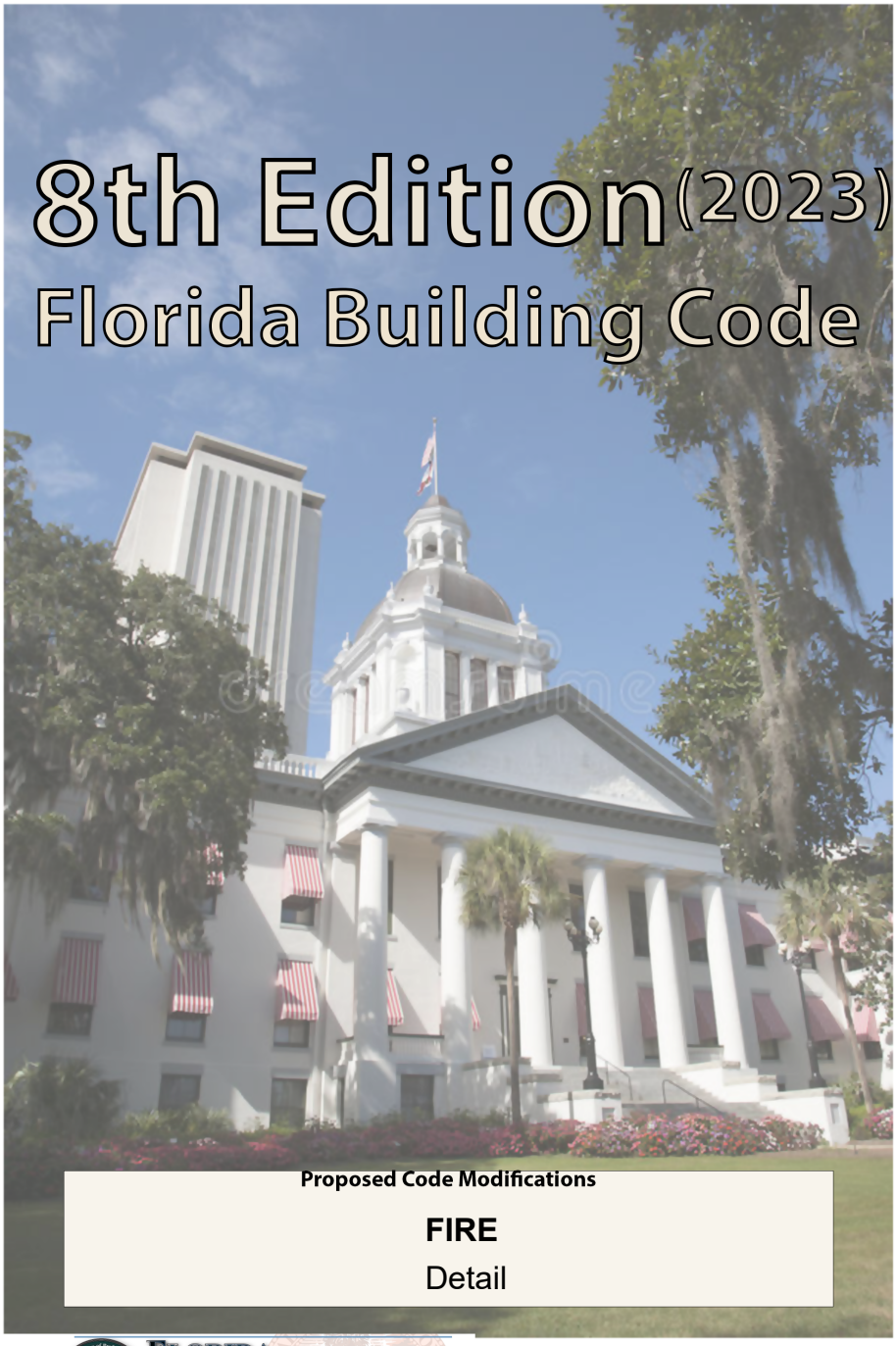

Proposed Code Modifications

FIRE

Detail

FLORIDA BUILDING COMMISSION
"Stronger Codes Through Science and Consensus"

dbpr Department of Business & Professional Regulation

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

850-487-1824

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

1

F10334

Date Submitted	02/13/2022	**Section**	110	**Proponent**	Greg Johnson
Chapter	1	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber package of changes; Mods# 10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, 10248, 10254, 10255, 10328, and 10331.

Summary of Modification

Adds inspection requirements for fire resistance cover protection of mass timber connectors

Rationale

see uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Minimal; inspection done concurrently with other framing or sheathing inspections.
Impact to building and property owners relative to cost of compliance with code
None; inspection done concurrently with other framing or sheathing inspections.
Impact to industry relative to the cost of compliance with code
None; inspection done concurrently with other framing or sheathing inspections.
Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
This is a fire resistive construction provision
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code by providing a fire resistive construction provision for mass timber connectors.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No material is required or prohibited by this modification.

Does not degrade the effectiveness of the code

Improves the code by providing a fire resistive construction provision for mass timber connectors.

- 1.

- **[A]110.3 Required inspections.**

  The building official upon notification from the permit holder or his or her agent shall make the following inspections, and shall either release that portion of the construction or shall notify the permit holder or his or her agent of any violations which must be corrected in order to comply with the technical codes. The building official shall determine the timing and sequencing of when inspections occur and what elements are inspected at each inspection.

- **Building**

1. 1.Foundation inspection. To be made after trenches are excavated and forms erected and shall at a minimum include the following building components:
   - •Stem-wall
   - •Monolithic slab-on-grade
   - •Piling/pile caps
   - •Footers/grade beams

   1. 1.1.In flood hazard areas, upon placement of the lowest floor, including basement, and prior to further vertical construction, the elevation certification shall be submitted to the authority having jurisdiction.

2. 2.Framing inspection. To be made after the roof, all framing, fireblocking and bracing is in place, all concealing wiring, all pipes, chimneys, ducts and vents are complete and shall at a minimum include the following building components:
   - •Window/door framing
   - •Vertical cells/columns
   - •Lintel/tie beams
   - •Framing/trusses/bracing/connectors
   - •Draft stopping/fire blocking
   - •Curtain wall framing
   - •Energy insulation
   - •Accessibility
   - •Verify rough opening dimensions are within tolerances.

   2.1 In buildings of Types IV-A, IV-B, and IV-C construction, where connection fire-resistance ratings are provided by wood cover calculated to meet the requirements of Section 2304.10.1, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

ADM35-19 Type IV-A, IV-B, and IV-C connection protection inspection

ICC Ad Hoc Committee on Tall Wood Buildings (TWB) determined that the proper construction of the fire resistance rating of mass timber structural elements was important enough, as demonstrated in a series of TWB proposals including this one, to warrant a specific requirement to inspect mass timber connections. The proposal complements the other code change submissions (e.g. Chapters, 7 “Fire and Smoke Protection Features”, 17 “Special Inspections and Tests”, and 23 “Wood”), and recognizes that building officials have the ability to inspect the protection of connections as part of the normal permit inspection process (e.g. footing and foundations, slabs, framing, etc.). The TWB, following input by code officials, did not feel this provision warranted being incorporated into Chapter 17 “Special Inspections and Tests” as this field inspection process did not require any special expertise for inspection nor tools for testing that were outside the capabilities of building officials today. However, the TWB did believe that some form of inspection should take place since the connections of the structural members, and their protection to achieve a fire resistance rating, represent a significant component to the entire design of mass timber buildings.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January, 2016, the AHC-TWB has held multiple open meetings and numerous Work Group conference calls. Related documentation and reports of the TWB are posted on the AHC-TWB website at https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ (accessed 02-12-2022)

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

2

F10337

Date Submitted	02/13/2022	**Section**	202	**Proponent**	Greg Johnson
Chapter	2	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

New Type IV mass timber modifications; #10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, 10248, 10254, 10255, 10328, 10331

Summary of Modification

Definitions needed regulate mass timber are added; mass timber supporters added in rationale

Rationale

These definitions are needed to administer requirements for new proposed Type IV-A, Type IV-B, and Type IV-C construction types. See also mass timber supporters rationales in uploaded documents

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; these are definitions.

Impact to building and property owners relative to cost of compliance with code

None; these are definitions.

Impact to industry relative to the cost of compliance with code

None; these are definitions.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides definitions needed to appropriately regulate Type IV mass timber buildings.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting new alternative methods of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No materials are required or prohibited by this modification.

Does not degrade the effectiveness of the code

Improves the code by supporting new alternative methods of construction.

SECTION 202 Definitions

Revise as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.

2. Any masonry**,** or concrete or mass timberwall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

Add new definitions as follows:

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER).

Noncombustible material, in accordance with Section 703.5, designed to increase the fire-resistance rating and delay the combustion of mass timber.

9022 Southeast 186th Place
Lake Butler, FL.
32054
Phone: (904) 290-6460
www.westfraser.com

February 4, 2022

To: Florida Building Commission

RE: Adoption of Mass Timber Code Proposals into the 2023 FBC

West Fraser is a diversified wood products company with more than 60 facilities in Canada, the United States, the United Kingdom, and Europe. In the state of Florida, West Fraser owns and operates five sawmills, where we support the communities of Lake Butler, Maxville, McDavid, Perry, and Whitehouse. As North America's largest lumber producer, we directly employ more than 640 people at our Florida facilities and support more than 875 indirect/induced jobs in the state as a result of our mill operations.

West Fraser provides renewable building products for the world, contributing to a more sustainable future. Therefore, we are committed to reducing the environmental impact of new construction by encouraging the environmentally responsible choices of wood-based building materials. As a manufacturer of sustainable products that makes use of renewable forest resources that sequester carbon, we support the adoption of mass timber (MT) construction, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests, mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.

- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.

- Updating the FBC to permit MT buildings will stimulate investment in manufacturing and supply chains in Florida and put downward pressure on cost and pricing.

- Adding these new types of construction to the FBC provides designers with greater flexibility when specifying building systems in the 8 – 12 story multifamily market.

For these reasons, we encourage the Florida Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely,

DocuSigned by:
Jerome Worthy
615E5CB649BF41B...

Jerome Worthy
General Manager
West Fraser
Whitehouse - Lumber Mill
109 Halsema Road S.
Whitehouse, FL
32220

DocuSigned by:
Al Cleghorn
05084FCE9A37440...

Al Cleghorn
General Manager
West Fraser
Maxville Lumber - Mill
6640 County Road 218
Jacksonville, FL
32234

DocuSigned by:
Joshua Crawford
E530B4EB4Db54EE...

Joshua Crawford
General Manager
West Fraser
Lake Butler Lumber - Mill
9022 Southeast 186th Pl.
Lake Butler, FL
32054

DocuSigned by:
Stephen Baxley
1715B74F0526449...

Stephen Baxley
General Manager
West Fraser
Perry - Lumber Mill
1509 S. Byron Butler Pkwy
Perry, FL
32348

DocuSigned by:
Jeffrey Hondorp
D1DCB7B96E704AD...

Jeff Hondorp
General Manager
West Fraser
McDavid - Lumber Mill
401 Champion Drive
McDavid, FL
32568

DocuSigned by:
Matt Goodin
622C1ECFFE02438...

Matt Goodin
Procurement Manager FL
West Fraser
Lake Butler - Lumber Mill
9022 Southeast 186th Pl.
Lake Butler, FL
32054

February 10, 2022

To: Florida Building Commission

The signatory parties support the adoption of mass timber (MT) construction types, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

- In 2016 the ICC Board of Directors appointed the Ad Hoc Committee on Tall Wood Buildings (AHC-TWB) to explore the science of tall wood buildings. Committee and work group members consisted of code officials, fire officials, construction material interests, designers, builders, and other interested parties.

  After studying MT for hundreds of hours, and reviewing extensive fire-testing of the material, the AHC-TWB developed and submitted a package of code-change proposals for the 2021 edition of the IBC through the ICC's rigorous code development process. In that process the voting number of ICC governmental member representatives, ranging from 542 to 729 members, and averaging 646 members, voted to adopt all proposed MT changes by margins ranging from 68 percent to 94 percent and averaging 83 percent.

  Interests, experts, and associations that testified in support of adding the MT provisions to the IBC included local government building code officials, fire marshals and fire chiefs, materials scientists, fire science researchers and testing agencies, fire protection engineers, structural engineers, multifamily contractors, the United States Forest Service, the International Association of Building Officials, the National Association of Home Builders, the American Institute of Architects, the American Wood Council, APA-the Engineered Wood Association, and Underwriters Laboratories.

- Updating the FBC to permit MT buildings will stimulate investment in its manufacturing and supply chain in FL and put downward pressure on cost and pricing. Investment in MT production is projected to have significant economic benefits for the FL economy because of the state's extensive timber resources. Florida's forest industry contributes $25 billion to the state's economy, providing more than 124,000 jobs. There are 17 million acres of forestland covering almost half of Florida's total land area. Almost 2/3 of the forestland is privately owned. https://www.flforestry.org/resources/2017-economic-impact-study/

- Because of repetitive building layouts in residential multifamily buildings, and the speed of constructing MT buildings, it is predicted that MT will compete successfully with other materials used for multifamily buildings in the 8 -12 story height range. In addition to construction efficiencies, expanded use of MT in these applications can reduce the potential of large construction site fires.

- MT construction sites are safer for workers. Construction sites are also quieter and are less disruptive in the communities where projects occur. MT projects are completed substantially faster than traditional methods of construction, minimizing waste and community impacts while maximizing both worker productivity and developers' returns on investment. In addition, building with pre-manufactured MT panels broadens the available labor pool and will likely alleviate a national shortfall in skilled construction labor.

- Wildland fire safety on both the regional and global scale will benefit from increased use of MT. Low value wood, thinnings, and dead standing trees, can be used for MT, thereby creating a financial incentive for wildland fuels reduction, particularly of ladder fuels, improving regional fire safety and conserving federal and state resources.

- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.

- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.

- As a panelized building product, fastened together on-site, MT panels are ideal for buildings designed for disassembly. This means panels, which are easily restored after prior use, can be re-used in new building applications. Carbon stored in MT panels can be sequestered indefinitely as the panels are re-used in future buildings.

For these reasons we encourage the FL Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely:

The Conservation Fund
www.conservationfund.org

FLORIDA APARTMENT ASSOCIATION

Florida Forestry Association
www.flforestry.org

Forest Landowners Association
www.forestlandowners.com

Forestry Association of South Carolina
www.scforestry.org

Georgia Forestry Association
gfagrow.org

Keeping Forests
keepingforests.org

Louisiana Forestry Association
www.laforestry.com

National Association of State Foresters
www.stateforesters.org

North Carolina Forestry Association
www.ncforestry.org

Packaging Corporation of America
www.packagingcorp.com

Rayonier
1 Rayonier Way
Wildlight, Florida
www.rayonier.com

Southeastern Lumber Manufacturers Association
www.slma.org

Southern Group of State Foresters
southernforests.org

Tennessee Forestry Association
www.tnforestry.com

Dr. Patricia Layton
Clemson University
Director
Wood Utilization + Design Institute
www.clemson.edu/centers-institutes/wud/

Christopher Meyer, AIA
Assistant Professor of Architecture
University of Miami School of Architecture
Director, LU_Lab
www.arc.miami.edu
Principal, Atelier Mey
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Shawna Meyer, AIA
Lecturer, University of Miami School of Architecture
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Principal, Atelier Mey
https://ateliermey.net

AIA Florida

Florida Building Commission
2601 Blair Stone Road
Tallahassee FL 32399

January 31, 2022

To Whom it May Concern:

AIA Florida supports the adoption of the International Code Council family of model building codes including the adoption of mass timber (MT) construction types, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC).

AIA Florida supports regulation by a single set of comprehensive, coordinated and contemporary codes and standards to establish sound threshold values of health, safety and protection of the public.

In 2016 the International Code Council (ICC) Board of Directors appointed the Ad Hoc Committee on Tall Wood Buildings (AHC-TWB) to explore the science of tall wood buildings. Committee and work group members consisted of code officials, fire officials, construction material interests, designers, builders, and other interested parties.

After studying MT for hundreds of hours, and reviewing extensive fire-testing of the material, the AHC-TWB developed and submitted a package of code-change proposals for the 2021 edition of the IBC through the ICC's rigorous code development process. In that process the voting number of ICC governmental member representatives, ranging from 542 to 729 members, and averaging 646 members, voted to adopt all proposed MT changes by margins ranging from 68 percent to 94 percent and averaging 83 percent.

As the package of MT proposals are part of the 2021 IBC, we encourage the Florida Building Commission to adopt the proposals through the 2023 FBC update process.

Sincerely,

Lourdes Solera, FAIA
President

Becky Magdaleno, CAE
Executive Vice President/CEO

AIA Florida
104 E. Jefferson St.
Tallahassee, FL 32301

T (850) 222-7590
F (850) 224-8048

www.aiafla.org

Building Officials Association of Florida, Inc.

February 4, 2022

James R. Schock, Chairman
Florida Building Commission
2601 Blair Stone Street
Tallahassee, FL 32399

Re: Support of Mass Timber Proposals

Dear Chairman Schock:

The signatory parties support the adoption of mass timber (MT) construction types, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

In 2016 the ICC Board of Directors appointed the Ad Hoc Committee on Tall Wood Buildings (AHC-TWB) to explore the science of tall wood buildings. Committee and work group members consisted of code officials, fire officials, construction material interests, designers, builders, and other interested parties.

After studying MT for hundreds of hours, and reviewing extensive fire-testing of the material, the AHC-TWB developed and submitted a package of code-change proposals for the 2021 edition of the IBC through the ICC's rigorous code development process.In that process the voting number of ICC governmental member representatives, ranging from 542 to 729 members, and averaging 646 members, voted to adopt all proposed MT changes by margins ranging from 68 percent to 94 percent and averaging 83 percent.

Interests, experts, and associations that testified in support of adding the MT provisions to the IBC included local government building code officials, fire marshals and fire chiefs, materials scientists, fire science researchers and testing agencies, fire protection engineers, structural engineers, multifamily contractors, the United States Forest Service, the International Association of Building Officials, the National Association of Home Builders, the American Institute of Architects, the American Wood Council, APA-the Engineered Wood Association, and Underwriters Laboratories.

Updating the FBC to permit MT buildings will stimulate investment in its manufacturing and supply chain in Florida and put downward pressure on cost and pricing. Investment in MT production is projected to have significant economic benefits for the Florida economy because of the state's extensive timber resources. Florida's forest industry contributes $25 billion to the state's economy,

providing more than 124,000 jobs. There are 17 million acres of forestland covering almost half of Florida's total land area. Almost 2/3 of the forestland is privately owned.

https://www.flforestry.org/resources/2017-economic-impact-study/

- Because of repetitive building layouts in residential multifamily buildings, and the speed of constructing MT buildings, it is predicted that MT will compete successfully with other materials used for multifamily buildings in the 8 -12 story height range. In addition to construction efficiencies, expanded use of MT in these applications can reduce the potential of large construction site fires.
- MT construction sites are safer for workers. Construction sites are also quieter and are less disruptive in the communities where projects occur. MT projects are completed substantially faster than traditional methods of construction, minimizing waste and community impacts while maximizing both worker productivity and developers' returns on investment. In addition, building with pre-manufactured MT panels broadens the available labor pool and will likely alleviate a national shortfall in skilled construction labor.
- Wildland fire safety on both the regional and global scale will benefit from increased use of MT. Low value wood, thinnings, and dead standing trees, can be used for MT, thereby creating a financial incentive for wildland fuels reduction, particularly of ladder fuels, improving regional fire safety and conserving federal and state resources.
- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.
- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.
- As a panelized building product, fastened together on-site, MT panels are ideal for buildings designed for disassembly.This means panels, which are easily restored after prior use, can be re-used in new building applications.Carbon stored in MT panels can be sequestered indefinitely as the panels are re-used in future buildings.

For these reasons we encourage the Florida Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely,

Kathleen Croteau, CBO
President

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

3

F10466

Date Submitted	02/15/2022	**Section**	202	**Proponent**	Richard Walke
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this defined phrase is used, including in Sections 603.1, 722.5.1.3, 722.5.2.2 and 722.5.2.3.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Intumescent Fire-Resistive Materials (IFRM) which replaces Definitions for Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G17-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings to Intumescent Fire-Resistive Materials (IFRM). The language contained in this proposal reflects what was approved as submitted by the Committee with a vote of 12-1. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The first purpose of this proposal is to consolidate two definitions for the same material into one term. The FBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. The second reason is IFRM products are not just a paint or coating. These materials are fireproofing first, and nice-looking surfaces second. The most important thing to recognize is that these material’s purpose and is to provide fire-resistive protection of structural building elements and to prevent progressive collapse of buildings when exposed to fire. This new combined name – Intumescent Fire-Resistive Materials (IFRM) 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, Webster's Dictionary defines 'resistive' as .... "marked by resistance - often used in combination // fire-resistive material." The term "Intumescent Fire-Resistive Materials" is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and in UL’s Product iQ Online Directory. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

F10466Text Modification

Revise as follows:

INTUMESCENT FIRE-RESISTIVE~~RESISTANT~~ MATERIALS~~COATINGS~~. ~~Thin film liquid~~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:

~~**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.~~

Page: 1

Mod_10466_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

4

F10472

Date Submitted	02/15/2022	**Section**	722.5.2.3	**Proponent**	Richard Walke
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this defined phrase is used, including in Sections 202, 603.1, 722.5.1.3 and 722.5.2.2.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Intumescent Fire-Resistive Materials (IFRM) which replaces Definitions for Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G17-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings to Intumescent Fire-Resistive Materials (IFRM). The language contained in this proposal reflects what was approved as submitted by the Committee with a vote of 12-1. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The first purpose of this proposal is to consolidate two definitions for the same material into one term. The FBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. The second reason is IFRM products are not just a paint or coating. These materials are fireproofing first, and nice-looking surfaces second. The most important thing to recognize is that these material’s purpose and is to provide fire-resistive protection of structural building elements and to prevent progressive collapse of buildings when exposed to fire. This new combined name – Intumescent Fire-Resistive Materials (IFRM) 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, Webster's Dictionary defines 'resistive' as .... "marked by resistance - often used in combination // fire-resistive material." The term "Intumescent Fire-Resistive Materials" is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and in UL’s Product iQ Online Directory. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

Revise as follows:

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 *intumescent* ~~*or mastic fire-resistive*~~*resistant* *materials*~~*coatings*~~ shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

5

F10487

Date Submitted	02/15/2022	**Section**	202	**Proponent**	Richard Walke
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this phrase is used, including Sections 403.2.4, 412.3.1.3, 603.1 & 704.13. Also, Modification 10394 proposing Special Inspections for SFRM and IFRM. If 10394 is approved, the updated phrase for SFRM and IFRM will need to be transposed to new Section 1705.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Sprayed Fire-Resistive Materials (SFRM) which Replaces the Definition for Sprayed Fire-Resistant Materials

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G29-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. When installed in accordance with the listing and manufacturers installation instructions, Sprayed Fire-Resistive Materials becomes ‘fireproofing’. The purpose of this proposal is two-fold. First, it changes the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). This change aligns the FBC definition with the industry term for the product. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Second, 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. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

F10487Text Modification

Revise as follows:

SPRAYED FIRE-RESISTIVE~~RESISTANT~~ MATERIALS. Cementitious or fibrous materials that are sprayed to provide fire-resistive~~resistant~~ protection of the substrates.

Mod_10487_TextOfModification.pdf Page: 1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

6

F9982

Date Submitted	01/28/2022	**Section**	407.5	**Proponent**	John Woestman
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9382

Summary of Modification

Group I-2 automatic-closing doors close upon fire alarm activation or sprinkler system. FBC alignment with Federal CMS K233 requirements.

Rationale

Reason (adapted from ICC IBC proposal G46-18) This addition of the proposed language is required in order to conform with Federal Standards and Centers for Medicaid and Medicare Services enforcement rules (K233). Doors that are required to be automatic-closing and on hold-open devices, were not clearly defined that they need to close upon all of these events, nor was it clear that all doors would need to close upon actuation of one door. This provides a higher level of life-safety for the residents and care recipients. Note: IBC proposal G46-18 inserted a new section after 407.6. But, section 407.6 does not exist in the 7th edition of the Florida Building Code. ICC IBC proposal G46-18 did not propose to insert Section 407.6 (because it previously existed in the IBC), but is included in this proposal for the Florida Building Code because it's needed for context. Also, the section references in the proposed revisions are revised from G46-18 for consistency with the Florida Building Code. This proposal (G46-18) was originally 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.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

May require checking function of automatic-closing doors and connections to the fire alarm and sprinkler system.

Impact to building and property owners relative to cost of compliance with code

This may increase construction cost to interlock these doors with the fire alarm and sprinkler activation. However, the healthcare industry – Group I-2, the subject of Section 407 – certified facilities already follow these requirements in the context of the federal standards.

Impact to industry relative to the cost of compliance with code

This may increase construction cost to interlock these doors with the fire alarm and sprinkler activation. However, the healthcare industry – Group I-2, the subject of Section 407 – certified facilities already follow these requirements in the context of the federal standards.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. This provides a higher level of life-safety for the residents and care recipients.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes. This provides a higher level of life-safety for the residents and care recipients.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

Inset text as shown.

407.5.3 Horizontal assemblies.
Horizontal assemblies supporting *smoke barriers* required by this section shall be designed to resist the movement of smoke. Elevator lobbies shall be in accordance with Section 3006.2.

407.6 Automatic-closing doors. Automatic-closing doors with hold-open devices shall comply with Sections 709.5 and 716.5.

407.6.1 Activation of automatic-closing doors. Automatic-closing doors on hold-open devices in accordance with Section 716.5.9.4 shall also close upon activation of a fire alarm system, an automatic sprinkler system, or both. The automatic release of the hold open device on one door shall release all such doors within the same smoke compartment.

407.67 Automatic sprinkler system.
Smoke compartments containing sleeping rooms shall be equipped throughout with an *automatic sprinkler* system in accordance with Sections 903.3.1.1 and 903.3.2.

407.78 Fire alarm system.
A *fire alarm* system shall be provided in accordance with Section 907.2.6.

407.89 Automatic fire detection.
Corridors in Group I-2, Condition 1 occupancies and spaces permitted to be open to the *corridors* by Section 407.2 shall be equipped with an automatic fire detection system.

Group I-2, Condition 2 occupancies shall be equipped with smoke detection as required in Section 407.2.

Exceptions:

1. *Corridor* smoke detection is not required where sleeping rooms are provided with *smoke detectors* that comply with UL 268. Such detectors shall provide a visual display on the *corridor* side of each sleeping room and an audible and visual alarm at the care provider's station attending each unit.
2. *Corridor* smoke detection is not required where sleeping room doors are equipped with automatic door-closing devices with integral *smoke detectors* on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

407.910 Secured yards.
Grounds are permitted to be fenced and gates therein are permitted to be equipped with locks, provided that safe dispersal areas having 30 net square feet (2.8 m^2) for bed and stretcher care recipients and 6 net square feet (0.56 m^2) for ambulatory care recipients and other occupants are located between the building and the fence. Such provided safe dispersal areas shall be located not less than 50 feet (15 240 mm) from the building they serve.

407.1011 Electrical systems.
In Group I-2 occupancies, the essential electrical system for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per G46-18, approved as submitted, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

407.5 Smoke barriers.
Smoke barriers shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such stories shall be divided into *smoke compartments* with an area of not more than 22,500 square feet (2092 m^2) in Group I-2, Condition 1, and not more than 40,000 square feet (3716 m^2) in Group I-2, Condition 2, and the distance of travel from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

407.5.1 Refuge area.
Refuge areas shall be provided within each *smoke compartment*. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining smoke compartment. Where a *smoke compartment* is adjoined by two or more *smoke compartments*, the minimum area of the refuge area shall accommodate the largest *occupant load* of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 30 net square feet (2.8 m^2) for each care recipient confined to bed or stretcher.
2. Not less than 6 square feet (0.56 m^2) for each ambulatory care recipient not confined to bed or stretcher and for other occupants.

Areas or spaces permitted to be included in the calculation of refuge area are *corridors*, sleeping areas, treatment rooms, lounge or dining areas and other low-hazard areas.

407.5.2 Independent egress.
A *means of egress* shall be provided from each *smoke compartment* created by *smoke barriers* without having to return through the smoke compartment from which *means of egress* originated.

407.5.3 Horizontal assemblies.
Horizontal assemblies supporting *smoke barriers* required by this section shall be designed to resist the movement of smoke. Elevator lobbies shall be in accordance with Section 3006.2.

407.6 Automatic-closing doors. Automatic-closing doors with hold-open devices shall comply with Sections 709.5 and 716.5.

407.6.1 Activation of automatic-closing doors. Automatic-closing doors on hold-open devices in accordance with Section 716.5.9.4 shall also close upon activation of a fire alarm system, an automatic sprinkler system, or both. The automatic release of the hold open device on one door shall release all such doors within the same smoke compartment.

[F]407.~~6~~7 Automatic sprinkler system.
Smoke compartments containing sleeping rooms shall be equipped throughout with an *automatic sprinkler* system in accordance with Sections 903.3.1.1 and 903.3.2.

[F]407.~~7~~8 Fire alarm system.
A *fire alarm* system shall be provided in accordance with Section 907.2.6.

[F]407.~~8~~9 Automatic fire detection.
Corridors in Group I-2, Condition 1 occupancies and spaces permitted to be open to the *corridors* by Section 407.2 shall be equipped with an automatic fire detection system.

Group I-2, Condition 2 occupancies shall be equipped with smoke detection as required in Section 407.2.

Exceptions:

1. *Corridor* smoke detection is not required where sleeping rooms are provided with *smoke detectors* that comply with UL 268. Such detectors shall provide a visual display on the *corridor* side of each sleeping room and an audible and visual alarm at the care provider's station attending each unit.

2. *Corridor* smoke detection is not required where sleeping room doors are equipped with automatic door-closing devices with integral *smoke detectors* on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

407.~~9~~10 Secured yards.
Grounds are permitted to be fenced and gates therein are permitted to be equipped with locks, provided that safe dispersal areas having 30 net square feet (2.8 m^2) for bed and stretcher care recipients and 6 net square feet (0.56 m^2) for ambulatory care recipients and other occupants are located between the building and the fence. Such provided safe dispersal areas shall be located not less than 50 feet (15 240 mm) from the building they serve.

407.~~10~~11 Electrical systems.
In Group I-2 occupancies, the essential electrical system for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

Reason (adapted from ICC IBC proposal G46-18)

This addition of the proposed language is required in order to conform with Federal Standards and Centers for Medicaid and Medicare Services enforcement rules (K233). Doors that are required to be automatic-closing and on hold-open devices, were not clearly defined that they need to close upon all of these events, nor was it clear that all doors would need to close upon actuation of one door. This provides a higher level of life-safety for the residents and care recipients.

Note: IBC proposal G46-18 inserted a new section after 407.6. But, section 407.6 does not exist in the 7th edition of the Florida Building Code. ICC IBC proposal G46-18 did not propose to insert Section 407.6 (because it previously existed in the IBC), but is included in this proposal for the Florida Building Code because it's needed for context. Also, the section references in the proposed revisions are revised from G46-18 for consistency with the Florida Building Code.

This proposal (G46-18) was originally 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.

Cost Impact
The code change proposal will increase the cost of construction.
This may increase construction cost to interlock these doors with the fire alarm and sprinkler activation. This was already required to connect to the smoke detection system per Section 716.2.6.6. However, it does not add cost to the healthcare industry – Group I-2, the subject of Section 407 – because certified facilities already follow these requirements in the context of the federal standards.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

7

F10037

Date Submitted	02/01/2022	**Section**	403.2.2...403.3.3	**Proponent**	T Stafford
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This modification is one of a series of modifications that delete the seismic and snow requirements from the code. In accordance with Exception 2 to Section 101.2 of the FBCB, seismic and snow requirements are not to be utilized or enforced in the State of Florida.

Rationale

This modification is the culmination of a project funded by the Florida Building Commission through Building a Safer Florida (BASF) that the deletes the seismic and snow provisions from the Florida Building Codes. In accordance with Exception 2 to Section 101.2 of the Florida Building Code, Building, the seismic and snow provisions are exempted from the scope of the Florida Building Codes. Exception 2 to Section 101.2 states the following: "2. Code requirements that address snow loads and earthquake protection are pervasive; they are left in place but shall not be utilized or enforced because Florida has no snow load or earthquake threat." These modifications clarify and simplify the code by deleting requirements that do not apply in the State of Florida.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact to local entities relative to enforcement of the code.

Impact to building and property owners relative to cost of compliance with code

No impact to building and property owners relative to cost of compliance with the code.

Impact to industry relative to the cost of compliance with code

No impact to industry relative to the cost of compliance with the code.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Clarifies and simplifies the code by deleting requirements that do not apply in the State of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by deleting requirements that do not apply in the State of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

This proposal does not degrade the effectiveness of the code.

Delete section in its entirety and show as Reserved:

403.2.2 Seismic considerations. Reserved. ~~For seismic considerations, see Chapter 16.~~

Revise as follows:

403.3 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 ~~and a secondary water supply where required by Section 403.3.3~~.

Delete section in its entirety and show as Reserved:

403.3.3 Secondary water supply. Reserved. ~~An automatic secondary on-site water supply having a capacity not less than the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for *highrise 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.~~

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

8

F10160

Date Submitted	02/10/2022	**Section**	404.6	**Proponent**	Richard Logan
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Add exceptions 4 and 5 to 404.6 for floor openings for escalators and exit access stairways and ramps

Rationale

Floor openings for escalators and exit access stairways and ramps meeting the sections identified in the proposal are protected. The protection consists of draft curtains around the floor opening and additional sprinklers. The size of the floor opening is also limited. The provision of the draft curtain and sprinklers limit the potential of smoke spread through the opening and that communicate via these types of openings should not be considered to be part of the atrium.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The proposed code modification will not have an impact to local entity relative to enforcement of code

Impact to building and property owners relative to cost of compliance with code

The proposed code modification will not have an impact to building and property owners relative to cost of compliance with code. The code change proposal will decrease the cost of construction.

Impact to industry relative to the cost of compliance with code

The proposed code modification will not have an impact to industry relative to the cost of compliance with code.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The proposed code modification has a reasonable and substantial connection with the health, safety, and welfare of the general public

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The proposed code modification improves the code, and provides equivalent or better methods of construction

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The proposed code modification does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

The proposed code modification does not degrade the effectiveness of the code.

404.6Enclosure 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 any three floors of the *atrium* provided such spaces are accounted for in the design of the smoke control system.

4. A horizontal assembly is not required between the atrium and openings for escalators complying with Section 712.1.3.

5. A horizontal assembly is not required between the atrium and openings for exit access stairways and ramps complying with Item4 of Section 1019.3.

404.6Enclosure 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 any three floors of the *atrium* provided such spaces are accounted for in the design of the smoke control system.
4. A horizontal assembly is not required between the atrium and openings for escalators complying with Section712.1.3.
5. A horizontal assembly is not required between the atrium and openings for exit access stairways and rampscomplying with Item 4 of Section 1019.3.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

9

F10161

Date Submitted	02/10/2022	**Section**	403.3.2	**Proponent**	Greg Johnson
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

The package of modifications that bring mass timber construction types (Type IVA, Type IVB, & Type IVC) into the code.

Summary of Modification

This modification requires dual water supplies for Type IVA and Type IVB buildings that are taller than 120 feet.

Rationale

See the uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; the same requirements for fire-sprinkler plan review and inspection that apply to any comparable building will apply to these construction types.

Impact to building and property owners relative to cost of compliance with code

None; this is an optional compliance path. Like any compliance path it has specific requirements that must be met, but only where the owner chooses the option.

Impact to industry relative to the cost of compliance with code

None; this is an optional compliance path. Like any compliance path it has specific requirements that must be met, but only where the owner chooses the option.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire safe construction issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This improves the code by providing appropriate fire-sprinkler protection for specifc building types and heights.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this modification.

Does not degrade the effectiveness of the code

This is a new requirement; existing requirements are not modified.

403.3.2 Water supply to required fire pumps.
In all buildings that are more than 420 feet (128 000 mm) in building height and buildings of Type IVA and IVB construction that are more than 120 feet (36 576 mm) in *building height*, required fire pumps shall be supplied by connections to no fewer than two water mains located in different streets. Separate supply piping shall be provided between each connection to the water main and the pumps. Each connection and the supply piping between the connection and the pumps shall be sized to supply the flow and pressure required for the pumps to operate.

Exception: Two connections to the same main shall be permitted provided the main is valved such that an interruption can be isolated so that the water supply will continue without interruption through no fewer than one of the connections.

Reason: Sec 403.3.2 dual water supplies for Type IV highrise buildings (G28-18)

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G28-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The Ad Hoc Committee has discussed a number of proposals to potentially increase the permitted height and area for Type IV structures, specifically mass timber buildings adding additional Types IVA, IVB & IVC. One of the basic requirements incorporated into these proposed increased heights and areas is the added active and passive protection features to these structures.

The Code Technology Committee, in response to the events of September 11, 2001, submitted proposals for water supply to super high-rise buildings of 420' and higher. This requirement was adopted due to the recognized importance of insuring a continuous water supply to the active fire protection systems in the event of a fire in these structures. This recommendation was highlighted in the National Institute of Standards and Technology's (NIST) report on the structural collapses on September 11th.

This code change proposal brings this same concept to Type IV structures of 120' and higher. This added protection feature would be unique to Type IVA and IVB construction (as proposed in a related code change – see table below) due to the potential contribution of the mass timber to the fuel load in the event of a fire. Due to the limitations of fire service aerial apparatus' ability to apply water to elevated floors the Ad Hoc Committee felt 120' was an appropriate height to initiate the requirement. Another consideration is that currently the code permits structures up to 85' so the committee identified the next level within the codes for additional requirements. Considerations were also given to the difficulty of fire service companies accessing elevated floors under fire conditions.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

10

F10339

Date Submitted	02/13/2022	**Section**	453.8.3.3	**Proponent**	Greg Johnson
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Mass timber Type IV package of changes

Summary of Modification

Type IV heavy timber, which is not permitted concealed spaces, is differentiated from Type IV-A, Type IV-B, and Type IV-C which are permitted concealed (but protected) spaces.

Rationale

The package of mass timber modifications designate current Type IV buildings as Type IV-HT. This modification updates the designation within the section to maintain current requirements. Additionally, each of the new Type IV construction type are added and provided with a reference to the applicable section for the treatment of concealed spaces and structural protection. A code format edit is made substituting 'where' for 'when'

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None; typical plan review and inspection.
Impact to building and property owners relative to cost of compliance with code
None; an optional construction method is enabled.
Impact to industry relative to the cost of compliance with code
None; an optional construction method is enabled.
Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Provides fire-resistive construction requirements.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Improves the code by supporting new methods of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No materials are required or prohibited by this modification.

Does not degrade the effectiveness of the code

Improves the code by supporting new methods of construction.

1st Comment Period History

10339-G1

Proponent	Don Whitehead	Submitted	4/14/2022 5:01:54 PM	Attachments	Yes

Comment:

See attached file

453.8.3.3 Type IV.

~~When~~ Where Type IV-HT construction is used, wood shall be exposed and not covered by ceilings or other construction. Type IV-A construction shall comply with Section 602.4.1, Type IV-B construction shall comply with Section 602.4.2, and Type IV-C construction shall comply with Section 602.4.3.

As staff to the State Board of Education, I would not be able to recommend acceptance of Modification SP10339. This code modification seeks to allow concealed fire protected heavy timber construction in School Board and Florida College facilities. Currently, the State Board of Education has not authorized concealed heavy timber construction in educational facilities. Also, the Florida Building Commission has not authorized concealed heavy timber construction, as specified in the International Building Code (IBC). This change proposes to eliminate a Florida-specific requirement that was adopted to promote the long term public health and safety of public schools and colleges in Florida. The IBC does not take into account the unique situations in Florida as shown by the following explanations:

The wind loads in Florida are substantially higher because of the hurricane wind forces that all buildings in Florida must resist in order to protect the occupants during a storm. These higher hurricane wind forces include design wind speeds in excess of 200 mph and missile impact speeds in excess of 100 mph. Using concealed heavy timber construction as the structure of a public educational facility would be very inefficient, because it would not only require thicker walls that would reduce the amount of valuable classroom space, but it would require more taxpayer dollars.

Buildings constructed in Florida are vulnerable to termite damage and other wood destroying organisms, such as powderpost beetles and carpenter bees. Because the destruction is hidden below the surface, pest control inspections can only minimize the danger, but not completely eliminate it. Because concrete block is extremely durable, fire and termite resistant, and has a life expectancy of around 100 years, it is a popular building material in Florida. Because wood deteriorates more quickly with the high humidity in Florida, its life expectancy is about 25 years.

As an example of the potential hazard, allow me to share one school district's experience. Marion County School District was conducting an asbestos abatement of Anthony Elementary Cafetorium. During the asbestos abatement of the 9x9 floor tiles, one of the workers fell through the floor exposing the serious structural damage of the original wood floor framing system, which had been destroyed by powderpost beetles. Wood destroying organisms can cause structural failure without warning, and endanger the life safety of the occupants.

As staff to the State Board of Education, I urge the committee to not approve this code modification as submitted

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

11

F10340

Date Submitted	02/13/2022	**Section**	453.8.3.4	**Proponent**	Greg Johnson
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

Fully sprinklered educational facility buildings are permitted to be of Type V-A construction

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

Lowers cost by providing an affordable construction alternative.

Impact to industry relative to the cost of compliance with code

Lowers cost by providing an affordable construction alternative.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This about equivalent fire-resistive construction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing an equivalent and affordable construction alternative.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Helps eliminate existing discrimination against wood systems of construction that have proven equivalencies through extensive fire-testing. Reduces anti-competitive provisions of the building code.

Does not degrade the effectiveness of the code

Improves the code by providing an equivalent and affordable construction alternative.

1st Comment Period History

10340-G1

Proponent	Don Whitehead	Submitted	4/14/2022 5:06:16 PM	Attachments	Yes

Comment:

See attached file

453.8.3.4 Exceptions to types of construction:
1.Covered walkways open on all sides may be Type V construction.

2.Single story dugouts, press boxes, concession stands, related public toilet rooms, detached covered play areas, and nonflammable storage buildings that are detached from the main educational facility by at least 60 feet (1829 mm), may be Type V construction.

3. Buildings fully sprinklered in accordance with Section 903.3.1.1 may be of Type V-A construction.

As staff to the State Board of Education, I would not be able to recommend acceptance of Modification SP10340. This code modification seeks to allow fire protected light weight wood construction, in School Board and Florida College facilities. Currently, the State Board of Education has not authorized light weight wood construction in educational facilities, even if it is fire protected and fully sprinklered. This change proposes to eliminate a Florida-specific requirement that was adopted to promote the public health and safety of the public schools and colleges in Florida. Currently, all educational facilities that are larger than 1,000 square feet are required to be fully sprinklered, in accordance with the Florida Fire Prevention Code. Using the argument that fire protected light weight wood construction, provides a higher degree of safety than an unprotected structure using noncombustible materials, does not mean that it is safer.

The wind loads in Florida are substantially higher because of the hurricane wind forces that all buildings in Florida must resist in order to protect the occupants during a storm. These higher hurricane wind forces include design wind speeds in excess of 200 mph and missile impact speeds in excess of 100 mph. Using light weight wood construction as the structure of a public educational facility would be very inefficient, because it would not only require thicker walls that would reduce the amount of valuable classroom space, but it would require more taxpayer dollars.

Buildings constructed in Florida are vulnerable to termite damage and other wood destroying organisms, such as powderpost beetles and carpenter bees. Because the destruction is hidden below the surface, pest control inspections can only minimize the danger, but not completely eliminate it. Because concrete block is extremely durable, fire and termite resistant, and has a life expectancy of around 100 years, it is a popular building material in Florida. Because wood, including fire retardant treated wood deteriorates more quickly with the high humidity in Florida, its life expectancy is about 25 years.

As an example of the potential hazard, allow me to share one school district's experience. Marion County School District was conducting an asbestos abatement of Anthony Elementary Cafetorium. During the asbestos abatement of the 9x9 floor tiles, one of the workers fell through the floor exposing the serious structural damage of the original wood floor framing system, which had been destroyed by powderpost beetles. Wood destroying organisms can cause structural failure without warning, and endanger the life safety of the occupants.

As staff to the State Board of Education, I urge the committee to not approve this code modification as submitted

New Exception3 Sec 453.8.3.4 sprinklered Type V-A

Per IBC Table 602, (FL Building Code Table 705.5) Type V-A buildings have the same required fire-resistance rating as Type IIA buildings which are permitted for educational buildings regardless of whether they are sprinklered.

Similarly, except for exterior 2-hour bearing walls, Type V-A buildings have the same required fire-resistance rating regardless of whether they are sprinklered as Type III-A buildings.

The proposed exception, by permitting Type V-A construction only where a NFPA 13 compliant suppression system is also required, provides a higher degree of fire-safety for occupancies within the scope of Section 453.

Note there is no history of fire deaths or injuries in fully sprinklered educational occupancies and an excellent history of structural protection.

Note too that Type V construction is broadly permitted for all manner of occupancies across the Gulf Coast region, demonstrating exceptional, durable performance in climates equally hot and humid as that in Florida.

Finally, cement and steel manufacturing **each** account for more than 8 percent of annual greenhouse gas emissions, while wood building products store the carbon (wood is about 50 percent carbon by weight) that was taken up by the trees from which the products were manufactured.

When FL locks carbon up in wood building products, instead of contributing carbon to the atmosphere by requiring other, carbon intensive building materials that have no appreciable performance benefit, it is a small step toward protecting its coastlines, property, and people from the hazards of climate change.

It is time to build smarter.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

12

F10462

Date Submitted	02/15/2022	**Section**	453.8.3.1	**Proponent**	Greg Johnson
Chapter	4	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language No**

Related Modifications

Summary of Modification

This adds Type III-A to permitted construction types for educational facilities. See uploaded rationale.

Rationale

Type III-A is more slightly fire-resistive, or better, than Type II-A and more fire-resistive than Type II-BB, which are both permitted construction types. See uploaded rationale.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

Will reduce the cost of construction by providing more options.

Impact to industry relative to the cost of compliance with code

Will reduce the cost of construction by providing more options.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistive construction issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing equivalent or better construction methods/systems.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is prohibited by this modification. It removes a requirement that discriminates against a system of construction with demonstrated capabilities as evidenced by the national model building codes.

Does not degrade the effectiveness of the code

Improves the code by providing equivalent or better construction methods/systems.

1st Comment Period History

10462-G1

Proponent	Don Whitehead	Submitted	4/14/2022 5:09:08 PM	Attachments	Yes

Comment:

See attached file

453.8.3.1 Noncombustible Type I, II, III-A, or IV.

The minimum construction type for one- and two-story public educational facilities shall be noncombustible Type I, II, III-A, or IV construction or better.

As staff to the State Board of Education, I would not be able to recommend acceptance of Modification SP10462. This code modification seeks to allow fire protected light weight wood construction, using fire retardant treated wood, in School Board and Florida College facilities. Currently, the State Board of Education has not authorized light weight wood construction in educational facilities, even if it is fire protected and uses retardant treated wood. This change proposes to eliminate a Florida-specific requirement that was adopted to promote the public health and safety of the public schools and colleges in Florida. Using the argument that the code allows a slightly taller wood building with a small percent more square feet per floor, if it is constructed with fire protected light weight wood construction using fire retardant treated wood, than an unprotected structure using noncombustible materials, does not mean that it is better. Also, fire-retardant treated wood is expressly prohibited from being used in the construction of educational facilities by Rule 6A2.0010, of the Florida Administrative Code.

The wind loads in Florida are substantially higher because of the hurricane wind forces that all buildings in Florida must resist in order to protect the occupants during a storm. These higher hurricane wind forces include design wind speeds in excess of 200 mph and missile impact speeds in excess of 100 mph. Using light weight wood construction as the structure of a public educational facility would be very inefficient, because it would not only require thicker walls that would reduce the amount of valuable classroom space, but it would require more taxpayer dollars.

Buildings constructed in Florida are vulnerable to termite damage and other wood destroying organisms, such as powderpost beetles and carpenter bees. Because the destruction is hidden below the surface, pest control inspections can only minimize the danger, but not completely eliminate it. Because concrete block is extremely durable, fire and termite resistant, and has a life expectancy of around 100 years, it is a popular building material in Florida. Because wood, including fire retardant treated wood deteriorates more quickly with the high humidity in Florida, its life expectancy is about 25 years.

As an example of the potential hazard, allow me to share one school district's experience. Marion County School District was conducting an asbestos abatement of Anthony Elementary Cafetorium. During the asbestos abatement of the 9x9 floor tiles, one of the workers fell through the floor exposing the serious structural damage of the original wood floor framing system, which had been destroyed by powderpost beetles. Wood destroying organisms can cause structural failure without warning, and endanger the life safety of the occupants.

As staff to the State Board of Education, I urge the committee to not approve this code modification as submitted

Sec 453.8.3.1 Type III-A added to permitted construction types for educational facilities.

Section 453.8.3.1 currently requires Type I, II or IV **or better construction**. Per IBC Table 601 (FL building code 705.5) *Fire-Resistance Rating Requirements for Building Elements (Hours)*, Type III-A is equivalent to Type II-A construction for all elements and better than Type II-A for exterior bearing walls.

Type III-A is also more fire resistant than the allowable Type II-B. Type III-A is therefore "***better construction***" and should be specifically accepted.

Note that the building code specifically recognizes these equivalencies in the height above grade and stories above grade tables where Type II-A and Type III-A are permitted the same heights and numbers of stories. Type II-B is permitted less height and fewer stories, establishing it as not '**better**' than Type III-A.

TABLE 601 (FL building code 705.5)
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	HT	A	B
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[e, f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	$1^1/_2$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	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 shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor 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 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 602).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

13

F10486

Date Submitted	02/15/2022	**Section**	407.2.6	**Proponent**	Richard Logan
Chapter	4	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The intent of this proposal is not for a technical change but is to separate the requirements for domestic cooking appliances and exhaust from the allowance for that area to be open to the corridor in a nursing home.

Rationale

The intent of this proposal is for no technical change but is to separate the requirements for domestic cooking appliances and exhaust from the allowance for that area to be open to the corridor in a nursing home. If someone wants to provide a domestic cooking area in a room in a nursing home or hospital, such as for therapy or nutrition training purposes, they would still have to follow all the domestic cooking regulations for the equipment. This is not intended to change any of the provisions for the commercial cooking areas. 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 2017 the CHC held 2 open meetings and numerous conference calls, 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: https://www.iccsafe.org/codes-tech-support/cs/icc-committee-on- healthcare/.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

There is no Impact to local entity relative to enforcement of code

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not impact the cost of construction. This is an editorial separation with no technical changes. This clarifies domestic cooking appliances within a room in a Group I-2 – currently some code officials would ask for commercial hoods, others would ask for domestic hoods.

Impact to industry relative to the cost of compliance with code

There is no Impact to industry relative to the cost of compliance with code

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposed modification Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposed modification Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposed modification Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

This proposed modification Does not degrade the effectiveness of the code

407.2.6 Nursing home cooking facilities.

In Group I-2, Condition 1, occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met:

1. The number of care recipients housed in the smoke compartment is not greater than 30.
2. The number of care recipients served by the cooking facility is not greater than 30.
3. Only one cooking facility area is permitted in a smoke compartment.
4. ~~The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.~~
4. The corridor is a clearly identified space delineated by construction or floor pattern, material or color.
5. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit.
6. ~~A domestic cooking hood installed and constructed in accordance with Section 505 of the *Florida Building Code, Mechanical* is provided over the cooktop or range.~~ The cooking appliances shall comply with Section 407.2.7
7. ~~The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Preengineered automatic extinguishing systems shall be tested in accordance with UL 300A and *listed* and *labeled* for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.~~
8. ~~A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2.~~
9. ~~An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.~~
10. ~~A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~
11. ~~A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~
12. ~~A portable fire extinguisher shall be installed in accordance with the *Florida Fire Prevention Code*.~~

Add new text as follows:

407.2.7 Domestic cooking appliances

In Group I-2 occupancies, installation of cooking appliances used in domestic cooking facilities shall comply with all of the following:

1. The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.
2. A domestic cooking hood installed and constructed in accordance with Section 505 of the *Florida Building Code, Mechanical* is provided over the cooktop or range.
3. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and *listed* and *labeled* for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.

4. A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2.

5. An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.

6. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.

7. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.

8. A portable fire extinguisher shall be installed in accordance with the *Florida Fire Prevention Code*.

407.2.6 Nursing home cooking facilities.

In Group I-2, Condition 1, occupancies, rooms or spaces that contain a cooking facility with domestic cooking appliances shall be permitted to be open to the corridor where all of the following criteria are met:

1. The number of care recipients housed in the smoke compartment is not greater than 30.
2. The number of care recipients served by the cooking facility is not greater than 30.
3. Only one cooking facility area is permitted in a smoke compartment.
4. ~~The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.~~
4. The corridor is a clearly identified space delineated by construction or floor pattern, material or color.
5. The space containing the domestic cooking facility shall be arranged so as not to obstruct access to the required exit.
6. ~~A domestic cooking hood installed and constructed in accordance with Section 505 of the *Florida Building Code, Mechanical* is provided over the cooktop or range.~~ The cooking appliances shall comply with Section 407.2.7
7. ~~The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire extinguishing system of a type recognized for protection of domestic cooking equipment. Preengineered automatic extinguishing systems shall be tested in accordance with UL 300A and *listed* and *labeled* for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.~~
8. ~~A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2.~~
9. ~~An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.~~
10. ~~A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.~~
11. ~~A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.~~
12. ~~A portable fire extinguisher shall be installed in accordance with the *Florida Fire Prevention Code*.~~

Add new text as follows:

407.2.7 Domestic cooking appliances

In Group I-2 occupancies, installation of cooking appliances used in domestic cooking facilities shall comply with all of the following:

1. The types of domestic cooking appliances permitted are limited to ovens, cooktops, ranges, warmers and microwaves.
2. A domestic cooking hood installed and constructed in accordance with Section 505 of the *Florida Building Code, Mechanical* is provided over the cooktop or range.
3. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and *listed* and *labeled* for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.

4. A manual actuation device for the hood suppression system shall be installed in accordance with Sections 904.12.1 and 904.12.2.
5. An interlock device shall be provided such that upon activation of the hood suppression system, the power or fuel supply to the cooktop or range will be turned off.
6. A shut-off for the fuel and electrical power supply to the cooking equipment shall be provided in a location that is accessible only to staff.
7. A timer shall be provided that automatically deactivates the cooking appliances within a period of not more than 120 minutes.
8. A portable fire extinguisher shall be installed in accordance with the *Florida Fire Prevention Code*.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

14

F10493

Date Submitted	02/15/2022	**Section**	403.2.4	**Proponent**	Richard Walke
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this phrase is used, including Sections 202, 412.3.1.3, 603.1 & 704.13. Also, Modification 10394 proposing Special Inspections for SFRM and IFRM. If 10394 is approved, the updated phrase for SFRM and IFRM will need to be transposed to new Section 1705.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Sprayed Fire-Resistive Materials (SFRM) which Replaces the Definition for Sprayed Fire-Resistant Materials

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G29-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. When installed in accordance with the listing and manufacturers installation instructions, Sprayed Fire-Resistive Materials becomes ‘fireproofing’. The purpose of this proposal is two-fold. First, it changes the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). This change aligns the FBC definition with the industry term for the product. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Second, 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. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

Revise as follows:

403.2.4 Sprayed fire-<u>resistive</u>~~resistant~~ materials (SFRM).

The bond strength of the SFRM installed throughout the building shall be in accordance with Table 403.2.4.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

15

F10496

Date Submitted	02/15/2022	**Section**	412.3.1.3	**Proponent**	Richard Walke
Chapter	4	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this phrase is used, including Sections 202, 403.2.4, 603.1 & 704.13. Also, Modification 10394 proposing Special Inspections for SFRM and IFRM. If 10394 is approved, the updated phrase for SFRM and IFRM will need to be transposed to new Section 1705.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Sprayed Fire-Resistive Materials (SFRM) which Replaces the Definition for Sprayed Fire-Resistant Materials

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G29-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. When installed in accordance with the listing and manufacturers installation instructions, Sprayed Fire-Resistive Materials becomes ‘fireproofing’. The purpose of this proposal is two-fold. First, it changes the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). This change aligns the FBC definition with the industry term for the product. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Second, 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. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

Revise as follows:

412.3.1.3 Sprayed fire-<u>resistive</u>~~resistant~~ materials (SFRM).

The bond strength of the SFRM installed in airport traffic control towers shall be in accordance with Section 403.2.4 where the control cab is located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

16

F10162

Date Submitted	02/10/2022	**Section**	508.4	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber package; Mod #10161 & others

Summary of Modification

This modification requires thermal barriers for mass timber elements in Type IVB and IVC construction.

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; this is a typical plan review& inspection item.

Impact to building and property owners relative to cost of compliance with code

None, this is an optional construction method. Any cost can be avoided by using a different method of construction.

Impact to industry relative to the cost of compliance with code

None, this is an optional construction method. Any cost can be avoided by using a different method of construction.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistive construction issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This improves the code by supporting new construction methods.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this code change.

Does not degrade the effectiveness of the code

No existing provisions are modified.

F10162Text Modification

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.

Page: 1

Mod_10162_TextOfModification.pdf

Reason: Sec. 508.4.4.1 thermal barrier for mass timber separating occupancies

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G89-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

This code change proposal represents one of many submitted designed to address a new type of construction called mass timber (e.g. new construction types IV-A, IV-B, and IV-C).

On this subject of "fire barriers," the committee determined that additional measures were necessary to address cases where mass timber is serving as a fire barrier or horizontal assembly. Section 508.4 describes the third option for separating mixed occupancies within a building.

The concern is that without any modifications to these provisions regulating separated occupancies and incidental uses, a fire barrier or horizontal assembly could be designed using mass timber that would comply with the fire resistance rating, but which would allow any exposed mass timber to contribute to the fuel load. This can occur in Types IV-B and IV-C construction.

The committee applied professional judgment by choosing to emulate the existing thermal barrier requirements by applying those requirements to this section. The intent of this proposal is to have the thermal barrier delay or prevent the ignition of the mass timber, thus delaying or preventing the mass timber's contribution to the fuel load.

This will also allow additional time for fire and life safety measures to be executed as well as allow first responders additional time to perform their services.

The committee's intent is that the thermal barrier only needs to cover an exposed wood surface. The thermal barrier is not required in addition to any noncombustible protection that is required in Section 602.4, nor does it add to the fire resistance rating of the mass timber.

Mass timber walls or floors serving as fire barriers for separated uses (Section 508.4) would need to have a thermal barrier on both faces of the assembly.

It should be noted that this proposal is only addressing the contribution of exposed mass timber's face to the fuel load of a fire, and is not recommending any modifications to the fire resistance requirements of Section 508 or to the other mass timber provisions.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues

and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

17

F10163

Date Submitted	02/10/2022	**Section**	509.4	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

New Type IV mass timber package; Mods# 10161, 10162, and more

Summary of Modification

Requires thermal barriers for fire barriers and horizontal assemblies in Type IVB and IVC construction.

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, typical plan review and inspections would be required.

Impact to building and property owners relative to cost of compliance with code

None. This is an optional method of construction; no cost accrues unless selected by the owner.

Impact to industry relative to the cost of compliance with code

None. This is an optional method of construction; no cost accrues unless selected by the owner.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This provides requirements for fire-resistive construction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting new construction methods.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

The code is improved by supporting new methods of construction.

509.4.1 Separation.
Where Table 509 specifies a fire-resistance-rated separation, the incidental uses shall be separated from the remainder of the building by a fire barrier constructed in accordance with Section 707 or a horizontal assembly constructed in accordance with Section 711, or both. Construction supporting 1-hour fire barriers or horizontal assemblies used for incidental use separations in buildings of Type IIB, IIIB and VB construction is not required to be fire-resistance rated unless required by other sections of this code.

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 (12.7mm) 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.

Reason:

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G89-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

This code change proposal represents one of many submitted designed to address a new type of construction called mass timber (e.g. new construction types IV-A, IV-B, and IV-C).

On this subject of "fire barriers," the committee determined that additional measures were necessary to address cases where mass timber is serving as a fire barrier or horizontal assembly

Section 509.4 discusses the fire-resistance rated separation that is required for incidental uses within a larger use group. Section 509 also permits, when stated, protection by an automatic sprinkler system without fire barriers, however the construction enclosing the incidental use must resist the passage of smoke in accordance with Section 509.4.2.

The concern is that without any modifications to these provisions regulating separated occupancies and incidental uses, a fire barrier or horizontal assembly could be designed using mass timber that would comply with the fire resistance rating, but which would allow any exposed mass timber to contribute to the fuel load. This can occur in Types IV-B and IV-C construction.

The committee applied professional judgment by choosing to emulate the existing thermal barrier requirements by applying those requirements to these two sections. The intent of this proposal is to have the thermal barrier delay or prevent the ignition of the mass timber, thus delaying or preventing the mass timber's contribution to the fuel load.

This will also allow additional time for fire and life safety measures to be executed as well as allow first responders additional time to perform their services.

The committee's intent is that the thermal barrier only needs to cover an exposed wood surface. The thermal barrier is not required in addition to any noncombustible protection that is required in Section 602.4, nor does it add to the fire resistance rating of the mass timber.

Mass timber walls or floors serving as fire barriers for separated uses (Section 508.4) would need to have a thermal barrier on both faces of the assembly.

For Section 509.4 (incidental use separations) the intent is to provide the thermal barrier only on the side where the hazard exists, that is, the side facing the incidental use. For example, if a mass timber floor assembly of the incidental use contains a noncombustible topping this provision would not require the addition of a thermal barrier on mass timber surfaces not facing the incidental use area. In addition, the thermal barrier would not be required if the sprinkler option is exercised.

It should be noted that this proposal is only addressing the contribution of exposed mass timber's face to the fuel load of a fire, and is not recommending any modifications to the fire resistance requirements of Sections 508 or 509 or to the other mass timber provisions.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

18

F10254

Date Submitted	02/11/2022	**Section**	504	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber changes including mods# 10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, 10248 and others

Summary of Modification

Adds Type IVA, IVB, and IVC height limits in feet

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; typical plan review and inspection are required.

Impact to building and property owners relative to cost of compliance with code

This may lower the cost of construction generally by providing new alternatives which should stimulate competition.

Impact to industry relative to the cost of compliance with code

This may lower the cost of construction generally by providing new alternatives which should stimulate competition.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This modification limits the heights of new construction types.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This improves the code by supporting new alternative methods of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No materials are required or prohibited by this modification.

Does not degrade the effectiveness of the code

This improves the code by supporting new alternative methods of construction.

TABLE 504.3ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCYCLASSIFICATION	TYPEOFCONSTRUCTION												
	See Footnotes	TypeI		TypeII		TypeIII		TypeIV				TypeV	
		A	B	A	B	A	B	A	B	C	HT	A	B
A, B,E,F,M,S,U	NS_b	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	70	60
H-1,H-2,H-3,H-5	$NS_{c,d}$	UL	160	65	55	65	55	-	-	-	65	50	40
	S							120	90	65			
H-4	$NS_{c,d}$	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	140	100	85	85	70	60
I-1Condition 1,I-3	$NS_{d,e}$	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
I-1Condition 2,I-2	$NS_{d,e,f}$	UL	160	65	55	65	55	65	-	-	65	50	40
	S	UL	180	85					65	65			
I-4	$NS_{d,g}$	UL	160	65	55	65	55	65	65	65	65	50	40
	S	UL	180	85	75	85	75	180	120	85	85	70	60
R_h	NS_d	UL	160	65	55	65	55	65	65	65	65	50	40
	S13D	60	60	60	60	60	60	60	60	60	60	50	40
	S13R	60	60	60	60	60	60	60	60	60	60	60	60
	S	UL	180	85	75	85	75	270	180	85	85	70	60

Table 504.3 Allowable Building Height in Feet rationale

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G75-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB and it various WGs held meetings, studied issues and sought input from various expert sources around the world. The TWB has posted those documents and input on its website for interested parties to follow its progress and to allow those parties to, in turn, provide input to the TWB.

At its first meeting, the TWB discussed a number of performance objectives to be met with the proposed criteria for tall wood buildings:

1. No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection being considered.

2. No unusually high radiation exposure from the subject building to adjoining properties to present a risk of ignition under reasonably severe fire scenarios.

3. No unusual response from typical radiation exposure from adjacent properties to present a risk of ignition of the subject building under reasonably severe fire scenarios.

4. No unusual fire department access issues.

5. Egress systems designed to protect building occupants during the design escape time, plus a factor of safety.

6. Highly reliable fire suppression systems to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the TWB meet these performance objectives. The TWB also determined that fire testing was necessary to validate these concepts. At its first meeting, members discussed the nature and intention of fire testing so as to ensure meaningful results for the TWB and, more specifically, for the fire service.

Subsequently a test plan was developed. The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stair. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of joints, and to evaluate conditions for responding fire personnel. The Fire WG then refined the test plan, which was implemented with a series of five, full-scale, multiple-story building tests at the Alcohol, Tobacco and

Firearms (ATF) laboratories in Beltsville, MD. The results of those tests, as well as testing conducted by others, helped form the basis upon which the Codes WG developed its code change proposals.

This code change proposal is one of those developed by the Codes WG and approved by the TWB.

To review a summary of the fire tests, please visit:

http://bit.ly/ATF-firetestreport (accessed 02-11-2022)

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit:

http://bit.ly/ATF-firetestvideos (accessed 02-11-2022)

Allowable Height

This proposal addresses the allowable building height, in terms of feet, for the three new construction types proposed by the TWB. As set forth in the proposal to Section 602.4, the three new types of construction are Types IV-A, IV-B, and IV-C.

The Committee examined each proposed type of construction for its safety and efficacy with regard to each occupancy type.

The following approach was used to develop proposed allowable heights of the new construction types, based on the conclusions of the Committee:

1. Based upon TWB review of fire safety and structural integrity performance, Type IV-B is equated to Type I-B for height (in feet). A noteworthy item to remember is that, per Section 403.2.1.1 of the IBC, Type IB construction is permitted to be reduced to 1-hour Fire Resistance rating; however, the TWB does not propose to allow the same reduction for Type IV-B. As a result, the comparison is between 2-hr mass timber construction that is partially exposed, versus 1-hr Type IB construction, and the Committee believes that 2-hr mass timber construction that is partially exposed per the limits of proposed Section 602.4 warrants the same heights as allowed for 1-hr Type I-B construction. It should be noted that the unprotected mass timber also needs to meet the 2 hour FRR, thus the protected area will likely be conservatively higher FRR than actually required;

2. Type IV-A should be somewhat larger than IV-B, as Type IV-A construction is entirely protected (no exposed mass timber permitted) and the required rating of the structure is equivalent to those required of Type I-A construction (3-hr rating for structural frame). However, the Committee did not find it acceptable to allow the unlimited heights of Type I-A to be applied to Type IV-A. Instead, the Committee applied a multiplier of 1.5 to the heights proposed for Type IV-B construction, in order to propose reasonable height allowances for IV-A construction;

3. The Committee viewed Type IV-C as similar to existing HT construction with the exception that IV-C has a 2 hour FRR where HT is acceptably fire resistant based on the large sizes of the members. As such, the height in feet is proposed to be equal to the height in feet of Type IV-HT. In terms of stories, however, the Committee proposed an additional number of stories for IV-C in recognition of its greater FRR.

4. While the base code seems to allow significant heights for buildings without sprinklers (e.g., Table 504.3 currently allows a height of 160 feet for NS Type I-B construction for many occupancy classifications), the

Committee believes that no additional heights over what is already permitted for Type IV-HT would be proposed for the NS (non sprinklered) rows.

As such, where separate rows are provided for heights for the NS situation, the proposed heights for Types IV-A, IV-B, and IV-C are the same as those heights already permitted for Type IV for the NS condition.

This methodology explains the majority of the recommendations here. Specifically, for occupancy groups A, B, E, F, M, R, S, U, the methodology described above accurately reflects how the height proposals were developed.

The I-4 heights, for sprinklered buildings, were modified by the ICC hearing committee to be 180 feet for a Type IVA building and 120 feet for a Type IVB building.

After undergoing this methodology to develop initial height recommendations, the Committee then applied professional judgment (from both a fire safety and a structural perspective), to develop a working draft table, cell by cell, for all occupancy types.

The exercise for establishing the allowable number of stories for the three new types of construction started with setting Type I-B allowances equivalent to Type IV-B. The tabular fire resistance ratings of building elements for these two types of construction is identical (not including the reduction permitted by 403.2.1.1), so the identical number of stories was deemed a reasonable starting point. From this point, the TWB Committee reviewed each occupancy classification to see if the Type I-B story allowance required adjustment.

Following is a summary of how allowable number of stories for sprinklered I-B were adjusted for IV-B:

A-1, A-2, A-3, A-4, A-5, B, E, H-1, H-5, I-1(1), I-1(2), I-2, I-3, R-1, R-2, R-3, R-4, U: no adjustment, same number of allowable stories as Type I-B.

F-1 and S-1: reduced from 12 to 7 (2 story increase from Type IV-HT)

F-2, M, S-2: reduced from 12 to 8 (2 story increase from Type IV-HT)

H-2: reduced from 3 to 2 (same as Type IV-HT)

H-3: reduced from 6 to 4 (same as IV-Type HT)

H-4: reduced from 8 to 7 (1 story increase from Type IV-HT)

Similarly, to establish the height in feet for Type IV-B:

A-1, A-2, A-3, A-4, A-5, B, E, F-1, F-2, M, R-1, R-2, R-3, R-4, S-1, S-2, U: same allowable height as I-B.

H-1, H-2, H-3: reduced from 180’ to 90’

H-4: reduced from 180’ to 100’

H-5: reduced from 160’ to 90’

I-1(1): reduced from 180’ to 120’

I-1(2): reduced from 180’ to 65’

I-2: reduced from 180' to 65'

I-3: reduced from 180' to 120'

Adjusting IV-B up to IV-A for allowable number of stories:

A-1, A-2, A-3, A-4, A-5, B, E, F-2, I-4, M, R-1, R-2, R-3, R-4, S-1, S-2, U – 1.5 x IV-B number of stories

F-1, S-1 increase by 3 stories

H-1, H-3 same as IV-HT

H-2, H-4, H-5 increase by 1 story

I-1(1), I-1(2), I-2, I-3 increase by 2 stories

H-3 reduced from 6 to 4 (same as IV-HT)

H-4 reduced from 8 to 7 (1 story increase from IV-HT)

I-I(1), I-1(2), I-2, I-3, same as IV-HT

Adjusting IV-B to IV-A for building height:

A-1, A-2, A-3, A-4, A-5, B, E, F-1, F-2, H-1, H-5, I-1(1), I-3, I-4, M, R-1, R-2, R-3, R-4, S-1, S-2, U: multiply 1.5 x Type IV-B

(180 ft.)

H-1, H-2 H-3, H-5: increase by 30 ft.

H-4: increase by 40 ft.

I-1(2), I-2: same as Type IV-HT

For instance, for Groups H-1, H-2, H-3, and H-5, while the table allows 160 feet for Type I-B construction, the Committee proposed a height of 90 feet for Type IV-B construction, and is using a multiplier of 1.33 to propose a height for Type IV-A construction of 120 feet height, intentionally made equal to the existing Heavy Timber heights.

For H-4, corrosives represent a health hazard (but not necessarily a fire hazard) to building occupants and first responders, the Committee believed that reduced heights were warranted. These are slightly greater than discussed above for the H-occupancy groups (140 feet versus 120 feet for IV-A construction, and 100 feet versus 90 feet for IV-B construction), but these still are far below what is permitted for Type I-B construction (180 feet permitted for the sprinklered condition), and is in recognition of the particular type of Hazardous occupancy covered by the H-4 occupancy group.

For Group I occupancies, there are two rows in the table, one being a row that includes I-1 Condition 1 and I-3 occupants (more capable of self-preservation) and the other being a row that includes I-1 Condition 2 and I-2 occupants (less capable of self-preservation). For I-1 Condition 1 and I-3 occupants, the Committee proposed a height of 120 feet for Type IV-B (versus 180 feet from the general methodology summarized above) and a height of 180 feet for Type IV-A (versus 270 feet from the general methodology summarized above). For those I-1 Condition 2 and I-2 occupants, the Committee took a very conservative

approach and will only allow the heights that are already permitted by code for traditional Type IV construction.

Background information: The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and take action on developing code changes for tall wood buildings. The committee is comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ (accessed 02-11-2022)

As seen in the "Meeting Minutes and Documents" and "Resource Documents" sections of the committee web page, the ad hoc committee reviewed a substantial amount of information in order to provide technical justification for code proposals.

The ad hoc committee developed proposals for the followings code sections. The committee believes this package of code changes will result in regulations that adequately address the fire and life safety issues of tall mass timber buildings.

AWC's public comment in support of As Modified by the ICC hearing committee. Commenter's Reason: AWC was appointed to be a member of the ICC Tall Wood Building Ad Hoc Committee (TWB), the single wood industry representative on the TWB. AWC is not speaking for TWB on this issue. It simply is relaying information regarding the development of the proposals. Other members of the 16-member TWB included representation from architects, engineers, fire protection engineers, fire marshals, testing laboratories, and fire fighters, as well as the major materials industries. After two years of study, listening to testimony, reviewing documents, reviewing public input, conducting an extensive test program, and reviewing test results from tests around the world, the TWB made this proposal to ICC for the membership s consideration.

Early in the process, the TWB heard proposals from four different commentors suggesting maximum stories of 20, 24, 40, and 42 stories. The TWB worked through dozens of drafts of the proposed new types of construction, dozens more pertaining to the building height in stories, nearly a dozen pertaining to building height in feet and nearly a dozen regarding maximum permitted building area per floor. These documents were all posted to the TWB page of the ICC website. Comments were solicited for all drafts.

The first aspect of height and area taken up by the TWB was height in stories. That seemed to be the easiest to get at with the information gleaned from the testimony and documentation presented to the TWB. Experts from around the world presented a case to the TWB that mass timber was equivalent to types I-A and I-B in every way other than the combustibility of the base material. They outlined various strategies for overcoming that combustibility issue. The TWB relied upon this concept of equivalent performance to determine its maximum permitted height in stories. The Reason Statement provided by the TWB Chairman, Steve DiGiovanni, clearly laid out the background for, and the process of, the deliberation on Height in Stories. That is a must read to understand this process and its outcomes.

Next, based upon comments submitted, TWB tried to assign height in feet to its chosen maximum stories. In its first drafts, the maximum number of stories for proposed type IV-A was 24 for a few occupancy

groups. Similarly, IV-B was proposed to be limited to 12 stories based on the equivalency mentioned above. Thus, IV-B was assigned the same maximum height in feet as type I-B, 180 feet. Regarding the fire service's ability to address fires in mass timber buildings at these heights, the following rationale was used:

The height limit, in feet, proposed for Type IV-B is even more conservative when considering that Type IV-B requires a greater degree of fire resistance than that of I-B when the fire-resistance rating of the building elements in Type IB construction are reduced to only the fire-resistance ratings required for Type IIA as permitted by Section 403.2.1 of the IBC. In effect, the proposed 2-hour fire resistance ratings required for Type IV-B will be twice that allowed by the IBC, since its inception, for those buildings under 420 feet whose building elements are permitted to be of only 1 hour fire resistance in accordance with the high rise provisions of Chapter 4, which will not apply to the proposed mass timber construction types.

Type I-A is, in most cases unlimited in height. The TWB agreed that the performance of IV-A was equivalent, but its conservative approach meant that they chose not to permit IV-A to enjoy the unlimited height that I-A does. In fact, the approach was so conservative that it considered only increasing the height in feet by 50% over type IV-B. So a modest increase of 50% was chosen. This is infinitely less than the unlimited height in feet permitted in type I-A for nearly every use group.

The reason statement offered by the TWB for this proposal clearly explains that the allowable height in feet was determined by assessing the overall performance of the new types of construction and equating them to existing types of construction. It also clearly defines the acceptable performance which it found to be equivalent to the higher types.

From the beginning, the TWB has been committed to criteria which result in acceptable performance.

The fire test program, drafted by the Fire Work Group of the TWB may be seen as videos of each of the five tests. They can be found at this link or on the ICC TWB web page.

https://www.youtube.com/playlist?list=PL_sDiz8JiMIwby77vfpPSPucEhBuEK22P (accessed 02/11/2022)

This proposal is thoroughly conservative. The following points address claims made by opponents in the ICC code development process:

Concerns about exterior fire testing:

The TWB proposals significantly reduce the risk of exterior building surface flame propagation by prohibiting all combustibles on the exterior side of exterior walls (except for the required water resistive barrier). Continuous insulation on the exterior, where provided, will be non-combustible. In addition, protection with at least 40 minutes of noncombustible material (typically a layer of 5/8-inch type X gypsum wallboard) is required on the outside of mass timber exterior walls.

What is proposed therefore is more conservative than any other construction type, including Types I and II, virtually eliminating the possibility of fire spread on exterior walls due to combustible materials.

Concerns about the testing's relevance to tall wood buildings:

The testing was designed by fire service representation on the TWB committee to directly address potential tall wood buildings, regardless of height. Rather than rely on standardized testing of building assemblies alone, with fire service input the TWB committee chose to undertake full-scale, multistory

compartment testing, with high residential fuel loads for which no standardized test exists. Furthermore, in four of the five tests, the normal operation of the required automatic fire suppression system (sprinklers) was not allowed. The fires in tests applicable to the proposed 18 and 12 story limits (Types IV-A and IV-B respectively) were allowed to continue throughout the decay phase and well past burn-out, Type I-A is, in most cases unlimited in height. The TWB agreed that the performance of IV-A was equivalent, but its conservative approach meant that they chose not to permit IV-A to enjoy the unlimited height that I-A does. In fact, the approach was so conservative that it considered only increasing the height in feet by 50% over type IV-B. So a modest increase of 50% was chosen. This is infinitely less than the unlimited height in feet permitted in type I-A for nearly every use group.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

19

F10255

Date Submitted	02/11/2022	**Section**	504.4	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber changes including mods# 10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, 10248, 10254 and more

Summary of Modification

Addition of Type IV-A, IV-B, and IV-C construction types to allowable number of stories table

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None. Typical plan review and inspection.

Impact to building and property owners relative to cost of compliance with code

As a new construction alternative, this should generally put downward pressure on cost because of competition.

Impact to industry relative to the cost of compliance with code

As a new construction alternative, this should generally put downward pressure on cost because of competition.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This limits new construction types by number of stories above grade - a fire safety issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing a new alternative method of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This modification does not require or prohibit any material.

Does not degrade the effectiveness of the code

Improves the code by providing a new alternative method of construction.

TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPEOFCONSTRUCTION												
	SeeFoot-notes	TypeI		TypeII		TypeIII		TypeIV				TypeV	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	3	3	3	2	1
	S	UL	6	4	3	4	3	9	6	4	4	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-3	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-4	NS	UL	11	3	2	3	2	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	1	1	1	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	5	5	5	3	2
	S	UL	12	6	4	6	4	18	12	9	6	4	3
E	NS	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
F-1	NS	UL	11	4	2	3	2	3	3	3	4	2	1
	S	UL	12	5	3	4	3	10	7	5	5	3	2
F-2	NS	UL	11	5	3	4	3	5	5	5	5	3	2
	S	UL	12	6	4	5	4	12	8	6	6	4	3
H-1	NSc,d	1	1	1	1	1	1	NP	NP	NP	1	1	NP
	S							1	1	1			
H-2	NSc,d	UL	3	2	1	2	1	1	1	1	2	1	1
	S							2	2	2			
H-3	NSc,d	UL	6	4	2	4	2	3	3	3	4	2	1
	S							4	4	4			
H-4	NSc,d	UL	7	5	3	5	3	5	5	5	5	3	2
	S	UL	8	6	4	6	4	8	7	6	6	4	3
H-5	NSc,d	4	4	3	3	3	3	2	2	2	3	3	2
	S							3	3	3			
I-1 Condition1	NSd,e	UL	9	4	3	4	3	4	4	4	4	3	2
	S	UL	10	5	4	5	4	10	7	5	5	4	3
I-1 Condition2	NSd,e	UL	9	4	3	4	3	3	3	3	4	3	2
	S	UL	10	5				10	6	4			
I-2	NSd,f	UL	4	2	1	1	NP	NP	NP	NP	1	1	NP
	S	UL	5	3				7	5	1			
I-3	NSd,e	UL	4	2	1	2	1	2	2	2	2	2	1
	S	UL	5	3	2	3	2	7	5	3	3	3	2
I-4	NSd,g	UL	5	3	2	3	2	3	3	3	3	1	1
	S	UL	6	4	3	4	3	9	6	4	4	2	2
M	NS	UL	11	4	2	4	2	4	4	4	4	3	1
	S S	UL	12	5	3	5	3	12	8	6	5	4	2
	NS[d]	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	3

R-1[h]	S	UL	12	5	5	5	5	**18**	**12**	**8**	5	4	3
R-2[h]	NS[d]	UL	11	4	4	4	4	**4**	**4**	**4**	4	3	2
	S13R	4	4	4								4	3
	S	UL	12	12	5	5	5	**18**	**12**	**8**	5	4	3
R-3[h]	NS[d]	UL	11	4	4	4	4	**4**	**4**	**4**	4	3	3
	S13D	4	4									3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	**18**	**12**	**5**	5	4	4
R-4[h]	NS[d]	UL	11	4	4	4	4	**4**	**4**	**4**	4	3	2
	S13D	4	4									3	2
	S13R	4	4									4	3
	S	UL	12	5	5	5	5	**18**	**12**	**5**	5	4	3
S-1	NS	UL	11	4	2	3	2	**4**	**4**	**4**	4	3	1
	S	UL	12	5	3	4	3	**10**	**7**	**5**	5	4	2
S-2	NS	UL	11	5	3	4	3	**4**	**4**	**4**	5	4	2
	S	UL	12	6	4	5	4	**12**	**8**	**5**	5	5	3
U	NS	UL	5	4	2	3	2	**4**	**4**	**4**	4	2	1
	S	UL	6	5	3	4	3	**9**	**6**	**5**	5	3	2

Table 504.4 Allowable number of stories rationale

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G80-18) in the ICC Code Development monograph 2018 Group A:

Reason: The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB and it various WGs held meetings, studied issues and sought input from various expert sources around the world. The TWB has posted those documents and input on its website for interested parties to follow its progress and to allow those parties to, in turn, provide input to the TWB.

At its first meeting, the TWB discussed a number of performance objectives to be met with the proposed criteria for tall wood buildings:

1. No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection being considered.

2. No unusually high radiation exposure from the subject building to adjoining properties to present a risk of ignition under reasonably severe fire scenarios.

3. No unusual response from typical radiation exposure from adjacent properties to present a risk of ignition of the subject building under reasonably severe fire scenarios.

4. No unusual fire department access issues.

5. Egress systems designed to protect building occupants during the design escape time, plus a factor of safety.

6. Highly reliable fire suppression systems to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The TWB also determined that fire testing was necessary to validate these concepts. At its first meeting, members discussed the nature and intention of fire testing so as to ensure meaningful results for the TWB and, more specifically, for the fire service. Subsequently a test plan was developed. The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stair. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of joints, and to evaluate conditions for responding fire personnel. The Fire WG then refined the test plan, which was implemented with a series of five, full-scale, multiple-story building tests at the Alcohol, Tobacco and Firearms (ATF) laboratories in Beltsville, MD.

The results of those tests, as well as testing conducted by others, helped form the basis upon which the Codes WG developed its code change proposals. This code change proposal is one of those developed by the Codes WG and approved by the TWB.

To review a summary of the fire tests, please visit: http://bit.ly/ATF-firetestreport (accessed 02-11-2022)

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit: http://bit.ly/ATF-firetestvideos (accessed 02-11-2022)

Number of Stories

This proposal addresses the building height, in terms of the number of stories, for the three new construction types proposed by the TWB. As set forth in the proposal to Section 602.4, the three new types of construction are Types IVA, IV-B, and IV-C. The Committee examined each proposed type of construction for its safety and efficacy with regard to each occupancy.

The following approach was considered appropriate for the heights of the new construction types, based on the conclusions of the Committee:

Based upon TWB review of fire safety and structural integrity performance, Type IV-B is equated to Type I-B for height (in number of stories). A noteworthy item is that, per Section 403.2.1.1 of the IBC, Type I-B construction is permitted to be reduced to 1-hour Fire Resistance Rating (FRR); however, the TWB does not propose to allow the same reduction for Type IV-B. As a result, the comparison is between 2-hr mass timber construction that is permitted to be partially unprotected, versus 1-hr Type IB construction, and the Committee believes that 2-hr mass timber construction that is partially exposed per the limits of proposed Section 602.4 warrants the same heights as allowed for 1-hr Type I-B construction;

Type IV-A should be somewhat larger than IV-B, as Type IV-A construction is entirely protected (no exposed mass timber permitted) and the required rating of the structure is equivalent to those required of Type I-A construction (3-hr rating for structural frame). However, the Committee did not find it acceptable to allow the scale of heights (many of which are unlimited) of Type I-A to be applied to Type IV-A. Instead, the Committee applied a multiplier of 1.5 to the heights proposed for Type IV-B construction (rounded up or down based on judgment) in order to propose reasonable height allowances for IV-A construction;

The Committee viewed Type IV-C as sufficiently similar to existing HT construction, especially in terms of the percentage of exposed wood (it is permitted to be entirely unprotected), and the resulting contribution to fire. While the height in feet for Type IV-C is proposed to be equal to the height in feet of Type IV-HT, the Committee felt that additional stories was warranted in some cases. Therefore, in terms of stories, the Committee proposes additional number of stories for Type IV-C construction when compared to traditional Type IV heavy timber construction. The Committee feels that some recognition is warranted for the fire resistance rating requirements (Type IV-C has 2-hour rating on structural elements, whereas traditional Type IV Heavy Timber used dimensional wood, which is understood to yield an approximate fire resistance rating equivalent to about 1-hour construction) and provided that flexibility when developing height, in terms of stories, for Type IV-C construction. A multiplier of 1.5 was applied from the Type IV-HT heights to develop reasonable numbers of stories for Type IV-C construction.

While the base code seems to allow significant heights for buildings without sprinklers (e.g., Table 504.4 currently allows 11 stories for NS Type I-B construction for many occupancy classifications), the Committee believes that no additional heights over what is already permitted for Type IV should be proposed for the NS (non sprinklered) rows. As such, where separate rows are provided for heights for the NS condition, the proposed heights for Types IV-A, IV-B, and IV-C are the same as those heights already permitted for Type IV for the NS condition.

This methodology explains the majority of the recommendations included in this proposal. Specifically, for occupancy groups A, B, E, R, and U, the methodology described above accurately reflects how the height proposals were developed.

The Committee applied professional judgment (from both a fire safety and a structural perspective) to develop a draft table, cell by cell, for all occupancy types. After further examination, reduced heights were proposed for F, H, I, M, and S occupancy classifications.

For F-1 occupancies, the Committee proposed a height of 7 stories for Type IV-B construction (versus the 12 stories currently permitted for I-B construction). A multiplier of 1.5 was used to propose a height of 10 stories for Type IV-A construction (when rounded down). No additional height was proposed for Type IV-C construction (Type IV-C proposed at 5 stories, and 5 stories is already permitted by code for Type IV-HT).

For F-2 occupancies, again the Committee is proposing a reduced number of stories, with 8 stories for Type IV-B construction (versus 12 stories that would be derived from the methodology). Again, a multiplier of 1.5 was used to propose a height of 12 stories for Type IV-A construction. No additional height is proposed for Type IV-C construction (Type IV-C proposed at 6 stories, and 6 stories is already permitted by code for Type IV-HT).

A conservative approach also explains the proposed heights for Group H occupancies. For Group H-1, only 1 story buildings are permitted by Table 504.4 for all construction types, so the proposal was adjusted to also limit all of the new Type IV construction types to 1 story as well.

For Groups H-2, H-3, and H-5, heights were intentionally made equal to the existing Heavy Timber heights. In other words, there is no proposal to any increased heights over what is already allowed by code for these use groups.

Group H-4, being corrosives which represents a health hazard (but not necessarily a fire hazard) to occupants and first responders, was also reduced, slightly. The TWB proposes 7 stories for Type IV-B construction (equivalency to Type I-B would have yielded 8 stories). The proposal allows only 8 stories for Type IV-A construction. No additional height is proposed for Type IV-C construction (Type IV-C proposed at 6 stories, and 6 stories is already permitted by code for Type IV-HT).

For Group I, the Committee took a more conservative approach and proposed an equivalent number of stories for Type IV-A construction, as is provided for Type I-B construction (10 stories for both construction types and occupancy types). The allowable heights for Type IV-B construction were selected to fall between the 10 stories for Type IV-A and the number of stories for Type IV-C construction. The Committee proposed a height of 7 stories for I-1, and 6 stories for I-2. No additional height was proposed for Type IV-C construction (IV-C construction heights in floors is equal to the number of floors already allowed for Type IV-HT, 5 stories for I-1, 4 stories for I-2).

For Group M occupancies, the Committee again took a conservative approach, and proposed an equivalent number of stories for Type IV-A construction, as is provided for Type I-B construction (12 stories for both construction types). The proposal for Type IV-B construction is 8 stories which is based on the use of the multiplier of 1.5 with respect to the Type IV-A proposal. A modest increase (from 5 to 6 stories) is proposed for Type IV-C construction due to the higher requirement for structural fire-resistance.

For Group S, while the base code does not differentiate between S-1 and S-2 in Type I-B construction (both 12 stories), the Committee recognized that the base code does provide a difference for Group F (10 stories for F-1, 12 stories for F-2). As explained above, this led the Committee to propose lower heights for F-1, than for F-2. The Committee felt this was appropriate with respect to the hazard differences between F-1 and F-2. Rather than basing our proposal for S occupancies on the same starting point of 12 stories, the Committee decided to simply copy the proposed heights for Group F into the rows for Group S for both IV-A and IV-B construction types. No additional height is proposed for IV-C construction (IV-C proposed at 5 stories for both S-1 and S-2, same as existing Type IV-HT heights).

Background inf ormation: The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and take action on developing code changes for tall wood buildings. The committee is comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-ontall-wood-buildings/ (accessed 02-11-2022).

As seen in the “Meeting Minutes and Documents” and “Resource Documents” sections of the committee web page, the ad hoc committee reviewed a substantial amount of information in order to provide technical justification for code proposals.

The ad hoc committee developed proposals for the followings code sections. The committee believes this package of code changes will result in regulations that adequately address the fire and life safety issues of tall mass timber buildings In addition, fire tests designed to simulate the three new construction types (Types IVA, IVB and IVC) in the ad hoc committee proposals were conducted at the Alcohol Tobacco and Firearms test lab facility. The TWB was involved in the design of the tests, and many members witnessed the test in person or online. The results of the series of 5 fire tests provide additional support for these proposals, and validate the fire performance for each of the types of construction proposed by the committee. The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stair. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of through-penetration fire stops, and to evaluate conditions for responding fire personnel.

To review a summary of the fire tests, please visit: http://bit.ly/ATF-firetestreport (accessed 02-11-2022)

To watch summary videos of the fire tests, which are accelerated to run in 3 ½ minutes, please visit:

http://bit.ly/ATF-firetestvideos (accessed 02-11-2022)

AWC’s public comment in support the committee action for As Submitted:

WC was appointed to be a member of the ICC Tall Wood Building Ad Hoc Committee (TWB), the single wood industry representative on the TWB. AWC is not speaking for TWB on this issue. It simply is relaying information regarding the development of the proposals. Other members of the 16- member TWB included representation from architects, engineers, fire protection engineers, fire marshals, testing laboratories, and fire fighters, as well as the major materials industries. After two years of study, listening to testimony, reviewing documents, reviewing public input, conducting an extensive test program, and reviewing test results from tests around the world, the TWB made this proposal to ICC for membership consideration.

Early in the process, the TWB heard proposals from four different commenters suggesting maximum stories of 20, 24, 40, and 42 stories. The TWB worked through dozens of drafts of the proposed new types of construction, dozens more pertaining to the building height in stories, nearly a dozen pertaining to building height in feet and nearly a dozen regarding maximum permitted building area per floor. These documents were all posted to the TWB page of the ICC website. Comments were solicited for all drafts.

The first draft of Table 504.4 (allowable stories) was based on the discussions by the TWB at its November, 2016 meeting and considered by the Codes Work Group (Codes WG) in February, 2017. In March, 2017, comments to the February draft were considered by the Codes WG. In May, 2017, the Codes WG reported to the TWB its recommendations for a maximum number of stories for Type IV-A of 24 for many use groups, including B and R.

In June the TWB considered reducing the recommended number of stories for several occupancies, including B and R, due to reported opposition to the higher limits. Thus, as a result, the maximum number of stories was reduced from 24 to 18 for many occupancies including R, and from 24 to 20 for Group B because of the lower fuel load and increased occupant awareness in Group B. These drafts were also posted by the TWB on the ICC website. No one publicly commented on the original recommendations nor on the TWB reductions in maximum stories to accommodate what was believed to be opposition to its position.

Finally, the TWB held its last meeting (by video conference) December 27, 2017 to finalize all proposals before the January 6, 2018 submittal deadline. In that meeting it was suggested that continuing to allow Group B to be 20 stories seemed to be an outlier and, for that reason alone, the TWB again reduced Group B to the current 18 story limit.

The reason statement offered by the TWB for this proposal clearly explains that the allowable stories was determined by assessing the overall performance of the new types of construction and equating them to existing types of construction. From the beginning of this process, the TWB considered the body of data and fire protection engineering principles, deliberated the issue and concluded that because of the complete package of extensive features such as the required fire resistance ratings, the extensive noncombustible protection required on the surface of the mass timber elements, the prohibition of light frame wood assemblies altogether, and many other restrictive features, the performance of IV-B was indeed equivalent to I-B in every way. This concept was presented by several researchers who had been invited to present to the TWB at its initial face-to-face meeting.

Similarly, due to the even more extensive required features in Type IV-A, including redundant water supply, they concluded that the performance of Type IV-A was equivalent to I-A. The TWB agreed that the performance was equivalent, but its conservative approach meant that they chose not to permit IV-A to enjoy the unlimited number of stories that I-A does. In fact, it was so conservative that it initially considered only doubling of the number of stories, which is infinitely less than the unlimited number of

stories permitted in type I-A for nearly every use group. They ultimately proposed even fewer stories than that.

Moreover, the number of stories proposed for Type IV-B are even more conservative when considering that Type IV-B requires a greater degree of fire resistance than that of I-B when the fire resistance rating of the building elements in Type IB construction are reduced to only the fire-resistance ratings required for Type IIA as permitted by Section 403.2.1 of the IBC. In effect, the proposed 2 hour fire resistance ratings required for Type IV-B will be twice that allowed by the IBC, since its inception, for those buildings under 420 feet whose building elements are permitted to be of only 1 hour fire resistance in accordance with the highrise provisions of Chapter 4, which will not apply to the proposed mass timber construction types.

From the beginning, the TWB has been committed to criteria which result in acceptable performance. Critics of the proposed allowable number of stories have been heard to comment that 18 stories will not be the end of increased story limits, but, indeed, 18 stories was not the beginning of it, either! Rather, 18 stories is a conservative limit that was reduced, by concession, not evidence, from 24 stories, to 20 stories, and finally to 18 stories.

Finally, much has been said about the proposed heights, but it s important to consider this: unlike noncombustible construction types I-A and I-B, which for most use groups are unlimited in allowable area per story no matter how tall, these proposed mass timber construction types will be increasingly limited in allowable area per floor as the building gets higher. This is because Equations 5-2 and 5-3 in the IBC limit the total allowable area of the building to no more than three times the allowable area of a single story. (Story areas for most use groups in Types I-A and I-B are never limited no matter how tall because their single-story areas are unlimited.) As a result, in the proposed mass timber construction types the compartmentalization of building areas between fire resistance rated and protected assemblies is vastly increased, and the allowable area between fire resistance rated and protected elements is vastly reduced, compared to Types I-A and I-B construction. See Tables 1 and 2 below for a comparison.

This proposal is thoroughly conservative. The following points address claims made by opponents:

Concerns about exterior fire testing:

The TWB proposals significantly reduce the risk of exterior building surface flame propagation by prohibiting all combustibles on the exterior side of exterior walls (except for the required water resistive barrier). Continuous insulation on the exterior, where provided, will be non-combustible. In addition, protection with at least 40 minutes of noncombustible material (typically a layer of 5/8-inch type X gypsum wallboard) is required on the outside of mass timber exterior walls. What is proposed therefore is more conservative than any other construction type, including Types I and II, virtually eliminating the possibility of fire spread on exterior walls due to combustible materials.

Concerns about the testing s relevance to tall wood buildings:

The testing was designed by fire service representation on the TWB committee to directly address potential tall wood buildings, regardless of height. Rather than rely on standardized testing of building assemblies alone, with fire service input the TWB committee chose to undertake full-scale, multistory compartment testing, with high residential fuel loads for which no standardized test exists.

Furthermore, in four of the five tests, the normal operation of the required automatic fire suppression system (sprinklers) was not allowed. The fires in tests applicable to the proposed 18 and 12 story limits (Types IV-A and IV-B respectively) were allowed to continue throughout the decay phase and well past

burn-out, the most conservative approach possible. In other words, because the fire tests were specifically designed to address tall wood buildings of any height, the absolute worst circumstances were assumed: sprinklers not working, no active suppression of any kind, and the fire allowed to burn until self-extinguishment after the burning room contents are consumed (a tiny percentage of all possible fire scenarios). This parallels expectations for Type I buildings.

Concerns that wind has not been addressed in the testing:

There are no current test standards for exterior exposure that includes wind as a component. This means that even Types I and II buildings--which may have combustible materials on the exterior of the exterior walls, such as foam plastic insulation--are not tested to specific wind criteria. The new construction types proposed for tall wood building do not permit combustible materials on the exterior of exterior walls (as opposed to all other construction types), and in addition all mass timber building elements in exterior walls are required to be protected on the exterior side by noncombustible material equaling at least 40 minutes of fire resistance (typically 5/8-inch Type X gypsum wallboard). This very conservative criteria is intended to take the possibility of exterior fire spread completely out of the question.

In regard to wind reaching the interior of the building, since the extensive noncombustible protection of the interior in building over 12 stories is designed to allow complete burn-out of contents in the case of sprinkler malfunction, if wind were to cause contents to burn faster, there is no negative impact on fire performance of the protected building elements themselves. Fire scientists believe that protected mass timber will respond favorably to a more severe fire that is flamed by wind, since burn-out of contents may be achieved sooner. In regard to Type IV-C which permits totally exposed mass timber throughout, the allowable height in feet from grade is not increased from what is allowed for current Type IV heavy timber construction, and 2-hour fire resistance ratings of building elements are required throughout (as opposed to heavy timber dimensions only in current Type IV).

Finally, combustible light frame walls are not permitted in the proposed new construction types, only mass timber elements.

Concerns that loads from upper stories were not considered in the fire testing:

Structural loads will in large part govern the size of mass timber members, as it does concrete and steel members. As the loads from upper stories increase, the structural design requires loadbearing mass timber walls and columns to get bigger or more numerous. In buildings over 12 stories, these mass timber elements are required to be protected by at least three layers of 5/8 type X gypsum, as part of the 3-hour rating. This is an extremely conservative approach for all buildings ranging from 12 to 18 stories. The intent is to prevent the mass timber building elements from becoming involved in the fire even in the extremely small percentage of fire that are not controlled by the sprinkler system or eventually put out by the fire department.

Concerns that increased hazards from storage and mercantile occupancies, and their effect on firefighting, were not considered:

The TWB committee specifically addressed mercantile (M) and storage occupancies (typically S-1) and the hazards associated with their higher fuel loads. They did this by placing stricter limits on their height. M and S-1 occupancies groups are not allowed over 12 and 10 stories respectively even in Type IV-A, which has 3-hour walls and columns and 2-hour floors, and is required incorporate noncombustible protection equal to 2/3 of the required rating (three layers of 5/8 Type X gypsum wall board on loadbearing walls and columns). By comparison, Groups M and S-1 in Type I-A construction with the same ratings are unlimited in height. Type I-B allows both Groups M and S-1 up to 12 stories with only 2-hour walls and

columns, whereas Type IV-B with equal ratings and required noncombustible protection is limited to eight stories (M) and seven stories (S-1).

Concerns about fire sealants and connections during the testing:

Researchers noted inconsistencies in some installations during the testing at ATF, but this has no bearing on the efficacy of the tests, which were successful in spite of these irregularities. Even so, to address this and undesirable results at the FPRF tests at NIST, a proposed requirement for all splices and intersections to have adhesive sealant followed by a proposed modification requiring special inspection of sealant installation was proposed by the TWB committee at the Committee Action Hearing. The sealant requirement was approved but the modification for its special inspection was ruled beyond the scope of the original proposal, but has been reconstituted as a Public Comment which can be put forward at the public comment hearings this fall.

Concerns that there is only limited information available about how CLT performs or can be used with other materials:

There is extensive information available about CLT construction from many sources, including the increasing number of manufacturers of CLT. For example, a CLT Handbook, addressing structural design, lateral design, connections, fire performance, sound performance, building envelope design, environmental performance, and handling during construction has been available for free for several years. The American Wood Council s National Design Specification for Wood Construction, an ANSI accredited standard, has been updated to incorporate structural and fire design provisions for CLT.

There are other guidelines for structural and fire resistance issues published by AWC and other organizations, including information on hybrid systems with steel and concrete. Among the other advantages of CLT are that it does not distort, loose its strength, or explosively spall when exposed to high temperatures. It has inherently high fire resistance due to its mass, and when protected with gypsum wallboard protection performs improves. Early testing of a highly loaded CLT exterior wall by AWC yielded a 3-hour rating with only one layer of 5/8 Type X gypsum wallboard. Also, in general, CLT responds well to flame impingement by remaining strong and stable when the gypsum is cracked or losing integrity. It is much less heat sensitive than certain noncombustible materials.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

20

F10328

Date Submitted	02/12/2022	**Section**	506	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber construction proposals including Mods# 10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, 10248, 10254, 10255, and more

Summary of Modification

Adds Types IV-A, IV-B, and IV-C to the allowable area table 506.2

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; typical plan review and inspection

Impact to building and property owners relative to cost of compliance with code

No impact; this is an optional method of construction. As a new construction method Type IV mass timber should generally lower the cost of construction by stimulating competition

Impact to industry relative to the cost of compliance with code

No impact; this is an optional method of construction. As a new construction method Type IV mass timber should generally lower the cost of construction by stimulating competition

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Allowable areas are a fire resistive construction issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing alternative methods of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

Improves the code by providing alternative methods of construction.

TABLE 506.2 ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEEFOOTNOTES	TYPEOFCONSTRUCTION											
		TYPEI		TYPEII		TYPEIII		TYPEIV				TYPEV	
		A	B	A	B	A	B	A	B	C	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	45,000	30,000	18,750	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	180,000	120,000	75,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	135,000	90,000	56,250	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	45,000	30,000	18,750	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	180,000	120,000	75,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	135,000	90,000	56,250	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1												
	SM												
B	NS	UL	UL	37,500	23,000	28,500	19,000	108,000	72,000	45,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	432,000	288,000	180,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	324,000	216,000	135,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	76,500	51,000	31,875	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	306,000	204,000	127,500	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	229,500	153,000	95,625	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	100,500	67,000	41,875	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	402,000	268,000	167,500	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	301,500	201,000	125,625	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	151,500	101,000	63,125	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	606,000	404,000	252,500	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	454,500	303,000	189,375	151,500	63,000	39,000
H-1	NSc	21,000	16,500	11,000	7,000	9.500	7,000	10,500	10,500	10,500	10,500	7,500	NP
	S1												
H-2	NSc	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	S1												
	SM												
H-3	NSc	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	S1												
	SM												
H-4	NSc,d	UL	UL	37,500	17,500	28,500	17,500	72,000	54,000	40,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	288,000	216,000	162,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	216,000	162,000	121,500	108,000	54,000	19,500
H-5	NSc,d	UL	UL	37,500	23,000	28,500	19,000	72,000	54,000	40,500	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	288,000	216,000	162,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	216,000	162,000	121,500	108000	54,000	27,000

I-1	NSd,e	UL	55,000	19,000	10,000	16,500	10,000	54,000	36,000	18,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	216,000	144,000	72,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	162,000	108,000	54,000	54,000	31,500	13,500
I-2	NSd,f	UL	UL	15,000	11,000	12,000	NP	36,000	24,000	12,000	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	144,000	96,000	48,000	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	108,000	72,000	36,000	36,000	28,500	NP
I-3	NSd,e	UL	UL	15,000	10,000	10,500	7,500	36,000	24,000	12,000	12,000	7,500	5,000
	S1	UL	UL	45,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000
	SM	UL	UL	45,00	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000
I-4	NS	UL	60,500	26,500	13,000	23,500	13,000	76,500	51,000	25,500	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	306,000	204,000	102,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	229,500	153,000	76,500	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	61,500	41,000	26,625	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	246,000	164,000	102,500	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	184,500	123,000	76,875	61,500	42,000	27,000
R-1	NS	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R	UL	UL										
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-2	NS	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13R	UL	UL										
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
R-3	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13D												
	S13R												
	S1												
	SM												
R-4	NS	UL	UL	24,000	16,000	24,000	6,000	61,500	41,000	25,625	20,500	12,000	7,000
	S13D	UL	UL										
	S13R	UL	UL										
	S1	UL	UL	96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	76,500	51,000	31,875	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	306,000	204,000	127,500	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	229,500	153,000	95,625	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	115,500	77,000	48,125	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	462,000	308,000	192,500	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	346,500	231,000	144,375	115,500	63,000	40,500
U	NS	UL	35,500	19,000	8,500	14,000	8,500	54,000	36,000	22,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	216,000	144,000	90,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	162,000	108,000	67,500	54,000	27,000	16,500

Table 506.2 Allowable Area Type IV mass timber rationale

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G84-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB and it various WGs held meetings, studied issues and sought input from various expert sources around the world. The TWB has posted those documents and input on its website for interested parties to follow its progress and to allow those parties to, in turn, provide input to the TWB.

At its first meeting, the TWB discussed a number of performance objectives to be met with the proposed criteria for tall wood buildings:

1. No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection being considered.

2. No unusually high radiation exposure from the subject building to adjoining properties to present a risk of ignition under reasonably severe fire scenarios.

3. No unusual response from typical radiation exposure from adjacent properties to present a risk of ignition of the subject building under reasonably severe fire scenarios.

4. No unusual fire department access issues.

5. Egress systems designed to protect building occupants during the design escape time, plus a factor of safety.

6. Highly reliable fire suppression systems to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the TWB meet these performance objectives.

Allowable Area

In addressing this topic, it was necessary to develop height and area criteria to address each new type of construction being proposed. Relying upon each new type of construction proposed for tall wood buildings (Types IV-A, IV-B and IVC), the committee examined each type of construction for its safety and efficacy with regard to each occupancy type.

This proposal on allowable areas should be considered as a companion proposal to the height proposals. The three proposals were developed with regard to one another as well as with regard to the new types of construction.

The TWB also determined that fire testing was necessary to validate these concepts. At its first meeting, members discussed the nature and intention of fire testing so as to ensure meaningful results for the TWB and, more specifically, for the fire service. Subsequently a test plan was developed.

The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stair. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of joints, and to evaluate conditions for responding fire personnel. The Fire WG then refined the test plan, which was implemented with a series of five, full-scale, multiple-story building tests at the Alcohol, Tobacco and Firearms (ATF) laboratories in Beltsville, MD. The results of those tests, as well as testing conducted by others, helped form the basis upon which the Codes WG developed its code change proposals.

This code change proposal is one of those developed by the Codes WG and approved by the TWB.

To review a summary of the fire tests, please visit:

http://bit.ly/ATF-firetestreport (accessed 02-11-2022)

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit:

http://bit.ly/ATF-firetestvideos (accessed 02-11-2022)

Each proposed new type of construction was examined for its fire safety characteristics and compared to the existing, long-standing type of construction known as Heavy Timber. The committee found that it was reasonable to develop a multiplier which could be applied to the traditional HT areas. This was done for each new type of construction. Thus, the proposed new Type IV-C was 1.25 times the HT allowable area, IV-B was 2.00 times the HT allowable area and IV-A was 3.00 times the HT allowable area.

These multipliers were examined in terms of relative performance compared to traditional HT. They were reexamined on a case-by-case basis based upon relative hazard and occupancy classification. Some hazards were perceived to be greater and, thus, areas were adjusted downward to reflect the hazard. Other situations were similarly considered. For example, Hazardous and Institutional occupancies do not fully follow the multiplier method, as most areas for those occupancies were reduced from what the multiplier method would suggest.

Also, the committee reconsidered this proposal with respect to the companion height proposal. This review was to be sure that allowable areas were commensurate with the risk posed by being allowed on some particular story or at some height above grade plane.

Background information: The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and take action on developing code changes for tall wood buildings. The committee is comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-ontall-wood-buildings/ (link

accessed 02-11-2022). As seen in the "Meeting Minutes and Documents" and "Resource Documents" sections of the committee web page, the ad hoc committee reviewed a substantial amount of information in order to provide technical justification for code proposals.

AWC's (Sam Francis) Public comment in support of G84-18 As Submitted:

AWC was appointed to be a member of the ICC Tall Wood Building Ad Hoc Committee (TWB), the single wood industry representative on the TWB. AWC is not speaking for TWB on this issue. It simply is relaying information regarding the development of the proposals. Other members of the 16-member TWB included representation from architects, engineers, fire protection engineers, fire marshals, testing laboratories, and fire fighters, as well as the major materials industries. After two years of study, listening to testimony, reviewing documents, reviewing public input, conducting an extensive test program, and reviewing test results from tests around the world, the TWB made this proposal to ICC for the membership s consideration.

Early in the process, the TWB heard proposals from four different commentors suggesting maximum stories of 20, 24, 40, and 42 stories. The TWB worked through dozens of drafts of the proposed new types of construction, dozens more pertaining to the building height in stories, nearly a dozen pertaining to building height in feet and nearly a dozen regarding maximum permitted building area per floor. These documents were all posted to the TWB page of the ICC website. Comments were solicited for all drafts.

The first aspect of height and area taken up by the TWB was height in stories. That seemed to be the easiest to get at with the information gleaned from the testimony and documentation presented to the TWB. Experts from around the world presented a case to the TWB that mass timber was equivalent to types I-A and I-B in every way other than the combustibility of the base material. They outlined various strategies for overcoming that combustibility issue. The TWB relied upon this concept of equivalent performance to determine its maximum permitted height in stories. The Reason Statement provided by the TWB Chairman, Steve DiGiovanni, clearly laid out the background for, and the process of, the deliberation on Height in Stories. That is a must read to understand this process and its outcomes.

Next, based upon comments submitted, TWB tried to assign height in feet to its chosen maximum stories. In its first drafts, the maximum number of stories for proposed type IV-A was 24 for a few occupancy groups. Similarly, IV-B was proposed to be limited to 12 stories based on the equivalency mentioned above. Thus, IV-B was assigned the same maximum height in feet as type I-B, 180 feet. My Public Comment on G75 explains the TWB s rationale for assigning the stories in its proposal.

The TWB took up the allowable area issue. The Reason Statement of its proposal G84-18 describes in great detail the process by which the TWB created a draft H A table, reviewed it cell by cell for efficacy, reasonable fire safety and so on. Based on that review, the TWB modified results using professional judgment and input from commenters. Thus the H A proposal saw many cells of reduced allowable area. This is a well prepared package, well thought out, with good documentation which is all available on the ICC website, TWB page. It is the product of the performance approach the TWB chose to use in following the ICC Board of Directors instructions to study the issues. The technical support for the proposal is the criteria that these construction types meet the fire resistance required of other existing construction. The TWB then developed a fire test plan which validated the concepts.

Of equal importance here is that the TWB recognizes that **mass timber is NOT wood frame**, light weight construction, or stick built construction. In fact, in order to ensure that its performance objectives would be correctly interpreted and that any building constructed to these requirements would meet, and probably exceed, its performance expectations.

Some observers have the mistaken belief that the permitted areas of this proposal will allow larger areas than those permitted for concrete or steel construction. The TWB insists that since these types of construction are based on equivalent performance, they are a great decrease from I-A or I-B construction s allowable areas. See the tables attached at the end of this comment for a comparison of the allowable areas. Clearly, Unlimited area is considerably larger than the finite, limits of the TWB proposal.

The fire test program, drafted by the Fire Work Group of the TWB to validate these concepts, may be seen as videos of each of the five tests. They can be found at this link or on the ICC TWB web page.

https://www.youtube.com/playlist?list=PL_sDiz8JiMIwby77vfpPSPucEhBuEK22P (accessed 02-11-2022)

This proposal is thoroughly conservative. Mass timber buildings are completely different from conventional wood construction of studs and joists. Besides the automatic fire suppression and other life safety systems required for all high rises (including enhanced water supply), all loadbearing walls in mass timber buildings will be solid wood slabs typically between 6 and 20 inches thick, fire resistance rated, and directly protected with noncombustible protection equally at least 2/3 of the required rating. Light frame wood stud construction is prohibited. Nonbearing partitions will be solid mass timber slabs or noncombustible (steel) studs. All loadbearing horizontal assemblies will be solid mass timber slabs between 4 and 12 inches thick, fire resistance rated, protected on the underside with noncombustible protection equaling at least 2/3 of the required rating, and on the upper side with not less than one inch of noncombustible material. Light frame wood joist construction is prohibited. All construction enclosing concealed spaces will be noncombustible (steel) framing or mass timber protected with noncombustible materials. Full scale compartments fire tests for this new construction system reflecting Types IV-A and IV-B construction have shown that conservative residential fuel loads will completely burn out without the mass timber becoming involved in the fire, or will self-extinguish following burn-out, all without the sprinkler system operating.

The following points respond to misleading claims made by opponents:

Measures to prevent exterior fire propagation exceed current tall building code requirements

Proposed code requirements to prevent exterior fire spread on tall mass timber buildings are significantly more restrictive than what is permitted for non-combustible construction. Simply put; no combustible materials are permitted on the exterior side of exterior walls (except for a required water-resistive barrier). What is proposed for tall mass timber buildings is more conservative than any other construction type, including non-combustible Types I and II. Exterior walls of these buildings will require:

- Continuous insulation on the exterior, where provided, must be non-combustible.
- Protection with at least 40 minutes of fire resistance from noncombustible materials.
- Additional testing to an exterior fire propagation standard

Tall wood building fire tests expand beyond standard testing and consider severe real fire demonstrations

No other building elements have been tested in fires as severe as those used to substantiate the building code proposals. Fire testing for mass timber exposed timber building elements to extreme fires, which, in reality, will be extremely rare in sprinklered tall wood buildings. In addition to reviewing results of standardized testing of mass timber building elements, the ICC Tall Wood Building (TWB) committee, which included members of the fire service, developed and witnessed full-scale, multistory building compartment fire testing. In the tests, in addition to having typical residential furnishings as a fuel load, a number of wood cribs were added to provide additional fuel to increase the challenge on the building. **The three un-sprinklered tests resulted in the fire self-extinguishing, and in the two tests that included sprinklers, the fire was easily contained immediately after sprinkler activation.**

• These real fire scenarios with high fire loads proved the integrity of a typical building constructed with cross-laminated timber (CLT).

• Tests representing fires in buildings of proposed 18- and 12-story heights (Types IV-A and IV-B, respectively) were allowed to continue to burn for hours, throughout the decay phase and well past burn-out, the most conservative approach possible.

• In the tests, the absolute worst circumstances were presented: sprinklers not working, no fire suppression of any kind, and fires burning without any intervention until self-extinguishment. This parallels the expected performance of non-combustible Type I buildings.

Wind-driven fire is not a code requirement for any building, but precautionary requirements for mass timber ensure a lower risk factor

There are no current fire test standards for exterior building exposure or vertical flame propagation that includes wind as a test element. Even Type I and II buildings -- which are allowed to have combustible materials on exterior walls, such as foam plastic insulation -- are not tested with added wind.

• Even in high wind, the new tall wood construction types will require non-combustible materials on the exterior, limiting the possibility of wind-driven exterior fire spread. [SH1]

• Interiors of buildings over 12 stories will require additional layers of interior non-combustible protection, providing protection against wind penetrating the exterior.

• Non-combustible protection of mass timber elements is designed to allow complete burn-out of contents in the case of sprinkler malfunction. If wind were to cause contents to burn faster, there is no negative impact on fire performance of the protected building elements themselves.

• Mass timber buildings, as proposed, would exclude the use of traditional light frame wood walls and floors, and mass timber elements would need to be completely protected with noncombustible materials for any building greater than 12 stories in height.

Massive timber building elements can carry heavy loads for extended time periods under fire exposure

Like their concrete and steel counterparts, as loads from upper stories increase, structural design requires loadbearing mass timber walls and columns to get bigger.

• As required for steel, in buildings over 12 stories mass timber elements will be required to have at least three layers of 5/8 type X gypsum wallboard as additional protection, as part of a required 3-hour fire-resistance rating. This is an extremely conservative approach for all buildings ranging from 12 to 18 stories.

• The established objective was to ensure that mass timber building elements do not become involved in a fire, even in the extremely rare circumstance where there is no control by a sprinkler system or extinguishment by the fire service.

Greater hazards from storage and mercantile occupancies are recognized

The ICC committee chose to specifically address mercantile (M) and storage occupancies (typically S-1), and the hazards associated with their higher fuel loads, by placing stricter limits on the height of buildings containing these occupancies.

M and S-1 occupancy groups will not be allowed over 12 and 10 stories, respectively, in building Types IV-B and IV-A, which have the greatest additional fire resistance requirements. By comparison, Groups M and S-1 in non-combustible Type I-A construction are allowed to be unlimited in height, and beams and bearing walls can be reduced to a 2 hour fire resistance rating.

The enforcement community readily understands the code and the measures necessary to inspect tall mass timber buildings

As with any new structural system, there will be a learning curve, and the wood products industry is committed to providing education. There is already an abundance of training available, and much of it is free. Many code officials have already taken advantage of these extensive training opportunities.

Fire sealants, fasteners, and connections contribute to overall performance

In some cases during fire testing, sealants were not used at all and all fire tests were nonetheless very successful.

If seen as important, a proposed modification requiring special inspection of a sealant installation could be put forward at the public comment hearings this fall. Multiple connection configurations were incorporated into the multi-story fire test structure. Floors of CLT were supported by wood and steel ledgers that were properly protected from heat exposure. Wood columns and beams were connected with steel, which was protected from fire as would be required by the code.

Tall mass timber buildings have been successfully built in North America, Europe, and Australia and are in use with great success

There is extensive information available about CLT construction from many sources, including the increasing number of CLT manufacturers.

The published CLT Handbook addresses structural and lateral design, connections, fire performance, sound performance, building envelope design, environmental performance, and handling during construction, and is available for free. The American Wood Council's National Design Specification for Wood Construction, an ANSI accredited standard referenced in the International Building Code, now includes structural and fire design provisions for CLT. There are other guidelines for mass timber structural and fire resistance published by AWC and other organizations, including information on hybrid systems with steel and concrete. Among the advantages of CLT are:

o It does not distort, twist, rapidly loose strength, or explosively spall when exposed to high temperatures from fires.

o It has inherent high fire resistance due to its mass, and when protected with gypsum wallboard performance even improves. ASTM E119 testing of a loaded CLT exterior wall by AWC resulted in a 3-hour fire resistance rating when protected with only a single layer of 5/8 Type X gypsum wallboard.

o Mass timber responds well to flame and heat impingement by remaining strong and stable, providing continuous support for gypsum wallboard, allowing it to remain in place for a longer period of time.

o Mass timber is much less sensitive than certain noncombustible materials when subject to elevated temperature.

The enforcement community readily understands the code and the measures necessary to inspect tall mass timber buildings

As with any new structural system, there will be a learning curve, and the wood products industry is committed to providing education. There is already an abundance of training available, and much of it is free. Many code officials have already taken advantage of these extensive training opportunities.

Adhesives used in CLT have excellent performance at elevated temperatures

The adhesives used in CLT have been standardized and requirements are mandated by the ANSI/APA standard PRG 320-18, which is also proposed for adoption in the 2021 International Building Code.

Variations in adhesive performance in early testing conducted by the National Fire Protection Research Foundation led to important revisions of PRG 320-18 that mandate required adhesive integrity under fire exposure, eliminating the possibility of delamination, fire regrowth or secondary flashover. CLT manufactured to APA PRG 320-18 requirements must demonstrate that the adhesive has been tested to these protocols. Qualifying adhesives are required in all proposed mass timber construction types.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

21

F10373

Date Submitted	02/14/2022	**Section**	504.4	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Corrects documented tabular errors for Type IV heavy timber S-1 occupancies.

Rationale

This corrects errors in Table 504.4 introduced during ICC's development process in 2012. The uploaded rationale from the ICC's Building Code Action Committee details the history of this mistake.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

May lower the cost of construction for buildings of this type by permitting an additional story.

Impact to industry relative to the cost of compliance with code

May lower the cost of construction for buildings of this type by permitting an additional story.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Addresses height limitations - a fire safety issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by correcting an error.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No materials are required or prohibited by this modification.

Does not degrade the effectiveness of the code

Improves the code by correcting an error.

OCCUPANCY CLASSIFICATION	TYPEOFCONSTRUCTION									
	SeeFoot-notes	TypeI		TypeII		TypeIII		TypeIV	TypeV	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	2	1
	S	UL	6	4	3	4	3	4	3	2
A-2	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-4	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	6	4	3
E	NS	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
F-1	NS	UL	11	4	2	3	2	4	2	1
	S	UL	12	5	3	4	3	5	3	2
F-2	NS	UL	11	5	3	4	3	5	3	2
	S	UL	12	6	4	5	4	6	4	3
H-1	NSc,d									
	S	1	1	1	1	1	1	1	1	NP
H-2	NSc,d									
	S	UL	3	2	1	2	1	2	1	1
H-3	NSc,d									
	S	UL	6	4	2	4	2	4	2	1
H-4	NSc,d	UL	7	5	3	5	3	5	3	2
	S	UL	8	6	4	6	4	6	4	3
H-5	NSc,d									
	S	4	4	3	3	3	3	3	3	2
I-1 Condition1	NSd,e	UL	9	4	3	4	3	4	3	2
	S	UL	10	5	4	5	4	5	4	3
I-1 Condition2	NSd,e	UL	9	4						
	S	UL	10	5	3	4	3	4	3	2
I-2	NSd,f	UL	4	2						
	S	UL	5	3	1	1	NP	1	1	NP
I-3	NSd,e	UL	4	2	1	2	1	2	2	1
	S	UL	5	3	2	3	2	3	3	2
I-4	NSd,g	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
M	NS	UL	11	4	2	4	2	4	3	1
	S S	UL	12	5	3	5	3	5	4	2
R-1[h]	NS[d]	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	3
	S	UL	12	5	5	5	5	5	4	3

R-2[k]	NS[d]	UL	11	4	4	4	4	4	3	2
	S13R	4	4	4					4	3
	S	UL	12	12	5	5	5	5	4	3
R-3[k]	NS[d]	UL	11	4	4	4	4	4	3	3
	S13D	4	4						3	3
	S13R	4	4						4	4
	S	UL	12	5	5	5	5	5	4	4
R-4[k]	NS[d]	UL	11	4	4	4	4	4	3	2
	S13D	4	4						3	2
	S13R	4	4						4	3
	S	UL	12	5	5	5	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4-5	3	1
	S	UL	12	5	3	4	3	5 6	4	2
S-2	NS	UL	11	5	3	4	3	5	4	2
	S	UL	12	6	4	5	4	5	5	3
U	NS	UL	5	4	2	3	2	4	2	1
	S	UL	6	5	3	4	3	5	3	2

Table 504.4 Type IV S-1 values corrected

The following is the reason statement drafted for this proposal to correct documented errors in Table 504.4 by the ICC's Building Code Action Committee for code change #G81-18:

Tables 504.4 and 506.2 were introduced into the code-by-code change G101-12, submitted by the ICC Building Code Action Committee (BCAC), as part of a substantial overhaul of the height and area provisions. The new tables replaced Table 503. It was not the intent of G101-12 to make any changes to allowable building height or area rendered by these provisions, compared to what was previously allowed. This proposed change corrects two tabular value errors that went undetected in the original code change until after the completion of the 2012 cycle: the tabular story height numbers for Type IV Group S-2, and the allowable area factor for Type II-A Group I-3. The following is taken from the 2012 edition of the IBC which shows the height and areas for S-2 and I-3 as shown in Table 503, from which Tables 504.4 and 506.2 were derived.

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 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-actioncommittee-bcac.

Cost Impact

The code change proposal will decrease the cost of construction. This is a correction to the height and area tables based upon an error in previous code change submittals. The proposal will restore these values to the correct values. Will actually decrease the cost of construction compared to the current code because more lenient limitations are imposed.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

22

F10375

Date Submitted	02/14/2022	**Section**	506.2	**Proponent**	Greg Johnson
Chapter	5	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

10373

Summary of Modification

This was a 2018 ICC Building Code Action Committee (BCAC) code change which corrected a tabular error introduced in a BCAC change in the 2012 ICC development process

Rationale

This was a 2018 ICC Building Code Action Committee (BCAC) code change which corrected a tabular error introduced in a BCAC change in the 2012 ICC development process. See the uploaded rationale for the history and the code change that corrected the error.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

May lower cost by restoring larger allowable area.

Impact to industry relative to the cost of compliance with code

May lower cost by restoring larger allowable area.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Allowable area is a fire related issue.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by correcting an error.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

Improves the code by correcting an error.

TABLE 506.2a, b

ALLOWABLE AREA FACTOR (*At* = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCYCLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000

	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500

	S1	UL	UL	106,000	58,000	94,000	58,000	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	151,500	63,000	39,000
H-1	NSc	21,000	16,500	11,000	7,000	9.500	7,000	10,500	7,500	NP
	S1									
H-2	NSc	21,000	16,500	11,000	7,000	9.500	7,000	10,500	7,500	3,000
	S1									

	SM									
H-3	NSc	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000
	S1									
	SM									
H-4	NSc, d	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	108,000	54,000	19,500
H-5	NSc, d	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108000	54,000	27,000
I-1	NSd, e	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	72,000	42,000	18,000

	SM	UL	165,000	57,000	30,000	49,500	30,000	54,000	31,500	13,500
I-2	NSd, f	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	36,000	28,500	NP
I-3	NSd, e	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000
	S1	UL	UL	~~45,000~~ 60,000	40,000	42,000	30,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	36,000	22,500	15,000
I-4	NSd, g	UL	60.500	26,500	13,000	23,500	13,000	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000

	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27,000
R-1	NSd, h	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-2	NSd, h	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-3	NSd, h	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R									
	S1									

	SM									
R-4	NSd, h	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	115,500	63,000	40,500
U	NS	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500

	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500

Table 506.2 Type II-A I-3 values corrected

The following is the reason statement drafted for this proposal to correct a documented error in Table 506.2 by the ICC's Building Code Action Committee for code change #G81-18:

Tables 504.4 and 506.2 were introduced into the code-by-code change G101-12, submitted by the ICC Building Code Action Committee (BCAC), as part of a substantial overhaul of the height and area provisions. The new tables replaced Table 503. It was not the intent of G101-12 to make any changes to allowable building height or area rendered by these provisions, compared to what was previously allowed. This proposed change corrects two tabular value errors that went undetected in the original code change until after the completion of the 2012 cycle: the tabular story height numbers for Type IV Group S-2, and the allowable area factor for Type II-A Group I-3. The following is taken from the 2012 edition of the IBC which shows the height and areas for S-2 and I-3 as shown in Table 503, from which Tables 504.4 and 506.2 were derived.

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 2017 the BCAC has held 3 open meetings. In addition, there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-actioncommittee-bcac.

Cost Impact

The code change proposal will decrease the cost of construction. This is a correction to the height and area tables based upon an error in previous code change submittals. The proposal will restore these values to the correct values. Will actually decrease the cost of construction compared to the current code because more lenient limitations are imposed.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

23

F10532

Date Submitted	02/15/2022	**Section**	504.4	**Proponent**	Kimberly Gilliam
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Table 504.4, Table 506.2 - Original text of this code change is not consistent with that of the 2020 FBC-B. Specific requirements/number of stories limit for occupancy classifications R1, R2, R3 and R4 and the general footnotes are not consistent with that of the 2020 FBC-B.

Summary of Modification

This proposed change corrects two tabular value errors that went undetected in the original code change until after the completion of the 2012 cycle: the tabular story height numbers for Type IV Group S-2, and the allowable area factor for Type II-A Group I-3

Rationale

Tables 504.4 and 506.2 were introduced into the code by code change G101-12, submitted by the ICC Building Code Action Committee (BCAC), as part of a substantial overhaul of the height and area provisions. The new tables replaced Table 503. It was not the intent of G101-12 to make any changes to allowable building height or area rendered by these provisions, compared to what was previously allowed. This proposed change corrects two tabular value errors that went undetected in the original code change until II-A Group I-3. The following is taken from the 2012 edition of the IBC which shows the height and areas for S-2 and I-# as shown in Table 503, from which Tables 504.4 and 506.2 were derived.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

Allows for greater heights and areas for the affected occupancies.

Impact to industry relative to the cost of compliance with code

None.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposed change will correct errors that have impacted the allowable building height and areas for the affected occupancies.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposed change strengthens the code by eliminating errors.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposed change does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

This proposed change does not degrade the effectiveness of the code.

TABLE 504.4[a, b]

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	5	3	2	3	2	3	2	1
	S	UL	6	4	3	4	3	4	3	2
A-2	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-3	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-4	NS	UL	11	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	NS	UL	11	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	6	4	3

E	NS	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
F-1	NS	UL	11	4	2	3	2	4	2	1
	S	UL	12	5	3	4	3	5	3	2
F-2	NS	UL	11	5	3	4	3	5	3	2
	S	UL	12	6	4	5	4	6	4	3
H-1	NS[c, d]	1	1	1	1	1	1	1	1	NP
	S									
H-2	NS[c, d]	UL	3	2	1	2	1	2	1	1
	S									
H-3	NS[c, d]	UL	6	4	2	4	2	4	2	1
	S									
H-4	NS[c, d]	UL	7	5	3	5	3	5	3	2
	S	UL	8	6	4	6	4	6	4	3
H-5	NS[c, d]	4	4	3	3	3	3	3	3	2
	S									
I-1 Condition 1	NS[d, e]	UL	9	4	3	4	3	4	3	2
	S	UL	10	5	4	5	4	5	4	3
I-1 Condition 2	NS[d, e]	UL	9	4	3	4	3	4	3	2

	S	UL	10	5						
I-2	$NS_{d, f}$	UL	4	2	1	1	NP	1	1	NP
	S	UL	5	3						
I-3	$NS_{d, e}$	UL	4	2	1	2	1	2	2	1
	S	UL	5	3	2	3	2	3	3	2
I-4	$NS_{d, g}$	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
M	NS	UL	11	4	2	4	2	4	3	1
	S	UL	12	5	3	5	3	5	4	2
R-1	$NS_{d, h}$	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	3
	S	UL	12	5	5	5	5	5	4	3
R-2	$NS_{d, h}$	UL	11	4	4	4	4	4	3	2
	S13R	4	4	4					4	3
	S	UL	12	5	5	5	5	5	4	3
R-3	$NS_{d, h}$	UL	11	4	4	4	4	4	3	3
	S13R	4	4						4	4

	S	UL	12	5	5	5	5	5	4	4
R-4	NSd, h	UL	11	4	4	4	4	4	3	2
	S13R	4	4						4	3
	S	UL	12	5	5	5	5	5	4	3
S-1	NS	UL	11	4	2	3	2	4	3	1
	S	UL	12	5	3	4	3	5	4	2
S-2	NS	UL	11	5	3	4	3	~~4~~ 5	4	2
	S	UL	12	6	4	5	4	~~5~~ 6	5	3
U	NS	UL	5	4	2	3	2	4	2	1
	S	UL	6	5	3	4	3	5	3	2

Note: UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

1. a.See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
2. b.See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
3. c.New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
4. d.The NS value is only for use in evaluation of existing building height in accordance with the Florida Building Code, Existing Building.
5. e.New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
6. f.New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the Florida Fire Prevention Code.
7. g.For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
8. h.New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

TABLE 506.2[a, b]

ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000

	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
E	NS	UL	UL	26,500	14,500	23,500	14,500	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	100,500	42,000	25,500

F-2	NS	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9.500	7,000	10,500	7,500	NP
	S1									
H-2	NS[c]	21,000	16,500	11,000	7,000	9.500	7,000	10,500	7,500	3,000
	S1									
	SM									
H-3	NS[c]	UL	60,000	26,500	14,000	17,500	13,000	25,500	10,000	5,000
	S1									
	SM									
H-4	NS[c, d]	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	108,000	54,000	19,500
H-5	NS[c, d]	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000

	SM	UL	UL	112,500	69,000	85,500	57,000	108000	54,000	27,000
I-1	NS[d, e]	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	54,000	31,500	13,500
I-2	NS[d, f]	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	36,000	28,500	NP
I-3	NS[d, e]	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000
	S1	UL	UL	~~45,000~~ 60,000	40,000	42,000	30,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	36,000	22,500	15,000
I-4	NS[d, g]	UL	60.500	26,500	13,000	23,500	13,000	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,00	9,000

									0	
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27,000
R-1	$NS_{d, h}$	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-2	$NS_{d, h}$	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
R-3	$NS_{d, h}$	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13R									
	S1									
	SM									
R-4	$NS_{d, h}$	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,00	28,00

									0	0
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	115,500	63,000	40,500
U	NS	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500

Note: UL = Unlimited; NP = Not permitted;

For SI: 1 square foot = 0.0929 m^2.

NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2.

F10532 Text of Mod

1. a.See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
2. b.See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
3. c.New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
4. d.The NS value is only for use in evaluation of existing building area in accordance with the Florida Building Code, Existing Building.
5. e.New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies, Condition 1, see Exception 1 of Section 903.2.6.
6. f.New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and the Florida Fire Prevention Code.
7. g.New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
8. h.New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

F10532Rationale

F9405 Text Modification

Approved as Submitted

2018 International Building Code

Revise as follows:

(Please see the uploaded mod G81-18 for the complete Table)

TABLE 504.4

ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE[a, b]

(Please see the uploaded mod G81-18 for the complete Table)

TABLE 506.2

ALLOWABLE AREA FACTOR (At = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET[a, b]

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Code Change No: G81-18

Original Proposal

Section(s): Table 504.4, Table 506.2

Proponent: Ed Kulik, representing ICC Building Code Action Committee (bcac@iccsafe.org)

2018 International Building Code

Revise as follows:

TABLE 504.4
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE[a,b]

OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION									
	SEE FOOTNOTES	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	\S	UL	5	3	2	3	2	3	2	1
	S	UL	6	4	3	4	3	4	3	2
A-2	\S	UL	1'	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-3	\S	UL	1'	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-4	\S	UL	1'	3	2	3	2	3	2	1
	S	UL	12	4	3	4	3	4	3	2
A-5	\S	UL	U_	UL	UL	UL	_L	_L	UL	UL
	S	UL	U_	UL	UL	UL	_L	_L	UL	UL
3	\S	UL	1'	5	3	5	3	5	3	2
	S	UL	12	6	4	6	4	S	4	3
E	\S	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
F-1	\S	UL	1'	4	2	3	2	4	2	1
	S	UL	12	5	3	4	3	5	3	2
F-2	\S	UL	1'	5	3	4	3	5	3	2
	S	UL	12	6	4	5	4	S	4	3
H-1	\S[c,d]	'	1	1	1	1	1	1	1	NP
	S									
H-2	\S[c,d]	UL	3	2	1	2	1	2	1	1
	S									
H-3	\S[c,d]	UL	6	4	2	4	2	4	2	1
	S									

H-4	\S[c,d]	UL	7	5	3	5	3	5	3	2
	S	UL	8	6	4	6	4	6	4	3
H-5	\S[c,d]	4	4	3	3	3	3	3	3	2
	S									
I-1 Condition 1	\S[d,e]	UL	9	4	3	4	3	4	3	2
	S	UL	10	5	4	5	4	5	4	3
I-1 Condition 2	\S[d,e]	UL	9	4	3	4	3	4	3	2
	S	UL	10	5						
I-2	\S[d,f]	UL	4	2	1	1	\P	1	1	NP
	S	UL	5	3						
I-3	\S[d,e]	UL	4	2	1	2	1	2	2	1
	S	UL	5	3	2	3	2	3	3	2
I-4	\S[d,g]	UL	5	3	2	3	2	3	1	1
	S	UL	6	4	3	4	3	4	2	2
M	\S	UL	1[1]	4	2	4	2	4	3	1
	S	UL	12	5	3	5	3	5	4	2
R-1[h]	\S[d]	UL	1[1]	4	4	4	4	4	3	2
	S	UL	12	5	5	5	5	5	4	3
R-2[h]	\S[d]	UL	1[1]	4	4	4	4	4	3	2
	S	UL	12	5	5	5	5	5	4	3
R-3[h]	\S[d]	UL	1[1]	4	4	4	4	4	3	3
	S	UL	12	5	5	5	5	5	4	4
R-4[h]	\S[d]	UL	1[1]	4	4	4	4	4	3	2
	S	UL	12	5	5	5	5	5	4	3
S-1	\S	UL	1[1]	4	2	3	2	4	3	1
	S	UL	12	5	3	4	3	5	4	2
S-2	\S	UL	1[1]	5	3	4	3	~~4~~5	4	2
	S	UL	12	6	4	5	4	~~5~~6	5	3
U	\S	UL	5	4	2	3	2	4	2	1
	S	UL	6	5	3	4	3	5	3	2

UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
b. See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5.
d. The NS value is only for use in evaluation of existing building height in accordance with the International Existing Building Code.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f. New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and 1103.5 of the International Fire Code.
g. For new Group I-4 occupancies, see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8.

TABLE 506.2
ALLOWABLE AREA FACTOR (At = NS, S1, S13R, S13D or SM, as applicable) IN SQUARE FEET[a,b]

F10532Rationale

F9405 Rationale

OCCUPANCY CLASSIFICATION	SEE FOOTNOTES	TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
A-1	NS	UL	UL	15,500	8,500	14,000	8,500	15,000	11,500	5,500
	S1	UL	UL	62,000	34,000	56,000	34,000	60,000	46,000	22,000
	SM	UL	UL	46,500	25,500	42,000	25,500	45,000	34,500	16,500
A-2	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-3	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-4	NS	UL	UL	15,500	9,500	14,000	9,500	15,000	11,500	6,000
	S1	UL	UL	62,000	38,000	56,000	38,000	60,000	46,000	24,000
	SM	UL	UL	46,500	28,500	42,000	28,500	45,000	34,500	18,000
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S1									
	SM									
B	NS	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36,000
	SM	UL	UL	112,500	69,000	85,500	57,000	108,000	54,000	27,000
E	NS	UL	UL	25,500	14,500	23,500	14,500	25,500	18,500	9,500
	S1	UL	UL	106,000	58,000	94,000	58,000	102,000	74,000	38,000
	SM	UL	UL	79,500	43,500	70,500	43,500	76,500	55,500	28,500
F-1	NS	UL	UL	25,000	15,500	19,000	12,000	33,500	14,000	8,500
	S1	UL	UL	100,000	62,000	76,000	48,000	134,000	56,000	34,000
	SM	UL	UL	75,000	46,500	57,000	36,000	100,500	42,000	25,500
F-2	NS	UL	UL	37,500	23,000	28,500	18,000	50,500	21,000	13,000
	S1	UL	UL	150,000	92,000	114,000	72,000	202,000	84,000	52,000
	SM	UL	UL	112,500	69,000	85,500	54,000	151,500	63,000	39,000
H-1	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	NP
	S1									
H-2	NS[c]	21,000	16,500	11,000	7,000	9,500	7,000	10,500	7,500	3,000
	S1									
	SM									
H-3	NS[c]	UL	60,000	25,500	14,000	17,500	10,000	25,500	10,000	5,000
	S1									
	SM									
H-4	NS[c,d]	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
	S1	UL	UL	150,000	70,000	114,000	70,000	144,000	72,000	26,000
	SM	UL	UL	112,500	52,500	85,500	52,500	108,000	54,000	19,500

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H-5	NS[c, j]	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
	S1	UL	UL	150,000	92,000	114,000	76,000	144,000	72,000	36 000
	SM	UL	UL	112,500	69,000	85,500	57,000	108000	54,000	27 000
-1	NS[c, i]	UL	55,000	19,000	10,000	16,500	10,000	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	72,000	42,000	18 000
	SM	UL	165,000	57,000	30,000	49,500	30,000	54,000	31,500	13 500
-2	NS[c, i]	UL	UL	15,000	11,000	12,000	NP	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	36,000	28,500	NP
-3	NS[c, i]	UL	UL	15,000	10,000	10,500	7,500	12,000	7,500	5,000
	S1	UL	UL	~~45,000~~ 60,000	40,000	42,000	30,000	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	36,000	22,500	15 000
-4	NS[c, j]	UL	60,500	26,500	13,000	23,500	13,000	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	102,000	74,000	36 000
	SM	UL	181,500	79,500	39,000	70,500	39,000	76,500	55,500	27 000
M	NS	UL	UL	21,500	12,500	18,500	12,500	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	82,000	56,000	36 000
	SM	UL	UL	64,500	37,500	55,500	37,500	61,500	42,000	27 000
R-1[h]	NS[c]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28 000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21 000
R-2[h]	NS[c]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28 000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21 000
R-3[h]	NS[c]	UL	UL	UL	UL	UL	UL	UL	UL	UL
	S13D									
	S13R									
	S1									
	SM									
R-4[h]	NS[c]	UL	UL	24,000	16,000	24,000	16,000	20,500	12,000	7,000
	S13D									
	S13R									
	S1	UL	UL	96,000	64,000	96,000	64,000	82,000	48,000	28 000
	SM	UL	UL	72,000	48,000	72,000	48,000	61,500	36,000	21 000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	102,000	56,000	36 000
	SM	UL	144,000	78,000	52,500	78,000	52,500	76,500	42,000	27 000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	38,500	21,000	13 500
	S1	UL	316,000	156,000	104,000	156,000	104,000	154,000	84,000	54 000
	SM	UL	237,000	117,000	78,000	117,000	78,000	115,500	63,000	40 500
U	NS[i]	UL	35,500	19,000	8,500	14,000	8,500	18,000	9,000	5,500

	S1	UL	142,000	76,000	34,000	56,000	34,000	72,000	38,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	54,000	27,000	16,500

For SI: 1 square foot = 0.0929 m².
UL = Unlimited; NP = Not Permitted; NS = Buildings not equipped throughout with an automatic sprinkler system; S1 = Buildings a maximum of one story above grade plane equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1; SM = Buildings two or more stories above grade plane equipped sprinkler system installed in accordance with Section 903.3.1.2; S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

a. See Chapters 4 and 5 for specific exceptions to the allowable height in this chapter.
B .See Section 903.2 for the minimum thresholds for protection by an automatic sprinkler system for specific occupancies.
c. New Group H occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.5
d. The NS value is only for use in evaluation of existing building area in accordance with the International Existing Building Code.
e. New Group I-1 and I-3 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6. For new Group I-1 occupancies Condition 1, see Exception 1 of Section 903.2.6.
f New and existing Group I-2 occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.6 and Section 1103.5 of the International Fire Code.
g. New Group I-4 occupancies see Exceptions 2 and 3 of Section 903.2.6.
h. New Group R occupancies are required to be protected by an automatic sprinkler system in accordance with Section 903.2.8
i. The maximum allowable area for a single-story nonsprinklered Group U greenhouse is permitted to be 9,000 square feet, or the allowable area shall be permitted to comply with Table C102.1 of Appendix C.

Reason: Tables 504.4 and 506.2 were introduced into the code by code change G101-12, submitted by the ICC Building Code Action Committee (BCAC) as part of a substantial overhaul of the height and area provisions. The new tables replaced Table 503. It was not the intent of G101-12 to make any changes to allowable building height or area rendered by these provisions, compared to what was previously allowed. This proposed change corrects two tabular value errors that went undetected in the original code change until after the completion of the 2012 cycle: the tabular story height numbers for Type V Group S-2, and the allowable area factor for Type II-A Group I-3. The following is taken from the 2012 edition of the IBC which shows the height and areas for S-2 and I-3 as shown in Table 503, from which Tables 504.4 and 506.2 were derived.

TABLE 503ALLOWABLE BUILDING HEIGHTS AND AREAS[a, b]Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.Building area limitations shown in square feet, as determined by the definition of "Area, building," per stor

GROUP		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	HEIGHT (feet)	UL	160	65	55	65	55	55	50	40
		STORIES(S) AREA (A)								
I-3	S A	UL UL	4 UL	2 15,000	1 10,000	2 10,500	1 7,500	2 12,000	2 7,500	1 5,000
I-4	S A	UL UL	5 60,500	3 26,500	2 13,000	3 23,500	2 13,000	3 25,500	1 18,500	1 9,000
M	S A	UL UL	11 UL	4 21,500	2 12,500	4 18,500	2 12,500	4 20,500	3 14,000	1 9,000
R-1	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
R-2	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
R-3	S A	UL UL	11 UL	4 UL	4 UL	4 UL	4 UL	4 UL	3 UL	3 UL
R-4	S A	UL UL	11 UL	4 24,000	4 16,000	4 24,000	4 16,000	4 20,500	3 12,000	2 7,000
S-1	S A	UL UL	11 48,000	4 26,000	2 17,500	3 26,000	2 17,500	4 25,500	3 17,000	1 9,000
S-2	S A	UL UL	11 79,000	5 39,000	3 26,000	4 39,000	3 26,000	5 38,500	4 21,000	2 13,500

(Only portions of table are shown)

F9405 Rationale

This proposal is submitted by the ICC Building Code Action Committee (BCAC). BCAC was established by the ICC Board of Directors in July 2017 to pursue opportunities to improve and enhance assigned International Codes or portions thereof. In 2017 the BCAC has held 3 open meetings. In addition there were numerous Working Group meetings and conference calls for the current code development cycle, which included members of the committee as well as any interested party to discuss and debate the proposed changes. Related documentation and reports are posted on the BCAC website at: https://www.iccsafe.org/codes-tech-support/codes/code-development-process/building-code-action-committee-bcac

Cost Impact: The code change proposal will decrease the cost of construction
This is a correction to the height and area tables based upon an error in previous code change submittals. The proposal will restore these values to the correct values. Will actually decrease the cost of construction compared to the current code because more lenient limitations are imposed.

Report of Committee Action Hearings

Committee Action: **Approved as Submitted**

Committee Reason: As provided in the proponent's reason statement. (Vote: 14-0)

Assembly Action: **None**

Final Action

G81-18 **AS**

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

24

F10533

Date Submitted	02/15/2022	**Section**	505.2.3	**Proponent**	Kimberly Gilliam
Chapter	5	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

505.2.3 Original text of this code change is not consistent with that of the 2020 FBC-B.

Summary of Modification

Modifies the Text of 505.2.3 "Openness". Removes Exception number 5.

Rationale

Per Exception 2 to Section 505.2.3, which was revised in the 2015 IBC, a mezzanine is not required to be open to the room in which the mezzanine is located if the mezzanine has two exits or access to two exits. Exception 2 has no qualifiers; therefore, Exception 2 would always apply in the conditions listed for Exception 5. Since Exception 2 will always apply without the sprinkler, story or occupancy group qualifiers required for use of Exception 5, Exception 5 is no longer needed.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None.

Impact to building and property owners relative to cost of compliance with code

None.

Impact to industry relative to the cost of compliance with code

None.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposed change provides clarity to the code and eliminates unnecessary overlap.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposed change strengthens the code by providing clarity and eliminating unnecessary overlap.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposed change does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

This proposed change does not degrade the effectiveness of the code.

505.2.3 Openness.

A *mezzanine* shall be open and unobstructed to the room in which such *mezzanine* is located except for walls not more than 42 inches (1067 mm) in height, columns and posts.

Exceptions:

1. 1.*Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the *occupant load* of the aggregate area of the enclosed space is not greater than 10.
2. 2.A *mezzanine* having two or more exits or access to exits is not required to be open to the room in which the *mezzanine* is located.
3. 3.*Mezzanines* or portions thereof are not required to be open to the room in which the *mezzanines* are located, provided that the aggregate floor area of the enclosed space is not greater than 10 percent of the *mezzanine* area.
4. 4.In industrial facilities, *mezzanines* used for control equipment are permitted to be glazed on all sides.
5. ~~5.~~

6. ~~In occupancies other than Groups H and I, that are no more than two *stories* above *grade plane* and equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, a *mezzanine* having two or more *means of egress* shall not be required to be open to the room in which the *mezzanine* is located.~~

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

25

F10100

Date Submitted	02/05/2022	**Section**	705	**Proponent**	Greg Johnson
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Clarifies application of footnote c to Table 601, connecting footnote c to the primary structural frame of Type IB, Type IIB, Type IIIB, and Type VA construction. This does not change any technical requirements.

Rationale

This is the IBC hearing committee reason for accepting this change: "The revision provides clarity to the application of the table. The change specifically addresses the primary structural frame that is supporting the roof construction. The change does not alter any technical requirements." There was no public comment in opposition to this change; it passed on the 2018 IBC consent agenda.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, it's a clarification of the code.

Impact to building and property owners relative to cost of compliance with code

None, it's a clarification of the code.

Impact to industry relative to the cost of compliance with code

None, it's a clarification of the code.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Improves usability of the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves usability of the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not require or prohibit any material.

Does not degrade the effectiveness of the code

No, it makes the code more effective by clarifying requirements.

Table 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
	A	B	A	B	A	B	HT	A	B
Primary structural frame[f] (see Section 202)	3[a, b]	2[a, b, c]	1[b, c]	0[c]	1[b, c]	0	HT	1[b, c]	0
Bearing walls Exterior[e, f] Interior	 3 3[a]	 2 2[a]	 1 1	 0 0	 2 1	 2 0	 2 1/HT	 1 1	 0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	$1\frac{1}{2}$[b]	1[b, c]	1[b, c]	0[c]	1[b, c]	0	HT	1[b, c]	0

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 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 602).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

26

F10110

Date Submitted	02/07/2022	**Section**	602.4	**Proponent**	Greg Johnson
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Changes to 2304.11

Summary of Modification

This change provides clear requirement options for the treatment of concealed spaces in Type IV construction.

Rationale

The option of having protected concealed spaces in Type IV buildings is important to encourage the adaptive re-use of existing heavy timber buildings as well as to provide for the installation of mechanicals in Type IV cross laminated timber (CLT) construction. In addition to the current requirements for all concealed spaces in combustible construction, this change would require additional protection of the concealed spaces with sprinkler coverage, or eliminating all air space with noncombustible insulation, or covering all combustible surfaces with gypsum. These alternatives are the same protection required for concealed spaces in NFPA 13, except they are slightly more restrictive since 5/8-inch Type X gypsum is required in the one case. In addition, because the provisions are taken from NFPA 13, in order to use these provisions, the entire building must be protected by a sprinkler system complying with NFPA 13. A similar change was recently successful in NFPA 220 and NFPA 5000. This proposal is more conservative in that it requires 5/8-inch Type X gypsum instead of ½ -inch gypsum in the alternative for sheathing combustible concealed spaces with gypsum in proposed section 602.4.3. The change from “rating” to “rated” in Section 602.4 is editorial for good grammar.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact; no additional inspections or plan review required.

Impact to building and property owners relative to cost of compliance with code

None; the change provides options that may reduce the cost of construction.

Impact to industry relative to the cost of compliance with code

None; the change provides options that may reduce the cost of construction.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The modification provides alternate methods addressing concealed spaces to ensure fire-safe Type IV buildings.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

It improves the code by providing flexibility in the treatment of concealed spaces in Type IV construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

It improves the code by providing flexibility in the treatment of concealed spaces in Type IV construction while maintaining equivalent or better fire-resistance.

602.4 Type IV.
Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces or with concealed spaces complying with Section 602.4.4. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL) and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.1 or 602.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance ~~rating~~ rated or heavy timber complying with Section 2304.11.2.2 shall be permitted.

602.4.4 Concealed spaces.
Concealed spaces shall not contain combustible materials other than building elements and electrical, mechanical, fire protection, or plumbing materials and equipment. 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. 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 one hour or greater fire resistance rating complying Section 2304.11.2.2 shall not require additional protection.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

27

F10113

Date Submitted	02/08/2022	**Section**	602.4.2	**Proponent**	Greg Johnson
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Explicitly provides for the use of heavy timber members as boundary elements within a cross laminated timber wall.

Rationale

The code currently does not recognize that heavy timber members could be used as a beam, header, column or other boundary element within a wall of CLT. Glued laminated, SCL, or solid sawn heavy timber elements having the same rating, thickness, and protection as required for the CLT will have no significant difference in fire performance. This is a common sense approach to the current code, but should be made explicit. The ICC General hearing committee approved this by a vote of 13-1. There was no public comment in opposition.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; no additional plan review or inspection is required. This resolves an interpretation question.

Impact to building and property owners relative to cost of compliance with code

None, it may lower the cost of construction by resolving an interpretation question.

Impact to industry relative to the cost of compliance with code

None, it may lower the cost of construction by resolving an interpretation question.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is related to materials and fire resistant construction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by resolving an interpretation question.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is prohibited or required by this change. The use of mass timber elements in cross laminated timber walls is specifically allowed, thereby resolving an interpretive question.

Does not degrade the effectiveness of the code

The use of mass timber elements in cross laminated timber walls is specifically allowed, thereby resolving an interpretive question and making the code more effective.

602.4.2 Cross-laminated timber in exterior walls. Cross-laminated timber not less than 4 inches (102 mm) in thickness complying with Section 2303.1.4 shall be permitted within exterior wall assemblies with a 2-hour rating or less~~,~~ ~~provided the~~ Heavy timber structural members appurtenant to the CLT exterior wall shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the exterior wall. The ~~provided the~~ exterior surface of the cross-laminated ~~timberis~~ timber and heavy timber elements shall be protected by one the following:

1. 1.*Fire-retardant-treated wood* sheathing complying with Section 2303.2 and not less than 15/32 inch (12 mm) thick;
2. 2.*Gypsum board* not less than 1/2 inch (12.7 mm) thick; or
3. 3.A noncombustible material.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

28

F10157

Date Submitted	02/10/2022	**Section**	602	**Proponent**	Hamid Bahadori
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

N/A

Summary of Modification

Modify Table 601 to include footnote "b" in the first row (Primary Structural Frame) for Construction Types I, II, III, and IV. This will make it consistent with IBC Table 601.

Rationale

IBC updated Table 601 in the 2018 Edition. FBC did not update to match IBC in the 7th Edition of FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

This will result in cost reduction when certain conditions are met. It will not result in any cost increase.

Impact to industry relative to the cost of compliance with code

No negative cost impact

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

It updates the code to what the rest of Country is using.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

It improves the code by providing clarity.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate against materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

It updates the code to what the rest of Country is using.

F10157Text Modification

Please see attached

Mod_10157_TextOfModification.pdf Page: 1

F10157Text Modification

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	HT	A	B
Primary structural frame[f] (see Section 202)	3[a] b	2[a] b	1 b	0	1 b	0	HT	1 b	0
Bearing walls Exterior[e, f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	$1^{1}/_{2}$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	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 shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.

c. In all occupancies, heavy timber shall be allowed 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 602).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

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Mod_10157_Text_Capture.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

29

F10174

Date Submitted	02/11/2022	**Section**	602.4	**Proponent**	Greg Johnson
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV construction mass timber package including mods #10098, 10099, 10161, 10162, 10163, 10167, 10169, and more

Summary of Modification

Adds new mass timber Types of Construction IVA, IVB, and IVC provisions and renames existing Type IV heavy timber as Type IV-HT.

Rationale

See attached rationale and additional supporters' rationales

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No significant difference. More training may be needed, but code officials always need continuing education. AWC has provided training on this subject matter in FL already and will continue to do so. Note that this training has been provided free of cost to code official chapters.

Impact to building and property owners relative to cost of compliance with code

Positive impact; this is an optional method of construction. An owner who wishes to avoid any associated expense does not have to use this method. This will lower the cost of construction generally by stimulating competition.

Impact to industry relative to the cost of compliance with code

Positive impact; this is an optional method of construction. An owner who wishes to avoid any associated expense does not have to use this method. This will lower the cost of construction generally by stimulating competition.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This provides for the safe use of buildings constructed in a new methodology.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing an alternative method of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No existing material options are changed. Materials options in the new proposal are based strictly on performance, i.e., combustibility.

Does not degrade the effectiveness of the code

Improves the code by providing an alternative method of construction.

SECTION 202 Definitions

Revise as follows:

[BS] WALL, LOAD-BEARING. Any wall meeting either of the following classifications:

1. Any metal or wood stud wall that supports more than 100 pounds per linear foot (1459 N/m) of vertical load in addition to its own weight.

2. Any masonry, or concrete or mass timberwall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

Add new definitions as follows:

MASS TIMBER. Structural elements of Type IV construction primarily of solid, built-up, panelized or engineered wood products that meet minimum cross section dimensions of Type IV construction.

NONCOMBUSTIBLE PROTECTION (FOR MASS TIMBER).

Noncombustible material, in accordance with Section 703.5, designed to increase the fire-resistance rating and delay the combustion of mass timber.

Section 602.4 revise as follows:

602.4 Type IV.

~~Type IV construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated wood, heavy timber (HT) or structural composite lumber (SCL) without concealed spaces. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, structural composite lumber (SCL), and cross-laminated timber and details of Type IV construction shall comply with the provisions of this section and **Section 2304.11**. Exterior walls complying with **Section 602.4.4.1** or **602.4.4.2** shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rating or heavy timber complying with **Section 2304.11.2.2** shall be permitted.~~ 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.

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Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

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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.

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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.

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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 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. 602.4.1 Type IV-A. Building elements in Type IV-A construction shall be protected in accordance with Sections 602.4.1.1 through 602.4.1.6. The required fire-resistance rating of noncombustible elements and protected mass timber elements shall be determined in accordance with Section 703.2.

602.4.1.1 Exterior protection. The outside face of exterior walls of mass timber construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m 2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354 and having 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. The ASTM E1354 test shall be conducted on specimensat the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

-

602.4.1.2 Interior protection. Interior faces of all mass timber elements, including the inside faces of exterior mass timber walls and mass timber roofs, shall be protected with materials complying with Section 703.3.

602.4.1.2.1 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.

-

602.4.1.3 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. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

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602.4.1.4 Roofs. The interior surfaces of roof assemblies shall be protected in accordance with Section 602.4.1.2. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

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602.4.1.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical Code, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

602.4.1.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Both the shaft side and room side of mass timber elements shall be protected in accordance with Section 602.4.1.2.

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602.4.2 Type IV-B. Building elements in Type IV-B construction shall be protected in accordance with Sections 602.4.2.1 through 602.4.2.6. The required fire-resistance rating of noncombustible elements or mass timber elements shall be determined in accordance with Section 703.2.

602.4.2.1 Exterior protection. The outside face of exterior walls of mass timber construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150kW/m2, a total heat release of less than 20 MJ/m 2 and an effective heat of combustion of less than 18MJ/kg as determined in accordance with ASTM E1354, and having 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. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

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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.

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 or fire area.
   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 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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})< 1 \qquad \text{Equation 6-1}$$

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.

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.

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. The underside of floor assemblies shall be protected in accordance with Section 602.4.1.2.

-

602.4.2.4 Roofs. The interior surfaces of roof assemblies shall be protected in accordance with Section 602.4.2.2 except, in nonoccupiable spaces, they shall be treated as a concealed space with no portion left unprotected. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

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602.4.2.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical Code, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected in accordance with Section 602.4.1.2.

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602.4.2.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Both the shaft side and room side of mass timber elements shall be protected in accordance with Section 602.4.1.2.

602.4.3 Type IV-C. Building elements in Type IV-C construction shall be protected in accordance with Sections 602.4.3.1 through 602.4.3.6. The required fire-resistance rating of building elements shall be determined in accordance with Section 703.2.

602.4.3.1 Exterior protection. The exterior side of walls of combustible construction shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as determined in Table 722.7.1(1). Components of the exterior wall covering shall be of noncombustible material except water-resistive barriers having a peak heat release rate of less than 150 kW/m2, a total heat release of less than 20 MJ/m 2 and an effective heat of combustion of less than 18 MJ/kg as determined in accordance with ASTM E1354 and having 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. The ASTM E1354 test shall be conducted on specimens at the thickness intended for use, in the horizontal orientation and at an incident radiant heat flux of 50 kW/m2.

602.4.3.2 Interior protection. Mass timber elements are permitted to be unprotected.

602.4.3.3 Floors. Floor finishes in accordance with Section 804 shall be permitted on top of the floor construction.

602.4.3.4 Roof coverings. Roof coverings in accordance with Chapter 15 shall be permitted on the outside surface of the roof assembly.

602.4.3.5 Concealed spaces. Concealed spaces shall not contain combustibles other than electrical, mechanical, fire protection, or plumbing materials and equipment permitted in plenums in accordance with Section 602 of the International Mechanical Code, and shall comply with all applicable provisions of Section 718. Combustible construction forming concealed spaces shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1).

602.4.3.6 Shafts. Shafts shall be permitted in accordance with Sections 713 and 718. Shafts and elevator hoistway and interior exit stairway enclosures shall be protected with noncombustible protection with a minimum assigned time of 40 minutes, as specified in Table 722.7.1(1), on both the inside of the shaft and the outside of the shaft.

602.4.4 Type IV-HT. Type IV-HT (Heavy Timber) construction is that type of construction in which the exterior walls are of noncombustible materials and the interior building elements are of solid wood, laminated heavy timber or structural composite lumber (SCL), without concealed spaces or with concealed spaces complying with Section 602.4.4.3. The minimum dimensions for permitted materials including solid timber, glued-laminated timber, SCL and cross-laminated timber (CLT) and the details of Type IV construction shall comply with the provisions of this section and Section 2304.11. Exterior walls complying with Section 602.4.4.1 or 602.4.4.2 shall be permitted. Interior walls and partitions not less than 1-hour fire-resistance rated or heavy

timber conforming with Section 2304.11.2.2 shall be permitted.

~~602.4.1~~602.4.4.1. **Fire-retardant-treated wood in exterior walls.** Fire-retardant-treated wood framing and sheathing complying with **Section 2303.2** shall be permitted within exterior wall assemblies not less than 6 inches (152 mm) in thickness with a 2-hour rating or less.

602.4.2 602.4.4.2**Cross-laminated timber in exterior walls.** Cross-laminated timber (CLT) not less than 4 inches (102 mm) in thicknesscomplying with Section 2303.1.4shall be permitted within *exterior wall assemblies*~~not less than 6 inches (152 mm) in thickness~~with a 2-hour rating or less.~~, provided~~ ~~the~~ Heavy timber structural members appurtenant to the CLT exterior wall shall meet the requirements of Table 2304.11 and be fire-resistance rated as required for the exterior wall. Theexterior surface of the cross-laminated timber ~~is~~and heavy timber elements shall beprotected by one the following:

1. Fire-retardant-treated wood sheathing complying with **Section 2303.2** and not less than 15/32 inch (12 mm) thick.

2. Gypsum board not less than 1/2 inch (12.7 mm) thick.

3. A noncombustible material.

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. 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.

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~~602.4.3~~602.4.4.4**Exterior structural members.** Where a horizontal separation 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.

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February 4, 2022

To: Florida Building Commission

RE: Adoption of Mass Timber Code Proposals into the 2023 FBC

West Fraser is a diversified wood products company with more than 60 facilities in Canada, the United States, the United Kingdom, and Europe. In the state of Florida, West Fraser owns and operates five sawmills, where we support the communities of Lake Butler, Maxville, McDavid, Perry, and Whitehouse. As North America's largest lumber producer, we directly employ more than 640 people at our Florida facilities and support more than 875 indirect/induced jobs in the state as a result of our mill operations.

West Fraser provides renewable building products for the world, contributing to a more sustainable future. Therefore, we are committed to reducing the environmental impact of new construction by encouraging the environmentally responsible choices of wood-based building materials. As a manufacturer of sustainable products that makes use of renewable forest resources that sequester carbon, we support the adoption of mass timber (MT) construction, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests, mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.

- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.

- Updating the FBC to permit MT buildings will stimulate investment in manufacturing and supply chains in Florida and put downward pressure on cost and pricing.

- Adding these new types of construction to the FBC provides designers with greater flexibility when specifying building systems in the 8 – 12 story multifamily market.

For these reasons, we encourage the Florida Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely,

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Sec 604.2 Type IV mass timber and related definitions

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G108-18, S100) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB and it various WGs held meetings, studied issues and sought input from various expert sources around the world. The TWB has posted those documents and input on its website for interested parties to follow its progress and to allow those parties to, in turn, provide input to the TWB.

At its first meeting, the TWB discussed a number of performance objectives to be met with the proposed criteria for tall wood buildings:

- No collapse under reasonable scenarios of complete burn-out of fuel without automatic sprinkler protection being considered.
- No unusually high radiation exposure from the subject building to adjoining properties to present a risk of ignition under reasonably severe fire scenarios.
- No unusual response from typical radiation exposure from adjacent properties to present a risk of ignition of the subject building under reasonably severe fire scenarios.
- No unusual fire department access issues.
- Egress systems designed to protect building occupants during the design escape time, plus a factor of safety.
- Highly reliable fire suppression systems to reduce the risk of failure during reasonably expected fire scenarios. The degree of reliability should be proportional to evacuation time (height) and the risk of collapse.

The comprehensive package of proposals from the TWB meet these performance objectives.

Definitions

Included in the proposal for Section 602.4 are three new/revised definitions; Wall, Load-Bearing; Mass Timber; and Noncombustible protection (for mass timber). They are important to understanding the subsequent proposed change to Section 602.4.

Load-bearing wall: The modification to the term “load-bearing wall” has been updated to include “mass timber” as a category equivalent to that of masonry or concrete. Based on the research done by the wood trade associations, mass timber walls (e.g. sawn, glued-laminated, cross-laminated timbers) have the ability to support the minimum 200 pounds per linear foot vertical load requirement.

Mass Timber: The term “mass timber” is being proposed to represent both the legacy heavy timber (a.k.a. Type IV construction) and the three (3) new construction types that are proposed for Chapter 6 of the IBC. The purpose of creating this term and definition was to establish a single term which represented the

various sawn and engineered timber products that are referenced in IBC Chapter 23 (Wood) and in PRG-320 "Standard for Performance-rated Crosslaminated Timber."
"Noncombustible Protection (For Mass Timber): The definition of "Noncombustible Protection (For Mass Timber)" is created to address the passive fire protection of mass timber. Mass timber is permitted to have its own fire-resistance rating (e.g., Mass Timber only) or have a fire resistance rating based on the fire resistance through a combination of the mass timber fire-resistance plus protection by non-combustible materials as defined in Section 703.5 (e.g., additional materials that delay the combustion of mass timber, such as gypsum board). While it is not common to list a code section number within a definition it was felt necessary in this case to ensure that the user was able to understand the intent. The protection by a non-combustible material will act to delay the combustion of the Mass Timber.

Types of Construction
The Committee recognized that tall, mass timber buildings around the world generally fell into three categories: one in which the mass timber was fully protected by noncombustible protection, a second type in which the protection was permitted to be omitted to expose the wood in certain limited amounts of walls or ceilings, and a third type in which the mass timber for the structure was permitted to be unprotected.

The TWB also determined that fire testing was necessary to validate these concepts. At its first meeting, members discussed the nature and intention of fire testing so as to ensure meaningful results for the TWB and, more specifically, for the fire service. Subsequently a test plan was developed. The fire tests consisted of one-bedroom apartments on two levels, with both apartments having a corridor leading to a stairway. The purpose of the tests was to address the contribution of mass timber to a fire, the performance of connections, the performance of joints, and to evaluate conditions for responding fire personnel. The Fire WG then refined the test plan, which was implemented with a series of five, full-scale, multiple-story building tests at the Alcohol, Tobacco and Firearms (ATF) laboratories in Beltsville, MD.
The results of those tests, as well as testing conducted by others, helped form the basis upon which the Codes WG developed its code change proposals. This code change proposal is one of those developed by the Codes WG and approved by the TWB.

To review a summary of the fire tests, please visit: http://bit.ly/ATF-firetestreport

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit: http://bit.ly/ATF-firetestvideos .

Both of these links were confirmed active on 1/14/22.

The completely protected type of construction, as noted above, is identified as Type IV-A. The protection is defined by a new section, 722.7, proposed in a separate code change. Testing has shown that mass timber construction protected with noncombustible protection, primarily multiple layers of 5/8-inch Type X gypsum board, can survive a complete burnout of a residential fuel load without engaging the mass timber in the fire. (See video or report above.) In considering this type of construction and its potential height and/or allowable area, the TWB wanted to make sure that code users realize that the protection specified in the text applies to all building elements. Thus, the text clearly requires protection for the floor surface, all wall and ceiling surfaces, the inside roof surfaces, the underside of floor surfaces, and shafts.

In addition, Type IV-A construction is proposed to have the same fire resistance rating requirements as the existing Type I-A construction, which sets forth requirements for 2-hour and 3-hour structural

elements. The specified fire resistance rating for Type IV-A construction is conservative in that the fire resistance rating of the structural elements was selected to be able to passively sustain the fuel loads associated with the various occupancies without the benefit of automatic sprinkler protection, and without involving the contribution of the structural members, similar to the strategy employed in the IBC for Type I construction.

Type IV-B allows some exposed wood surfaces of the ceiling, the walls or columns and beams. The amount of exposed surface permitted to be installed, as well as the required separation between unprotected portions, is clearly specified to limit the contribution of the structure in an interior fire. For example, two different walls may share the unprotected area but the two walls must be separated by a distance of 15 feet. Type IV-B has been subjected to the same fire tests under the same conditions as Type IV-A and the results demonstrate that a predictable char layer develops on mass timber in the same fashion as traditional sawn lumber, provided that substantial delamination is avoided. (See video or report above.) It should be noted that, while portions of the mass timber may be unprotected, concealed spaces, shafts and other specified areas are required to be fully protected by noncombustible protection. Type IV-B is provided with the same base fire resistance requirements as the existing Type I-B construction, which sets forth requirements for 2-hour structural elements. Please note that the allowance per IBC Section 403.2.1.1 to reduce I-B construction to 1-hour structural elements is not proposed for Type IV-B construction. Essentially, where a building is permitted to be constructed of I-B construction and has 1-hour protection, that same building will still require 2-hour structural elements for Type IV-B construction.

Type IV-C construction permits fully exposed mass timber. Important caveats are that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures are not permitted to be exposed, but instead are required to have noncombustible protection. The IV-C construction is differentiated from traditional Heavy Timber construction in that Type IV-C construction is required to be 2-hour fire rated. While the added fire rating is required, the committee does not propose any additional height, in terms of feet, for Type IV-C buildings; in other words, the height in feet for Type IV-C and Type IV-HT are identical. However, due to the added fire resistance ratings, the committee has proposed added floors for some occupancy groups of Type IV-C construction.

Tables 601 and 602: Included in the proposal are modification of Tables 601 and 602. This is necessary to set the performance requirement for these new types of construction based upon mass timber. It should be noted that these Fire Resistance Ratings are set to have the requirements similar to those of Type I construction. In other words, IV-A has the same FRR as I-A; IV-B has the same FRR as I-B. Because there is no Type I corollary to IV-C, it was set the same as IV-B. The IV-C has to achieve all its fire resistance by the performance of the mass timber itself because no noncombustible protection is required. This is reflected in greatly reduced permitted height, in both feet and stories, in other TWB proposals to Table 504.3, 504.4 and 506.2.

Background information: The ICC Board approved the establishment of an ad hoc committee for tall wood buildings in December of 2015. The purpose of the ad hoc committee is to explore the science of tall wood buildings and to investigate the feasibility and take action on developing code changes for tall wood buildings. The committee is comprised of a balance of stakeholders with additional opportunities for interested parties to participate in the four Work Groups established by the ad hoc committee, namely: Code; Fire; Standards/Definitions; and Structural. For more information, be sure to visit the ICC website https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ (link active and up to date as of 1/14/22). As seen in the “Meeting Minutes and Documents” and

"Resource Documents" sections of the committee web page, the ad hoc committee reviewed a substantial amount of information to provide technical justification for code proposals.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

February 10, 2022

To: Florida Building Commission

The signatory parties support the adoption of mass timber (MT) construction types, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

- In 2016 the ICC Board of Directors appointed the Ad Hoc Committee on Tall Wood Buildings (AHC-TWB) to explore the science of tall wood buildings. Committee and work group members consisted of code officials, fire officials, construction material interests, designers, builders, and other interested parties.

  After studying MT for hundreds of hours, and reviewing extensive fire-testing of the material, the AHC-TWB developed and submitted a package of code-change proposals for the 2021 edition of the IBC through the ICC's rigorous code development process. In that process the voting number of ICC governmental member representatives, ranging from 542 to 729 members, and averaging 646 members, voted to adopt all proposed MT changes by margins ranging from 68 percent to 94 percent and averaging 83 percent.

  Interests, experts, and associations that testified in support of adding the MT provisions to the IBC included local government building code officials, fire marshals and fire chiefs, materials scientists, fire science researchers and testing agencies, fire protection engineers, structural engineers, multifamily contractors, the United States Forest Service, the International Association of Building Officials, the National Association of Home Builders, the American Institute of Architects, the American Wood Council, APA-the Engineered Wood Association, and Underwriters Laboratories.

- Updating the FBC to permit MT buildings will stimulate investment in its manufacturing and supply chain in FL and put downward pressure on cost and pricing. Investment in MT production is projected to have significant economic benefits for the FL economy because of the state's extensive timber resources. Florida's forest industry contributes $25 billion to the state's economy, providing more than 124,000 jobs. There are 17 million acres of forestland covering almost half of Florida's total land area. Almost 2/3 of the forestland is privately owned. https://www.flforestry.org/resources/2017-economic-impact-study/

- Because of repetitive building layouts in residential multifamily buildings, and the speed of constructing MT buildings, it is predicted that MT will compete successfully with other materials used for multifamily buildings in the 8 -12 story height range. In addition to construction efficiencies, expanded use of MT in these applications can reduce the potential of large construction site fires.

- MT construction sites are safer for workers. Construction sites are also quieter and are less disruptive in the communities where projects occur. MT projects are completed substantially faster than traditional methods of construction, minimizing waste and community impacts while maximizing both worker productivity and developers' returns on investment. In addition, building with pre-manufactured MT panels broadens the available labor pool and will likely alleviate a national shortfall in skilled construction labor.

- Wildland fire safety on both the regional and global scale will benefit from increased use of MT. Low value wood, thinnings, and dead standing trees, can be used for MT, thereby creating a financial incentive for wildland fuels reduction, particularly of ladder fuels, improving regional fire safety and conserving federal and state resources.

- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.

- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.

- As a panelized building product, fastened together on-site, MT panels are ideal for buildings designed for disassembly. This means panels, which are easily restored after prior use, can be re-used in new building applications. Carbon stored in MT panels can be sequestered indefinitely as the panels are re-used in future buildings.

For these reasons we encourage the FL Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely:

The Conservation Fund
www.conservationfund.org

FLORIDA APARTMENT ASSOCIATION

Florida Forestry Association
www.flforestry.org

Forest Landowners Association
www.forestlandowners.com

Forestry Association of South Carolina
www.scforestry.org

Georgia Forestry Association
gfagrow.org

Keeping Forests
keepingforests.org

Louisiana Forestry Association
www.laforestry.com

National Association of State Foresters
www.stateforesters.org

North Carolina Forestry Association
www.ncforestry.org

Packaging Corporation of America
www.packagingcorp.com

Rayonier
1 Rayonier Way
Wildlight, Florida
www.rayonier.com

Southeastern Lumber Manufacturers Association
www.slma.org

Southern Group of State Foresters
southernforests.org

Tennessee Forestry Association
www.tnforestry.com

Dr. Patricia Layton
Clemson University
Director
Wood Utilization + Design Institute
www.clemson.edu/centers-institutes/wud/

Christopher Meyer, AIA
Assistant Professor of Architecture
University of Miami School of Architecture
Director, LU_Lab
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Principal, Atelier Mey
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Shawna Meyer, AIA
Lecturer, University of Miami School of Architecture
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Principal, Atelier Mey
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Building Officials Association of Florida, Inc.

February 4, 2022

James R. Schock, Chairman
Florida Building Commission
2601 Blair Stone Street
Tallahassee, FL 32399

Re: Support of Mass Timber Proposals

Dear Chairman Schock:

The signatory parties support the adoption of mass timber (MT) construction types, (Types IVA, IVB, and IVC), and related requirements, as contained in the 2021 edition of the International Building Code (IBC), into the 2023 Florida Building Code (FBC) for the following reasons:

In 2016 the ICC Board of Directors appointed the Ad Hoc Committee on Tall Wood Buildings (AHC-TWB) to explore the science of tall wood buildings. Committee and work group members consisted of code officials, fire officials, construction material interests, designers, builders, and other interested parties.

After studying MT for hundreds of hours, and reviewing extensive fire-testing of the material, the AHC-TWB developed and submitted a package of code-change proposals for the 2021 edition of the IBC through the ICC's rigorous code development process.In that process the voting number of ICC governmental member representatives, ranging from 542 to 729 members, and averaging 646 members, voted to adopt all proposed MT changes by margins ranging from 68 percent to 94 percent and averaging 83 percent.

Interests, experts, and associations that testified in support of adding the MT provisions to the IBC included local government building code officials, fire marshals and fire chiefs, materials scientists, fire science researchers and testing agencies, fire protection engineers, structural engineers, multifamily contractors, the United States Forest Service, the International Association of Building Officials, the National Association of Home Builders, the American Institute of Architects, the American Wood Council, APA-the Engineered Wood Association, and Underwriters Laboratories.

Updating the FBC to permit MT buildings will stimulate investment in its manufacturing and supply chain in Florida and put downward pressure on cost and pricing. Investment in MT production is projected to have significant economic benefits for the Florida economy because of the state's extensive timber resources. Florida's forest industry contributes $25 billion to the state's economy,

providing more than 124,000 jobs. There are 17 million acres of forestland covering almost half of Florida's total land area. Almost 2/3 of the forestland is privately owned.

https://www.flforestry.org/resources/2017-economic-impact-study/

- Because of repetitive building layouts in residential multifamily buildings, and the speed of constructing MT buildings, it is predicted that MT will compete successfully with other materials used for multifamily buildings in the 8 -12 story height range. In addition to construction efficiencies, expanded use of MT in these applications can reduce the potential of large construction site fires.
- MT construction sites are safer for workers. Construction sites are also quieter and are less disruptive in the communities where projects occur. MT projects are completed substantially faster than traditional methods of construction, minimizing waste and community impacts while maximizing both worker productivity and developers' returns on investment. In addition, building with pre-manufactured MT panels broadens the available labor pool and will likely alleviate a national shortfall in skilled construction labor.
- Wildland fire safety on both the regional and global scale will benefit from increased use of MT. Low value wood, thinnings, and dead standing trees, can be used for MT, thereby creating a financial incentive for wildland fuels reduction, particularly of ladder fuels, improving regional fire safety and conserving federal and state resources.
- Sequestering carbon in long-lived building materials manufactured from renewable, sustainably managed forests mitigates drivers of climate change and worsening wildland fire seasons and intensities. Sequestering carbon in MT buildings also helps mitigate other issues associated with climate change like the intensity of storms and flooding events.
- Sustainably managed and harvested forests capture more carbon than forests left unmanaged and provide habitat for a greater range of species.
- As a panelized building product, fastened together on-site, MT panels are ideal for buildings designed for disassembly.This means panels, which are easily restored after prior use, can be re-used in new building applications.Carbon stored in MT panels can be sequestered indefinitely as the panels are re-used in future buildings.

For these reasons we encourage the Florida Building Commission to adopt the package of MT proposals as incorporated in the 2021 IBC and proposed through the 2023 FBC update process.

Sincerely,

Kathleen Croteau, CBO
President

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

30

F10425

Date Submitted	02/14/2022	**Section**	601	**Proponent**	Richard Walke
Chapter	6	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The National Fireproofing Contractors Association Requests Modification of Table 601 Footnote B to Include Mezzanines

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G136-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to clarify Footnote b under Table 601. The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 14-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. NFCA believes this code change is significant enough to warrant consideration by the Florida Building Commission for inclusion in the 2023 FBC. This section of the code seems to cause a lot of confusion in the field, according to reports to the National Fireproofing Contractors Association. Part of that confusion is the result of inconsistent language between the IBC Commentary and the code language. The purpose of this proposal is to bring a key point from the 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. Approving this proposal would bring consistency between the Commentary language and the code. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The local entity will now be required to inspect the fire protection on roof assemblies where the roof assembly above mezzanines less than 20 ft below the roof assembly.

Impact to building and property owners relative to cost of compliance with code

The roof assembly above mezzanines less than 20 ft below the roof will now require fire protection. This will increase the cost for building with mezzanines in close proximity to the roof assembly.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal reduces the risk of structural collapse of the roof under fire conditions by eliminating a quirk in the code allowing roofs in close proximity to mezzanines to be left unprotected.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal strengthens the code by eliminating a quirk allowing roofs in close proximity to mezzanines to be left unprotected.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

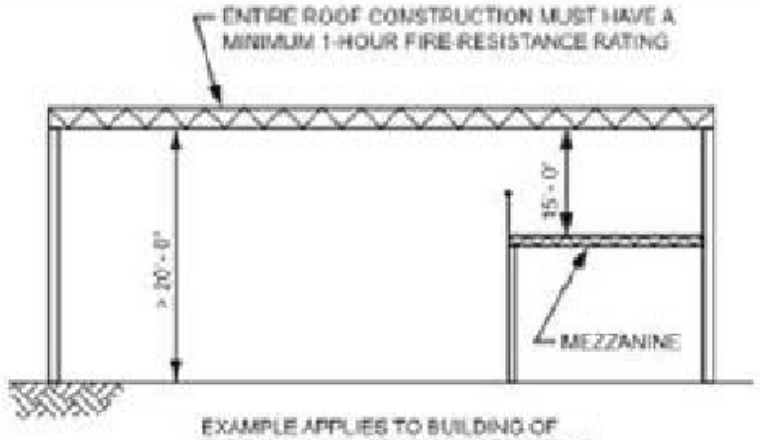
This proposal strengthens the requirements of the code as it provides additional protection for roof assemblies in close proximity to mezzanines.

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	HT	A	B
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[e, f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	$1\frac{1}{2}$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	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 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 602).
f. Not less than the fire-resistance rating as referenced in Section 704.10.



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

Figure 601(2)
PROTECTION OF ROOF CONSTRUCTION

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

31

F10436

Date Submitted	02/14/2022	**Section**	601	**Proponent**	Richard Walke
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The National Fireproofing Contractors Association Requests Modification of Table 601 to Add New Footnote on Rating Required on Occupiable Roofs

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G135-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to clarify the requirements of Table 601 for roofs used as occupiable spaces. The proposal combined two thought processes. First, include a new Footnote b under Table 601 relating to the required rating of roofs used as occupiable spaces. Second, update the existing footnote b to preclude its use in conjunction with roofs used as occupiable space. That original proposal was disapproved by the committee due to clumsy language. A public comment was submitted. The public comment was ultimate disapproved by 1 vote in our opinion due to a misunderstanding of what we were attempting to achieve. NFCA believes both thought processes of the original proposal are sound. We also believe both thought processes are significant enough to warrant consideration by the Florida Building Commission for inclusion in the 2023 FBC. Rooftop assembly occupancies are becoming increasingly popular for relaxation, dining and drinking purposes. Folks frequenting these rooftop venues deserve the same protection as those on the floors below. The proposal submitted to ICC has been be split into two separate proposals. This proposal addresses the addition of a new Footnote b which requires roofs used as occupiable spaces to have a fire-resistance rating equal to or greater than the floor below. Providing the same degree of fire-resistance for the complete roof assembly gives occupants protection regardless of changes in the size of the venue and the occupant load during the life cycle of the building. We know the size of the venue and the occupant load can and does change – and might expand after the building is occupied. This proposal protects those on the rooftop just as if they were standing on a floor below. We request your approval of this proposal for inclusion in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The local entity will now be required to inspect the fire protection on roofs where the roof assembly is being used as an occupiable space.

Impact to building and property owners relative to cost of compliance with code

Roofs being used as an occupiable space will now require fire protection. This will increase the cost for building with occupiable roofs.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal reduces the risk to occupants of occupiable roofs by requiring the roofs be fire-resistance-rated.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal strengthens the code by requiring occupiable roofs to be fire-resistance-rated.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides additional protection for roof assemblies uses as occupiable roofs.

Text of Mod F10436

TABLE 601 FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE!		TYPE II		TYPE 111		TYPE IV	TYPEV	
	A	B	A	B	A	B	HT	A	B
Primary structural frame fg(see Section 202)	3 a	2 a	1	0	1	0	HT	1	0
Bearing walls Exterior e,f,g Interior	3 3 a	2 2 a	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior'	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	1-1/2 b,c	1 b,c,d	1 b,c,d	0 e,d	1 b,c,d	0	HT	1 b,c,d	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.·Where·a·roof·is·an·occupiable·space,·the·fire-resistance·rating·of·the·roof·assembly·shall·be·equal·to·or·greater·than·the·floor·below.¶

bc.·Except·in·Group·F-1,·H,·M·and·S-1·occupancies,·fire·protection·of·structural·members·shall·not·be·required,·including·protection·of·roof·framing·and·decking·where·every·part·of·the·roof·construction·is·20·feet·or·more·above·any·floor·immediately·below.·Fire-retardant-treated·wood·members·shall·be·allowed·to·be·used·for·such·unprotected·members.¶

ed.·In·all·occupancies,·heavy·timber·complying·with·Section·2304.11·shall·be·allowed·where·a·1-hour·or·less·fire-resistance·rating·is·required.¶

de.·Not·less·than·the·fire-resistance·rating·required·by·other·sections·of·this·code.¶

ef.·Not·less·than·the·fire-resistance·rating·based·on·fire·separation·distance·(see·Table·602).¶

fg.·Not·less·than·the·fire-resistance·rating·as·referenced·in·Section·704.10.¶

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

32

F10451

Date Submitted	02/15/2022	**Section**	601	**Proponent**	Richard Walke
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The National Fireproofing Contractors Association Requests Modification of Table 601 Footnote B to Eliminate its Use with Roofs Used as Occupiable Spaces

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G135-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to clarify the requirements of Table 601 for roofs used as occupiable spaces. The proposal combined two thought processes. First include a new Footnote b under Table 601 relating to the required rating of roofs used as occupiable spaces. Second update the existing footnote b to preclude its use in conjunction with roofs used as occupiable space. That original proposal was disapproved by the committee due to clumsy language. A public comment was submitted. The public comment was ultimately disapproved by 1 vote in our opinion due to a misunderstanding of what we were attempting to achieve. NFCA believes both thought processes of the original proposal are sound. We also believe both thought processes are significant enough to warrant consideration by the Florida Building Commission for inclusion in the 2023 FBC. Rooftop assembly occupancies are becoming increasingly popular for relaxation, dining and drinking purposes. Folks frequenting these rooftop venues deserve the same protection as those on the floors below. The original proposal submitted to ICC has been split into two separate proposals. This proposal addresses an update to the existing footnote b to preclude its use in conjunction with roofs used as occupiable space. If the roof is an occupiable space, it must be protected even if every part of the roof construction is 20 ft or more above the floor below. Providing the same degree of fire-resistance for the complete roof assembly gives occupants protection regardless of changes in the size of the venue and the occupant load during the life cycle of the building. We know the size of the venue and the occupant load can and does change based on the type of events being hosted. We request your approval of this proposal for inclusion in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

The local entity will now be required to inspect the fire protection on roof assemblies where the roof assembly is being used as occupiable space even when the roof is 20 ft or more above the floor assembly immediately

below.

Impact to building and property owners relative to cost of compliance with code

When the roof assembly is being used as occupiable space, it will now require fire protection even when the roof is 20 ft or more above the floor assembly immediately below. This will increase the cost for buildings now requiring this protection.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal reduces the risk to occupants frequenting rooftop venues where the roof assembly is more than 20 ft above the floor assembly below.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal strengthens the code by protecting occupants frequenting rooftop venues where the roof assembly is more than 20 ft above the floor assembly below.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it requires protection for roofs used as occupiable space even where the roof assembly is more than 20 ft above the floor assembly below.

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	HT	A	B
Primary structural frame[f] (see Section 202)	3[a]	2[a]	1	0	1	0	HT	1	0
Bearing walls Exterior[e, f] Interior	3 3[a]	2 2[a]	1 1	0 0	2 1	2 0	2 1/HT	1 1	0 0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[d]	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary members (see Section 202)	2	2	1	0	1	0	HT	1	0
Roof construction and associated secondary members (see Section 202)	$1\frac{1}{2}$[b]	1[b,c]	1[b,c]	0[c]	1[b,c]	0	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,~~Where every part of the roof construction is 20 ft or more above the floor immediately below, 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 immediately below.~~, except where any of the following conditions apply:

1. In Group F-1, H, M and S-1 occupancies.
2. Where the roof is an occupiable space.

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 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 602).

f. Not less than the fire-resistance rating as referenced in Section 704.10.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

33

F10468

Date Submitted	02/15/2022	**Section**	603.1	**Proponent**	Richard Walke
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this defined phrase is used, including in Sections 202, 722.5.1.3, 722.5.2.2 and 722.5.2.3.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Intumescent Fire-Resistive Materials (IFRM) which replaces Definitions for Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G17-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings to Intumescent Fire-Resistive Materials (IFRM). The language contained in this proposal reflects what was approved as submitted by the Committee with a vote of 12-1. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The first purpose of this proposal is to consolidate two definitions for the same material into one term. The FBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. The second reason is IFRM products are not just a paint or coating. These materials are fireproofing first, and nice-looking surfaces second. The most important thing to recognize is that these material’s purpose and is to provide fire-resistive protection of structural building elements and to prevent progressive collapse of buildings when exposed to fire. This new combined name – Intumescent Fire-Resistive Materials (IFRM) 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, Webster's Dictionary defines 'resistive' as .... "marked by resistance - often used in combination // fire-resistive material." The term "Intumescent Fire-Resistive Materials" is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and in UL’s Product iQ Online Directory. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the 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.
    1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
    1.3. Roof construction, including girders, trusses, framing and decking.
        Exception: 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. 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 Sections 801 and 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 410.3 and 410.4, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14.
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 803.13.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.3 and 1406.3.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.2.
21. Sprayed fire-resistant materials and *intumescent ~~and mastic~~ fire-resistive*resistant *materials*~~coatings~~, determined on the basis of *fire resistance* tests in accordance with Section 703.2.
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 *Florida Building Code*, *Mechanical*.
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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

34

F10499

Date Submitted	02/15/2022	**Section**	603.1	**Proponent**	Richard Walke
Chapter	6	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this phrase is used, including Sections 202, 403.2.4, 412.3.1.3 & 704.13. Also, Modification 10394 proposing Special Inspections for SFRM and IFRM. If 10394 is approved, the updated phrase for SFRM and IFRM will need to be transposed to new Section 1705.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Sprayed Fire-Resistive Materials (SFRM) which Replaces the Definition for Sprayed Fire-Resistant Materials

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G29-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. When installed in accordance with the listing and manufacturers installation instructions, Sprayed Fire-Resistive Materials becomes ‘fireproofing’. The purpose of this proposal is two-fold. First, it changes the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). This change aligns the FBC definition with the industry term for the product. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Second, 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. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the 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.
    1.2. Nonbearing *exterior walls* where fire-resistance-rated construction is not required.
    1.3. Roof construction, including girders, trusses, framing and decking.
        Exception: 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. 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 Sections 801 and 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 410.3 and 410.4, respectively.
13. Combustible *exterior wall coverings*, balconies and similar projections and bay or oriel windows in accordance with Chapter 14.
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 803.13.
19. Heavy timber as permitted by Note c to Table 601 and Sections 602.4.3 and 1406.3.
20. Aggregates, component materials and admixtures as permitted by Section 703.2.2.
21. *Sprayed fire-resistive~~resistant~~ materials* and *intumescent and masticfire-resistant coatings*, determined on the basis of *fire resistance* tests in accordance with Section 703.2.
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 *Florida Building Code*, *Mechanical*.
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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

35

F9945

Date Submitted	01/22/2022	**Section**	704.2	**Proponent**	Greg Johnson
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building Code Section 704.4.1

Summary of Modification

In the 2018 & 2021 IBC columns in light-frame walls, which are located entirely between the top and bottom plates, are permitted to have required fire-resistance ratings provided by the membrane protection provided for the wall. This modification makes the FBC consistent.

Rationale

Note that a correlated modification is being proposed to Section 704.4.1. Since the 2018 edition of the IBC, in Section 704.4.1, columns in light frame construction have been permitted to have required fire-resistance ratings provided by the membrane protection provided for the wall rather than through individual encasement. This is a significant cost-savings for builders because it eliminates a requirement for individual encasement of columns, including built up wood stud columns. Note that no fire loss data relevant to this modification was provided in the ICC's code development process in opposition to this change and no relevant fire loss data since the IBC was changed 6 years ago has been subsequently brought forward.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

There should be no additional impact to code enforcing entities. Installation is verified as part of normal framing inspection processes. There may be reduced inspection expense for jurisdictions that are making specific inspection stops to verify individual encasement of columns within walls.

Impact to building and property owners relative to cost of compliance with code

The change could significantly reduce the cost of compliance by eliminating the need for individual encasement of columns within light-frame walls.

Impact to industry relative to the cost of compliance with code

The change could significantly reduce the cost of compliance by eliminating the need for individual encasement of columns within light-frame walls.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The modification addresses fire-resistance and cost of construction which relate to the safety and welfare of the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The modification provides an equivalent degree of fire-resistive construction at less expense.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The modification is material neutral, applicable to both metal and wood framing.

Does not degrade the effectiveness of the code

The modification provides an equivalent degree of fire-resistive construction at less expense. The code will be equally effective.

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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

36

F9946

Date Submitted	01/22/2022	**Section**	704.4.1	**Proponent**	Greg Johnson
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building Code Section 704.2

Summary of Modification

In the 2018 & 2021 IBC columns in light-frame walls, which are located entirely between the top and bottom plates, are permitted to have required fire-resistance ratings provided by the membrane protection provided for the wall. This modification makes the FBC consistent.

Rationale

Note that a correlated modification is being proposed to Section 704.2 Since the 2018 edition of the IBC, in Section 704.4.1, columns in light frame construction have been permitted to have required fire-resistance ratings provided by the membrane protection provided for the wall rather than through individual encasement. This is a significant cost-savings for builders because it eliminates a requirement for individual encasement of columns, including built up wood stud columns. Note that no fire loss data relevant to this modification was provided in the ICC's code development process in opposition to this change and no relevant fire loss data since the IBC was changed 6 years ago has been subsequently brought forward.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

There should be no additional impact to code enforcing entities. Installation is verified as part of normal framing inspection processes. There may be reduced inspection expense for jurisdictions that are making specific inspection stops to verify individual encasement of columns within walls.

Impact to building and property owners relative to cost of compliance with code

The change could significantly reduce the cost of compliance by eliminating the need for individual encasement of columns within light-frame walls.

Impact to industry relative to the cost of compliance with code

The change could significantly reduce the cost of compliance by eliminating the need for individual encasement of columns within light-frame walls.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

The modification addresses fire-resistance and cost of construction which relate to the safety and welfare of the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The modification provides an equivalent degree of fire-resistive construction at less expense.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The modification is material neutral, applicable to both metal and wood framing.

Does not degrade the effectiveness of the code

The modification provides an equivalent degree of fire-resistive construction at less expense. The code will be equally effective and will match the provisions of the 2021 IBC.

F9946Text Modification

704.4.1 Light-frame construction.

Studs, columns, and boundary elements that are integral elements in ~~*load-bearing*~~ *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 load-bearing wall.

Page: 1

Mod_9946_TextOfModification.pdf

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

37

F9981

Date Submitted	01/28/2022	**Section**	716.5.3.1	**Proponent**	John Woestman
Chapter	7	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9268

Summary of Modification

Proposal defines terminated stops (on door frames), and identifies where terminated stops are prohibited. Resolves denial reason for Mod F9268.

Rationale

Mod F9268 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies. The code today is silent regarding door frames with terminated stops. Interior door frames in many buildings have terminated stops, especially – but not only in – health care facilities. Some interior door frames in business occupancies, and other occupancies, may also have terminated stops. Unfortunately, the Florida Building Code currently does not include an important requirement that door assemblies required to meet the testing requirements of UL1784 when tested without an artificial bottom seal, as required in Florida Building Code Sections 405.4.3, 3006.3(3), 3007.6.3, and 3008.6.3, should be prohibited from using door frames with terminated stops. This proposal addresses this oversight. For other smoke and draft control door assemblies required to be tested to UL1784, this proposal is consistent with the testing requirements of UL 1784. Terminated stops are a factory feature of a door frame, where the stops are terminated above the door. The bottom of the stop is closed at a 45-degree or 90-degree angle. The purpose of terminated stops is to make it easier to clean that area of the door without the extra corners to catch debris or pathogens, and to avoid getting moveable items caught on the stop. Terminated stops are also known as "hospital stops" or "sanitary stops." Please see the attached file for a picture of a door frame with terminated stops.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal to no effect on code enforcement.

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. This proposal addresses what is currently allowed and prohibited in the code, but not explicitly "spelled out".

Impact to industry relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. This proposal addresses what is currently allowed and prohibited in the code, but not explicitly "spelled out".

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Door frames with terminated stops should be explicitly prohibited in the applications identified by the proposal to help ensure these doors perform as expected to minimize smoke migration.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code.

Add new definition as follows:

TERMINATED STOPS. Factory feature of a door frame where the stops of the door frame are terminated not more than 6 inches from the bottom of the door frame. Terminated stops are also known as "hospital stops" or "sanitary stops".

Revise as follows:

716.5.3.1 Smoke and draft control.

Fire door assemblies shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. 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 ? 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. Installation of smoke doors shall be in accordance with NFPA 105. Terminated stops shall be prohibited on doors required by Section 405.4.3 to comply with Section 716.5.3 and prohibited on doors required by Sections 3006.3 Item 3, 3007.6.3, or 3008.6.3 to comply with Section 716.5.3.1.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per FS60-18, approved as submitted, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

Add new definition as follows:

TERMINATED STOPS. Factory feature of a door frame where the stops of the door frame are terminated not more than 6 inches from the bottom of the door frame. Terminated stops are also known as "hospital stops" or "sanitary stops".

Revise as follows:

716.5.3.1 Smoke and draft control.

Fire door assemblies shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. The air leakage rate of the door assembly shall not exceed 3.0 cubic feet per minute per square foot (0.01524 $m^3/s \bullet m^2$) 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. Installation of smoke doors shall be in accordance with NFPA 105. Terminated stops shall be prohibited on doors required by Section 405.4.3 to comply with Section 716.5.3 and prohibited on doors required by Sections 3006.3 Item 3, 3007.6.3, or 3008.6.3 to comply with Section 716.5.3.1.

Reason
Mod F9268 was denied with the reason: "Original text of this code change is not consistent with that of the 2020 FBC-B." This proposal resolves the inconsistencies.

The code today is silent regarding door frames with terminated stops. Interior door frames in many buildings have terminated stops, especially – but not only in – health care facilities. Some interior door frames in business occupancies, and other occupancies, may also have terminated stops.

Unfortunately, the Florida Building Code currently does not include an important requirement that door assemblies required to meet the testing requirements of UL1784 when tested without an artificial bottom seal, as required in Florida Building Code Sections 405.4.3, 3006.3(3), 3007.6.3, and 3008.6.3, should be prohibited from using door frames with terminated stops. This proposal addresses this oversight.
For other smoke and draft control door assemblies required to be tested to UL1784, this proposal is consistent with the testing requirements of UL 1784.

Terminated stops are a factory feature of a door frame, where the stops are terminated above the floor. The bottom of the stop is closed at a 45-degree or 90-degree angle. The purpose of terminated stops is to make it easier to clean that area of the floor without the extra corners to catch debris or pathogens, and to avoid getting moveable items caught on the stop. Terminated stops are also known as "hospital stops" or "sanitary stops."

Door frame with terminated stop.

Cost Impact
The code change proposal will not increase or decrease the cost of construction.
This proposal addresses what is currently allowed and prohibited in the code, but not explicitly "spelled out".

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

38

F10038

Date Submitted	02/01/2022	**Section**	704.12	**Proponent**	T Stafford
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This modification is one of a series of modifications that delete the seismic and snow requirements from the code. In accordance with Exception 2 to Section 101.2 of the FBCB, seismic and snow requirements are not to be utilized or enforced in the State of Florida.

Rationale

This modification is the culmination of a project funded by the Florida Building Commission through Building a Safer Florida (BASF) that the deletes the seismic and snow provisions from the Florida Building Codes. In accordance with Exception 2 to Section 101.2 of the Florida Building Code, Building, the seismic and snow provisions are exempted from the scope of the Florida Building Codes. Exception 2 to Section 101.2 states the following: "2. Code requirements that address snow loads and earthquake protection are pervasive; they are left in place but shall not be utilized or enforced because Florida has no snow load or earthquake threat." These modifications clarify and simplify the code by deleting requirements that do not apply in the State of Florida.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact to local entities relative to enforcement of the code.

Impact to building and property owners relative to cost of compliance with code

No impact to building and property owners relative to cost of compliance with the code.

Impact to industry relative to the cost of compliance with code

No impact to industry relative to the cost of compliance with the code.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Clarifies and simplifies the code by deleting requirements that do not apply in the State of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by deleting requirements that do not apply in the State of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

This proposal does not degrade the effectiveness of the code.

Delete section in its entirety and show as Reserved:

704.12 Seismic isolation systems. Reserved. ~~*Fire-resistance ratings* for the isolation system shall meet the *fire-resistance rating* required for the columns, walls or other structural elements in which the isolation system is installed in accordance with Table 601. Isolation systems required to have a *fire-resistance rating* shall be protected with *approved* materials or construction assemblies designed to provide the same degree of *fire resistance* as the structural element in which the system is installed when tested in accordance with ASTM E119~~

~~or UL 263 (see Section 703.2).~~

~~Such isolation system protection applied to isolator units shall be capable of retarding the transfer of heat to the isolator unit in such a manner that the required gravity load-carrying capacity of the isolator unit will not be impaired after exposure to the standard time-temperature curve fire test prescribed in ASTM E119 or UL 263 for a duration not less than that required for the *fire-resistance rating* of the structure element in which the system is installed.~~

~~Such isolation system protection applied to isolator units shall be suitably designed and securely installed so as not to dislodge, loosen, sustain damage or otherwise impair its ability to accommodate the seismic movements for which the isolator unit is designed and to maintain its integrity for the purpose of providing the required fire-resistance protection.~~

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

39

F10099

Date Submitted	02/10/2022	**Section**	703	**Proponent**	Greg Johnson
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV Mass timber package; mods 10098, 10099, 10161, 10162, 10163, and more

Summary of Modification

This modification provides a performance path for determining the time contribution of noncombustible protection to mass timber fire resistance.

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; this requires no additional plan review or inspection.

Impact to building and property owners relative to cost of compliance with code

None; this is an optional method of construction. The owner chooses whether or not to build by this method.

Impact to industry relative to the cost of compliance with code

None; this is an optional method of construction. The owner chooses whether or not to build by this method.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistance calculation procedure.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting a new method of construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this modification.

Does not degrade the effectiveness of the code

Improves the code by supporting a new method of construction.

703.8 Determination of noncombustible protection time contribution.

The time, in minutes, contributed to the fire-resistance rating by the noncombustible protection of mass timber building elements, components, or assemblies, shall be established through a comparison of assemblies tested using procedures set forth in ASTM E119 or UL 263. The test assemblies shall be identical in construction, loading and materials, other than the noncombustible protection. The two test assemblies shall be tested to the same criteria of structural failure with the following conditions:

1. Test Assembly 1 shall be without protection.

2. Test Assembly 2 shall include the representative noncombustible protection. The protection shall be fully defined in terms of configuration details, attachment details, joint sealing details, accessories and all other relevant details.

The noncombustible protection time contribution shall be determined by subtracting the fire-resistance time, in minutes, of Test Assembly 1 from the fire-resistance time, in minutes, of Test Assembly 2.

Rationale: New Sec 703.8 determining noncombustible protection contribution for mass timber

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-FS5-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

The TWB determined that the fire resistance rating of mass timber structural elements, embodied in a series of proposals including this one, shall consist of the inherent fire resistance rating of the mass timber and the additional fire resistance rating of the Noncombustible Protection described in new definitions proposals. The TWB determined that at least 2/3 of the required fire resistance rating should come from the Noncombustible Protection. The TWB decided to provide both a performance path, as embodied in this proposal, and a prescriptive path, embodied in another proposal for Section 722.7.

This proposal constitutes the performance path for determining the contribution of noncombustible protection for mass timber elements. The proposal outlines a protocol to accomplish this. This proposal should be considered as a companion proposal to the proposals creating new types of mass timber construction in Section 602.4 and the code proposal in Section 722.7. The proposed new Section 602.4 requires the use of noncombustible protection on most mass timber elements in most of the proposed new types of construction.

This proposal, new section 703.8, is created to provide the method by which any material not contained in the prescriptive Table in Section 722.7 may be tested to show the time, in minutes, which it contributes as noncombustible protection. This procedure is representative of the procedure used in the past to determine the protection times for various membranes in Section 722.6 Component Additive Method for wood construction. It is neither new nor ambiguous in its use. Recent testing by AWC confirms the values derived from historic testing. A report is available at the following link: http://bit.ly/WFC-firetestofGWBonCLT . This link was confirmed active on 1/14/22.

This procedure should not be confused with “membrane protection” which is based on temperature rise on the unexposed side of a membrane attached to construction elements. Noncombustible construction is, instead, noncombustible material meeting the requirements of Section 703.5. Its contribution to the fire resistance rating of any building element is determined by this proposed new section. Simply put, it is determined by measuring the fire resistance time, in minutes and determined by structural failure, of a mass timber building element and then conducting a second test measuring the fire resistance time, in minutes and determined by structural failure, of the identical mass timber element with identical load, construction and condition, but with the proposed noncombustible protection applied to it. The difference in time between the two samples is the contribution, in minutes, of the noncombustible protection.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

G146-18 as proposed:

3102.3 Type of construction.
Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses* , where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Reason:
AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G146-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

This code change will result in consistency with the purpose and scope which was to leave intact the current Type IV heavy timber provisions. The HT category was created to differentiate the three (3) new categories of “mass timber”, where HT represents the long-established heavy timber category that has been in the ICC family of codes, and the predecessor legacy codes, for decades.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and act on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

G152

D102.2 Other specific requirements.

D102.2.1 Exterior walls. Exterior walls of buildings located in the fire district shall comply with the requirements in Table 601 except as required in Section D102.2.6.

D102.2.2 Group H prohibited. Group H occupancies shall be prohibited from location within the fire district.

D102.2.3 Construction type. Every building shall be constructed as required based on the type of construction indicated in Chapter 6.

D102.2.4 Roof covering. Roof covering in the fire district shall conform to the requirements of Class A or B roof coverings as defined in Section 1505.

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be not less than 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G152-18) in the ICC Code Development monograph 2018 Group A:

This code change proposal will result in consistency with the purpose and scope which was to leave intact the current Type IV heavy timber provisions. The HT category was created to differentiate the three (3) new categories of "mass timber", where HT represents the long-established heavy timber category that has been in the ICC family of codes, and the predecessor legacy codes for decades.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and act on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

40

F10167

Date Submitted	02/10/2022	**Section**	703	**Proponent**	Greg Johnson
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mass timber Type IV package; mods # 10098, 10099, 10161, 10162, 10163, and more

Summary of Modification

Provides requirements for sealing of adjacent mass timber elements.

Rationale

see uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Where this method of construction is chosen by the owner, inspections of the sealing of mass timber elements will be required. This expense is typically borne by the owner similar to special or third party inspections.

Impact to building and property owners relative to cost of compliance with code

None. This is an optional construction method. Owners can choose not to bear this cost.

Impact to industry relative to the cost of compliance with code

None. This is an optional construction method. Owners can choose not to bear this cost.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistive construction provision.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting a new construction method.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited.

Does not degrade the effectiveness of the code

Improves the code by supporting a new construction method.

703.9 Sealing of adjacent mass timber elements.

In buildings of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of mass timber building elements required to be fire-resistance rated.
2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

Rationale: Sec. 703.9 Sealing of adjacent mass timber elements

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-FS6-18, S100) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

Mass timber has inherent properties of fire resistance, serving both to provide structural fire resistance and to safeguard against the spread of fire and smoke within a building or the spread of fire between structures.

When mass timber panels are connected together, fire tests have demonstrated that it is important for the abutting edges and intersections in the plane of and between the different planes of panels that form a separation to be sealed. The structures tested as part of the fire tests supporting this submittal were constructed with this sealing.

To review a summary of the fire tests, please visit: http://bit.ly/ATF-firetestreport

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit: http://bit.ly/ATF-firetestvideos.

Both of these links were confirmed active on 1/14/22.

The US CLT manual recommends a bead of construction adhesive. Construction adhesive or other sealant can be used to prevent air flow. When a wall or horizontal assembly serves as the separation between two atmospheres, a fire creates differential pressure where heated gasses raise the pressure and work to drive fire and hot gasses through the structure. Voids that are not properly sealed can serve as a conduit for air movement during a fire, so abutting edges and intersections are recommended to be sealed.

Periodic inspections during construction are required to make that the appropriate sealant or adhesive is used and to establish inspections to verify for ongoing quality control.

Some panels are manufactured under proprietary processes to ensure there are no voids at these intersections.

Where this proprietary process is incorporated and tested, there is no requirement for sealant or adhesive and an exception is provided for this instance. Where the sealant is not required and is not specifically excluded it is still considered to be a good practice covered by this section.

This code change proposal does not apply to “joints” as defined in Section 202 of the IBC as joints have their own requirements for the placement and inspection of fire resistant joint systems in IBC Section 715. Joints are defined as having an opening that is designed to accommodate building tolerances or to allow independent movement. Panels and members that are connected together as covered by this code

change proposal do not meet the definition of a joint since they are rigidly connected and do not have an opening.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

41

F10169

Date Submitted	02/10/2022	**Section**	722	**Proponent**	Greg Johnson
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mass timber Type IV package; mods 10098, 10099, 10161, 10163, 10167 and more

Summary of Modification

Prescriptive method of determining required fire protection of mass timber elements

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; no additional inspection or plan review is required.

Impact to building and property owners relative to cost of compliance with code

None; this is an optional construction method. the owner can choose not to incur this cost.

Impact to industry relative to the cost of compliance with code

None; this is an optional construction method. the owner can choose not to incur this cost.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistant construction provision.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting a new construction option.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

Improves the code by supporting a new construction option.

722.7.1 Minimum required protection. Where required by Sections 602.4.1 through 602.4.3, noncombustible protection shall be provided for mass timber building elements in accordance with Table 722.7.1(1). The rating, in minutes, contributed by the noncombustible protection of mass timber building elements, components or assemblies, shall be established in accordance with Section 703.6. The protection contributions indicated in Table 722.7.1(2) shall be deemed to comply with this requirement where installed and fastened in accordance with Section 722.7.2.

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TABLE 722.7.1(1)

PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 705.5 (hours)	MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)
1	40
2	80
3 or more	120

-

TABLE 722.7.1(2)

PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL

-

NONCOMBUSTIBLE PROTECTION	PROTECTION CONTRIBUTION (minutes)
1/2-inch Type X gypsum board	25
5/8-inch Type X gypsum board	40

-

-

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722.7.2 Installation of gypsum board noncombustible protection. Gypsum board complying with Table 722.7.1(2) shall be installed in accordance with this section.

-

722.7.2.1 Interior surfaces. Layers of Type X gypsum board serving as noncombustible protection for interior surfaces of wall and ceiling assemblies determined in accordance with Table 722.7.1(1) shall be installed in accordance with the following:

1. Each layer shall be attached with Type S drywall screws of sufficient length to penetrate the mass timber at least 1 inch (25 mm) when driven flush with the paper surface of the gypsum board.
   Exception: The third layer, where determined necessary by Section 722.7, shall be permitted to be attached with 1-inch (25 mm) No. 6 Type S drywall screws to furring channels in accordance with AISI S220.
2. Screws for attaching the base layer shall be 12 inches (305 mm) on center in both directions.
3. Screws for each layer after the base layer shall be 12 inches (305 mm) on center in both directions and offset from the screws of the previous layers by 4 inches (102 mm) in both directions.
4. All panel edges of any layer shall be offset 18 inches (457 mm) from those of the previous layer.
5. All panel edges shall be attached with screws sized and offset as in Items 1 through 4 and placed at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge.

6. All panels installed at wall-to-ceiling intersections shall be installed such that ceiling panels are installed first and the wall panels are installed after the ceiling panel has been installed and is fitted tight to the ceiling panel. Where multiple layers are required, each layer shall repeat this process.
7. All panels installed at a wall-to-wall intersection shall be installed such that the panels covering an exterior wall or a wall with a greater fire-resistance rating shall be installed first and the panels covering the other wall shall be fitted tight to the panel covering the first wall. Where multiple layers are required, each layer shall repeat this process.
8. Panel edges of the face layer shall be taped and finished with joint compound. Fastener heads shall be covered with joint compound.
9. Panel edges protecting mass timber elements adjacent to unprotected mass timber elements in accordance with Section 602.4.2.2 shall be covered with 11/4-inch (32 mm) metal
corner bead and finished with joint compound.

722.7.2.2 Exterior surfaces. Layers of Type X gypsum board serving as noncombustible protection for the outside of the exterior mass timber walls determined in accordance with Table 722.7.1(1) shall be fastened 12 inches (305 mm) on center each way and 6 inches (152 mm) on center at all joints or ends. All panel edges shall be attached with fasteners located at least 1 inch (25 mm) but not more than 2 inches (51 mm) from the panel edge. Fasteners shall comply with one of the following:

1. Galvanized nails of minimum 12 gage with a 7/16-inch (11 mm) head of sufficient length to penetrate the mass timber a minimum of 1 inch (25 mm).
2. Screws that comply with ASTM C1002 (Type S, W or G) of sufficient length to penetrate the mass timber a minimum of 1 inch (25 mm).

Sec. 722 fire protection of mass timber

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-FS81-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

Typically, mass timber elements will be large due to structural requirements. In addition, CLT panels typically are utilized in odd number laminations. This typically results in excess capacity which means better fire endurance. Thus, mass timber elements are conservative in their fire resistance rating. Furthermore, the TWB decided to provide both a prescriptive path, as embodied in this proposal, and a performance path, embodied in another proposal.

This proposal outlines a method to calculate the fire resistance rating of a protected wood element by adding the fire resistance rating of the unprotected wood member together with the protection time provided by the noncombustible protection applied to the exposed wood.

This proposal should be considered as a companion proposal to the proposals creating new types of mass timber construction in Section 602.4 and the code proposal for Section 703.8 outlining a testing protocol to determine the contribution of noncombustible protection. This code proposal allows the user to select a prescriptive solution utilizing Type X gypsum wall board, which is deemed to comply with the basic requirements of this section and those of the proposed Section 602.4. Since this is a prescriptive solution, conditions of use such as attachment, finishing and edge treatment when bordering exposed mass timber areas, are also included in this section.

A proposal in Section 703.8 both forms the performance path for this determination and is the basis by which the contribution of the Noncombustible Protection to the fire resistance rating is determined. Testing of beams, columns, walls and ceiling panels has been used to establish the values found in table 722.7.1(b) for 1/2-inch Type X and 5/8-inch Type X gypsum board as well. Recent testing by AWC confirms the values derived from historic testing. A report is available at the following link: http://bit.ly/WFC-firetestofGWBonCLT . This link was confirmed active on 02-10-2022.

Tests proposed in Section 703.8 may be used in the future to justify additional materials added to this table and should not be confused with “membrane protection” which is based on temperature rise on the unexposed side of a membrane attached to construction elements. Noncombustible construction is, instead, noncombustible material meeting the requirements of Section 703.5. Its contribution to the fire resistance rating of any building element is determined by this proposed new section. Simply put, it is determined by measuring the fire resistance time in minutes to the point of structural failure of a mass timber building element and then conducting a second test measuring the fire resistance time in minutes taken to the same point of structural failure. Each test is to be conducted with identical mass timber element with identical load, construction and condition, but with the proposed noncombustible

protection applied to the second assembly. The difference in time between the two samples is the contribution, in minutes, of the noncombustible protection.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

42

F10379

Date Submitted	02/15/2022	**Section**	716.2.2.1.1	**Proponent**	Amanda Hickman
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

smoke and draft control

Rationale

This modification does not change the requirements in the Florida Building Code. Instead it retains the 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.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will improve enforcement of the code by clarifying there are alternative means to comply with the current code provisions.

Impact to building and property owners relative to cost of compliance with code

No impact to cost, as this modification only clarifies there are alternative means to comply with the current code provisions.

Impact to industry relative to the cost of compliance with code

No impact to cost, as this modification only clarifies there are alternative means to comply with the current code provisions.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, this modification ensures openings are protected in a manner equivalent to that required for all other openings into the corridor or smoke barrier.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by clarifying that there are alternative means to comply with current code provisions.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate because it retains the current code requirements.

Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code because this modification does not change the requirements in the Florida Building Code.

716.5.3.1 Smoke and draft control.

Fire door assemblies shall meet the requirements for a smoke and draft control door assembly tested in accordance with UL 1784. 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 ? 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. Installation of smoke doors shall be in accordance with NFPA 105.

Exception: Elevator hoistway door openings protected in accordance with Section 3006.3

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

43

F10461

Date Submitted	02/15/2022	**Section**	707.8	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

ICC FS43-21

Summary of Modification

The Firestop Contractors International Association Requests Expansion of Applications Where Joints Adjacent to Fire Barriers Require Protection

Rationale

This proposal replicates a proposal which was submitted by the Fire Code Action Committee during the current ICC Code Development Cycle under Proposal No. FS43-21. FS43-21 was approved by the Committee at the Committee Action Hearing by a vote of 11-2. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. This proposal clarifies the requirements to protect joints apply to the intersection of fire barriers and all other fire-resistance-rated wall assemblies (e.g. a smoke barrier wall) and not solely to exterior wall assemblies. As revised, this Section addresses only fire-resistance-rated walls. Intersections with nonfire-resistance-rated wall assemblies are covered in Section 707.9. FCIA believes this code change is significant enough to warrant consideration by the Florida Building Commission for inclusion in the 2023 FBC. We request your approval of this proposal so as to include the latest language for this provision in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will increase the number of fire-resistant joints systems in a building and as such, increase the cost of inspections by the local entity.

Impact to building and property owners relative to cost of compliance with code

This proposal will increase the number of fire-resistant joints systems in a building and as such, increase the cost of construction for the building and property owners.

Impact to industry relative to the cost of compliance with code

This proposal will have no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal reduces the risk to occupants by increasing the scope of joints which require protection.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal strengthens the code by increasing the scope of joints which require protection.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any materials, products, methods, or systems of construction.

Does not degrade the effectiveness of the code

This proposal strengthens the code by increasing the scope of joints which require protection.

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 715~~with other fire-resistance-rated wall assemblies shall comply with Section 715.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

44

F10469

Date Submitted	02/15/2022	**Section**	722.5.1.3	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this defined phrase is used, including in Sections 202, 603.1, 722.5.2.2 and 722.5.2.3.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Intumescent Fire-Resistive Materials (IFRM) which replaces Definitions for Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G17-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings to Intumescent Fire-Resistive Materials (IFRM). The language contained in this proposal reflects what was approved as submitted by the Committee with a vote of 12-1. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The first purpose of this proposal is to consolidate two definitions for the same material into one term. The FBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. The second reason is IFRM products are not just a paint or coating. These materials are fireproofing first, and nice-looking surfaces second. The most important thing to recognize is that these material’s purpose and is to provide fire-resistive protection of structural building elements and to prevent progressive collapse of buildings when exposed to fire. This new combined name – Intumescent Fire-Resistive Materials (IFRM) 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, Webster's Dictionary defines 'resistive' as .... "marked by resistance - often used in combination // fire-resistive material." The term "Intumescent Fire-Resistive Materials" is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and in UL’s Product iQ Online Directory. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

Revise as follows:

722.5.1.3 Sprayed fire-resistant materials.

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

$$R = [C1(W/D) + C2]h$$

(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 *intumescent* ~~*or mastic fire-resistive*~~*resistant* *materials*~~*coatings*~~ shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

45

F10471

Date Submitted	02/15/2022	**Section**	722.5.2.2	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this defined phrase is used, including in Sections 202, 603.1, 722.5.1.3 and 722.5.2.3.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Intumescent Fire-Resistive Materials (IFRM) which replaces Definitions for Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G17-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Intumescent Fire-Resistant Coatings and Mastic Fire-Resistant Coatings to Intumescent Fire-Resistive Materials (IFRM). The language contained in this proposal reflects what was approved as submitted by the Committee with a vote of 12-1. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The first purpose of this proposal is to consolidate two definitions for the same material into one term. The FBC defines both terms, then uses a combined term - intumescent or mastic intumescent coatings - in the technical sections. The second reason is IFRM products are not just a paint or coating. These materials are fireproofing first, and nice-looking surfaces second. The most important thing to recognize is that these material’s purpose and is to provide fire-resistive protection of structural building elements and to prevent progressive collapse of buildings when exposed to fire. This new combined name – Intumescent Fire-Resistive Materials (IFRM) 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, Webster's Dictionary defines 'resistive' as .... "marked by resistance - often used in combination // fire-resistive material." The term "Intumescent Fire-Resistive Materials" is also the term used for these products in the NFCA's Handbook of Accepted Fireproofing Knowledge and in UL’s Product iQ Online Directory. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

Revise as follows:

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:

$$H_2 = h_1[W_1/D_1) + 0.60]/[(W_2/D_2) + 0.60]$$

(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 *intumescent* ~~*or mastic fire-resistive*~~*resistant* *materials*~~*coatings*~~ shall be determined on the basis of fire-resistance tests in accordance with Section 703.2.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

46

F10500

Date Submitted	02/15/2022	**Section**	704.13	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Multiple related proposals where this phrase is used, including Sections 202, 403.2.4, 412.3.1.3 & 603.1. Also, Modification 10394 proposing Special Inspections for SFRM and IFRM. If 10394 is approved, the updated phrase for SFRM and IFRM will need to be transposed to new Section 1705.

Summary of Modification

The National Fireproofing Contractors Association Requests a New Definition for Sprayed Fire-Resistive Materials (SFRM) which Replaces the Definition for Sprayed Fire-Resistant Materials

Rationale

The National Fireproofing Contractors Association (NFCA) submitted Proposal No. G29-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to change the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). The language contained in this proposal reflects what was approved as submitted by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. When installed in accordance with the listing and manufacturers installation instructions, Sprayed Fire-Resistive Materials becomes ‘fireproofing’. The purpose of this proposal is two-fold. First, it changes the terminology from Sprayed Fire-Resistant Materials to Sprayed Fire-Resistive Materials (SFRM). This change aligns the FBC definition with the industry term for the product. The National Fireproofing Contractors Association's Handbook of Accepted Fireproofing Knowledge (HAFK) uses the term SFRM - Sprayed Fire-Resistive Materials. Second, 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. We request your approval of this proposal so as to include the latest language from the 2024 IBC in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact. This is the phrase used by industry to describe these materials.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

No impact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

No impact.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade the code.

F10500Text Modification

Revise as follows:

704.13 Sprayed fire-<u>resistive</u>~~resistant~~ materials (SFRM).

Sprayed fire-<u>resistive</u>~~resistant~~ materials (SFRM) shall comply with Sections 704.13.1 through 704.13.5.

Mod_10500_TextOfModification.pdf Page: 1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

47

F10512

Date Submitted	02/15/2022	**Section**	704.6.1	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

ICC FS8-18, FS11-21 and FBC Modification No. F9238

Summary of Modification

The National Fireproofing Contractors Association Requests Further Changes to new Section 704.6.1 Developed under FBC Modification No. F9238

Rationale

A new Section 704.6.1 was added to the 2021 International Building Code (IBC) based on Proposal No. FS8-18. The original intent of the FS8-18 proposal was to address secondary non-structural tubular steel attachments to the primary and secondary structural steel members. Through the code development process, the provisions of this new section were expanded to cover all secondary steel attachments to the primary and secondary structural steel members. Now that the 2021 IBC is being adopted, this provision is proving to be problematic. It is being interpreted that any attachment to the primary and secondary steel members require protection. This includes threaded rod hangers secured using beam clamps, Unistrut®, and even acoustical ceiling hanger wires. Clearly that was not the intent. The National Fireproofing Contractors Association submitted Proposal No. F11-21 during the Group A cycle of the current ICC 2021-2022 Code Development Cycle to clarify Section 704.6.1. The language contained in this proposal reflects what was approved by the Committee at the Committee Action Hearing with a vote of 13-0. Subsequently there were no public comments so the above language is what will appear in the 2024 IBC. The Florida Building Commission has approved F9238/FS8-18 which incorporates the language from the 2021 IBC. If approved, we believe this would be problematic in the state of Florida, as it has been elsewhere. As such this proposal is intended to jump ahead to the language already approved for inclusion in the 2024 IBC. We request your approval of this proposal so as to present an all-inclusive list of attachments requiring protection. We request your approval of this proposal so as to include the latest language for this provision in the 2023 FBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will now require the inspection of the protection applied to structural steel members attached to the primary or secondary steel frame.

Impact to building and property owners relative to cost of compliance with code

Since this proposal will now require protection of structural steel members attached to the primary or secondary steel frame, there will be additional costs. However, the additional cost will be minimal since only 12 in. of protection is required.

Impact to industry relative to the cost of compliance with code

There will be no impact to the industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal strengthens the life safety provisions of the code with respect to protection required for attachments to primary and secondary structural steel members.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal strengthens the code by requiring structural steel attachments to primary and secondary structural steel members to be protected.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any materials.

Does not degrade the effectiveness of the code

This proposal does not degrade the code.

Revise new Section 704.6.1 developed under Modification No. 9238 as follows:

704.6.1 Secondary attachments to structural members. Where primary and secondary structural steel members require fire protection, ~~secondary 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.

Code Change No: FS8-18

Original Proposal

Section(s): 704.6.1 (New)

Proponents: Crystal Sujeski, representing Crystal Sujeski (crystal.sujeski@fire.ca.gov)

2018 International Building Code

704.6 Attachments to structural members. The edges of lugs, brackets, rivets and bolt heads attached to structural members shall be permitted to extend to within 1 inch (25 mm) of the surface of the fire protection.

Add new text as follows:

704.6.1 Secondary (non-structural) attachments to structural members. Where primary and secondary structural steel members require fire protection, secondary (non-structural) tubular steel attachments to those structural members shall be protected with the same fire resistive rating as required for the structural member. The protection shall extend from the structural member a distance of not less than 12 inches. An open tubular attachment shall be filled with an equivalent fire protection method for a distance of 12-inch length from the structural member, or the entire length of the open tube, whichever is less.

Reason: Primary structural frame members shall comply with Table 601 for fire resistance rating. Secondary (non-structural) steel tubes provide support for a building's exterior curtain wall and are thereby considered to be unrated members that do not require any fire protection. The connection of non-structural tubes to primary structural members has potentially adverse thermal effects on the required fire resistance rating of the primary steel frame members.

Building attachments for miscellaneous non-structural items (hangers, braces, framing tracks, erection lifting lugs, wall supports, etc.) are typically not required to be individually fire protected. In addition, fire resistance rated assemblies are tested without attachments, and with a homogeneous and continuous protection system or material. Thus, rated assemblies are explicitly limited to only the tested or approved components given in the published listing, which does not include bare steel attachments or discontinuous member protection. If such secondary steel attachments are connected to a fire resistance rated steel assembly, they may jeopardize the assembly's rating and protection system by the introduction of "thermal shorts", which can cause unexpected and excessive heat conduction, convection, or radiation through the attachment or its connection to the primary assembly.

The proposal to require a 12-inch extension of fireproofing on all non-structural attachments is based on a general industry practice as described in ANSI/UL 263 BXUV (exhibit C). Attached in the documentation is exhibit A, a letter from Steve Unser, a chief building official from the City of Creve Coeur, MO stating a policy to address the "12- inch rule" of fireproofing structural attachments to fireproofed beams and columns.

Moreover, in cases where an open tubular steel connection is utilized it is vital that the interior surfaces of the tube walls are fireproofed and the bottom ends of the tubes are closed. Without this protection, this condition results in bare (unprotected) steel areas at the attachment that could be directly exposed to radiant and convective heat from a fire source.

Attached (exhibit B1 and B2) is a modeling analysis of a high-rise project in Stockton, CA prepared by Jensen Hughes Senior Engineers Nestor Iwankiw and Thomas Forsythe. Their analysis further supports the proposed code change that would require fire proofing of secondary non-structural attachments.

Under the current code, fire-proofing requirements for non-structural attachments and their connections remain ambiguous. This lack of clarity makes fire protection enforcement difficult due to increased construction costs for contractors, builders and owners. Furthermore, special inspectors, fire and building officials are not taught to look for these deficiencies, resulting in numerous buildings with unprotected steel that can potentially have serious implications on public safety and welfare.

The proposal establishes a legal basis for requiring the additional fire protection as described herein.
The 'attached' documentation can be viewed at this link established 2/21/18
https://www.dropbox.com/sh/t0hlmrxf63gejfh/AABEvqgYih_QPK928kuUwazKa?dl=0

Cost Impact: The code change proposal will increase the cost of construction
This code change will increase the cost of construction; however, without additional fire protection the structural integrity of the building may be compromised.

Report of Committee Action Hearings

Committee Action: **Approved as Modified**

Committee Modification:

704.6.1 Secondary ~~(non-structural)~~ attachments to structural members. Where primary and secondary structural steel members require fire protection, secondary ~~(non-structural)~~ tubular steel attachments to those structural members shall be protected with the same fire resistive ~~rating~~ 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, or shall be applied to the entire length when the attachment is less than 12 inches long. ~~An~~ When the ends are open, the fire resistive material and thickness shall be applied to both exterior and interior of the tubular steel attachment. ~~shall be filled with an equivalent fire protection method for a distance of 12-inch length from the structural member, or the entire length of the open tube, whichever is less~~.

Committee Reason: The modification refines the language to better reflect the intent of the proposal. The change clarifies an area of framing and the appropriate level of protection. Structural tubing has been a question of the years and there is evidence of heat transferring into the structure from such tubing. Perhaps a public comment expanding this solution to other attachments of shapes other than tubular. (Vote 11-3)

Assembly Action: **None**

Public Comments

Public Comment 1:

Crystal Sujeski, representing Crystal Sujeski (crystal.sujeski@fire.ca.gov) requests As Modified by Public Comment

Modify as follows:

2018 International Building Code

704.6.1 Secondary attachments to structural members. Where primary and secondary structural members require fire protection, secondary ~~tubular~~ 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, or shall be applied to the entire length when the attachment is less than 12 inches long. When an attachment is hollow and the ends are open, the fire resistive material and thickness shall be applied to both the exterior and interior of the ~~tubular~~ hollow steel attachment.

Commenter's Reason: This public comment has modified the proposal FS-8 to address the committee comments to expand the requirements for fire protection to be all inclusive of secondary steel attachments and not just limited to tubular steel.

Cost Impact: The net effect of the public comment and code change proposal will increase the cost of construction
The cost of construction will be increased minimally, however without additional fire protection the structural integrity of the building may be compromised.

Final Action

FS8-18 **AMPC1**

FS11-21

IBC: 704.6.1

Proponents: Bill McHugh, representing 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 tubular 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 Statement: 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. .

FS11-21

Committee Action: **As Modified**

Committee Modification:

704.6.1 Secondary attachments to structural members

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)

No Public Comments Received

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

48

F10518

Date Submitted	02/15/2022	**Section**	714.2.1	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The Firestop Contractors International Association Proposes Firestop Systems in High-Rise Buildings and I-2 Occupancies be Installed by Approved or Qualified Contractors

Rationale

Building survey findings have identified firestop system installation deficiencies demonstrating a lack of knowledge regarding these life safety systems by many entities and employees in the construction industry. There is a lack of knowledge and respect for the complex listings, and disregard for the manufacturer's installation instructions. By adding a requirement that penetration firestop systems be installed by companies designated as a qualified contractor through a management system program means there is a benchmark level of knowledge at the entity providing installations. These installations become code compliant systems only after installation in accordance with the listing criteria and the manufacturers installation instructions. The exceptions address concerns identified in previous ICC code development cycles. The code official can determine that the work is of such a nature that the contractor qualifications need not apply. The second exception allows building owners to use in-house personnel or other contractors to do work in an existing building. However, the basic requirement that moving forward the quality of installation of firestop systems will improve in high-rise buildings and Group I-2 occupancies where it is essential that compartmentation features perform as anticipated. Approved or qualified contractor programs are administered by two agencies – FM Approvals and UL LLC. Both programs provide audit proven installation entity management systems resulting in knowledge and processes that results in the likelihood that listing criteria and manufacturers installation instructions are followed, providing better fire and life safety to buildings. We request your approval of this proposal so help improve the quality of installation of these life safety building features.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal should make inspections by local entities simpler as the installers will be more knowledgably resulting in fewer installation issues.

Impact to building and property owners relative to cost of compliance with code

Although there is a cost for a contractor to become approved or qualified which must be passed on to the customer, history has shown the improved efficiency and less rework more than offsets the cost of the program. Overall cost of installations will not change significantly one way or another.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal will improve life safety as these systems will be installed in accordance with the listed system and manufacturer's installation instruction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal will improve the quality of installations resulting in improve life safety.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any material or product. However, it does demand installers to meet the approved or qualified contractor requirements.

Does not degrade the effectiveness of the code

This proposal does not degrade the code.

Add new text as follows:

714.2.1 Contractor Qualifications.

In high-rise buildings and buildings containing a Group I-2 occupancy, listed firestop systems shall be installed by companies designated as a qualified contractor through a management system program administered by a Nationally Recognized Testing Laboratory actively engaged in the business of third-party testing and listing of these systems or an *approved agency*.

Exceptions:

1. Where the work is of a minor nature as approved by the building official.
2. Work performed in accordance with the International Existing Building Code other than an Addition.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

49

F10521

Date Submitted	02/15/2022	**Section**	715.2.1	**Proponent**	Richard Walke
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The Firestop Contractors International Association Proposes Fire-Resistant Joint Systems and Perimeter Fire Containment Systems in High-Rise Buildings and I-2 Occupancies be Installed by Approved or Qualified Contractors

Rationale

Building survey findings have identified fire-resistant joint system and perimeter fire containment system installation deficiencies demonstrating a lack of knowledge regarding these life safety systems by many entities and employees in the construction industry. There is a lack of knowledge and respect for the complex listings, and disregard for the manufacturer's installation instructions. By adding a requirement that these systems be installed by companies designated as a qualified contractor through a management system program means there is a benchmark level of knowledge at the entity providing installations. These installations become code compliant systems only after installation in accordance with the listing criteria and the manufacturers installation instructions. The exceptions address concerns identified in previous code change cycles. The code official can determine that the work is of such a nature that the contractor qualifications need not apply. The second exception allows building owners to use in-house personnel or other contractors to do work in an existing building. However, the basic requirement that moving forward the quality of installation of fire-resistant joint systems and perimeter fire containment system will improve in high-rise buildings and Group I-2 occupancies where it is essential that compartmentation features perform as anticipated. Approved or qualified contractor programs are administered by two agencies – FM Global and UL LLC. Both programs provide audit proven installation entity management systems resulting in knowledge and processes that results in the likelihood that listing criteria and manufacturers installation instructions are followed, providing better fire and life safety to buildings. We request your approval of this proposal so help improve the quality of installation of these life safety building features.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal should make inspections by local entities simpler as the installers will be more knowledgably resulting in fewer installation issues.

Impact to building and property owners relative to cost of compliance with code

Although there is a cost for a contractor to become approved or qualified which must be passed on to the customer, history has shown the improved efficiency and less rework more than offsets the cost of the program. Overall cost of installations will not change significantly one way or another.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposal will improve life safety as these systems will be installed in accordance with the listed system and manufacturer's installation instruction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposal will improve the quality of installations resulting in improve life safety.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against any material or product. However, it does demand installers to meet the approved or qualified contractor requirements.

Does not degrade the effectiveness of the code

This proposal does not degrade the code.

Add new text as follows:

715.2.1 Contractor Qualifications.

In high-rise buildings and buildings containing a Group I-2 occupancy, listed *fire-resistant joint systems* and *perimeter fire containment systems* shall be installed by companies designated as a qualified contractor through a management system program administered by a Nationally Recognized Testing Laboratory actively engaged in the business of third-party testing and listing of these systems or an *approved agency*.

Exceptions:

1. Where the work is of a minor nature as approved by the building official.
2. Work performed in accordance with the International Existing Building Code other than an Addition.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

50

F10039

Date Submitted	02/01/2022	**Section**	913.2	**Proponent**	T Stafford
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This modification is one of a series of modifications that delete the seismic and snow requirements from the code. In accordance with Exception 2 to Section 101.2 of the FBCB, seismic and snow requirements are not to be utilized or enforced in the State of Florida.

Rationale

This modification is the culmination of a project funded by the Florida Building Commission through Building a Safer Florida (BASF) that the deletes the seismic and snow provisions from the Florida Building Codes. In accordance with Exception 2 to Section 101.2 of the Florida Building Code, Building, the seismic and snow provisions are exempted from the scope of the Florida Building Codes. Exception 2 to Section 101.2 states the following: "2. Code requirements that address snow loads and earthquake protection are pervasive; they are left in place but shall not be utilized or enforced because Florida has no snow load or earthquake threat." These modifications clarify and simplify the code by deleting requirements that do not apply in the State of Florida.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact to local entities relative to enforcement of the code.

Impact to building and property owners relative to cost of compliance with code

No impact to building and property owners relative to cost of compliance with the code.

Impact to industry relative to the cost of compliance with code

No impact to industry relative to the cost of compliance with the code.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Clarifies and simplifies the code by deleting requirements that do not apply in the State of Florida.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by deleting requirements that do not apply in the State of Florida.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities.

Does not degrade the effectiveness of the code

This proposal does not degrade the effectiveness of the code.

Revise as follows:

913.2 Protection against interruption of service. The fire pump, driver and controller shall be protected in accordance with NFPA 20 against possible interruption of service through damage caused by explosion, fire, flood, ~~earthquake,~~ rodents, insects, windstorm, freezing, vandalism and other adverse conditions.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

51

F9925

Date Submitted	01/19/2022	**Section**	1010.1.1	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9140

Summary of Modification

This proposal deletes the 48” maximum width requirements for swinging doors. It is the width, plus the height and the construction of the door (i.e. weight) which results in a door which may be difficult to open and / or close.

Rationale

This proposal deletes the 48” maximum width requirements for swinging doors. From the 2018 IBC Commentary: The maximum width for a means of egress door leaf in a swinging door is 48 inches (1219 mm) because larger doors are difficult to handle and are of sizes that typically are not fire tested. We somewhat agree with this statement in the IBC Commentary. However, it is the width plus the height and the construction of the door (i.e. weight) which results in a door which may be difficult to open and / or close. Our perspective is the performance requirements in Section 1010.1.3 Door Opening Force and the Accessibility requirements effectively result in the design and installation of appropriately-sized doors. Regarding fire tested doors (i.e. fire-rated doors) – the solution is simple – install fire-rated doors which meet the existing door opening force requirements. The revision in the 1st exception correlates with the proposed deleted text in the charging paragraph. The revision in the 4th exception clarifies the exception. From a different perspective, NFPA 101 has not had a requirement for maximum swinging door leaf width since the 1997 edition, stating there is insufficient reason to limit the maximum width of a door leaf provided the door is maintained in good working order. In addition, there is a trend in health-care occupancies for wider doorways to accommodate patient and equipment movement needs.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Reduces provisions required to be enforced. Slightly simplifies the code.

Impact to building and property owners relative to cost of compliance with code

No cost implications for the vast majority of buildings. This proposal may allow the use of a single door – that meets all FBC operational force requirements – where today the 48” width limit results in two doors in an opening. In these rare situations, the cost of construction may be reduced.

Impact to industry relative to the cost of compliance with code

Eliminates an unneeded requirement in the FBC.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Removes an unneeded requirement in the FBC.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

By removing an unneeded requirement in the FBC, creates opportunity for (single) doors meeting owner desires.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Doors would be required to comply with all applicable provisions of the FBC.

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 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 maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal.~~ The minimum clear height of door openings 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, the minimum and ~~maximum~~ 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. ~~Width~~ The maximum width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.1.4.2 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 units, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Group I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible units, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.
11. 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.
12. The minimum clear opening width shall not apply to doors for nonaccessible showers or sauna compartments.
13. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

52

F9944

Date Submitted	01/21/2022	**Section**	1016.2	**Proponent**	Brad Schiffer
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Clarity when exit access can go through elevator lobbies.

Rationale

This proposal is clarifying that when access to two or more Exits are required, one access can go through an elevator lobby. This is a common situation in multi-tenant buildings. This clarifies that a small tenant with a single Exit access can go through an elevator lobby to access the two Exits from the floor. Where two or more Exit access doors are required from the space, one of the Exit access routes can go through the elevator lobby to get to the lobby to get to the exits.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Since this clarifies existing compliance it would assist in enforcement of the Code.

Impact to building and property owners relative to cost of compliance with code

Since this clarifies existing compliance it would not change the cost.

Impact to industry relative to the cost of compliance with code

Since this clarifies existing compliance it would not change the cost.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Since this clarifies existing compliance it would not change the health, safety, and welfare of the general public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Since this clarifies existing compliance it would be equivalent.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Since this clarifies existing compliance it would be equivalent.

Does not degrade the effectiveness of the code

Since this clarifies existing compliance it would be equivalent.

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. ~~Access to~~ 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, not to apply if the lobby is only provided to meet the requirements of Section 1007.6, Exception 1. 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.

F9944Rationale

F9185/E85-18

213

Date Submitted	2/19/2021	**Section**	1016.2	**Proponent**	Mo Madani
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	Yes
TAC Recommendation	Pending Review				
Commission Action	Pending Review			**Staff Classification**	Overlap

Comments

General Comments No

Related Modifications

1016.2, (IFC [BE] 1016.2)

Original text of this code change is not consistent with that of the 2020 FBC-B.

Summary of Modification

This proposal is clarifying that when access to two or more exits are required, one access can go through elevator lobby.

Rationale

This proposal is clarifying that when access to two or more exits are required, one access can go through elevator lobby. Where only one access, due to low occupant load, is required then that access can go through elevator lobby.

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F9944Rationale

F9185 Text Modification

Approved as Submitted

2018 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. ~~Access to~~ 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.

3. An exit access shall not pass through a room that can be locked to prevent egress.

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:

Page: 1

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Page: 2

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F9185 Text Modification

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.

Code Change No: E85-18

Original Proposal

Section(s): 1016.2, (IFC [BE] 1016.2)

Proponents: Homer Maiel, representing ICC Tri-Chapter (Peninsula, East Bay, Monterey Bay) (hmaiel@gmail.com)

2018 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. ~~Access to~~ 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.

3. An exit access shall not pass through a room that can be locked to prevent egress.
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.

Reason: This proposal is clarifying that when access to two or more exits are required one access can go through elevator lobby. Where only one access, due to low occupant load is required then that access can go through elevator lobby.

F9944Rationale

F9185 Rationale

Cost Impact: The code change proposal will not increase or decrease the cost of construction.
This is a clarification for single exit spaces and will not change construction requirements.

Public Hearing Results

Committee Action: **Approved as Submitted**

Committee Reason: This is a common situation in multi-tenant buildings. This clarifies that a small tenant with a single exit access door can go through an elevator lobby to access the two exits from the floor. Where two or more exit access doors are required from the space, one of the exit access routes can go through the elevator lobby to get to the exits. (Vote 14-0)

Assembly Action: **None**

Final Hearing Results

E85-18 **AS**

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Page: 5

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.
3. Operable windows where the openings are provided with window fall prevention devices that comply with ASTM F2090.
4. Operable windows that are provided with window opening control devices that comply with Section 1015.8.1.

1015.8.1 Window opening control devices. Window opening control devices shall comply with 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 Section 1031.3.1.

SECTION 1016
EXIT ACCESS

1016.1 General. The *exit access* shall comply with the applicable provisions of Sections 1003 through 1015. *Exit access* arrangement shall comply with Sections 1016 through 1021.

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.
3. An *exit access* shall not pass through a room that can be locked to prevent egress.
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.

1016.2.1 Multiple tenants. Where more than one tenant occupies any one floor of a building or structure, each tenant space, *dwelling unit* and *sleeping unit* shall be provided with access to the required *exits* without passing through adjacent tenant spaces, *dwelling units* and *sleeping units*.

Exception: The *means of egress* from a smaller tenant space shall not be prohibited from passing through a larger adjoining tenant space where such rooms or spaces of the smaller tenant occupy less than 10 percent of the area of the larger tenant space through which they pass; are the same or similar occupancy group; a discernible path of egress travel to an *exit* is provided; and the *means of egress* into the adjoining space is not subject to locking from the egress side. A required *means of egress* serving the larger tenant space shall not pass through the smaller tenant space or spaces.

SECTION 1017
EXIT ACCESS TRAVEL DISTANCE

1017.1 General. Travel distance within the *exit access* portion of the *means of egress* system shall be in accordance with this section.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

53

F9975

Date Submitted	01/28/2022	**Section**	1003.3.1	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9142

Summary of Modification

This FBC proposal combines ICC IBC proposal E41-18 approved “as submitted” for the 2021 IBC and ?proposal E38-21 approved “as submitted” for the ??2024 IBC. Topic is headroom at door opening.?

Rationale

This FBC proposal combines ICC IBC proposal E41-18 approved “as submitted” for the 2021 IBC and proposal E38-21 approved “as submitted” for the 2024 IBC. This proposal specifies the door frame components and door hardware items which are permitted to encroach into the door opening, typically at the top of the door opening. The two areas in the code with similar requirements – 1003.3.1 & 1010.1.1.1. – are addressed with (proposed) consistent language for accurate correlation. This proposal: • Clarifies the “door stops” in the exception are overhead door stops. • Includes in the exceptions door operational hardware which is commonly installed and may ? project into the opening at the top of the doorway. • Revises the title of Section 1010.1.1.1. • Inserts one word in 1010.1.1 for clarity. Including revisions in ICC proposal E38-21, approved “As Submitted” for the 2024 IBC in this FBC proposal improves the clarity of the code requirements.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal effects regarding code enforcement.

Impact to building and property owners relative to cost of compliance with code

Not expected to increase the cost of construction. May reduce cost of construction as this proposal is consistent with widespread practices.

Impact to industry relative to the cost of compliance with code

Should have no effect - proposal is consistent with current practices.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Specifically permits power door operators to encroach slightly at the head of door openings. Power door operators are highly desired by the general public, especially individuals with limited physical ability.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

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 walking surface, 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~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the opening height not lower than 78 inches (1981 mm).

A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E41-18 approved "as submitted" for the 2021 IBC and E38-21 approved "as submitted" for the 2024 IBC
John Woestman, BHMA, Jan. 19, 2022

Revise as follows:

1003.3 Protruding objects.
Protruding objects on *circulation paths* shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

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 walking surface, 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~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the opening height not lower than 78 inches (1981 mm).
A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

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 maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear height of door openings 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, the minimum and maximum 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. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.1.4.2 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 units, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Group I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible units, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.

11. 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.
12. The minimum clear opening width shall not apply to doors for nonaccessible showers or sauna compartments.
13. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.

1010.1.1.1 Projections into clear ~~width~~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, ~~and~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to ~~be~~ project into the opening height not lower than 78 inches (1980 mm) minimum above the floor.

Reason:
This FBC proposal combines ICC IBC proposal E41-18 approved "as submitted" for the 2021 IBC and proposal E38-21 approved "as submitted" for the 2024 IBC. This proposal specifies the door frame components and door hardware items which are permitted to encroach into the door opening, typically at the top of the door opening.

The two areas in the code with similar requirements – 1003.3.1 & 1010.1.1.1. – are addressed with (proposed) consistent language for accurate correlation.

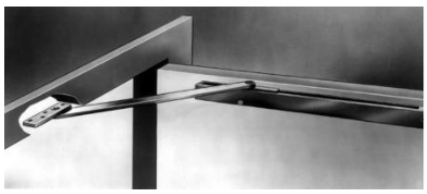
This proposal:

- Clarifies the "door stops" in the exception are overhead door stops.
- Includes in the exceptions door operational hardware which is commonly installed and may project into the opening at the top of the doorway.
- Revises the title of Section 1010.1.1.1.
- Inserts one word in 1010.1.1 for clarity.

Including revisions in ICC proposal E38-21, approved "As Submitted" for the 2024 IBC in this FBC proposal improves the clarity of the code requirements.

Cost: Will not increase cost of construction.

Below are several pictures to which illustrate these hardware items.



Overhead door stop.
Photo courtesy ASSA ABLOY

Power door operator.
Photo courtesy dormakaba

Power door operators (left doors), door closer (right door).
Photo courtesy Hager Companies

Electromagnetic door lock (top-left corner of doorway) and door closer.
Photo courtesy Allegion

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

54

F9976

Date Submitted	01/28/2022	**Section**	1010.1.1	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9142, 9975

Summary of Modification

This FBC proposal combines ICC IBC proposal E41-18 approved “as submitted” for the 2021 IBC and ?proposal E38-21 approved “as submitted” for the 2024 IBC. Topic is projections into the clear opening.

Rationale

This FBC proposal combines ICC IBC proposal E41-18 approved “as submitted” for the 2021 IBC and proposal E38-21 approved “as submitted” for the 2024 IBC. This proposal specifies the door frame components and door hardware items which are permitted to encroach into the door opening, typically at the top of the door opening. The two areas in the code with similar requirements – 1003.3.1 & 1010.1.1.1. – are addressed with (proposed) consistent language for accurate correlation. This proposal: • Clarifies the “door stops” in the exception are overhead door stops. • Includes in the exceptions door operational hardware which is commonly installed and may ? project into the opening at the top of the doorway. • Revises the title of Section 1010.1.1.1. • Inserts one word in 1010.1.1 for clarity. Including revisions in ICC proposal E38-21, approved “As Submitted” for the 2024 IBC in this FBC proposal improves the clarity of the code requirements.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal effects regarding code enforcement.

Impact to building and property owners relative to cost of compliance with code

Not expected to increase the cost of construction. May reduce cost of construction as this proposal is consistent with widespread practices.

Impact to industry relative to the cost of compliance with code

Should have no effect - proposal is consistent with current practices.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Specifically permits power door operators to encroach slightly at the head of door openings. Power door operators are highly desired by the general public, especially individuals with limited physical ability.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

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 maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear height of door openings 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, the minimum and maximum 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. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.1.4.2 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 units, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Group I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible units, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).

Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.

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.

The minimum clear opening width shall not apply to doors for nonaccessible showers or sauna compartments.

The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.

1010.1.1.1 Projections into clear ~~width~~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, ~~and~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to be project into the opening height not lower than 78 inches (1980 mm) minimum above the floor.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E41-18 approved "as submitted" for the 2021 IBC and E38-21 approved "as submitted" for the 2024 IBC
John Woestman, BHMA, Jan. 19, 2022

Revise as follows:

1003.3 Protruding objects.
Protruding objects on *circulation paths* shall comply with the requirements of Sections 1003.3.1 through 1003.3.4.

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 walking surface, 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~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to project into the opening height not lower than 78 inches (1981 mm).
A barrier shall be provided where the vertical clearance is less than 80 inches (2032 mm) high. The leading edge of such a barrier shall be located 27 inches (686 mm) maximum above the floor.

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 maximum width of a swinging door leaf shall be 48 inches (1219 mm) nominal. The minimum clear height of door openings 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, the minimum and maximum 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. Width of door leaves in revolving doors that comply with Section 1010.1.4.1 shall not be limited.
5. The maximum width of door leaves in *power-operated doors* that comply with Section 1010.1.4.2 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 units, exterior door openings other than the required *exit* door shall have a minimum clear opening height of 76 inches (1930 mm).
8. In Group I-1, R-2, R-3 and R-4 occupancies, in dwelling and sleeping units that are not required to be Accessible units, the minimum clear opening widths shall not apply to interior egress doors.
9. Door openings required to be *accessible* intended for user passage shall have a minimum clear opening width of 31.75 inches (806 mm).
10. Buildings that are 400 square feet (37 m^2) or less and that are intended for use in conjunction with one- and two-family residences are not subject to the door height and width requirements of this code.

11. 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.
12. The minimum clear opening width shall not apply to doors for nonaccessible showers or sauna compartments.
13. The minimum clear opening width shall not apply to the doors for nonaccessible toilet stalls.

1010.1.1.1 Projections into clear ~~width~~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, ~~and~~ overhead door stops, frame stops, power door operators, and electromagnetic door locks shall be permitted to ~~be~~ project into the opening height not lower than 78 inches (1980 mm) minimum above the floor.

Reason:
This FBC proposal combines ICC IBC proposal E41-18 approved "as submitted" for the 2021 IBC and proposal E38-21 approved "as submitted" for the 2024 IBC. This proposal specifies the door frame components and door hardware items which are permitted to encroach into the door opening, typically at the top of the door opening.

The two areas in the code with similar requirements – 1003.3.1 & 1010.1.1.1. – are addressed with (proposed) consistent language for accurate correlation.

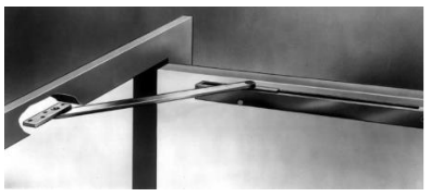
This proposal:

- Clarifies the "door stops" in the exception are overhead door stops.
- Includes in the exceptions door operational hardware which is commonly installed and may project into the opening at the top of the doorway.
- Revises the title of Section 1010.1.1.1.
- Inserts one word in 1010.1.1 for clarity.

Including revisions in ICC proposal E38-21, approved "As Submitted" for the 2024 IBC in this FBC proposal improves the clarity of the code requirements.

Cost: Will not increase cost of construction.

Below are several pictures to which illustrate these hardware items.



Overhead door stop.
Photo courtesy ASSA ABLOY

Power door operator.
Photo courtesy dormakaba

Power door operators (left doors), door closer (right door).
Photo courtesy Hager Companies

Electromagnetic door lock (top-left corner of doorway) and door closer.
Photo courtesy Allegion

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

55

F9977

Date Submitted	01/28/2022	**Section**	1010.1.9.8	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9159

Summary of Modification

Delayed egress locks and courtrooms in Group A-3 and B occupancies. The revisions presented reflect the technical changes of proposal E58-18 for the 2021 IBC.

Rationale

The revisions presented here reflect the technical changes of proposal E58-18 for the 2021 IBC, which was approved as modified by public comment 1, incorporated into the text of the 7th edition of the Florida Building Code. Mod F9159 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies. The original justification and reasons are not reproduced from ICC proposal E58-18 AMPC1 for the 2021 IBC as Mod F9159 contains that information.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal effect regarding code enforcement - the proposed revisions are refinements.

Impact to building and property owners relative to cost of compliance with code

Should minimal to no effect on the cost of compliance.

Impact to industry relative to the cost of compliance with code

Should minimal to no effect on the cost of compliance.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

1010.1.9.8 Delayed egress.

Delayed egress locking systems shall be permitted to be installed on doors serving Group B, F, I, M, R, S and U 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.

Exceptions:

1. Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have an *occupant load* of 10 or fewer and that are 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.
2. In courtrooms in Group A-3 and B occupancies, ~~Delayed~~ delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, ~~that serve a courtroom~~ in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E58-18, approved as modified by public comment 1, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

1010.1.9.8 Delayed egress.
Delayed egress locking systems shall be permitted to be installed on doors serving Group B, F, I, M, R, S and U 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.

Exceptions:

1. Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have an *occupant load* of 10 or fewer and that are 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.
2. In courtrooms in Group A-3 and B occupancies, ~~Delayed~~ delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, ~~that serve a courtroom~~ in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.1.10 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 be locking in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the *means of egress* of a building or has an occupant load of 300 or greater.

~~3.~~4. Courtrooms shall be permitted to be locked in accordance with Section 1010.1.9.8, Exception 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit* or *exit access doors*, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.

Reason:
The revisions presented here reflect the technical changes of proposal E58-18 for the 2021 IBC, which was approved as modified by public comment 1, incorporated into the text of the 7th edition of the Florida Building Code. Mod F9159 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies.

The original justification and reasons are not reproduced from ICC proposal E58-18 AMPC1 for the 2021 IBC as Mod F9159 contains that information.

Note: Section 1010.1.9.8 of the Florida Building Code has diverged from the IBC (2018 IBC Section 1010.1.9.8, and 2021 IBC Section 1010.2.13).

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

56

F9978

Date Submitted	01/28/2022	**Section**	1010.1.10	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9159, 9977

Summary of Modification

Delayed egress locks and courtrooms in Group A-3 and B occupancies. The revisions presented reflect the technical changes of proposal E58-18 for the 2021 IBC.

Rationale

The revisions presented here reflect the technical changes of proposal E58-18 for the 2021 IBC, which was approved as modified by public comment 1, incorporated into the text of the 7th edition of the Florida Building Code. Mod F9159 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies. The original justification and reasons are not reproduced from ICC proposal E58-18 AMPC1 for the 2021 IBC as Mod F9159 contains that information.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal effect regarding code enforcement - the proposed revisions are refinements.

Impact to building and property owners relative to cost of compliance with code

Should minimal to no effect on the cost of compliance.

Impact to industry relative to the cost of compliance with code

Should minimal to no effect on the cost of compliance.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

1010.1.10 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 be locking in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the *means of egress* of a building or has an occupant load of 300 or greater.
4. Courtrooms shall be permitted to be locked in accordance with Section 1010.1.9.8, Exception 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit* or *exit access doors*, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E58-18, approved as modified by public comment 1, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

1010.1.9.8 Delayed egress.
Delayed egress locking systems shall be permitted to be installed on doors serving Group B, F, I, M, R, S and U 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.

Exceptions:

1. Delayed egress locking systems shall be permitted to be installed on doors serving Group E occupancies that have an *occupant load* of 10 or fewer and that are 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.
2. In courtrooms in Group A-3 and B occupancies, ~~Delayed~~ delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, ~~that serve a courtroom~~ in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.1.10 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 be locking in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the *means of egress* of a building or has an occupant load of 300 or greater.

~~3.~~4. Courtrooms shall be permitted to be locked in accordance with Section 1010.1.9.8, Exception 2.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit* or *exit access doors*, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.

Reason:
The revisions presented here reflect the technical changes of proposal E58-18 for the 2021 IBC, which was approved as modified by public comment 1, incorporated into the text of the 7th edition of the Florida Building Code. Mod F9159 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies.

The original justification and reasons are not reproduced from ICC proposal E58-18 AMPC1 for the 2021 IBC as Mod F9159 contains that information.

Note: Section 1010.1.9.8 of the Florida Building Code has diverged from the IBC (2018 IBC Section 1010.1.9.8, and 2021 IBC Section 1010.2.13).

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

57

F9979

Date Submitted	01/28/2022	**Section**	1010.1.9.9	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9162

Summary of Modification

Emergency lighting required on egress side of sensor release electrically locked egress doors. Mod F9162 was denied with the reason: “Original text of this code change is not consistent with that of ?the 2020 FBC-B.” This proposal resolves the inconsistencies.?

Rationale

Mod F9162 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies. The requirement for egress side emergency lighting provides all occupants with minimum egress illumination levels at the door for operation and to read the sign. This proposed requirement is aligned with current delayed egress and controlled egress locking conditions.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Minor impact to enforcement with requirement for emergency lighting on the egress side of these "shall be permitted" doors.

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Sensor release ?electrically locked doors are not required by the code. However, if this locking system is installed, added cost may ?be incurred where emergency lighting is not currently in place.?

Impact to industry relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Sensor release ?electrically locked doors are not required by the code. However, if this locking system is installed, added cost may ?be incurred where emergency lighting is not currently in place.?

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

1010.1.9.9 Sensor release of electrically locked egress doors.
Sensor release of electric locking systems shall be permitted on doors located in the means of egress with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 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 lock.
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 shall be listed in accordance with UL 294.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E61-18, approved as submitted, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

1010.1.9.9 Sensor release of electrically locked egress doors.
Sensor release of electric locking systems shall be permitted on doors located in the *means of egress* with an occupancy in Group A, B, E, I-1, I-2, I-4, M, R-1 or R-2 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 lock.
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 shall be listed in accordance with UL 294.

Reason (copied from ICC IBC proposal E61-18):
Mod F9162 was denied with the reason: "Original text of this code change is not consistent with that of the 2020 FBC-B." This proposal resolves the inconsistencies.

The requirement for egress side emergency lighting provides all occupants with minimum egress illumination levels at the door for operation and to read the sign. This proposed requirement is aligned with current delayed egress and controlled egress locking conditions.

Cost Impact
The code change proposal will not increase or decrease the cost of construction. Sensor release electrically locked doors are not required by the code. If this locking system is installed, added cost may be incurred where emergency lighting is not currently in place.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

58

F9980

Date Submitted	01/28/2022	**Section**	1010.1.10	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

F9172, E9128

Summary of Modification

The current requirements in the Florida Building Code are not in alignment with the requirements in NFPA 70, the National Electrical Code. Mod F9172 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.”

Rationale

Mod F9172 was denied with the reason: “Original text of this code change is not consistent with that of the 2020 FBC-B.” This proposal resolves the inconsistencies. The current requirements in the Florida Building Code are not in alignment with the requirements in NFPA 70, the National Electrical Code. Section 110.26(C)(3) of NFPA 70 requires where there are exit or exit access doors serving a room with electrical equipment rated 800 amperes or more those doors shall be equipped with listed panic hardware.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Proposal is consistent with current requirements in NFPA 70, which is a requirement in the code.

Impact to building and property owners relative to cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Chapter 27 of the Florida Building Code requires electrical installations to comply with the provisions of ?NFPA 70. This proposal aligns the requirements in the FBC with NFPA 70.

Impact to industry relative to the cost of compliance with code

The code change proposal will not increase or decrease the cost of construction. Chapter 27 of the Florida Building Code requires electrical installations to comply with the provisions of ?NFPA 70. This proposal aligns the requirements in the FBC with NFPA 70.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

1010.1.10 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 be locking in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the *means of egress* of a building or has an occupant load of 300 or greater.

~~Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit* or *exit access doors*, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.~~

1010.1.10.1 Rooms with electrical equipment. Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or ?re exit hardware. Rooms containing electrical equipment rated 800 amperes or more and that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space as required by NFPA 70, such doors shall not be provided with a latch or lock other than panic hardware or ?re exit hardware. The doors shall swing in the direction of egress travel.

1010.1.10.12 Installation.
Where *panic* or *fire exit hardware* is installed, it shall comply with the following:
1. *Panic hardware* shall be *listed* in accordance with UL 305.
2. *Fire exit hardware* shall be *listed* in accordance with UL 10C and UL 305.
3. The actuating portion of the releasing device shall extend not less than one-half of the door leaf width.
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

1010.1.10.23 Balanced doors.
If *balanced doors* are used and *panic hardware* is required, the *panic hardware* shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

2020 Florida Building Code, Building, 7th Edition
Potential Revisions for 2023 Florida Building Code, Building, 8th Edition, per E64-18, approved as modified by public comment 1, for the 2021 IBC
John Woestman, BHMA, Jan. 28, 2022

Revise as follows:

1010.1.10 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 be locking in accordance with Section 1010.1.9.4, Item 2.
2. Doors provided with panic hardware or fire exit hardware serving a Group A or E occupancy shall be permitted to be electronically locked in accordance with Section 1010.1.9.9 or 1010.1.9.10.
3. Outdoor gates from residential and commercial swimming pools or swimming pool decks, except where the pool deck serves as a portion of the *means of egress* of a building or has an occupant load of 300 or greater.

~~Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide, and that contain overcurrent devices, switching devices or control devices with *exit* or *exit access doors*, shall be equipped with *panic hardware* or *fire exit hardware*. The doors shall swing in the direction of egress travel.~~

1010.1.10.1 Rooms with electrical equipment. Exit or exit access doors serving transformer vaults, rooms designated for batteries or energy storage systems, or modular data centers shall be equipped with panic hardware or fire exit hardware. Rooms containing electrical equipment rated 800 amperes or more and that contain overcurrent devices, switching devices or control devices and where the exit or exit access door is less than 25 feet from the equipment working space as required by NFPA 70, such doors shall not be provided with a latch or lock other than panic hardware or fire exit hardware. The doors shall swing in the direction of egress travel.

1010.1.10.~~1~~2 Installation.
Where *panic* or *fire exit hardware* is installed, it shall comply with the following:

1. *Panic hardware* shall be *listed* in accordance with UL 305.
2. *Fire exit hardware* shall be *listed* in accordance with UL 10C and UL 305.
3. The actuating portion of the releasing device shall extend not less than one-half of the door leaf width.
4. The maximum unlatching force shall not exceed 15 pounds (67 N).

1010.1.10.~~2~~3 Balanced doors.
If *balanced doors* are used and *panic hardware* is required, the *panic hardware* shall be the push-pad type and the pad shall not extend more than one-half the width of the door measured from the latch side.

Reason

Mod F9172 was denied with the reason: "Original text of this code change is not consistent with that of the 2020 FBC-B." This proposal resolves the inconsistencies.

The current requirements in the Florida Building Code are not in alignment with the requirements in NFPA 70, the National Electrical Code. Section 110.26(C)(3) of NFPA 70 requires where there are exit or exit access doors serving a room with electrical equipment rated 800 amperes or more those doors shall be equipped with listed panic hardware.

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

Chapter 27 of the Florida Building Code requires electrical installations to comply with the provisions of NFPA 70. This proposal aligns the requirements in the FBC with NFPA 70.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

59

F10053

Date Submitted	02/01/2022	**Section**	1010.1.9.4	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mods F9152/E52-18, F9154/E53-18, and F9155/E54-18 This proposal includes in the original text revisions in mods F9152/E52-18, F9154/E53-18, and F9155/E54-18, as approved by the Commission.

Summary of Modification

The Florida Building Code, Building, (and 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 is based on ICC IBC proposal E43-21.

Rationale

Edited from ICC proposal E43-21: The Florida Building Code, Building, is confusing regarding dead bolts, manual bolt locks, and automatic flush bolts leading to significant variability in interpretations and application of the code. To improve the Florida Building Code, Building, this proposal “brings forward” revisions to the 2024 IBC via proposal E43-21, as modified by public comment 1. This proposal includes in the original text revisions in mods F9152/E52-18, F9154/E53-18, and F9155/E54-18, as approved by the Commission. This proposal offers four definitions, and revises sections of the Florida Building Code, Building, where these hardware items are addressed with requirements. This proposal is intended to not eliminate any of the applications where manual bolts or dead bolts are currently permitted (i.e. doors from individual dwelling units). And, for the inactive leaf of a pair of doors, this proposal converts permitted applications of manual bolts, automatic flush bolts, and constant latching bolts from code text to a table format. The text revisions and proposed table are intended to simplify the complexity of where dead bolts and manual bolts are prohibited and permitted; and where manual bolts, automatic flush bolts, and constant latching bolts are permitted on the inactive leaf of a pair of doors. The revisions of 1010.1.9.4, Item 3, accurately describe the permitted uses of these door hardware items, and relies on the provisions in proposed Table. Section 1010.1.9.5 is deleted because all provision in this section are included in the revised sections and the proposed table. Please see the uploaded support file for additional details.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

With improved clarity of the applications for which of these hardware items are permitted, code enforcement should be easier.

Impact to building and property owners relative to cost of compliance with code

With improved clarity of the applications for which of these hardware items are permitted, selecting these door hardware items should be easier, and there are likely to be fewer varying interpretations of what's permitted and where.

Impact to industry relative to the cost of compliance with code

With improved clarity of the applications for which of these hardware items are permitted, selecting these door hardware items should be easier, and there are likely to be fewer varying interpretations of what's permitted and where.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes. Appropriate door hardware is important for ensuring reliable means of egress.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Yes, strengthens the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

Add new definitions 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 (see AUTOMATIC FLUSH BOLT, DEAD BOLT, MANUAL BOLT).

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:

1010.1.9.4 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 door knob or surface-mounted hardware.~~ Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.1.9.4, provided the inactive leaf 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 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 m2) 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 m2) or less serving a private office space.

Insert Table:

Table 1010.1.9.4
MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF 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 rooms where inactive leaf is not needed to meet egress capacity requirements.	No	NP	NP [b]	P
	Yes	NP	NP [b]	P
Any ooccupancy 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 healthcare 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.

Delete without replacement:

1010.1.9.5 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 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.~~

Revise as follows:

1010.1.9.6 Unlatching.

The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotation direction to release all latching and all locking devices. *Manual bolts* are not permitted.

Exceptions:

1. Places of detention or restraint.
2. ~~Where manually operated bolt locks are permitted by Section 1010.1.9.5.~~
3. ~~Doors with automatic flush bolts as permitted by Section 1010.1.9.4, Item 3.~~
2. Doors with *manual bolts, automatic flush bolts, and constant latching bolts* as permitted by Section 1010.1.9.4, Item 4.
43. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.1.9.4, Item 45.

Revise as follows:

1010.1.9.6 Unlatching.

The unlatching of any door or leaf for egress shall require not more than one motion in a single linear or rotation direction to release all latching and all locking devices. *Manual bolts* are not permitted.

Exceptions:

1. Places of detention or restraint.
2. ~~Where manually operated bolt locks are permitted by Section 1010.1.9.5.~~
3. ~~Doors with automatic flush bolts as permitted by Section 1010.1.9.4, Item 3.~~
2. Doors with *manual bolts*, *automatic flush bolts*, and *constant latching bolts* as permitted by Section 1010.1.9.4, Item 4.
43. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.1.9.4, Item 45.

2023 Florida Building Code, Building, BHMA Proposal RE Bolt Locks, Mod F10053/E43-21
John Woestman, Feb. 7, 2022

Related proposals Mods F9152/E52-18, F9154/E53-18, and F9155/E54-18

This proposal is based on ICC IBC proposal E43-21, and includes in the original text revisions in mods F9152/E52-18, F9154/E53-18, and F9155/E54-18, as approved by the Commission.

Add new definitions 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 (see AUTOMATIC FLUSH BOLT, DEAD BOLT, MANUAL BOLT).

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:

1010.1.9.4 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.~~Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.1.9.4, provided the inactive leaf 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 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.

Insert Table:

Table 1010.1.9.4

MANUAL BOLTS, AUTOMATIC FLUSH BOLTS AND CONSTANT LATCHING BOLTS ON THE INACTIVE LEAF 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 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 healthcare 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.

Delete without replacement:

~~**1010.1.9.5 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 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.~~

Revise as follows:

1010.1.9.6 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 bolts* are not permitted.
Exceptions:

1. Places of detention or restraint.
2. ~~Where manually operated bolt locks are permitted by Section 1010.1.9.5.~~
3. ~~Doors with automatic flush bolts as permitted by Section 1010.1.9.4, Item 3.~~
2. Doors with *manual bolts, automatic flush bolts, and constant latching bolts* as permitted by Section 1010.1.9.4, Item 4.
~~4.~~3. Doors from individual *dwelling units* and *sleeping units* of Group R occupancies as permitted by Section 1010.1.9.4, Item ~~4~~5.

Reason (edited from ICC proposal E43-21):

The Florida Building Code, Building, (and 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.
To improve the Florida Building Code, Building, this proposal "brings forward" revisions approved for the 2024 IBC via ICC proposal E43-21, approved as modified by public comment 1. The original text of this proposal reflects approval by the Commission revisions in mods F9152/E52-18, F9154/E53-18, and F9155/E54-18.

This proposal offers four definitions, and revises sections of the Florida Building Code, Building, where these hardware items are addressed with requirements. This proposal is intended to **not** eliminate any of the applications where manual bolts or dead bolts are currently permitted (i.e. doors from individual dwelling units). And, for the inactive leaf of a pair of doors, this proposal converts permitted applications of manual bolts, automatic flush bolts, and constant latching bolts from code text to a table format.

This proposal looks a bit complicated – it is – because where these door locking hardware items are prohibited and permitted is a bit complicated. However, the proposed text revisions and proposed table are intended to simplify the complexity of where dead bolts and manual bolts are prohibited and permitted; and where manual bolts, automatic flush bolts, and constant latching bolts are permitted on the inactive leaf of a pair of doors.

The revisions of Section 1010.1.9.4, Item 3, more accurately reflect the permitted uses of these door hardware items, and relies on the details in proposed Table 1010.1.9.4.

Section 1010.1.9.5 is deleted because:

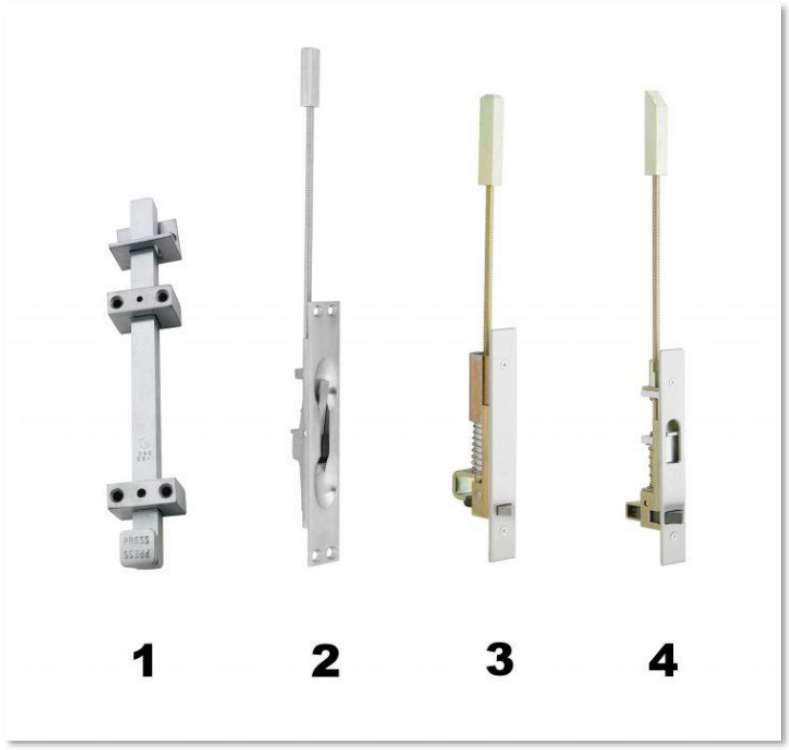
1. The charging language not permitting manually operated flush bolts or surface bolts is moved to the charging language of 1010.1.9.6, and also revised per the proposed definitions.
2. Exception 1 of 1010.1.9.5 is incorporated into (revised) Exception 2 of 1010.1.9.6.
3. All the other exceptions of 1010.1.9.5 are incorporated into proposed Table 1010.1.9.4.

Several technical changes are incorporated in proposed Table 1010.1.9.4 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.
- Florida Building Code, Building, current requirements don't differentiate between doors required to be fire-rated or not. That is, required to comply with Section 716 or not. Since doors required to comply with Section 716 are required to be self-latching when closed, some of these hardware items would not be permitted on doors required to comply with Section 716.

- For I-2 patient care rooms, Exception 5 of 1010.1.9.5 permitted 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).
- The current exceptions of 1010.1.9.5 didn't address permitting 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.

The image below illustrates two manual bolts, an automatic flush bolt, and a constant latching (flush) bolt.



Courtesy Allegion.

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.
4 – Constant-latching (flush) bolt has a self-latching bolt which is retracted manually.

Dead bolt.

Courtesy Allegion

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 bolts 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 Florida Building Code, Building, Section 1010.1.9.4 Item 2). 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).

Cost: No change in cost. This proposal provides updated guidance on “shall be permitted” locking hardware, and is an attempt to bring clarity to the requirements in the Florida Building Code, Building.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

60

F10059

Date Submitted	02/01/2022	**Section**	1010.1.9.4	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mods F9152/E52-18 and F9154/E53-18. This proposal includes in the original text revisions in mods F9152/E52-18 and F9154/E53-18 as approved by the Commission.

Summary of Modification

Item 2 in 1010.1.9.4 permits the main doors of a space to be locked preventing egress (and ingress). This proposal revises Item 2 to more closely align with the intent: applicable to the main exterior doors to the building, or the main doors to the tenant space.

Rationale

Item 2 in 1010.1.9.4 permits the main doors of a space to be locked with a key operated lock preventing egress (and ingress). This proposal brings the scope of Item 2 to more closely align with the intent: applicable to the main exterior doors to the building, or the main doors to the tenant space. This proposal was approved for the 2024 IBC by ICC IBC proposal E45-21, approved as modified by public comment 1. Traditionally, the provisions of Item 2 were 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. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN THIS BUILDING IS OCCUPIED. However, for the 2015 IBC, ICC IBC proposal E63-12 revised item 2 to be applicable to the main doors to a space for the identified occupancies. And, the sign required was revised: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The proponent's intent of E63-12 was to permit the provisions of Item 2 to be applicable, for example, where the main doors to a restaurant open into a mall. Unfortunately, Item 2 is being interpreted as broadly as written: any doors that could be described as the main doors to any space, 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 brings the scope of Item 2 to be more closely aligned to the proponent's stated intent of ICC IBC proposal E63-12. Item 2 would be applicable to the main exterior doors to the building, or the doors are the main doors to the tenant space.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal impact to code enforcement.

Impact to building and property owners relative to cost of compliance with code

Should have minimal impact - unless building and property owners were interpreting the code provisions differently than intended by the longstanding scope of the applicability of this section of the code.

Impact to industry relative to the cost of compliance with code

Minimal, if any, cost.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, provisions for locking of doors in the means of egress are directly related to occupant safety.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Strengthens the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

Revise as follows:

1010.1.9.4 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.

3.23. 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.

3.34. 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 m2) 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 m2) or less serving a private office space.

2023 Florida Building Code, Building, BHMA Proposal RE Bolt Locks, Section 1010.1.9.4 Item 2
John Woestman, Feb. 7, 2022

This proposal is based on ICC IBC proposal E45-21 approved as modified by public comment 1 for the 2024 IBC; and includes in the original text revisions in mods F9152/E52-18 and F9154/E53-18 as approved by the Commission.

Revise as follows:

1010.1.9.4 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.~~2~~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.~~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.

Reason (edited from ICC IBC proposal E45-21):

Florida Building Code, Building, Item 2 in 1010.1.9.4 permits the main doors of a space to be locked with a key operated lock preventing egress (and ingress) when locked. This proposal is intended to bring the scope of the applicability of Item 2 to be more closely aligned with the intent: applicable to the **main exterior doors to the building**, **or** the **main doors to the tenant space**. This proposal was approved for the 2024 IBC by ICC IBC proposal E45-21, approved as modified by public comment 1. This proposal includes in the original text revisions in mods F9152/E52-18 and F9154/E53-18 as approved by the Commission.

Traditionally, the provisions of Item 2 were 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, ICC IBC proposal E63-12, as modified by the committee, revised item 2 to be applicable to the **main doors** to a space for the same listed occupancies. And, the sign required by this section was revised: THIS DOOR TO REMAIN UNLOCKED WHEN **THIS SPACE** IS OCCUPIED. The proponent's intent of E63-12 was to permit the provisions of Item 2 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 2 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 2 to be more closely aligned to the proponent's stated intent of ICC IBC proposal E63-12. Item 2 would be applicable to the **main exterior doors to the building**, **or** the doors are the **main doors to the tenant space**.

Cost:
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 is 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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

61

F10060

Date Submitted	02/01/2022	**Section**	1010.1.9.3	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

The proposed revisions add access control systems to this section of the code, and requires monitored ?egress systems and access control systems to “play nice” with door hardware and locking systems on ?the egress side of a door in the means of egress. ?

Rationale

The proposed revisions add access control systems to this section of the code, and requires monitored egress systems and access control systems to “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 Florida Building Code, Building, Sections 1010.1.9.7, 1010.1.9.8, 1010.1.9.9, 1010.1.9.10, or 1010.1.9.11. This proposal is consistent with ICC IBC proposal E49-21 approved as modified by public comment 1 for the 2024 IBC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have only a minor impact to code enforcement.

Impact to building and property owners relative to cost of compliance with code

The 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.?

Impact to industry relative to the cost of compliance with code

The 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.?

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Yes, requires doors in the means of egress to be openable as required or permitted by the code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Strengthens the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not degrade.

F10060Text Modification

Revise as follows:

1010.1.9.3 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 1010.1.9.7, 1010.1.9.8, 1010.1.9.9, 1010.1.9.10 or 1010.1.9.11 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Mod_10060_TextOfModification.pdf Page: 1

2023 Florida Building Code, Building, BHMA Proposal RE Access Control Systems, Section 1010.1.9.3
John Woestman, Feb. 1, 2022

ICC IBC proposal E49-21 approved as modified by public comment 1 for the 2024 IBC.

Revise as follows:

1010.1.9.3 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 1010.1.9.7, 1010.1.9.8, 1010.1.9.9, 1010.1.9.10 or 1010.1.9.11 or shall be readily openable from the egress side without the use of a key or special knowledge or effort.

Reason (edited from ICC IBC proposal E49-21 AMPC1):
The proposed revisions add access control systems to this section of the code, and requires monitored egress systems and access control systems to "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 Florida Building Code, Building, Sections 1010.1.9.7, 1010.1.9.8, 1010.1.9.9, 1010.1.9.10, or 1010.1.9.11.

This proposal is consistent with ICC IBC proposal E49-21 approved as modified by public comment 1 for the 2024 IBC.

Cost Impact:
The 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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

62

F10061

Date Submitted	02/01/2022	**Section**	1010.1.9.13	**Proponent**	John Woestman
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

This proposal for the Florida Building Code, Building, is the result of the actions taken on ICC IBC proposal E55-21, approved as modified, for the 2024 IBC, which permits enclosed elevator lobbies.

Rationale

Reason (edited from ICC IBC proposal E55-21): This proposal for the Florida Building Code, Building, is the result of the actions taken on ICC IBC proposal E55-21, approved as modified, for the 2024 IBC, which permits enclosed elevator lobbies. 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. The provisions proposed were developed through reviewing currently adopted provisions of other codes, and further revised during the ICC 2021 Committee Action Hearings to address stakeholder concerns and suggestions. This proposal is contrary to the long-standing requirement that each elevator lobby has access to at least one exit complying with Chapter 10. The proposal was brought forward in an effort to see if a consensus can be developed permitting electrical locking of exit access doors in elevator lobbies. Proposed new Section 1010.1.9.13 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.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This may require an increase in time involved with code enforcement. But, if enclosed elevator lobbies are currently approved via alternative means and methods, the provisions in this proposal may slightly streamline code enforcement.

Impact to building and property owners relative to cost of compliance with code

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.

Impact to industry relative to the cost of compliance with code

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.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides an alternative for multi-story buildings while permitted alternative for layouts of tenant spaces.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate.

Does not degrade the effectiveness of the code

Does not.

Add new text as follows:

1010.1.9.13 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 *automatic smoke detection system* in accordance with Section 907.
3. Activation of the building fire alarm system by other than a manual fire alarm box shall automatically unlock the electric locks providing exit access from the elevator lobbies, and the electric locks shall remain unlocked until the system is 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 complying with Chapter 7 of the *Florida Building Code, Accessibility*, 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.

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. 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.

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 1010.1.9.13.

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 provision 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 1010.1.9.13.

2023 Florida Building Code, Building, BHMA Proposal RE Elevator Lobbies and Exit Access Door Locks,
ICC IBC proposal E56-21 AM
John Woestman, Feb. 1, 2022

Add new text as follows:

1010.1.9.13 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 *automatic smoke detection system* in accordance with Section 907.
3. Activation of the building fire alarm system by other than a manual fire alarm box shall automatically unlock the electric locks providing exit access from the elevator lobbies, and the electric locks shall remain unlocked until the system is 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 complying with Chapter 7 of the *Florida Building Code, Accessibility*, 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.

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. 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.
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 1010.1.9.13.
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 provision 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 1010.1.9.13.

Reason (edited from ICC IBC proposal E55-21):
This proposal for the Florida Building Code, Building, is the result of the actions taken on ICC IBC proposal E55-21, approved as modified, for the 2024 IBC, which permits enclosed elevator lobbies. 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. The provisions proposed were developed through reviewing currently adopted provisions of other codes, and further revised during the ICC 2021 Committee Action Hearings to address stakeholder concerns and suggestions.

This proposal is contrary to the long-standing requirement that each elevator lobby has access to at least one exit complying with Chapter 10. The proposal was brought forward in an effort to see if a consensus can be developed permitting electrical locking of exit access doors in elevator lobbies.

Proposed new Section 1010.1.9.13 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 Florida Building Code, Building.

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:
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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

63

F10153

Date Submitted	02/10/2022	**Section**	1017.2	**Proponent**	Richard Logan
Chapter	10	**Affects HVHZ**	Yes	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Table 1017.2 needs to be modified to reflect the exceptions cited in 903.2.6, exception 2, for I-4 day care occupancies and 1017.2.2, conditions 1-3, for S-1 occupancies.

Rationale

Currently Table 1017.2 does not accurately reflect the exceptions included in Section 903.2.6, exception 2, and Section 1017.2.2, exception 2. Under Section 903.2.6, exception 2, an automatic sprinkler system is not required where Group I-4 day care facilities are at the level of exit discharge and where every room where care is provided has not fewer than one exterior exit door. However, Table 1017.2 currently indicates that non-sprinklered 1-4 occupancies are not allowed. The proposed modification adds a footnote that references the exception. Furthermore, Table 1017.2 indicated that S-1 occupancies with sprinkler systems are allowed to have a 400 foot exit access travel distance. However, the 400 foot travel distance increase is only allowed if all of the 3 conditions listed under 1017.2.2 are met. The proposed modification moves S-1 occupancies in the same line as A,E,F-1,M, and R occupancies where the base travel distance is limited to 250 feet for sprinklered buildings. There already is a reference under footnote a. which indicates Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This modification will aid in the enforcement of the code.

Impact to building and property owners relative to cost of compliance with code

There is no impact to building and property owners relative to cost.

Impact to industry relative to the cost of compliance with code

There is no impact to industry relative to the cost of compliance with code

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This proposed modification provides clarity for allowed travel distances and sprinkler requirements which enhances the health, safety, and welfare of the general public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This proposed modification provides clarity for allowed travel distances and sprinkler requirements which improves the code and provides for equivalent or better methods.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposed modification does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not degrade the effectiveness of the code

This proposed modification does not degrade the effectiveness of the code

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCEa

OCCUPANCY	WITHOUTSPRINKLERSYSTEM(feet)	WITHSPRINKLERSYSTEM(feet)
A,E,F-1,M,R,S-1	200	250b
I-1	NotPermitted	250b
B	200	300c
F-2,S-2,U	300	400c
H-1	NotPermitted	75d
H-2	NotPermitted	100d
H-3	NotPermitted	150d
H-4	NotPermitted	175d
H-5	NotPermitted	200c
I-2,I-3,I-4	NotPermittede	200c
~~S-1~~	~~200~~	~~400b~~

For SI: 1 foot = 304.8 mm.

See the following sections for modifications to *exit access* travel distance requirements:

Section 402.8: For the distance limitation in malls.

Section 404.9: For the distance limitation through an atrium space.

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 411.4: For the distance limitation in special amusement buildings.

Section 412.7: 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 1006.3.3: For buildings with one exit.

Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.

Section 1029.7: For increased limitation in assembly seating.

Section 3103.4: For temporary structures.

Section 3104.9: For pedestrian walkways.

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.

Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

Group H occupancies equipped throughout with an *automatic sprinkler system* in accordance with Section 903.2.5.1.

Group I-4 day care facilities for which an automatic sprinkler system is not required in accordance with Section 903.2.6, exception 2.

TABLE 1017.2 EXIT ACCESS TRAVEL DISTANCE [a]

OCCUPANCY	WITHOUT SPRINKLERSYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	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, I-4	Not Permitted[e]	200[c]
~~S-1~~	~~200~~	~~400[b]~~

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 404.9: For the distance limitation through an atrium space.
   - 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 411.4: For the distance limitation in special amusement buildings.
   - Section 412.7: 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 1006.3.3: For buildings with one exit.
   - Section 1017.2.2: For increased distance limitation in Groups F-1 and S-1.
   - Section 1029.7: 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 I-4 day care facilities for which an automatic sprinkler system is not required in accordance with Section 903.2.6, exception 2.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

64

F10415

Date Submitted	02/14/2022	**Section**	1030.4	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Change to 310.1.1 in Florida Building Code, Residential

Summary of Modification

Provides for consistency with the IBC and language found in the corresponding Florida Building Code, Residential section that was inadvertently left out of the previous cycle in regards to ASTM F2090 devices being permitted for use on EERO windows.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance (formerly AAMA). This code modification will align the Florida Building Code, 1030.4 with the Florida Residential Code, R310.1.1 Operational constraints and opening control devices requirements that were inadvertently left out in the previous cycle. This is also consistent with language found in the IBC. It is important to clarify in this section of code that window-opening control devices and fall prevention devices complying with ASTM F2090 are permitted for use on windows serving as a required emergency escape and rescue opening.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Already provided for in the Code elsewhere but makes clearer what is allowed within this section by including this clarification within this code section, providing for less confusion and time when ensuring code requirements are being met.

Impact to building and property owners relative to cost of compliance with code

Already provided for in the Code elsewhere but makes clearer what is allowed within this section by including this clarification within this code section, providing for less confusion and time when ensuring code requirements are being met.

Impact to industry relative to the cost of compliance with code

Already provided for in the Code elsewhere but makes clearer what is allowed within this section by including this clarification within this code section, providing for less confusion and time when ensuring code requirements are being met.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides for clarity to the code as to what is allowed, which could mean less confusion and time when ensuring compliance.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing needed clarity within this code section and consistency with the Florida Residential Code, as well as I-codes, which could mean less confusion and time when ensuring compliance.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

1030.4 Operational constraints.

Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys or tools. Window-opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required *emergency escape and rescue opening*. Bars, grilles, grates or similar devices are permitted to be placed over *emergency escape and rescue openings* provided the minimum net clear opening size complies with Section 1030.2 and such devices shall be releasable or removable from the inside without the use of a key, tool or force greater than that which is required for normal operation of the *emergency escape and rescue opening*. Where such bars, grilles, grates or similar devices are installed in existing buildings, *smoke alarms* shall be installed in accordance with Section 907.2.11 regardless of the valuation of the *alteration*.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

65

F10427

Date Submitted	02/15/2022	**Section**	1010.1.7	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Summary of Modification

Modifies Exception 2 in Section 1010.1.7 to clarify that a higher door threshold height may be allowed in order to meet the water testing requirements of Section 1709.5.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance (formerly AAMA). This code modification is intended to clear up only Exception 2 to Section 1010.1.7. Exception 2 in Section 1010.1.7 as currently written is confusing and this proposal is intended to clarify that a higher door threshold may be allowed as required to meet the water testing requirements in Section 1709.5 of the code. Exception 2 indicates a higher door threshold height is allowed in order to meet “water resistance testing” of NAFS or TAS 202 or “the maximum allowable height difference between interior floors”. It is not clear what exactly the second option means and why only interior floor levels are being referenced and not exterior floor or surface levels. The intent of a higher threshold is to meet the water testing requirements of Section 1709.5 in the code, yet that seems to be negated by other language in the exception, particularly where “exterior floor levels shall comply with Table 1010.1.7”. Three of the four exterior floor levels in the table are ½” which negates the intent of allowing a higher door threshold height in order to meet with water testing requirements in the code. The modification to Exception 2 in Section 1010.1.7 will clarify that a higher door threshold height may be allowed in order to meet the water testing requirements of Section 1709.5.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Could lessen costs associated with misinterpretations and confusion around the existing code language.

Impact to building and property owners relative to cost of compliance with code

Could lessen costs associated with misinterpretations and confusion around the existing code language.

Impact to industry relative to the cost of compliance with code

Could lessen costs associated with misinterpretations and confusion around the existing code language.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Will provide for less confusion and misinterpretation of what the code intended, providing better end results for the general public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by addressing language that currently is confusing and misinterpreted.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

1010.1.7 Thresholds.
Thresholds at doorways shall not exceed $^{3}/_{4}$ inch (19.1 mm) in height above the finished floor or landing for sliding doors serving *dwelling units* or $^{1}/_{2}$ inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than $^{1}/_{4}$ inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exceptions:

1. In occupancy Group R-2 or R-3, threshold heights for sliding and side-hinged exterior doors shall be permitted to be up to $7^{3}/_{4}$ inches (197 mm) in height if all of the following apply:
    1.1. The door is not part of the required *means of egress*.
    1.2. The door is not part of an *accessible route* as required by Chapter 11.
2. For exterior doors serving dwelling units, or sleeping units, thresholds at doorways shall be allowed at a height necessary to comply with the water resistance requirements of Section 1709.5. ~~not exceed the height required to pass the water resistance test of AAMA/WDMA/CSA 101/I.S.2/ A440, or TAS 202 for high-velocity hurricane zones, or the maximum allowable height difference between interior floor levels. Exterior floor level shall comply with Table 1010.1.7.~~

~~TABLE 1010.1.7 EXTERIOR FLOOR LEVEL DIFFERENCE~~

(Delete table without substitution)

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

66

F10168

Date Submitted	02/10/2022	**Section**	1711	**Proponent**	Greg Johnson
Chapter	17	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mass timber Type IV package; mods # 10098, 10099, 10161, 10162, 10163, 10167 and more

Summary of Modification

Provides requirements for inspection of mass timber construction.

Rationale

see uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Where this method of construction is chosen by the owner, inspections of the sealing of mass timber elements will be required. This expense is typically borne by the owner similar to special or third party inspections.

Impact to building and property owners relative to cost of compliance with code

None. This is an optional construction method. Owners can choose not to bear this cost.

Impact to industry relative to the cost of compliance with code

None. This is an optional construction method. Owners can choose not to bear this cost.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire-resistive construction and inspection provision.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by supporting a new construction method.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited.

Does not degrade the effectiveness of the code

Improves the code by supporting a new construction method.

1711 Mass timber construction.

1711.1 Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

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TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

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	TYPE		CONTINUOUSINSPECTION	PERIODICINSPECTION
1	Inspectionof anchorageandconnectionsofmasstimberconstructiontotimberdeepfoundation systems.		=	X
2	Inspecterectionofmasstimberconstruction.		=	X
3	Inspectionofconnectionswhereinstallationmethodsarerequiredtomeetdesignloads.		-	-
- -	Threaded fasteners	Verifyuseofproperinstallationequipment.	=	X
		Verifyuseofpre-drilledholeswhererequired.	=	X
		Inspectscrews,includingdiameter,length,headtype,spacing,installationangleanddepth.	=	X
	Adhesiveanchorsinstalledinhorizontalorupwardlyinclinedorientationtoresistsustainedtensionloads.		X	=
	Adhesiveanchorsnot definedinprecedingcell.		=	X
	Boltedconnections.		=	X
	Concealedconnections.		=	X

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1711.2 Sealing of mass timber.

1711.2.1. In buildings of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of mass timber building elements required to be fire-resistance rated.

2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire-resistance rated.

Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

1711.2.2. Periodic inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to mass timber building elements as designated in the approved construction documents.

Modification # 10168 by Greg Johnson for the American Wood Council

1711 Mass timber construction.

1711.1 Inspections of mass timber elements in Types IV-A, IV-B and IV-C construction shall be in accordance with Table 1711.1.

TABLE 1711.1
REQUIRED INSPECTIONS OF MASS TIMBER CONSTRUCTION

TYPE			CONTINUOUS SPECIAL INSPECTION	PERIODIC INSPECTION
1.	Inspection of anchorage and connections of mass timber construction to timber deep foundation systems.		—	X
2.	Inspect erection of mass timber construction.		—	X
3.	Inspection of connections where installation methods are required to meet design loads.			
	Threaded fasteners	Verify use of proper installation equipment.	—	X
		Verify use of pre-drilled holes where required.	—	X
		Inspect screws, including diameter, length, head type, spacing, installation angle and depth.	—	X
	Adhesive anchors installed in horizontal or upwardly inclined orientation to resist sustained tension loads.		X	—
	Adhesive anchors not defined in preceding cell.		—	X
	Bolted connections.		—	X
	Concealed connections.		—	X

1711.2 Sealing of mass timber.

1711.2.1. In buildings of Types IV-A, IV-B and IV-C construction, sealant or adhesive shall be provided to resist the passage of air in the following locations:

1. At abutting edges and intersections of mass timber building elements required to be fire-resistance rated.

2. At abutting intersections of mass timber building elements and building elements of other materials where both are required to be fire-resistance rated.
Sealants shall meet the requirements of ASTM C920. Adhesives shall meet the requirements of ASTM D3498.

Exception: Sealants or adhesives need not be provided where they are not a required component of a tested fire-resistance-rated assembly.

1711.2.2. Periodic inspections of sealants or adhesives shall be conducted where sealant or adhesive required by Section 703.7 is applied to mass timber building elements as designated in the approved construction documents.

Rationale: Sec. 703.9 Sealing of adjacent mass timber elements

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-FS6-18, S100) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

Mass timber has inherent properties of fire resistance, serving both to provide structural fire resistance and to safeguard against the spread of fire and smoke within a building or the spread of fire between structures.

When mass timber panels are connected together, fire tests have demonstrated that it is important for the abutting edges and intersections in the plane of and between the different planes of panels that form a separation to be sealed. The structures tested as part of the fire tests supporting this submittal were constructed with this sealing.

To review a summary of the fire tests, please visit: http://bit.ly/ATF-firetestreport

To watch summary videos of the fire tests, which are accelerated to run in 3-1/2 minutes each, please visit: http://bit.ly/ATF-firetestvideos.

Both of these links were confirmed active on 1/14/22.

The US CLT manual recommends a bead of construction adhesive. Construction adhesive or other sealant can be used to prevent air flow. When a wall or horizontal assembly serves as the separation between two atmospheres, a fire creates differential pressure where heated gasses raise the pressure and work to drive fire and hot gasses through the structure. Voids that are not properly sealed can serve as a conduit for air movement during a fire, so abutting edges and intersections are recommended to be sealed.

Periodic inspections during construction are required to make that the appropriate sealant or adhesive is used and to establish inspections to verify for ongoing quality control.

Some panels are manufactured under proprietary processes to ensure there are no voids at these intersections.

Where this proprietary process is incorporated and tested, there is no requirement for sealant or adhesive and an exception is provided for this instance. Where the sealant is not required and is not specifically excluded it is still considered to be a good practice covered by this section.

This code change proposal does not apply to “joints” as defined in Section 202 of the IBC as joints have their own requirements for the placement and inspection of fire resistant joint systems in IBC Section 715. Joints are defined as having an opening that is designed to accommodate building tolerances or to allow independent movement. Panels and members that are connected together as covered by this code

change proposal do not meet the definition of a joint since they are rigidly connected and do not have an opening.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

67

F10394

Date Submitted	02/14/2022	**Section**	1705	**Proponent**	Richard Walke
Chapter	17	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Propose Special Inspections for SFRM and IFRM

Rationale

This proposal provides details on the methodology of conducting special inspections on Sprayed Fire-resistant Materials (SFRM) and Intumescent Fire-resistant Materials (IFRM). These materials and system are critical components of the life-safety structural provisions of the Florida Building Code. Their installation is highly technical and must be based on tested assemblies and manufacturers installation instructions as specified in Chapter 7 of this code. Both SFRM and IFRM must be installed at thicknesses as stated in the tested structural element or assembly listings, and tolerances in the codes. Inspection assures that fireproofing installed in the field meets what was tested to provide fire-resistance at the laboratory, protecting structures, and most importantly, the occupants. Based in the technical nature of their installation and the numerous new product entrants into the marketplace, both SFRM and IFRM warrant rigorous and thorough inspection based on industry accepted standards. While IFRM looks like paint and SFRM looks like stucco after application, there is much more to these products that make them perform under fire. This proposal provides the required details of those inspections to assure the products are installed to protect. The requirement for special inspections of SFRM has existed since the days of the legacy codes. The requirement for special inspections of IFRM has existed in the IBC since the 2006 edition. These requirements assure that the fireproofing has been installed in accordance with the listing and manufacturers installation instructions. SFRM and IFRM fireproofing installations protect structural elements in buildings against the effects of heat in buildings. SFRM and IFRM are critical components to structural protection and preventing progressive collapse due to fire. The products have been rigorously tested at leading laboratories like FM Approvals, Intertek, UL and other approved agencies.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on SFRM and IFRM.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

SFRM and IFRM are critical components of the life-safety structural provisions of the Florida Building Code. Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all sprayed and coating type materials used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of SFRM and IFRM.

Alternate Language

1st Comment Period History

F10394-A2

Proponent Richard Walke **Submitted** 4/15/2022 11:24:11 AM **Attachments** Yes

Rationale:

I am the original proponent of F10394. When developing the original proposal, I made a "cut and paste" error when extracting the language from the 2021 International Building Code. With the additional language suggested by this comment, the text of this section of the overall proposal for the Florida Building Code now aligns with the language of the 2021 International Building Code. All other provisions from the original proposal remain unchanged.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on SFRM and IFRM.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all sprayed and coating type materials used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of SFRM and IFRM.

1st Comment Period History

F10394-A1

Proponent Richard Walke **Submitted** 4/15/2022 10:43:45 AM **Attachments** Yes

Rationale:

I am the original proponent of F10394. When developing the original proposal, I made a "cut and paste" error when extracting the language from the 2021 International Building Code. With the additional language suggested by this comment, the text of the overall proposal for the Florida Building Code now aligns with the language of the 2021 International Building Code. All other provisions from the original proposal remain unchanged.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on SFRM and IFRM.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

SFRM and IFRM are critical components of the life-safety structural provisions of the Florida Building Code. Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all sprayed and coating type materials used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of SFRM and IFRM.

1st Comment Period History

F10394-G1

Proponent Ken Hix Submitted 4/14/2022 2:59:59 PM Attachments No

Comment:

While I'm generally very supportive of special inspections, I have several concerns with this proposal. First I do not think that all "elements and nonstructural components" or all "alternative to materials and systems prescribed by this code" are of the complexity that special inspections are necessary. Because of this, I feel this proposed section devalues evaluation reports and product approvals and will add unnecessary cost to construction. In Section 1705.1.1 the proposals states "in the opinion of" but does not tell you who's opinion.

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of the *building official*, unusual in its nature, such as, but not limited to, the following examples:

1705.1 General. *Special inspections* and tests of elements and nonstructural components of buildings and structures shall meet the applicable requirements of this section.

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.
2. Unusual design applications of materials described in this code.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

[BF] 1705.2 Sprayed fire-resistant materials. *Special inspections* and tests of sprayed fire-resistant materialsapplied to floor, roof and wall assemblies and structuralmembers shall be performed in accordance with Sections1705.2.1 through 1705.2.6. *Special inspections* 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, roofand wall assemblies and structural members. *Special inspections* and tests shall be performed during construction withan additional visual inspection after the rough installation ofelectrical, automatic sprinkler, mechanical and plumbingsystems and suspension systems for ceilings, and beforeconcealment where applicable. The required sample size shall not exceed 110 percent of that specified by the referencedstandards in Sections 1705.2.4.1 through1705.2.4.9.

[BF] 1705.2.1 Physical and visual tests. The *special inspections* and tests shall include the following todemonstrate compliance with the listing and the *fire-resistance rating*:

1. Condition of substrates.
2. Thickness of application.
3. Density in pounds per cubic foot (kg/m^3).
4. Bond strength adhesion/cohesion.
5. Condition of finished application.

[BF] 1705.2.2 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 sprayed fire-resistant material.

[BF] 1705.2.3 Application. The substrate shall have a minimum ambient temperature before and after application as specified in the written instructions of *approved* manufacturers. The area for application shall be ventilated during and after application as required by the written instructions of *approved* manufacturers.

[BF] 1705.2.4 Thickness. Not more than 10 percent of the thickness measurements of the sprayed fire-resistant materials 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 1705.2.4.1.

[BF] 1705.2.4.1 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 sprayed fire-resistant materials shall be selected in accordance with Sections 1705.2.4.2 and 1705.2.4.3.

[BF] 1705.2.4.2 Floor, roof and wall assemblies. The thickness of the sprayed fire-resistant materialapplied to floor, roof and wall assemblies shall be determined in accordance with ASTM E605, makingnot less than four measurements for each 1,000 squarefeet (93 m^2) of the sprayed area, or portion thereof, ineach story.

[BF] 1705.2.4.3 Cellular decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305 mm) in size. Not fewer than four measurements shall be made, located symmetrically within the square area.

[BF] 1705.2.4.4 Fluted decks. Thickness measurements shall be selected from a square area, 12 inches by 12 inches (305 mm by 305 mm) in size. Not fewer than four measurements shall be made, located symmetrically within the square area, including one each of the following: valley, crest and sides. The average of the measurements shall be reported.

[BF] 1705.2.4.5 Structural members. The thickness of the 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] 1705.2.4.6 Beams and girders. At beams and girders thickness measurements shall be made at nine locations around the beam or girder at each end of a 12-inch (305 mm) length.

[BF] 1705.2.4.7 Joists and trusses. At joists and trusses, thickness measurements shall be made at seven locations around the joist or truss at each end of a 12-inch (305 mm) length.

[BF] 1705.2.4.8 Wide-flanged columns. At wide-flanged columns, thickness measurements shall be made at 12 locations around the column at each end of a 12-inch (305 mm) length.

[BF] 1705.2.4.9 Hollow structural section and pipe columns. At hollow structural section and pipecolumns, thickness measurements shall be made at notfewer than four locations around the column at eachend of a 12-inch (305 mm) length.

[BF] 1705.2.5 Density. The density of the 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 shall be determined in accordance with ASTM E605. The test samples for determining the density of the sprayed fire-resistant materials 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] 1705.2.6 Bond strength. The cohesive/adhesive bond strength of the cured sprayed fire-resistant material 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 selected in accordance with Sections 1705.2.6.1 through 1705.2.6.3.

[BF] 1705.2.6.1 Floor, roof and wall assemblies. The test samples for determining the cohesive/adhesivebond strength of the sprayed fire-resistantmaterials shall be selected from each floor, roof andwall assembly at the rate of not less than one samplefor every 2,500 square feet (232 m_2) of the sprayedarea, or portion thereof, in each *story*.

[BF] 1705.2.6.2 Structural members. The test samples for determining the cohesive/adhesive bond strength of the sprayed ire-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] 1705.2.6.3 Primer, paint and encapsulant bond tests. Bond tests to qualify a primer, paint orencapsulant shall be conducted where the sprayed fire-resistantmaterial is applied to a primed, painted or encapsulated surface for which acceptable bond-strength performance between these coatings and the fire-resistant material has not been determined. A bonding agent *approved* by the SFRM manufacturer shall be applied to a primed, painted or encapsulated surface where the bond strengths are found to be less than required values.

[BF] 1705.3 Mastic and intumescent fire-resistant coatings. *Special inspections* and tests for mastic and*intumescent fire-resistant coatings* applied to structuralelements and decks shall be performed in accordance withAWCI 12-B. *Special inspections* and tests shall be based onthe fire-resistance design as designated in the *approvedconstruction documents*. *Special inspections* and tests shallbe performed during construction. Additional visual inspectionshall be performed after the rough installation and,where applicable, prior to the concealment of electrical,automatic sprinkler, mechanical and plumbing systems.

Add new standard(s) as follows:

ASTM

E605/E605M-93(2015)e1: Test Method for Thickness and Density of Sprayed Fire-resistive Material (SFRM) Applied to Structural Members

E736/E736M-2017: Test Method for Cohesion/Adhesion of Sprayed Fire-resistive Materials Applied to Structural Members

AWCI

12-B-14: Technical Manual 12B, Third Edition; Standard Practice for the Testing and Inspection of Field Applied Thin Film Intumescent Fire-resistive Materials; an Annotated Guide

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

68

F10408

Date Submitted	02/14/2022	**Section**	1705	**Proponent**	Richard Walke
Chapter	17	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments Yes **Alternate Language Yes**

Related Modifications

Summary of Modification

Propose Special Inspections for Firestop Systems and Joint Systems

Rationale

The best way to provide fire and life safety using fire-resistance-rated assemblies is through the use of installation contractors that understand the tested and listed systems and manufacturer's installation instructions, in conjunction with thorough inspections of their work in the field. This proposal provides details on the methodology of conducting special inspections for Through- and Membrane-Penetration Firestop Systems and Joint Systems that maintain effective fire-resistance-rated compartmentation in buildings. Fire spread can occur through penetrations made in fire-resistance rated assemblies. These penetrations are protected with firestop materials which become systems after installation in accordance with the listing and manufacturer's instructions. These systems are critical components of the life-safety provisions of the Florida Building Code. Their installation is highly technical and must be based on tested assemblies as specified in Chapter 7 of this code. Because of the technical nature of their installation and the fact that the materials look simple to install, but is not, they warrant rigorous and thorough inspection based on industry accepted standards – to assure that firestopping has been installed correctly. This proposal provides the required details of those firestop inspections providing assurance of fire and life safety in new construction and alterations that qualify for inspection. The language proposed herein was taken directly from the 2021 edition of the International Building Code (IBC). As such, the various provisions have been well vetted through the ICC code development process since they were first added to the 2012 IBC. Properly installed and inspected firestopping provide the building owner, manager and occupants with protection that maintains the continuity of fire-resistance-rated horizontal floor and vertical wall assemblies.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on firestop systems and joint systems.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Firestop andjoint systems are critical components of the life-safety provisions of the Florida Building Code. Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all firestop and joint systems used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of firestop and joint systems.

Alternate Language

1st Comment Period History

F10408-A4

Proponent Richard Walke **Submitted** 4/15/2022 11:31:58 AM **Attachments** Yes

Rationale:

I am the original proponent of F10408. When developing the original proposal, I made a "cut and paste" error when extracting the language from the 2021 International Building Code. With the additional language suggested by this comment, the text of this section of the overall proposal for the Florida Building Code now aligns with the language of the 2021 International Building Code. All other provisions from the original proposal remain unchanged.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on firestop systems and joint systems.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Firestop and joint systems are critical components of the life-safety provisions of the Florida Building Code. Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all firestop and joint systems used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of firestop and joint systems.

1st Comment Period History

F10408-A3

Proponent Richard Walke **Submitted** 4/15/2022 11:01:31 AM **Attachments** Yes

Rationale:

I am the original proponent of F10394. When developing the original proposal, I made a "cut and paste" error when extracting the language from the 2021 International Building Code. With the additional language suggested by this comment, the text of this section of the overall proposal for the Florida Building Code now aligns with the language of the 2021 International Building Code. All other provisions from the original proposal remain unchanged.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This proposal will reduce the cost to the local entity as a Special Inspection agency will be doing the bulk of the inspection work in the field.

Impact to building and property owners relative to cost of compliance with code

This proposal will require the building and property owners to hire and pay for a Special Inspection agency to conduct inspections on firestop systems and joint systems.

Impact to industry relative to the cost of compliance with code

There will be no impact to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Firestop and joint systems are critical components of the life-safety provisions of the Florida Building Code. Their installation is highly technical. Special inspections provide for adequate time for thorough inspections of these components.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Special inspections improve the likely-hood that the products will be installed in accordance with the manufacturer's installation instructions and the tested assemblies as required by Chapter 7.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

This proposal requires all firestop and joint systems used to provide fire resistance be under a special inspection program.

Does not degrade the effectiveness of the code

This proposal strengthens the requirements of the code as it provides for further oversite on the installation of firestop and joint systems.

1st Comment Period History

F10408-G1

Proponent Sam Francis Submitted 4/9/2022 10:59:27 AM Attachments No

Comment:

The American Wood Council submits the following comment: 1705.1.1 is poorly written. Moreover, it does not match IBC 1705.1.1 and thus affords the reader no clear context for its meaning or application.

1st Comment Period History

F10408-G2

Proponent Ken Hix Submitted 4/14/2022 2:58:03 PM Attachments No

Comment:

While I'm generally very supportive of special inspections, I have several concerns with this proposal. First I do not think that all "elements and nonstructural components" or all "alternative to materials and systems prescribed by this code" are of the complexity that special inspections are necessary. Because of this, I feel this section devalues evaluation reports and product approvals and will add unnecessary cost to construction. In Section 1705.1.1 the proposals states "in the opinion of" but does not tell you who's opinion.

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of the building official, unusual in its nature, such as, but not limited to, the following examples:

1705.1 General. *Special inspections* and tests of elements and nonstructural components of buildings and structures shall meet the applicable requirements of this section.

1705.1.1 Special cases. *Special inspections* and tests shall be required for proposed work that is, in the opinion of limited to, the following examples:

1. Construction materials and systems that are alternatives to materials and systems prescribed by this code.
2. Unusual design applications of materials described in this code.
3. Materials and systems required to be installed in accordance with additional manufacturer's instructions that prescribe requirements not contained in this code or in standards referenced by this code.

[BF] 1705.2 Fire-resistant penetrations and joints. In high-rise buildings, in buildings assigned to *Risk Category* III or IV, or in *fire areas* containing Group R occupancies with an *occupant load* greater than 250, *special inspections* for *through-penetrations*, *membrane penetration* firestops, *fire-resistant joint systems* and perimeter fire containment systems that are tested and *listed* in accordance with Sections 714.4.1.2, 714.5.1.2, 715.3 and 715.4 shall be in accordance with Section 1705.2.1 or 1705.2.2.

[BF] 1705.2.1 Penetration firestops. Inspections of *penetration firestop* systems that are tested and *listed* in accordance with Sections 714.4.1.2 and 714.5.1.2 shall be conducted by an *approved agency* in accordance with ASTM E2174.

[BF] 1705.2.2 Fire-resistant joint systems. Inspection of *fire-resistant joint systems* that are tested and *listed* in accordance with Sections 715.3.1 and 715.4 shall be conducted by an *approved agency* in accordance with ASTM E2393.

Add new standard(s) as follows:

ASTM

E2174-2018: Standard Practice for On-site Inspection of Installed Fire Stops

E2393-10a(2015): Standard Practice for On-site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

69

F10111

Date Submitted	02/07/2022	**Section**	2304.11	**Proponent**	Greg Johnson
Chapter	23	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mod #10110 to Sec 602.4

Summary of Modification

Provides internal references to Sec 602.4 treatment of concealed spaces in Type IV construction for floors and roof decks.

Rationale

The option of having protected concealed spaces in Type IV buildings is important to encourage the adaptive re-use of existing heavy timber buildings as well as to provide for the installation of mechanicals in Type IV cross laminated timber (CLT) construction. In addition to the current requirements for all concealed spaces in combustible construction, this change would require additional protection of the concealed spaces with sprinkler coverage, or eliminating all air space with noncombustible insulation, or covering all combustible surfaces with gypsum. These alternatives are the same protection required for concealed spaces in NFPA 13, except they are slightly more restrictive since 5/8-inch Type X gypsum is required in the one case. In addition, because the provisions are taken from NFPA 13, in order to use these provisions, the entire building must be protected by a sprinkler system complying with NFPA 13. A similar change was recently successful in NFPA 220 and NFPA 5000. This proposal is more conservative in that it requires 5/8-inch Type X gypsum instead of ½ -inch gypsum in the alternative for sheathing combustible concealed spaces with gypsum in proposed section 602.4.4.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impacts, no additional duties required.

Impact to building and property owners relative to cost of compliance with code

None; optional provisions that may reduce the cost of construction.

Impact to industry relative to the cost of compliance with code

None; optional provisions that may reduce the cost of construction.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This mod provides alternative methods of protecting concealed spaces in Type IV construction, ensuring robust fire-resistant construction.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This mod provides alternative methods of protecting concealed spaces in Type IV construction, ensuring robust fire-resistant construction.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material isprohibited or required by this mod.

Does not degrade the effectiveness of the code

This mod provides alternative methods of protecting concealed spaces in Type IV construction, ensuring robust fire-resistant construction.

2304.11.3 Floors.
Floors shall be without concealed spaces or with concealed spaces complying with Section 602.4.4. Wood floors shall be constructed in accordance with Section 2304.11.3.1 or 2304.11.3.2.

2304.11.3.1 Cross-laminated timber floors.
Cross-laminated timber shall be not less than 4 inches (102 mm) in actual thickness. Cross-laminated timber shall be continuous from support to support and mechanically fastened to one another. Cross-laminated timber shall be permitted to be connected to walls without a shrinkage gap providing swelling or shrinking is considered in the design. Corbelling of masonry walls under the floor shall be permitted to be used.

2304.11.3.2 Sawn or glued-laminated plank floors.
Sawn or glued-laminated plank floors shall be one of the following:

1.Sawn or glued-laminated planks, splined or tongue-and-groove, of not less than 3 inches (76 mm) nominal in thickness covered with 1-inch (25 mm) nominal dimension tongue-and-groove flooring, laid crosswise or diagonally, 15/32-inch (12 mm) wood structural panel or 1/2-inch (12.7 mm) particleboard.

2.Planks not less than 4 inches (102 mm) nominal in width set on edge close together and well spiked and covered with 1-inch (25 mm) nominal dimension flooring or 15/32-inch (12 mm) wood structural panel or 1/2-inch (12.7 mm) particleboard.

The lumber shall be laid so that no continuous line of joints will occur except at points of support. Floors shall not extend closer than 1/2 inch (12.7 mm) to walls. Such 1/2-inch (12.7 mm) space shall be covered by a molding fastened to the wall and so arranged that it will not obstruct the swelling or shrinkage movements of the floor. Corbelling of masonry walls under the floor shall be permitted to be used in place of molding.

2304.11.4 Roof decks.
Roofs shall be without concealed spaces ~~and roof~~ or with concealed spaces complying with Section 602.4.3. Roof decks shall be constructed in accordance with Section 2304.11.4.1 or 2304.11.4.2. Other types of decking shall be permitted to be used where equivalent fire resistance and structural properties are being provided. Where supported by a wall, roof decks shall be anchored to walls to resist forces determined in accordance with Chapter 16. Such anchors shall consist of steel bolts, lags, screws or approved hardware of sufficient strength to resist prescribed forces.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

70

F10248

Date Submitted	02/11/2022	**Section**	2304.10	**Proponent**	Greg Johnson
Chapter	23	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Type IV mass timber modifications including mods# 10098, 10099, 10161, 10162, 10163, 10167, 10169, 10174, and more

Summary of Modification

This modification provides two options for demonstrating compliance with thee requirement for the protection of connections in Types IV-A, IV-B and IV-C construction.

Rationale

see uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; these are typical design and plan review requirements.

Impact to building and property owners relative to cost of compliance with code

None; this is an optional building method. The owner can choose another method of construction to avoid costs.

Impact to industry relative to the cost of compliance with code

None; this is an optional building method. The owner can choose another method of construction to avoid costs

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

This is a fire resistant construction provision.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

This improves the code by supporting a new optional construction method.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No materials are required or prohibited by this change.

Does not degrade the effectiveness of the code

This improves the code by supporting a new optional construction method.

2304.10.8 Connection fire resistance rating. Fire resistance ratings for connections in Type IV-A, IV-B, or IV-C construction shall be determined by one of the following:

1. Testing in accordance with Section 703.2 where the connection is part of the fire resistance test.
2. Engineering analysis that demonstrates that the temperature rise at any portion of the connection is limited to an average temperature rise of 250°F (139°C), and a maximum temperature rise of 325°F (181°C), for a time corresponding to the required fire resistance rating of the structural element being connected. For the purposes of this analysis, the connection includes connectors, fasteners, and portions of wood members included in the structural design of the connection.

Section 2304.10.8 connection fire resistance rating rationale

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-S170-19) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

BC Sections 704.2 and 704.3 require connections of columns and other primary structural members to be protected with materials that have the required fire-resistance rating. This proposed change provides two options for demonstrating compliance with this requirement for connections in Types IV-A, IV-B and IV-C construction: a testing option and a calculation option. Types IV-A, IV-B and IV-C construction utilize mass timber elements that have inherent fire resistance. The new provisions which added these construction types have explicit fire-resistance ratings and protection requirements. Option 1 allows connections that are part of a successful ASTM E119 fire resistance test to be considered acceptable evidence of meeting the requirements of Sections 704.2 and 704.3.

Some connections used in Types IV-A, IV-B and IV-C construction are not part of the mass timber element or assembly testing. For those connections, an engineering analysis is required. Analysis procedures have been developed that allow the protection of these connections to be designed based on test results of E119 fire tests from protection configurations using the wood member outside of the connection, additional wood cover, and/or gypsum board. The analysis procedures must demonstrate that the protection will limit the temperature rise at any portion of the

connection, including the metal connector, the connection fasteners, and portions of the wood member that are necessary for the structural design of the connection. The average temperature rise limit of 250°F (139°C) and maximum temperature rise limit of 325°F (181°C) represent the fire separation and thermal protection requirements for wall and floor assemblies tested per ASTM E119 and ensure that the connection retains most of its initial strength throughout the fire-resistance rating time. Please note the Celsius values in parentheses are for temperature rise calculated as the difference between the final temperature and the initial temperature, not a direct conversion of a Fahrenheit temperature.

IBC 722 permits structural fire-resistance ratings of wood members to be determined using Chapter 16 of the National Design Specification® (NDS®) for Wood Construction. Where a wood connection is required to be fire-resistance rated, NDS Section 16.3 requires all components of the wood connection, including the steel connector, the connection fasteners, and the wood needed in the structural design of the connection, to be protected for the required fire-resistance rating time. NDS permits the connection to be protected by wood, gypsum board or other approved materials. AWC publication *Technical Report 10: Calculating the Fire Resistance of Wood Members and Assemblies* (https://www.awc.org/codesstandards/publications/tr10) , which is referenced in the NDS Commentary to Chapter 16, has been specifically updated to provide guidance on and examples of connection designs meeting the requirements of IBC 704 and NDS 16.3.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and take action on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

71

F10152

Date Submitted	02/15/2022	**Section**	3006.3	**Proponent**	Amanda Hickman
Chapter	30	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

none

Summary of Modification

hoistways

Rationale

Smoke protective curtain assemblies for hoistways are recognized and regulated in NFPA 105 Chapter 9 (2019). They have also been recognized and listed by ICC-ES for many years. There are multiple manufacturers of these assemblies in the market that hold Engineering Service Reports (ESR) for their use. These products have been in the market for 30 years with tens of thousands of successful installations. Smoke protective curtain assemblies provide a proven means for smoke and draft control at the hoistway door that enables design freedom and innovation. Smoke protective curtain assemblies for hoistways should be allowed to provide smoke and draft protection for elevator hoistways door openings. Smoke protective curtain assemblies are already being installed to protect elevator hoistway openings in Florida. Such installations being permitted either by using Section 3006.3, Item 3 or by using the alternative compliance provisions. The language in proposed Item 5 better addresses such assemblies by also including requirements that the control unit meet UL 864. UL 864 endures that the system meets rigorous release device criteria. In addition, the language in proposed Item 5 requires that such assemblies be installed and maintained in accordance with NFPA 105, which includes an annual test of such assemblies. The ASME A17.1 rule ensures these devices do not interfere with elevator operations.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will improve enforcement of the code because these products have been in the market for 25 years with tens of thousands of successful installations

Impact to building and property owners relative to cost of compliance with code

The cost of this option for hoistway opening protection is offset by the cost of other forms of protection. As such, the cost of construction for adding option five does not raise or lower the cost of construction.

Impact to industry relative to the cost of compliance with code

The cost of this option for hoistway opening protection is offset by the cost of other forms of protection. As such, the cost of construction for adding option five does not raise or lower the cost of construction.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Improves health and safety of general public because these provide a proven means for smoke and draft control at the hoistway door.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code because these products enable design freedom and innovation.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not discriminate because these products enable design freedom and innovation.

Does not degrade the effectiveness of the code

Improves the effectiveness of the code because smoke protective curtain assemblies for hoistways are recognized and regulated in NFPA 105.

Add new definition:

SMOKE PROTECTIVE CURTAIN ASSEMBLY FOR HOISTWAY. An automatic closing smoke and draft control curtain assembly.

Revise as follows:

3006.3 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 716.5.3 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 716.5.9. 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 shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such doors shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 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.

5. A *smoke protective curtain assembly for hoistways* shall be provided at each elevator hoistway door opening in accordance with Section 3002.6. Such curtain assemblies shall comply with the smoke and draft control requirements in Section 716.5.3.1 when tested in accordance with UL 1784 without an artificial bottom seal. Such curtain assemblies shall be equipped with a control unit listed to UL 864. Such curtain assemblies shall comply with section 2.11.6.3 of ASME A17.1/CSA B44. Installation and maintenance shall be in accordance with NFPA 105.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

72

F10098

Date Submitted	02/05/2022	**Section**	3102	**Proponent**	Greg Johnson
Chapter	31	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Modifications to Definitions, Chapter 4, Chapter 5, Chapter 6, Chapter 7, Chapter 17, Chapter 23, and Appendix D that add provisions for Type IV A,B, & C mass timber construction.

Summary of Modification

Clarifies that the reference to Type IV construction means heavy timber construction and not mass timber

Rationale

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. An uploaded support file has detailed reasons.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None; this is a clarification of application of the code

Impact to building and property owners relative to cost of compliance with code

None; this is a clarification of application of the code

Impact to industry relative to the cost of compliance with code

None; this is a clarification of application of the code

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

It clarifies application of the code so that mass timber buildings are not confused with heavy timber buildings.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

It clarifies application of the code so that mass timber buildings are not confused with heavy timber buildings.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

No material is required or prohibited by this change.

Does not degrade the effectiveness of the code

It clarifies application of the code so that mass timber buildings are not confused with heavy timber buildings, making the code more effective.

3102.3 Type of construction.
Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.3.1 Membrane and interior liner material.
Membranes and interior liners shall be either noncombustible as set forth in Section 703.5 or meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 and the manufacturer's test protocol.

Exception: Plastic less than 20 mil (0.5 mm) in thickness used in greenhouses, where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.4 Allowable floor areas.
The area of a membrane structure shall not exceed the limitations specified in Section 506.

3102.5 Maximum height.
Membrane structures shall not exceed one story nor shall such structures exceed the height limitations in feet specified in Section 504.3.

Exception: Noncombustible membrane structures serving as roofs only.

3102.6 Mixed construction.
Membrane structures shall be permitted to be utilized as specified in this section as a portion of buildings of other types of construction. Height and area limits shall be as specified for the type of construction and occupancy of the building.

3102.6.1 Noncombustible membrane.
A noncombustible membrane shall be permitted for use as the roof or as a skylight of any building or atrium of a building of any type of construction provided the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

3102.6.1.1 Membrane.
A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

G146-18 as proposed:

3102.3 Type of construction.
Noncombustible membrane structures shall be classified as Type IIB construction. Noncombustible frame or cable-supported structures covered by an *approved* membrane in accordance with Section 3102.3.1 shall be classified as Type IIB construction. Heavy timber frame-supported structures covered by an approved membrane in accordance with Section 3102.3.1 shall be classified as Type IV-HT construction. Other membrane structures shall be classified as Type V construction.

Exception: Plastic less than 30 feet (9144 mm) above any floor used in *greenhouses* , where occupancy by the general public is not authorized, and for aquaculture pond covers is not required to meet the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

3102.6.1.1 Membrane. A membrane meeting the fire propagation performance criteria of Test Method 1 or Test Method 2, as appropriate, of NFPA 701 shall be permitted to be used as the roof or as a skylight on buildings of Type IIB, III, IV-HT and V construction, provided that the membrane is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

Reason:
AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G146-18) in the ICC Code Development monograph 2018 Group A:

The Ad Hoc Committee on Tall Wood Buildings (TWB) was created by the ICC Board to explore the science of tall wood buildings and take action on developing code changes for tall wood buildings. The TWB has created several code change proposals with respect to the concept of tall buildings of mass timber and the background information is at the end of this Statement. Within the statement are important links to information, including documents and videos, used in the deliberations which resulted in these proposals.

This code change will result in consistency with the purpose and scope which was to leave intact the current Type IV heavy timber provisions. The HT category was created to differentiate the three (3) new categories of “mass timber”, where HT represents the long-established heavy timber category that has been in the ICC family of codes, and the predecessor legacy codes, for decades.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and act on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Building

73

F10452

Date Submitted	02/15/2022	**Section**	102.2.5	**Proponent**	Greg Johnson
Chapter	2704	**Affects HVHZ**	No	**Attachments**	**Yes**
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Mass timber package of changes

Summary of Modification

clarifies existing Type IV requirement refers to traditional Type IV heavy timber and not new Type IV mass timber types.

Rationale

See uploaded rationale

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
None - a clarification only.
Impact to building and property owners relative to cost of compliance with code
None - a clarification only.
Impact to industry relative to the cost of compliance with code
None - a clarification only.
Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Clarifies existing code provision; supports adoption of mass timber construction types.
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Clarifies existing code provision; supports adoption of mass timber construction types.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
No material is required or prohibited by this modification.

Does not degrade the effectiveness of the code

Does not change requirements.

D102.2.5 Structural fire rating.
Walls, floors, roofs and their supporting structural members shall be a minimum of 1-hour fire-resistance-rated construction.

Exceptions:

1.Buildings of Type IV-HT construction.

2.Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

3.Automobile parking structures.

4.Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).

5.Partitions complying with Section 603.1, Item 11.

G152

D102.2 Other specific requirements.

D102.2.1 Exterior walls. Exterior walls of buildings located in the fire district shall comply with the requirements in Table 601 except as required in Section D102.2.6.

D102.2.2 Group H prohibited. Group H occupancies shall be prohibited from location within the fire district.

D102.2.3 Construction type. Every building shall be constructed as required based on the type of construction indicated in Chapter 6.

D102.2.4 Roof covering. Roof covering in the fire district shall conform to the requirements of Class A or B roof coverings as defined in Section 1505.

D102.2.5 Structural fire rating. Walls, floors, roofs and their supporting structural members shall be not less than 1-hour fire-resistance-rated construction.

Exceptions:

1. Buildings of Type IV-HT construction.
2. Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
3. Automobile parking structures.
4. Buildings surrounded on all sides by a permanently open space of not less than 30 feet (9144 mm).
5. Partitions complying with Section 603.1, Item 11.

AWC proposes this code change as part of a package which, when taken together, as a group, creates the safety and reliability requirements necessary for the regulation of large mass timber (MT) buildings by the Florida Building Code. The following statement was offered by the Ad Hoc Committee on Tall Wood Buildings (TWB) for this proposal (IBC-G152-18) in the ICC Code Development monograph 2018 Group A:

This code change proposal will result in consistency with the purpose and scope which was to leave intact the current Type IV heavy timber provisions. The HT category was created to differentiate the three (3) new categories of “mass timber”, where HT represents the long-established heavy timber category that has been in the ICC family of codes, and the predecessor legacy codes for decades.

The Ad Hoc Committee for Tall Wood Buildings (AHC-TWB) was created by the ICC Board of Directors to explore the building science of tall wood buildings with the scope to investigate the feasibility of and act on developing code changes for these buildings. Members of the AHC-TWB were appointed by the ICC Board of Directors. Since its creation in January 2016, the AHC-TWB has held 8 open meetings and numerous Work Group conference calls. Four Work Groups were established to address over 80 issues and concerns and review over 60 code proposals for consideration by the AHC-TWB. Members of the Work Groups included AHC-TWB members and other interested parties. Related documentation and reports are posted on the AHC-TWB website at:

https://www.iccsafe.org/codes-tech-support/cs/icc-ad-hoc-committee-on-tall-wood-buildings/ .

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Existing Building

74

F10429

Date Submitted	02/14/2022	**Section**	505	**Proponent**	Jennifer Hatfield
Chapter	5	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Proposals for Sections 702 and 1012.4.6 of the Florida Existing Building Code, and AJ102.4 of the Florida Residential Code

Summary of Modification

Provides for alignment with IEBC language that is not intended to change current requirements. Rather, the proposal is based on clean-up, consistency and clarity supported by industry and the ICC Building Code Action Committee addressing EEROs and WOCDs.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance to align the language in the Florida code to what is in 505 of the IEBC. It is based on clean-up provided by the ICC BCAC proposals, as well as industry backed proposals. 505.1 - clarifies that we are talking about replacing windows and is a more accurate reflection of what this section is addressing. 505.2 - provides: - clean-up that clarifies that ASTM F2090 includes criteria for window fall prevention devices and WOCDs - changes the term “top of the sill” to "bottom of the clear opening" as the latter is easier to determine and measure. This term is consistent with language for new windows, and - strikes language that is being moved to the new 505.3.1. 505.3 - provides for corrected references and directs the user to a new section (being proposed separately) on what one must do when the replacement window is part of a change of occupancy. This is in align with the IEBC and the separate proposal provides code users specifications on how to comply that currently do not exist in the Florida-EB but will be useful to facilitate compliance. This section also strikes language that is being moved to the new 505.3.1. - New section 505.3.1 includes criteria for opening control devices and fall prevention devices on EEROs that is currently in 505.2 and 505.3 of the Florida code. Note 505.2, #2 in purple was adopted/approved under Phase 1 from F9670/EB65.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to code enforcement.

Impact to building and property owners relative to cost of compliance with code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to the owners.

Impact to industry relative to the cost of compliance with code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides alignment and clarity to benefit all code users, positively impacting the general public as less misinterpretation of code requirements.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing clarity and consistency.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

505.1 Replacement ~~glass~~ windows.
The installation or replacement of ~~glass~~ windows shall be as required for new installations.

505.2 ~~Replacement w~~Window 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 *Florida Building Code, Residential*, window opening control devices or fall prevention devicescomplying 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 the frame.

2.2.The window replacement includes the sash only when the existing frame remains.

3. One of the following applies:

3.1. In a Group R-2 or R-3 building containing dwelling units, the bottom~~top~~ of the clear opening ~~sill~~ of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or

3.2. In one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, the bottom ~~top sill~~ 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; and

5.The vertical distance from the bottom ~~top~~ of the clear opening ~~sill~~ 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).

~~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 1030.2 of the *Florida Building Code, Building*.~~

Exceptions:

~~1.~~Operable windows where the bottom ~~top~~ of the clear opening ~~sill~~ 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.

~~2.Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.~~

505.3 Replacement window emergency escape and rescue openings.

Where windows are required to provide *emergency escape* and *rescue openings* in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, replacement windows shall be exempt from the requirements of Sections 1030.2~~,~~ and 1030.3 ~~and 1030.5~~ of the *Florida Building Code, Building* and Sections R310.2.1~~,~~ and R310.2.2 ~~and R310.2.3~~ of the *Florida Building Code, Residential,* provided 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 t~~T~~he replacement of the window is ~~not~~ part of a change of occupancy, it shall comply with Section 1012.4.6.

~~Window opening control devices complying with ASTM F2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.~~

505.3.1 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*. 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.?

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Existing Building

75

F10431

Date Submitted	02/14/2022	**Section**	702	**Proponent**	Jennifer Hatfield
Chapter	7	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Proposals for Sections 505 and 1012.4.6 of the Florida Existing Building Code, and AJ102.4 of the Florida Residential Code

Summary of Modification

Provides for alignment with IEBC language that is not intended to change current requirements. Rather, the proposal is based on clean-up, consistency and clarity supported by industry and the ICC Building Code Action Committee addressing EEROs and WOCDs.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance to align the language in the Florida code to what is in 702.4 and 702.5 of the IEBC. It is based on clean-up provided by the ICC BCAC proposals, as well as industry backed proposals. It corresponds with changes submitted for Section 505 of the FEBC and Appendix AJ102 of the FBC-R. 702.4 - changes the term “top of the sill” to "bottom of the clear opening" as the latter is easier to determine and measure. This term is consistent with language for new windows. Also strikes language that is being moved to the new 702.5.1. 702.5 - provides for corrected references and directs the user to a new section (being proposed separately) on what one must do when the replacement window is part of a change of occupancy. This is in align with the IEBC and the separate proposal provides code users specifications on how to comply that currently do not exist in the Florida-EB but will be useful to facilitate compliance. This section also strikes language that is being moved to the new 702.5.1. - New section 702.5.1 includes criteria for opening control devices and fall prevention devices on EEROs that is currently in 702.4 and 702.5 Note 702.4, #2 in purple was adopted/approved under Phase 1 from F9670/EB65.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to code enforcement.

Impact to building and property owners relative to cost of compliance with code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to the owners.

Impact to industry relative to the cost of compliance with code

Should be no fiscal impact, all of this is meant for clarity and consistency, and should be beneficial to industry.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides alignment and clarity to benefit all code users, positively impacting the general public as less misinterpretation of code requirements.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing clarity and consistency.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

702.4 Window 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 *Florida Building Code, Residential*, window opening control 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 the frame.
   2.2. The window replacement includes the sash only when the existing frame remains.
3. One of the following applies:
   3.1. In a Group R-2 or R-3 building containing dwelling units, the bottom~~top~~ of the clear opening ~~sill~~ of the window opening is at a height less than 36 inches (915 mm) above the finished floor; or
   3.2. In one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, the bottom of the clear opening ~~top sill~~ 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; and
5. The vertical distance from the bottom of the clear opening ~~top of the sill~~ 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).

~~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 1030.2of the *Florida Building Code, Building*.~~

Exceptions:

1. ~~1.~~Operable windows where the bottom ~~top~~ of the clear opening ~~sill~~ 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.
2. ~~2.Operable windows with openings that are provided with window fall prevention devices that comply with ASTM F2090.~~

702.5 Replacement window for emergency escape and rescue openings.
Where windows are required to provide emergency escape and rescue openings in Group R-2 and R-3 occupancies and one- and two-family dwellings and townhouses regulated by the *Florida Building Code, Residential*, replacement windows shall be exempt from the requirements of Sections 1030.2~~,~~ and 1030.3 ~~and 1030.5~~ of the *Florida Building Code, Building* and Sections

R310.2.1~~,~~ and R310.2.2 ~~and R310.2.3~~ of the *Florida Building Code, Residential,* provided 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 t~~T~~he replacement of the window is ~~not~~ part of a change of occupancy, it shall comply with Section 1012.4.6.

~~Window opening control devices complying with ASTM F2090 shall be permitted for use on windows required to provide emergency escape and rescue openings.~~

702.5.1 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*. 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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Existing Building

76

F10433

Date Submitted	02/14/2022	**Section**	1012.4.6	**Proponent**	Jennifer Hatfield
Chapter	10	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Proposals for FEBC 505 and 702.

Summary of Modification

Brings in language from the IEBC to the FEBC that provides what operable windows serving as the EERO must comply with when the replacement window is part of a change of occupancy.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance (formerly AAMA). Current language in sections 505.3 and 702.5 of the FEBC simply state "The replacement of the window is not part of a change of occupancy." However, language adopted into the 2021 IEBC changed these sections to state "Where the replacement of the window is part of a change of occupancy it shall comply with section 1011.5.6." Providing the code user guidance on what to do when the replacement of the window is part of a change of occupancy benefits all parties. Therefore, this proposal simply adds in the corresponding IEBC language (which in the Florida code is being created as 1012.4.6 to put it in the proper placement) so code users can then have direction on what is required when a replacement window is part of the change of occupancy and will be an operable window serving as the EERO.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
Should have no impact.
Impact to building and property owners relative to cost of compliance with code
Should have no impact.
Impact to industry relative to the cost of compliance with code
Should have no impact.
Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides for language that will help the code user and facilitate compliance with proper EERO requirements when a change of occupancy occurs, benefiting the safety and welfare of the public.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by adding this new section that currently does not exist, as provides guidance for the code user when addressing change of occupancy.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

1012.4.6 Existing emergency escape and rescue openings.

Where a *change of occupancy* would require an *emergency escape and rescue opening* in accordance with Section 1030 of the *Florida Building Code, Building* operable windows serving as the *emergency escape and rescue opening* shall comply with the following:

1. An existing operable window shall provide a minimum net clear opening of 4 square feet (0.38 m^2) with a minimum net clear opening height of 22 inches (559 mm) and a minimum net clear opening width of 20 inches (508 mm).
2. A replacement window where such window complies with both of the following:
    - 2.1. The replacement window meets the size requirements in Item 1.
    - 2.2. 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.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Residential

77

F9984

Date Submitted	01/29/2022	**Section**	202	**Proponent**	David Porter
Chapter	2	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Building Code, Chapter 2, Section 202 Definitions

Summary of Modification

Terms "bedroom" and "sleeping room" need definitions.

Rationale

The terms "bedroom" and "sleeping room" are not defined in the Residential Code or the main Building Code. Architects and plan reviewers have used the unwritten definition that a bedroom is a room for sleeping that CONTAINS A CLOSET. If there is no closet, then it isn't considered a bedroom and doesn't have to comply with the 3 Code defined BR elements: 2nd means of escape, daylight, and ventilation.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None

Impact to building and property owners relative to cost of compliance with code

None

Impact to industry relative to the cost of compliance with code

None

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Clarifies terms used elsewhere in the Code that affects health, safety, and welfare.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Clarifies terms used elsewhere in the Code that have always been a debate point between architects and plan reviewers because there is no code guidance for both entities to know when windows and doors are required in rooms and when not.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not.

Does not degrade the effectiveness of the code

Does not.

F9984Text Modification

BEDROOM, SLEEPING ROOM: A room specifically designed for sleeping purposes and contains a permanent closet. Must comply with other code section requirements for bedrooms or sleeping rooms.

Mod_9984_TextOfModification.pdf Page: 1

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Residential

78

F10397

Date Submitted	02/14/2022	**Section**	308.4.5	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Change to 2406.4.5, Florida Building Code, Building

Summary of Modification

Providing consistency between the FBC-R and FBC-B provisions by adding a new exception to safety glazing that is currently provided in 2406.4.5 when the outboard pane is not exposed to the hazardous locations specified in the code.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance (formerly AAMA). In a laminated insulated glass unit where the sacrificial pane is on the exterior of the unit (outboard), the interior laminated pane provides the safety glazing protection against wet hazards. If the outboard pane is not exposed to wet (or any other hazard), it is not required to be safety-glazed. This new exception is currently provided in section 2406.4.5 of the Florida Building Code, providing consistency between the FBC-R and FBC-B provisions. Per the ASTM E1996-20 Standard, section A1.8.1.4 provides that “In an insulating glass unit, typically one lite provides the impact resistance (usually a laminated lite) and the other lite is considered to be “sacrificial.” This sacrificial lite can fracture without detriment to the impact resistant lite which is providing the actual building envelope protection.”

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No impact

Impact to building and property owners relative to cost of compliance with code

Could lessen costs if fall under the exception and safety-glazing is not required.

Impact to industry relative to the cost of compliance with code

No impact

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides for residential applications to have the same allowance as in commercial applications, when certain conditions are met.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing for consistency between FBC-R and FBC-B, in an area where it is appropriate.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

R308.4.5 Glazing and wet surfaces.

Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor swimming pools where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be considered to be a hazardous location. This shall apply to single glazing and each pane in multiple glazing.

Exceptions:

1. Glazing that is more than 60 inches (1524 mm), measured horizontally and in a straight line, from the water's edge of a bathtub, hot tub, spa, whirlpool or swimming pool or from the edge of a shower, sauna or steam room.
2. Outboard sacrificial panes in laminated insulating glass units in walls where the exterior of the unit is not exposed to any of the hazardous locations specified in Section R308.4.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Residential

79

F10414

Date Submitted	02/14/2022	**Section**	310.1.1	**Proponent**	Jennifer Hatfield
Chapter	3	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

Change to 1030.4 in Florida Building Code, Building

Summary of Modification

ASTM F2090 includes criteria for window fall prevention devices and window opening control devices, which is why “and fall prevention devices” is being added. Provides for consistency with the 2021 IRC.

Rationale

This proposal is being submitted on behalf of the Fenestration & Glazing Industry Alliance (formerly AAMA). This code modification will align the Florida Residential Code, R310.1.1 Operational constraints and opening control devices requirements with that of R310.1.1 of the 2021 IRC. The ASTM F2090 includes criteria for window fall prevention devices and window opening control devices, which is why “and fall prevention devices” is being added.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Provides for clarity to the code as to what is included in ASTM F2090, which could mean less confusion and time when ensuring compliance.

Impact to building and property owners relative to cost of compliance with code

Provides for clarity to the code as to what is included in ASTM F2090, which could mean less confusion and time when ensuring compliance.

Impact to industry relative to the cost of compliance with code

Provides for clarity to the code as to what is included in ASTM F2090, which could mean less confusion and time when ensuring compliance.

Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public

Provides for clarity to the code as to what is included in ASTM F2090, which could mean less confusion and time when ensuring compliance.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by providing needed clarity as to what is included in ASTM F2090, which could mean less confusion and time when ensuring compliance.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

It does not.

Does not degrade the effectiveness of the code

It does not.

R310.1.1 Operational constraints and opening control devices.
Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge. Window opening control devices and fall prevention devices complying with ASTM F2090 shall be permitted for use on windows serving as a required emergency escape and rescue opening.

TAC: Fire

Total Mods for **Fire** in **Pending Review : 80**

Total Mods for report: 80

Sub Code: Residential

80

F9948

Date Submitted	01/23/2022	**Section**	902	**Proponent**	Fernando Pages
Chapter	9	**Affects HVHZ**	No	**Attachments**	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language No**

Related Modifications

9947

Summary of Modification

An edit to correct a defined term in the code.

Rationale

This is a simple change to make the correct reference to the defined term "approved agency". The term "quality control" is not correct nor defined.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code
No impact
Impact to building and property owners relative to cost of compliance with code
No impact
Impact to industry relative to the cost of compliance with code
No impact
Impact to small business relative to the cost of compliance with code

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Has a reasonable and substantial connection with clarity and hence welfare of the general public
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Strengthens and improves the code.
Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities
Does not discriminate
Does not degrade the effectiveness of the code

Does not degrade the effectiveness of the code

Modify as follows:

R902.2 Fire-retardant-treated shingles and shakes.

Fire-retardant-treated wood shakes and shingles shall be treated by impregnation with chemicals by the full-cell vacuum-pressure process, in accordance with AWPA C1. Each bundle shall be marked to identify the manufactured unit and the manufacturer and shall be labeled to identify the classification of the material in accordance with the testing required in Section R902.1, the treating company, and the ~~quality control~~ agency.