested parties. Related documents and reports are posted on the BCAC website at https://www.iccsafe.org/products-and-services/i-

Page: 4

Mod_11605_Text_RB314-22.pdf

F11605Text Modification

codes/code-development/cs/building-code-action-committee-bcac/.

Cost Impact: The code change proposal will not increase or decrease the cost of construction
This proposal does not increase nor decrease the cost of construction. The proposal creates a voluntary appendix allowing someone to build an accessory dwelling unit within a building legally constructed in accordance with the IRC. No one is under any obligation to build an ADU, nor are they required to plan for the construction of a future ADU.

For someone choosing not to construct an ADU these code provisions will not be applicable; there are no cost implications.

For someone choosing to construct an ADU these code provisions are applicable; the cost of construction will increase proportionally to the size of the project. According to an article titled *Calculating the Costs of Building an ADU* published on the BuildinganADU.com blog, the average cost for an ADU from 2016-2019 based on their research is as follows:

- Detached New Construction: $305/SF
- Basement ADU: $265/ SF
- Attached ADU: $300/ SF
- Garage Conversion: $297/ SF
- Detached New Construction Above a Garage: $212/ SF

Public Hearing Results

Committee Action **As Modified**

Committee Modification:
AY101.1Scope. ADUs proposed for existing residential construction shall be in accordance with this appendix, other applicable requirements in this code and the existing building together with the ADUs shall not exceed the scoping limitations of Section R101.2.

AY101.2Conditions. ADUs shall be permitted without requiring a *change of occupancy* ~~to either a two-or multi-family *dwelling*~~ where in compliance with all of the following:

1. An ADU shall be permitted within an existing single-family detached dwelling or within an existing townhouse unit, that is within the scope of the IRC.

~~1.~~2. Only one ADU shall be permitted for each primary dwelling unit.

~~2.~~3. The owner of a property containing an ADU shall reside in either the primary dwelling unit or the ADU, as of the date of permit approval.

3.4. An ADU shall have a separate house number from the primary dwelling unit.

~~4.~~5. ADUs shall be secondary in size and function to the primary dwelling unit and shall comply with all of the following limits.

~~4.1.~~5.1 Not less than 190 square feet (17.65 m^2) in area.

~~4.2.~~5.2 Not more than 50 percent of the area of the primary dwelling unit.

~~4.3.~~5.3 Not more than 1,200 square feet (111 m^2) in area.

~~5.~~6. An ADU shall be provided with a separate entrance than that serving the primary dwelling unit either from the exterior of the building or from a common hallway located within the building.

~~6.~~7. An ADU shall have a maximum number of two bedrooms.

Page: 5

Mod_11605_Text_RB314-22.pdf

F11605Text Modification

~~7.~~8. The location of a detached ADU shall comply with Section R302.

~~8.~~9. An ADU shall be provided with adequate provisions for electricity, water supply and sewage disposal.

ACCESSORY DWELLING UNIT (ADU). An *addition* or *alteration* that is an additional, subordinate dwelling unit on the same lot, that is entirely within a dwelling unit, attached to a dwelling unit, or in a detached structure.

AY104.1Design. Except as modified by this section, building planning shall be in accordance with Chapter 3 and building structure shall comply with the *International Residential Code* ~~Part III of this code~~.

Committee Reason: This creates a new Appendix for accessory dwelling units which are becoming very prevalent across the the country, and the guidance that's presented in here is needed and the community will benefit from it. This provides a first start for future development of this topic and this is important towards improving availability affordable housing. There were concern expressed about adding more appendices to the IRC with accessory and dwelling unit being well understood terms, and there are no huge groundbreaking changes in this appendix to support a new appendix.
The modification to Sections AY101.1 and AY101.2 modify clarifies that the ADU with the current building has to be within the scope of the IRC. The modification to Section AY104.1 corrects the compliance for design to the IRC as opposed to Part III of this code since that reference is only in the electronic version of the codes and not the printed version. The modification to the definition Accessory Dwelling Unit is needed to coordinate the definition with the clarifications of scope in Section AY101.1 and AY101.2.(Vote 8-1)

Final Hearing Results	
RB314-22	AM

Page: 6

Mod_11605_Text_RB314-22.pdf