



TAC: Fire

**This document created by the Florida Department of Business and Professional Regulation -
850-487-1824**

TAC: Fire

Total Mods for **Fire** in **Approved as Submitted** : 2

Total Mods for report: 33

Sub Code: Building

1

F12153		Date Submitted	02/14/2025	Section	1010	Proponent	Amanda Hickman
Chapter	10	Affects HVHZ	No	Attachments	Yes		
TAC Recommendation	Approved as Submitted						
Commission Action	Pending Review						

Comments

General Comments No **Alternate Language Yes**

Related Modifications

12145-12150, 12152

Summary of Modification

Updates code regarding A2L products.

Rationale

A2L refrigerants are low burning velocity, mildly flammable gases. As the air conditioning and refrigeration industries transition to lower global warming potential refrigerants, applications where A1 refrigerants are currently being used will begin using A2Ls. This code change recognizes that even though these refrigerants are categorized as flammable gases, their low burning velocities give them characteristics more similar to A1 refrigerants than flammable gases such as hydrocarbons. As such, this code change allows the warehousing, storage and use of A2L refrigerants without the need to classify occupancies as Group H. This State Code Amendment Proposal is consistent with updates that have been approved in the 2024 International Building and Fire Codes and the 2024 edition of NFPA 1.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will assist code enforcement regarding A2L products.

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

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

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

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

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

Updates code to ensure air conditioning products are permitted in the state of Florida.

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

Updates code to ensure air conditioning products are permitted in the state of Florida.

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

No. Only permits the use of A2L products.

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.

Alternate Language

2nd Comment Period

Proponent Joe Hayden **Submitted** 8/21/2025 4:27:34 PM **Attachments** Yes

Rationale:

F12153-A4
 BHMA recommends approval of Mod F12153 as further revised by this comment. We have worked with the proponent of the original mod and reached agreement that these revisions are beneficial. BHMA supports the intent of this mod, but recommends leaving Section 1010.2.9 unchanged vs. the 8th Edition of the FBC-B. In particular, BHMA recommends retaining the word “swinging” in this section. To our knowledge, panic hardware and fire exit hardware products exist only for swinging doors. Striking the word “swinging” may mislead others to believe that such hardware exists for non-swinging doors. Retaining the word “swinging” maintains appropriate clarity. Further, the proposed additions to Section 1010.2.9 are already addressed in other sections of the code. Specifically, Section 1006.2.2.2 addresses refrigeration machinery rooms, and Section 1006.2.2.4 addresses electrical rooms. Therefore, adding these new provisions to Section 1010.2.9 is unnecessary. Considering this, the intent of the original mod can be accomplished in a simpler manner. BHMA recommends leaving Section 1010.2.9 unchanged and revising Section 1010.2.9.1 to refer to ?Section 1006.2.2.2. Lastly, the current language of Section 1006.2.2.2 could have an unintended consequence. The last sentence of the first paragraph requires the separation distance to be “equal to” one-half the maximum horizontal dimension of the room. It seems the intent is that the separation distance be a minimum of one-half this dimension. This comment proposes changing “equal to” to “not less than” accordingly. Thank you for your consideration.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Will assist code enforcement regarding A2L products.

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

These code changes will not increase the cost of construction. They will only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Impact to industry relative to the cost of compliance with code

These code changes will not increase the cost of construction. They will only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

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

These code changes will not increase the cost of construction, they only grant permission to use A2L products. Existing R-410A equipment can continue to be used, maintained, and repaired for its full useful life.

Requirements

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

Updates code to ensure air conditioning products are permitted in the ?state of Florida.?

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

Updates code to ensure air conditioning products are permitted in the ?state of Florida.?

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

No. Only permits the use of A2L products.?

Does not degrade the effectiveness of the code

No. Only permits the use of A2L products.?

F12153-A4 Text Modification

1006.2.2.2 Refrigeration machinery rooms.

Machinery rooms larger than 1,000 square feet (93m²) shall have not less than two *exits* or *exit access doorways*. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance ~~equal to~~ not less than one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in exit access travel distance is permitted in accordance with Section 1017.1.

Exit or *exit access doorways* shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the *occupant load* served. *Exit* or *exit access doorways* shall be tight fitting and self-closing.

1010.2.9 Panic and fire exit hardware.

Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.2.4, Item 3.
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 1010.2.11 or 1010.2.12.
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 1010.2.13, Exception 2.
5. Exit access doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.

1010.2.9.1 Refrigeration machinery room.

Refrigeration machinery rooms ~~shall comply with Section 1006.2.2.2, larger than 1,000 square feet (93 m²) shall have not less than two exit or exit access doorways that swing in the direction of egress travel and shall be equipped with *panic hardware* or *fire exit hardware*.~~

1006.2.2.2 Refrigeration machinery rooms.

Machinery rooms larger than 1,000 square feet (93m²) shall have not less than two *exits* or *exit access doorways*. Where two *exit access doorways* are required, one such doorway is permitted to be served by a fixed ladder or an *alternating tread device*. *Exit access doorways* shall be separated by a horizontal distance ~~equal to~~ not less than one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an *exit* or *exit access doorway*. An increase in exit access travel distance is permitted in accordance with Section 1017.1.

Exit or *exit access doorways* shall swing in the direction of egress travel and shall be equipped with panic hardware, regardless of the *occupant load* served. *Exit* or *exit access doorways* shall be tight fitting and self-closing.

1010.2.9 Panic and fire exit hardware.

Swinging doors serving a Group H occupancy and swinging doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock other than *panic hardware* or *fire exit hardware*.

Exceptions:

1. A main *exit* of a Group A occupancy shall be permitted to be locking in accordance with Section 1010.2.4, Item 3.
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 1010.2.11 or 1010.2.12.
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 1010.2.13, Exception 2.
5. Exit access doors serving occupied exterior areas shall be permitted to be locked in accordance with Section 1010.2.4, Item 8.

1010.2.9.1 Refrigeration machinery room.

Refrigeration machinery rooms ~~shall comply with Section 1006.2.2.2, larger than 1,000 square feet (93 m²) shall have not less than two exit or exit access doorways that swing in the direction of egress travel and shall be equipped with *panic hardware* or *fire exit hardware*.~~

Rationale:

BHMA recommends approval of Mod F12153 as further revised by this comment. We have worked with the proponent of the original mod and reached agreement that these revisions are beneficial.

BHMA supports the intent of this mod, but recommends leaving Section 1010.2.9 unchanged vs. the 8th Edition of the FBC-B. In particular, BHMA recommends retaining the word “swinging” in this section. To our knowledge, panic hardware and fire exit hardware products exist only for swinging doors. Striking the word “swinging” may mislead others to believe that such hardware exists for non-swinging doors. Retaining the word “swinging” maintains appropriate clarity.

Further, the proposed additions to Section 1010.2.9 are already addressed in other sections of the code. Specifically, Section 1006.2.2.2 addresses refrigeration machinery rooms, and Section 1006.2.2.4 addresses electrical rooms. Therefore, adding these new provisions to Section 1010.2.9 is unnecessary.

F12153-A4 Text Modification

Considering this, the intent of the original mod can be accomplished in a simpler manner. BHMA recommends leaving Section 1010.2.9 unchanged and revising Section 1010.2.9.1 to refer to Section 1006.2.2.2.

Lastly, the current language of Section 1006.2.2.2 could have an unintended consequence. The last sentence of the first paragraph requires the separation distance to be “equal to” one-half the maximum horizontal dimension of the room. It seems the intent is that the separation distance be a **minimum** of one-half this dimension. This comment proposes changing “equal to” to “not less than” accordingly.

Thank you for your consideration.

F 12153 Text Modification

Chapter 10: MEANS OF EGRESS

1010.2.9 Panic and fire exit hardware. ~~Swinging~~ Doors serving a Group H occupancy and ~~swinging~~ doors serving rooms or spaces with an occupant load of 50 or more in a Group A or E occupancy shall not be provided with a latch or lock ~~other than~~ unless it is panic hardware or fire exit hardware.

Electrical rooms with equipment rated 1,200 amperes or more and over 6 feet (1829 mm) wide 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.

Refrigeration machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two exit or exit access doorways that swing in the direction of egress travel and shall be equipped with *panic hardware or fire exit hardware*.

1010.2.9.1 Refrigeration machinery rooms. ~~Refrigeration~~ Machinery rooms larger than 1,000 square feet (93 m²) shall have not less than two ~~exit exits~~ or exit access doorways ~~that swing in the direction of egress travel and shall be equipped with panic hardware or fire exit hardware.~~ Where two exit access doorways are required, one such doorway is permitted to be served by a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance equal to one-half the maximum horizontal dimension of the room.

All portions of machinery rooms shall be within 150 feet (45 720 mm) of an exit or exit access doorway. An increase in exit access travel distance is permitted in accordance with Section 1016.1.

~~Doors~~ Exit and exit access doorways shall swing in the direction of egress travel and shall be equipped with *panic hardware*, regardless of the occupant load served.

~~Doors~~ Exit and exit access doorways shall be tight fitting and *self-closing*.

TAC: Fire

Total Mods for **Fire** in **Approved as Submitted** : 2

Total Mods for report: 33

Sub Code: Building

2

F12337

Date Submitted	02/18/2025	Section	35	Proponent	Mo Madani
Chapter	35	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Approved as Submitted				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

Standards update for consistency with FFPC.

Rationale

Standards update for consistency with FFPC.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Standards update

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

Standards update

Impact to industry relative to the cost of compliance with code

Standards update

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

Standards update

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

Yes.

Does not degrade the effectiveness of the code

Yes

Alternate Language

2nd Comment Period

F12337-A3	Proponent	Jennifer Hatfield	Submitted	8/24/2025 3:36:01 PM	Attachments	No
	Rationale:					

On behalf of the Florida Roof Deck Association (FRDA), this alternative language comment is to address ASTM standards that are referenced in Section 1917 for Lightweight Insulating Concrete (LWIC). They have recently come to our attention they need updating due to certain standards being withdrawn and superseded by others, along with edition updates. Specifically, section 1917.4.3 requires compliance with A446 and A611, but those were withdrawn and superseded by A1008, and A525 was withdrawn and superseded by A653, which also has a 2023 edition available. This also requires updating section 1917.4.3 to replace the withdrawn standards with the two that superseded them. There are also three other standards referenced in Section 1917 that have very old editions listed. This alternative language comment updates those standards (C332, C495 and C618) to the latest editions.

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

Standards ukpdate

Requirements

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

Ensures the appropriate standards are being used for LWIC roofs.

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

It improves the code by ensuring standards that are being used are still available from ASTM and are the most recent editions.

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.

F12337-A3Text Modification

ASTM

A446	Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process; Structural (Physical) Quality.....	1917.4.3
A525 87	Specification for General Requirements for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.....	1917.4.3
A611	Standard Specification for Structural Steel(SS), Sheet, Carbon, Coil-Rolled.....	1917.4.3
A653/A653M—472023A	Specification for Steel Sheet, Zinc-Coated Galvanized or Zinc-Iron Alloy-Coated Galvannealed by the Hot-Dip Process..Table 1507.4.3(1), Table 1507.4.3(2), 1917.4.3, 2304.105.1, 2319.17.2.2.7	
A1008/A1008M—2024	Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Required Hardness, Solution Hardened, and Bake Hardenable.....	1917.4.3
C332—092023	Specification for Lightweight Aggregates for Insulating Concrete.....	1917.4.5
C495—992019	Standard Test Method for Compressive Strength of Lightweight Insulating Concrete	Table 1508.2, 1917.1.1, 1917.1.2, 1917.1.3
C618—122025	Standard Specification for Coal Fly-Ash and Raw or Calcined Natural Pozzolan for Use in Concrete.....	1917.4.4

1917.4.3

Galvanized coatings of formed steel sheets shall be in accordance with ASTM ~~A653~~ ~~525~~ with a minimum coating designation of G-90. Base steel shall conform to ASTM ~~A1008~~ ~~A446~~, Grade A, B, C, D or greater and ASTM ~~A611~~ C, D or E.

F12337 Text Modification

See attached.

F12337 Text Modification

Comparison of NFPA 1 and NFPA 101 to the 2026 FBC

NFPA 2— 19 2023	Hydrogen Technologies Code.	FFG, FMC
NFPA 13R- 2019 2022	Standard for the Installation of Sprinkler Systems in Low Rise Residential Occupancies	FBC, FRC, FEB
NFPA 14- 2022 2024	Standard for the Installation of Standpipe and Hose Systems	FBC,
NFPA 17- 2021 2024	Standard for Dry Chemical Extinguishing Systems	FBC
NFPA 30A - 2021 2024	Code for Motor Fuel-Dispensing Facilities and Repair Garages	FBC, FFG, FMC
NFPA 37- 2021 2024	Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines	FFG
NFPA 45- 2023 2024	Standard on Fire Protection Laboratories Using Chemicals (2015 Edition)	FBC
NFPA 56 - 17 or 20 2023	Standard for Fire and Explosion Prevention during Cleaning and Purging of Flammable Gas Piping Systems	FMC
NFPA 58- 2020 or 2023 2024	Liquefied Petroleum Gas Code	FBC, FRC, FFG, FMC
NFPA 70- 2020 2023	National Electrical Code (NEC)	FBC, FRC, FFG, FMC, FPC, FECR, FECC, FEB
NFPA 72- 2019 2022	National Fire Alarm and Signaling Code	FBC, FRC, FEB, FMC
NFPA 90A- 2015 2024	NFPA 90A-2024	FMC
NFPA 96- 2021 2024	Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations	FBC
NFPA 99 - 21 2024	Health Care Facilities Code	FBC
NFPA 101- 2021 2024	Life Safety Code	FBC, FEB,
NFPA 120- 20 2023	Standard for Fire Prevention and Control in Coal Mines	FBC
NFPA 211- 2022 2024	Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances	FBC, FRC, FFG, FMC
NFPA 265- 2019 2023	Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls	FBC
NFPA 286- 2023 2024	Standard Methods of Fire Test for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth	FRC, FMC
NFPA 914- 2001 2023	Code for Fire Protection of Historic Structures	FEB

Page: 1

Mod_12337_Text_Reference Standards code change to 2026 FBC Use this one Submitted .pdf

F12337 Text Modification

NFPA

780— 17 2023	Standard for the Installation of Lightning Protection Systems	FBC
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TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

3

CA12257		Date Submitted	02/17/2025	Section	110.3.14	Proponent	Cade Booth
Chapter	1	Affects HVHZ	No	Attachments	Yes		
TAC Recommendation	Denied						
Commission Action	Pending Review						

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

CA12257-G1

Proponent Cade Booth Submitted 8/22/2025 3:32:38 PM Attachments No

Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. The primary objection raised by this TAC was that other TACs had not yet decided on including Mass Timber in the FBC. However, the decisions or order of other TACs do not affect this TAC's responsibility to consider the proposed. This modification simply asks the TAC to determine whether, if Mass Timber is included in the code, should their connections be inspected. Mo Madani has clarified that any inconsistencies between TAC decisions will handled by staff, so if Mass Timber is not adopted, this section would likely not go forward. The only question before this TAC at this time is whether Mass Timber connections should be subject to inspection if it becomes part of the code. We respectfully request your approval as we believe this inspection to be important.

CA12257Text Modification

CHAPTER 1

SCOPE AND ADMINISTRATION

SECTION 110

INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of *noncombustible construction*.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and *partitions*, shall be of *mass timber* construction or of *noncombustible construction*.

Exception: Interior *building elements* and *nonload-bearing walls* and *partitions* of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of *noncombustible materials*.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

FBC 9th edition – Mass Timber PackageSection 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

CA12257 Text Modification

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 **FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,** **AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

Exceptions:

1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes-Dimensions.~~ For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction and connected in an *approved* manner. Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	160	65	55	65	55	120	90	65	65	65	50	40	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, g}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

4

F12281		Date Submitted	02/18/2025	Section	202	Proponent	Cade Booth
Chapter	2	Affects HVHZ	No	Attachments	Yes		
TAC Recommendation	Denied						
Commission Action	Pending Review						

Comments

General Comments No **Alternate Language Yes**

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

2nd Comment Period

F12281-A5	Proponent	Cade Booth	Submitted	8/22/2025 3:45:35 PM	Attachments	No
	Rationale: This alternate language is simply a clarifying change based on feedback from the first TAC which stated that the definition was confusing or unclear primarily due to a redundant phrase. Elements used in Mass Timber do not have to be limited to type IV construction, but do have to meet the minimum cross section requirements of type IV construction. This alternative language clarifies this. Thank you.					

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive impact, lowers fiscal impact. Inclusion of a clear concise definition reduces uncertainty and improves efficiency by naming a common building element that is already in use across Florida. Additionally, the phrase already exists in the Florida Building Code, so this clarifies that

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

Positive impact with lower fiscal cost. A clear definition of "Mass Timber" reduces uncertainty and improves efficiency by naming a common building element already in use, and it aligns with existing FBC language, avoiding confusion or additional costs.

Impact to industry relative to the cost of compliance with code

Positive impact, lowers fiscal impact. A clear definition of "Mass Timber" reduces uncertainty and improves efficiency by naming a common building element already in use, and it aligns with existing FBC language, avoiding confusion or additional cost or misapplication.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Positive impact. Inclusion of a clear concise definition reduces uncertainty and improves efficiency by naming a common building element already in use across Florida, as well as defines a phrase that currently exists in the FBC

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

Positive impact. Inclusion of a clear concise definition reduces uncertainty and improves efficiency by naming a common building element already in use across Florida, as well as defines a phrase that currently exists in the FBC

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

Does not discriminate. Inclusive change. Definition simply makes a specific name for a building element already in use.

Does not degrade the effectiveness of the code

Does not degrade effectiveness of code. Improves effectiveness of code by giving a specific name to a building element already in use across Florida and defines a phrase already in the FBC but currently undefined.

F12281-A5Text Modification

SECTION 202

DEFINITIONS

Add new definition as follows:

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

F12281 Text Modification

CHAPTER 2

DEFINITIONS

SECTION 202

DEFINITIONS

Add new definition 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.

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The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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F12281 Text Modification

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>			
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>			
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	10	5		3	4	<u>10</u>	<u>6</u>	<u>4</u>	4	3	2
I-2	NS ^{d, f}	UL	4	2		1	1	<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	UL	5	3		1	NP	<u>7</u>	<u>5</u>	<u>1</u>	1	1	NP
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	8	5	4	3		
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	8	5	4	3		
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	3
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	5	5	4	4		
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	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	4	4	3	1
	S	UL	12	5	4	4	4	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	6	5	3		
U	NS	UL	5	4	2	3	2	4	4	4	4	4	2	1	
	S	UL	6	5	3	4	3	9	6	5	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.
- 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 *Florida Building Code, Existing Building*.
 - 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

5

F12282

Date Submitted	02/18/2025	Section	202	Proponent	Cade Booth
Chapter	2	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12282-G1	Proponent	Cade Booth	Submitted	8/22/2025 3:47:34 PM	Attachments	No
	Comment: As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We respectfully request approval of the definition NONCOMBUSTIBLE PROTECTION as an important part of fire resistance. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.					

F12282 Text Modification

CHAPTER 2

DEFINITIONS

SECTION 202

DEFINITIONS

Add new definition as follows:

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.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1^{1/2}	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, g}	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000	
	S1	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000	
	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000	
	S1	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000	
	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 ^{d, h}	UL	UL	UL	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	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			96,000	64,000	96,000	64,000	246,000	164,000	102,500	82,000	48,000	28,000	
	S1	UL	UL	72,000	48,000	72,000	48,000	184,500	123,000	76,875	61,500	36,000	21,000	
	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 ⁱ	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	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

6

F12271

Date Submitted	02/18/2025	Section	403.3.2	Proponent	Cade Booth
Chapter	4	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12271-G1

Proponent Cade Booth Submitted 8/22/2025 3:03:27 PM Attachments No
Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. One of the basic requirements incorporated into any buildings with significant heights and areas is added active and passive protection features to tall structures. This code change proposal applies that concept to Type IV structures of 120' and higher, rather than the typical 420' requirement. This added protection, unique to Type IVA and IVB construction, is to address any concern of potential contribution of the mass timber to the fuel load. Considering the limitations of fire service aerial apparatus in reaching elevated floors, the Ad Hoc Committee determined that 120' is an appropriate height to implement this requirement. During the first TAC, the potential contribution of mass timber to the fuel load was raised a few times. Charring naturally protects the wood and slows fire progression, even allowing self-extinguishment in dense materials such as mass timber. But, in addition, this requirement for redundant water supplies at the conservative height of 120' provides extra protection, serving as a "belt and suspenders" measure alongside the active and passive fire protection systems at lower heights.

CHAPTER 4**SPECIAL DETAILED REQUIREMENTS BASED ON OCCUPANCY AND USE****SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2, b}	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

FBC 9th edition – Mass Timber PackageSection 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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**CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

**SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,
AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, e}	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	UL	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	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^g	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	

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

FBC 9th edition – Mass Timber Package

APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F12283

Date Submitted	02/18/2025	Section	504.3	Proponent	Cade Booth
Chapter	5	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Matthew Hunter Submitted 8/20/2025 1:17:01 PM Attachments No

F12283-G1

Comment:
By approving this modification, the State of Florida will be aligned with the maximum building heights permitted under the 2021 and later editions of the International Building Code as administered by the International Code Council. This will eliminate any confusion on the overall maximum height associated with the new mass timber Construction Types (IV-A, IV-B, & IV-C) and maximize occupancy levels which will help to mitigate the critical shortage of quality, safe, code compliant, and affordable units which are sorely needed in the majority of the metro areas in Florida. Additionally, these code change provisions have already been vetted by the consensus-based ICC code development process. I urge your support of these and other companion modifications associated with the mass timber construction types.

2nd Comment Period

F12283-G2 Proponent Varn Brittany Submitted 8/21/2025 11:52:22 AM Attachments No
 Comment:
 The Florida Forestry Association represents all aspects of our state's forest community. We fully support the inclusion in the 2026 Florida Building Code of all mass timber provisions adopted by the 2024 International Building Code. In addition to safety and labor benefits, the inclusion of mass timber construction in the Florida Building Code will represent an important factor in the future health and sustainability of Florida's forests. Creating a vital new market, the growth of mass timber will provide the financial resources needed to keep lands forested and managed. This is important on the environmental level because sustainably managed and harvested forests capture more carbon and provide habitat for a greater range of species than forests left unmanaged. Using building materials that are manufactured from sustainably managed forests also plays an important role in carbon sequestration and mitigates drivers of climate change. Because of the state's extensive timber assets, investment in mass timber production is projected to yield significant positive impacts for Florida's economy as well. By adopting these provisions into the Florida Building Code, Florida will also align with national codes for consistency and ensure uniform guidelines for efficient enforcement.

2nd Comment Period

F12283-G3 Proponent Caroline Dauzat Submitted 8/22/2025 12:26:00 PM Attachments No
 Comment:
 Mass Timber is a proven product that has been adopted by the majority of the states and is being utilized globally. The Florida Building Code needs to get with the current building practices in the field. Codifying mass timber provisions in the FBC will bring uniformity, minimize risks, allowing inspectors, designers and developers to have a supported environment to work within with consistency. Without clear standards, enforcement is haphazard and left to officials to determine, this creates frustration, delays and lack of confidence in the code. Adopting mass timber in the code gets Florida caught up with the rest of the states, creates new economic growth opportunities and delivers the clarity that Florida building officials, through BOAF, have been asking for on this material. Thousands of hours of research and testing on fire and structure have been conducted utilizing fire and building code officials along with design professionals and other stakeholders. Safety is always first and mass timber is recognized by provisions in the IBC, NFPA standards and supported by NASFM (2022) and IAFC (2020). Mass timber construction is growing across the country and without proper adoption Florida is behind. Please give strong consideration to mass timber in Florida, it is a great safe product that offers sturdy quick construction with minimal waste utilizing a renewable resource.

2nd Comment Period

F12283-G4 Proponent Cade Booth Submitted 8/22/2025 4:01:53 PM Attachments No

Comment:
 As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We respectfully request approval of inclusion of types IV-A/B/C in the building heights chart. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. The allowable building heights were carefully developed and reviewed to ensure safety and effectiveness for each type of occupancy. The committee looked at both fire safety and structural performance when making these determinations. In doing so, they compared Type IV-B construction to Type I-B and Type IV-A to Type I-A, since these are the existing construction types from which IV-A and IV-B were developed and the fire-resistance ratings, along with other relevant protections and requirements, are the same. The committee used a consistent approach across all occupancy types to determine recommended heights, and then applied professional judgment from both fire safety and structural perspectives to confirm that the proposed heights are appropriate and safe for each and every occupancy. Detailed information per occupancy can be found starting on page 6 of the following document: <https://www.iccsafe.org/wp-content/uploads/twb/TWB-proposals-in-cdpACCESS.pdf> It was noted in the first TAC that these heights were not identically matching anything, but that was on purpose. The methodology gave a starting off point from which individual cells were discussed and debated by the workgroup, and then adjusted where determined necessary. No adjustments were made to other occupancies or construction types based on these discussions, as the task was only to determine heights for type IV-A, IV-B, and IV-C.

2nd Comment Period

F12283-G5 Proponent Jennifer Hatfield Submitted 8/23/2025 3:59:59 PM Attachments No

Comment:
 The Building Officials Association of Florida (BOAF) supports adding mass timber provisions into the Florida Building Code and encourage the Technical Advisory Committees and Commission to adopt the entire package of proposals addressing mass timber. The mass timber provisions being proposed have been vetted thoroughly by industry experts and are used extensively across the country. It is important for our Florida Code to include provisions that align with the latest provisions, which were created with input from engineers, fire officials, materials interest and many others. We are seeing mass timber buildings in Florida now. As code officials, it is critical we have clear requirements within the code. By doing so, it will ensure uniformity across the State as to how these types of buildings should safely be manufactured and constructed. To do otherwise, is doing a disservice to Floridians. It is well past the time for the Florida Building Code to include mass timber provisions and for code officials to have the guidance they need when inspecting these structures.

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CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504

BUILDING HEIGHT AND NUMBER OF STORIES

Revise table as follows:

TABLE 504.3^a

ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40	
	S	UL	180	85	75	85	75	<u>270</u>	<u>180</u>	<u>85</u>	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	- <u>120</u>	- <u>90</u>	<u>65</u>	65	50	40	
	S													
H-4	NS ^{c,d}	UL	160	65	55	65	55	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40	
	S	UL	180	85	75	85	75	<u>140</u>	<u>100</u>	<u>85</u>	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40	
	S	UL	180	85	75	85	75	<u>180</u>	<u>120</u>	<u>85</u>	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65		55	65	55	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40
	S	UL	180	85										
I-4	NS ^{d,g}	UL	160	65	55	65	55	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40	
	S	UL	180	85	75	85	75	<u>180</u>	<u>120</u>	<u>85</u>	85	70	60	
R _s	NS ^{d,h}	UL	160	65	55	65	55	<u>65</u>	<u>65</u>	<u>65</u>	65	50	40	
	S13R	60	60	60	60	60	60	<u>60</u>	<u>60</u>	<u>60</u>	60	60	60	
	S	UL	180	85	75	85	75	<u>270</u>	<u>180</u>	<u>85</u>	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; NS = Buildings not equipped throughout with an automatic sprinkler system; S = Buildings equipped throughout with an

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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;

- 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 Florida Building Code, Existing Building.
- 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 the Florida Fire Prevention 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.

Page: 2

Mod12283_TextOfModification.pdf

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FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2, b}	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac}) + (U_{tw}/U_{aw}) \leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

FBC 9th edition – Mass Timber PackageSection 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes-Dimensions.~~ For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>			
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>			
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	10	5		3	4	<u>10</u>	<u>6</u>	<u>4</u>	4	3	2
I-2	NS ^{d, f}	UL	4	2		1	1	<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	UL	5	3		1	NP	<u>7</u>	<u>5</u>	<u>1</u>	1	1	NP
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2	
	S13R	4	4					4	4	4		4	4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3	
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3	
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3	
	S13R	4	4									4	4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4	
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2	
	S13R	4	4									4	4	4
	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	4	4	4	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	6	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	

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

F 12283 Text Modification

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**”
[Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

8

F12284

Date Submitted	02/18/2025	Section	504.4	Proponent	Cade Booth
Chapter	5	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Matthew Hunter Submitted 8/20/2025 1:24:05 PM Attachments No

F12284-G1

Comment:
I urge your support in adopting these mass timber code change provisions. By adopting the maximum number of stories permitted under the 2021 and later editions of the International Building Code, you will eliminate any potential confusion and maximize the total number of stories that were vetted by the ICC Tall Wood Ad Hoc Committee and the combined, validated stakeholders (dedicated building and fire code officials) thru the consensus-based code development process as administered by the International Code Council. This will allow greater occupant densities which will make an impact regarding quality, safe, and affordable dwellings units for Florida residents and make the most sustainable use of the only truly renewable building material; wood.

2nd Comment Period

F12284-G2 Proponent Varn Brittany Submitted 8/21/2025 11:50:40 AM Attachments No
 Comment:
 The Florida Forestry Association represents all aspects of our state's forest community. We fully support the inclusion in the 2026 Florida Building Code of all mass timber provisions adopted by the 2024 International Building Code. In addition to safety and labor benefits, the inclusion of mass timber construction in the Florida Building Code will represent an important factor in the future health and sustainability of Florida's forests. Creating a vital new market, the growth of mass timber will provide the financial resources needed to keep lands forested and managed. This is important on the environmental level because sustainably managed and harvested forests capture more carbon and provide habitat for a greater range of species than forests left unmanaged. Using building materials that are manufactured from sustainably managed forests also plays an important role in carbon sequestration and mitigates drivers of climate change. Because of the state's extensive timber assets, investment in mass timber production is projected to yield significant positive impacts for Florida's economy as well. By adopting these provisions into the Florida Building Code, Florida will also align with national codes for consistency and ensure uniform guidelines for efficient enforcement.

2nd Comment Period

F12284-G3 Proponent Caroline Dauzat Submitted 8/22/2025 12:25:14 PM Attachments No
 Comment:
 Mass Timber is a proven product that has been adopted by the majority of the states and is being utilized globally. The Florida Building Code needs to get with the current building practices in the field. Codifying mass timber provisions in the FBC will bring uniformity, minimize risks, allowing inspectors, designers and developers to have a supported environment to work within with consistency. Without clear standards, enforcement is haphazard and left to officials to determine, this creates frustration, delays and lack of confidence in the code. Adopting mass timber in the code gets Florida caught up with the rest of the states, creates new economic growth opportunities and delivers the clarity that Florida building officials, through BOAF, have been asking for on this material. Thousands of hours of research and testing on fire and structure have been conducted utilizing fire and building code officials along with design professionals and other stakeholders. Safety is always first and mass timber is recognized by provisions in the IBC, NFPA standards and supported by NASFM (2022) and IAFC (2020). Mass timber construction is growing across the country and without proper adoption Florida is behind. Please give strong consideration to mass timber in Florida, it is a great safe product that offers sturdy quick construction with minimal waste utilizing a renewable resource.

2nd Comment Period

F12284-G4 Proponent Cade Booth Submitted 8/22/2025 4:07:17 PM Attachments No

Comment:
 As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We respectfully request approval of inclusion of types IV-A/B/C in the allowable stories chart. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. The allowable stories were carefully developed and reviewed much the same way as allowable heights to ensure safety and effectiveness for each type of occupancy individually. The committee again looked at both fire safety and structural performance when making these determinations. In doing so, they again compared Type IV-B construction to Type I-B and Type IV-A to Type I-A, since these are the existing construction types from which IV-A and IV-B were developed and the fire-resistance ratings, along with other relevant protections and requirements, are the same. The committee used a consistent approach across all occupancy types to determine recommended heights, and then applied professional judgment from both fire safety and structural perspectives to confirm that the proposed heights are appropriate and safe for each and every occupancy. This judgement resulted in reduced heights for F, H, I, M, and S compared to the initial chart draft. Detailed information on this, including details on why number of stories was reduced for some occupancies, can be found starting on page 13 of the following document: <https://www.iccsafe.org/wp-content/uploads/twb/TWB-proposals-in-cdpACCESS.pdf> It was noted in the first TAC that these heights were not identically matching anything, but that was on purpose. The methodology gave a starting off point from which individual cells were discussed and debated by the workgroup, and then adjusted where determined necessary. No adjustments were made to other occupancies or construction types based on these discussions, as the task was only to determine heights for type IV-A, IV-B, and IV-C. Adjustments can be further explored in the document linked above. We hope this satisfies any concerns about the development of these charts by the consensus committee.

2nd Comment Period

F12284-G5 Proponent Jennifer Hatfield Submitted 8/23/2025 3:59:16 PM Attachments No

Comment:
 The Building Officials Association of Florida (BOAF) supports adding mass timber provisions into the Florida Building Code and encourage the Technical Advisory Committees and Commission to adopt the entire package of proposals addressing mass timber. The mass timber provisions being proposed have been vetted thoroughly by industry experts and are used extensively across the country. It is important for our Florida Code to include provisions that align with the latest provisions, which were created with input from engineers, fire officials, materials interest and many others. We are seeing mass timber buildings in Florida now. As code officials, it is critical we have clear requirements within the code. By doing so, it will ensure uniformity across the State as to how these types of buildings should safely be manufactured and constructed. To do otherwise, is doing a disservice to Floridians. It is well past the time for the Florida Building Code to include mass timber provisions and for code officials to have the guidance they need when inspecting these structures.

F12284 Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 504

BUILDING HEIGHT AND NUMBER OF STORIES

Revise table as follows:

TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
A-1	NS	UL	5	3	2	3	2	3	3	3	3	3	3	2	1
	S	UL	6	4	3	4	3	3	3	3	3	3	3	3	2
A-2	NS	UL	11	3	2	3	2	3	3	3	3	3	3	2	1
	S	UL	12	4	3	4	3	18	12	6	6	4	3	2	
A-3	NS	UL	11	3	2	3	2	3	3	3	3	3	2	1	
	S	UL	12	4	3	4	3	18	12	6	6	4	3	2	
A-4	NS	UL	11	3	2	3	2	3	3	3	3	3	2	1	
	S	UL	12	4	3	4	3	18	12	6	6	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
B	NS	UL	11	5	3	5	3	5	5	5	5	5	3	2	
	S	UL	12	6	4	6	4	18	12	6	6	4	3	2	
E	NS	UL	5	3	2	3	2	3	3	3	3	3	1	1	
	S	UL	6	4	3	4	3	9	6	4	4	4	2	2	
F-1	NS	UL	11	4	2	3	2	3	3	3	3	4	2	1	
	S	UL	12	5	3	4	3	10	7	5	5	5	3	2	
F-2	NS	UL	11	5	3	4	3	5	5	5	5	5	3	2	
	S	UL	12	6	4	5	4	12	8	6	6	6	4	3	
H-1	NS ^d		1	1	1	1	1	1	1	1	1	1	1	NP	
	S														
H-2	NS ^d	UL	3	2	1	2	1	1	1	1	1	2	1	1	
	S														
H-3	NS ^d	UL	6	4	2	4	2	3	3	3	3	4	2	1	
	S														
H-4	NS ^d	UL	7	5	3	5	3	7	7	7	7	5	3	2	
	S	UL	8	6	4	6	4	8	7	6	6	6	4	3	
H-5	NS ^d		4	4	3	3	3	2	2	2	2	3	3	2	
	S														
I-1Condition1	NS ^{d, e}	UL	9	4	3	4	3	4	4	4	4	4	3	2	
	S	UL	10	5	4	5	4	10	7	5	5	5	4	3	
I-1Condition2	NS ^{d, e}	UL	9	4		3	4	3	3	3	3	4	3	2	
	S	UL	10	5				10	6	4	4				
I-2	NS ^{d, f}	UL	4	2		1	1	NP	NP	NP	NP	1	1	NP	
	S	UL	5	3											
I-3	NS ^{d, e}	UL	4	2	1	2	1	2	2	2	2	2	2	1	
	S	UL	5	3	2	3	2	7	5	3	3	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	3	3	3	3	3	1	1	
	S	UL	6	4	3	4	3	9	6	4	4	4	2	2	
M	NS	UL	11	4	2	4	2	4	4	4	4	4	3	1	
	S	UL	12	5	3	5	3	12	8	6	6	5	4	2	

(continued)

TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
R-1	NS ^{d, h}	UL	11		4	4	4	4	4	4	4	4	3	2
	S13R		4	4									4	3
	S	UL	12	5	5	5	5	5	18	12	8	5	4	3

Page: 1

Mod12284_TextOfModification.pdf

F12284 Text Modification

R-2	NS ^{d,h}	UL	11	4	4	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S13R		4	4	4								4	3
	S	UL	12	5	5	5	5	5	<u>18</u>	<u>12</u>	<u>8</u>	5	4	3
R-3	NS ^{d,h}	UL	11		4	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	3	3
	S13R		4	4									4	4
	S	UL	12	5	5	5	5	5	<u>18</u>	<u>12</u>	<u>5</u>	5	4	4
R-4	NS ^{d,h}	UL	11		4	4	4	4	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S13R		4	4									4	3
	S	UL	12	5	5	5	5	5	<u>18</u>	<u>12</u>	<u>5</u>	5	4	3
S-1	NS	UL	11	4	2	3	2	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	4	4	4	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	2
S-2	NS	UL	11	5	3	4	3	3	<u>4</u>	<u>4</u>	<u>4</u>	5	4	2
	S	UL	12	6	4	5	4	4	<u>12</u>	<u>8</u>	<u>4</u>	6	5	3
U	NS	UL	5	4	2	3	2	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1
	S	UL	6	5	3	4	3	3	<u>9</u>	<u>6</u>	<u>5</u>	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.

- 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 Florida Building Code, Existing Building.
- 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 the Florida Fire Prevention 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

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c												
	S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
H-2	NS ^c												
	S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
	SM												
H-3	NS ^c												
	S1	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
	SM												
H-4	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

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BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

9

F12285					
Date Submitted	02/18/2025	Section	506.2	Proponent	Cade Booth
Chapter	5	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12285-G1

Proponent Cade Booth Submitted 8/22/2025 4:14:14 PM Attachments No
Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We respectfully request approval of inclusion of types IV-A/B/C in the building areas chart. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. To address new tall wood construction types (IV-A, IV-B, IV-C), the committee developed height and area criteria for each occupancy type, considering safety and efficacy. These area proposals were designed as companions to the height proposals and were developed in coordination with the new construction types. Fire testing was conducted to validate these concepts, including five full-scale, multi-story tests at ATF laboratories, focusing on mass timber's contribution to fire, performance of connections and joints, and conditions for responding fire personnel. The results, along with other testing, informed the Codes WG in developing the code change proposals adopted by the TWB. Each new construction type was compared to traditional Heavy Timber (HT) and assigned a multiplier for allowable area: IV-C at 1.25× HT, IV-B at 2.0× HT, and IV-A at 3.0× HT. These multipliers were adjusted based on occupancy type and relative hazard, with some areas for Hazardous and Institutional occupancies reduced. The proposals were also reviewed in relation to the companion height recommendations to ensure areas were appropriate for the associated risk. For more information on the fire tests, see the summary report: https://www.fpl.fs.usda.gov/documnts/fplgtr/fpl_gtr247.pdf and summary videos: https://www.youtube.com/playlist?list=PL_sDiz8JiMlwby77vfpPSPucEhBuEK22P

F12285Text Modification

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

SECTION 506

BUILDING AREA Revise table as follows: TABLE 506.2a, b ALLOWABLE AREA FACTOR (At = NS, S1, S13R, or SM, as applicable) IN SQUARE FEET

Revise table as follows:

TABLE 506.2a,b

ALLOWABLE AREA FACTOR (At = 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	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												
	S1												
	SM	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
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	NS ^c	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	NS ^c												
	S1												
	SM	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
H-3	NS ^c												
	S1												
	SM	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
H-4	NS ^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	NS ^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	108,000	54,000	27,000

F 12285 Text Modification

(continued)

TABLE 506.2^{a,b}—continued

ALLOWABLE AREA FACTOR (At = 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	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												
	S1												
	SM	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
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	NS ^c												
	S1	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	NP
H-2	NS ^c												
	S1												
	SM	21,000	16,500	11,000	7,000	9,500	7,000	10,500	10,500	10,500	10,500	7,500	3,000
H-3	NS ^c												
	S1												
	SM	UL	60,000	26,500	14,000	17,500	13,000	25,500	25,500	25,500	25,500	10,000	5,000
H-4	NS ^{c,4}	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	NS ^{c,4}	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	108,000	54,000	27,000

Note: UL = Unlimited; NP = Not Permitted

For S1: 1 square foot = 0.0929 m2.

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 Florida Building Code, Existing Building.
- 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 the Florida Fire Prevention 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.

F12285 Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes-Dimensions.~~ For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

F12285Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

F 12285 Text Modification

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002— <u>20</u>	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498— <u>19a</u>	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032— <u>21</u>	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84— <u>21a</u>	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119— <u>20</u>	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275— <u>22</u>	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701— <u>23</u>	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

1

FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

2

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

10

F12286		Date Submitted	02/18/2025	Section	508.4.4.1	Proponent	Cade Booth
Chapter	5	Affects HVHZ	No	Attachments	Yes		
TAC Recommendation	Denied						
Commission Action	Pending Review						

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Cade Booth Submitted 8/22/2025 4:18:09 PM Attachments No

Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.

12286-G1

CHAPTER 5**GENERAL BUILDING HEIGHTS AND AREAS****SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as fire barriers or horizontal assemblies to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the building with an approved thermal barrier consisting of gypsum board that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

F12286 Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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F12286 Text Modification

FBC 9th edition – Mass Timber Package

**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1^{1/2}	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

FBC 9th edition – Mass Timber Package

SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c,d}							<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP
H-2	NS ^{c,d}							<u>1</u>	<u>1</u>	<u>1</u>			
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1
H-3	NS ^{c,d}							<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1
H-4	NS ^{c,d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c,d}							<u>2</u>	<u>2</u>	<u>2</u>			
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2
I-1 Condition 1	NS ^{d,e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d,e}	UL	9	4		3	4	<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	10	5		3	4	<u>10</u>	<u>6</u>	<u>4</u>	4	3	2
I-2	NS ^{d,f}	UL	4	2		1	1	<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	UL	5	3		1	NP	<u>7</u>	<u>5</u>	<u>1</u>	1	1	NP
I-3	NS ^{d,e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d,g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, g}	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	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 ^{d, h}	UL	UL	UL	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	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	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 ⁱ	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	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

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F12287

Date Submitted	02/18/2025	Section	508.4.1.1	Proponent	Cade Booth
Chapter	5	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Cade Booth Submitted 8/22/2025 4:17:27 PM Attachments No

Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.

12287-G1

CHAPTER 5**GENERAL BUILDING HEIGHTS AND AREAS****SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

F12287 Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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**CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

**SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,
AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes-Dimensions.~~ For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intiered by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>			
H-2	NS ^{c, d}	UL	3	2	1	2	1	<u>1</u>	<u>1</u>	<u>1</u>	2	1	1
	S							<u>2</u>	<u>2</u>	<u>2</u>			
H-3	NS ^{c, d}	UL	6	4	2	4	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S							<u>4</u>	<u>4</u>	<u>4</u>			
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}	4	4	3	3	3	3	<u>2</u>	<u>2</u>	<u>2</u>	3	3	2
	S							<u>3</u>	<u>3</u>	<u>3</u>			
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4	3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5				<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2	1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3				<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

F12287 Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

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F12264

Date Submitted	02/18/2025	Section	601	Proponent	Cade Booth
Chapter	6	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12264-G1	Proponent	Cade Booth	Submitted	8/22/2025 1:05:19 PM	Attachments	No
	Comment:	As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. During the first TAC meetings, there were no objections or concerns specific to this modification addressing the fire-resistance ratings for building elements.				

F12264 Text Modification

CHAPTER 6

TYPES OF CONSTRUCTION

SECTION 601

GENERAL

Revise table as follows:

TABLE 601

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV				TYPE V	
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a,b}	2 ^{a,b,c}	1 ^{b,c}	0 ^c	1 ^{b,c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e,f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^g	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1½ ^b	1 ^{b,c}	1 ^{b,c}	0 ^c	1 ^{b,c}	0	1½	1	1	HT	1	0

F12264 Text Modification

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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a fire-resistance rating of not less than 1 hour.

Page: 2

Mod12264_TextOfModification.pdf

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1^{1/2}	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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**CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

**SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,
AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

(continued)

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4				4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	10	7	5		5	4
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		6	5
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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

(continued)

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Mod_12264_Text_601 table.pdf

F12264 Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

Page: 25

Mod_12264_Text_601 table.pdf

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

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FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F12265

Date Submitted	02/18/2025	Section	602.4	Proponent	Cade Booth
Chapter	6	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language Yes

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

Proponent	Cade Booth	Submitted	3/24/2025 9:16:33 PM	Attachments	Yes
F12265-A1	Rationale:				
	For alignment with the FBC, please correct the following references: 1. Section 602.4 should reference 703.8 (not 703.6) 2. Section 602.4.1.2 should reference 703.5 (not 703.3) 3. Section 602.4.2.2 should reference 703.5 (not 703.3) Once corrected, these sections should read as follows: ~~please note: all other language in the original modification to remain unchanged^^ 602.4 Type IV. Type IV... The time assigned to the noncombustible protection shall be determined in accordance with Section 703.8 and comply with Section 722.7. 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 703.5. 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 703.5. Thank you.				

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

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

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

Impact to industry relative to the cost of compliance with code

No change in original impact statements. Proposal is correction of a reference for alignment with FBC.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

No change in original statements. Proposal is correction of a reference for alignment with FBC.

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

No change in original statements. Proposal is correction of a reference for alignment with FBC.

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

No change in original statements. Proposal is correction of a reference for alignment with FBC.

Does not degrade the effectiveness of the code

No change in original statements. Proposal is correction of a reference for alignment with FBC.

2nd Comment Period

Proponent	Matthew Hunter	Submitted	8/20/2025 1:07:01 PM	Attachments	No
F12265-G3	Comment:				
	We urge adoption of the Mass Timber provisions as it will bring the Florida Building Code inline with the National Model Codes (2021 and later versions of the IBC) administered by ICC and provide design professionals with a truly sustainable method to construct strong, wind-resistant, renewable, fire-resistant, and resilient buildings. It will also assist developers by providing more design material choices to address the critical shortage of quality, safe, and affordable housing in the State of Florida.				

2nd Comment Period

F12265-G4 Proponent Varn Brittany Submitted 8/21/2025 11:40:02 AM Attachments No
 Comment:
 The Florida Forestry Association represents all aspects of our state's forest community. We fully support the inclusion in the 2026 Florida Building Code of all mass timber provisions adopted by the 2024 International Building Code. In addition to safety and labor benefits, the inclusion of mass timber construction in the Florida Building Code will represent an important factor in the future health and sustainability of Florida's forests. Creating a vital new market, the growth of mass timber will provide the financial resources needed to keep lands forested and managed. This is important on the environmental level because sustainably managed and harvested forests capture more carbon and provide habitat for a greater range of species than forests left unmanaged. Using building materials that are manufactured from sustainably managed forests also plays an important role in carbon sequestration and mitigates drivers of climate change. Because of the state's extensive timber assets, investment in mass timber production is projected to yield significant positive impacts for Florida's economy as well. By adopting these provisions into the Florida Building Code, Florida will also align with national codes for consistency and ensure uniform guidelines for efficient enforcement.

2nd Comment Period

F12265-G5 Proponent Caroline Dausat Submitted 8/22/2025 12:22:14 PM Attachments No
 Comment:
 Mass Timber is a proven product that has been adopted by the majority of the states and is being utilized globally. The Florida Building Code needs to get with the current building practices in the field. Codifying mass timber provisions in the FBC will bring uniformity, minimize risks, allowing inspectors, designers and developers to have a supported environment to work within with consistency. Without clear standards, enforcement is haphazard and left to officials to determine, this creates frustration, delays and lack of confidence in the code. Adopting mass timber in the code gets Florida caught up with the rest of the states, creates new economic growth opportunities and delivers the clarity that Florida building officials, through BOAF, have been asking for on this material. Thousands of hours of research and testing on fire and structure have been conducted utilizing fire and building code officials along with design professionals and other stakeholders. Safety is always first and mass timber is recognized by provisions in the IBC, NFPA standards and supported by NASFM (2022) and IAFC (2020). Mass timber construction is growing across the country and without proper adoption Florida is behind. Please give strong consideration to mass timber in Florida, it is a great safe product that offers sturdy quick construction with minimal waste utilizing a renewable resource.

2nd Comment Period

F12265-G6 Proponent Jennifer Hatfield Submitted 8/23/2025 3:57:43 PM Attachments No
 Comment:
 The Building Officials Association of Florida (BOAF) supports adding mass timber provisions into the Florida Building Code and encourage the Technical Advisory Committees and Commission to adopt the entire package of proposals addressing mass timber. The mass timber provisions being proposed have been vetted thoroughly by industry experts and are used extensively across the country. It is important for our Florida Code to include provisions that align with the latest provisions, which were created with input from engineers, fire officials, materials interest and many others. We are seeing mass timber buildings in Florida now. As code officials, it is critical we have clear requirements within the code. By doing so, it will ensure uniformity across the State as to how these types of buildings should safely be manufactured and constructed. To do otherwise, is doing a disservice to Floridians. It is well past the time for the Florida Building Code to include mass timber provisions and for code officials to have the guidance they need when inspecting these structures.

<<please note: all other language in the original modification to remain unchanged>>

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~~703.8 and comply with Section 722.7.

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~~ 703.5.

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~~ 703.5.

CHAPTER 6**TYPES OF CONSTRUCTION****SECTION 602****CONSTRUCTION CLASSIFICATION**

Revise and add new section 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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/m² 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.

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.

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.

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 Florida Building Code, Mechanical, 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.

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/m² 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.

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 less than or equal to 100 percent of the floor area in any dwelling unit within a story or fire area within a story.

1.2 Unprotected portions of mass timber walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any dwelling unit within a story or fire area within a story.

1.3 Unprotected portions of both walls and ceilings of mass timber, including attached columns and beams, in any dwelling unit or fire area shall be permitted in accordance with Section 602.4.2.2.3.

2. Mass timber columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})=1 \text{ (Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected mass timber ceilings are permitted in Section 602.4.2.2.2, 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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 with a 2-hour rating or less.

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected by one of 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; or
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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.

F12265 Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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FBC 9th edition – Mass Timber Package

**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

F12265 Text Modification

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

F12265 Text Modification

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes-Dimensions.~~ For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>			
H-2	NS ^{c, d}	UL	3	2	1	2	1	<u>1</u>	<u>1</u>	<u>1</u>	2	1	1
	S							<u>2</u>	<u>2</u>	<u>2</u>			
H-3	NS ^{c, d}	UL	6	4	2	4	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S							<u>4</u>	<u>4</u>	<u>4</u>			
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}	4	4	3	3	3	3	<u>2</u>	<u>2</u>	<u>2</u>	3	3	2
	S							<u>3</u>	<u>3</u>	<u>3</u>			
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4	3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5				<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2	1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3				<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

- 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.
- 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 *Florida Building Code, Existing Building*.
 - 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, 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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, g}	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	UL	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	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ⁱ	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	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

F12265 Text Modification

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**CHAPTER 31
SPECIAL CONSTRUCTION**

**SECTION 3102
MEMBRANE STRUCTURES**

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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Mod_12265_Text_602.4.pdf

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

For alignment with the FBC, please correct the following references:

1. Section 602.4 should reference 703.8 (not 703.6)
2. Section 602.4.1.2 should reference 703.5 (not 703.3)
3. Section 602.4.2.2 should reference 703.5 (not 703.3)

Once corrected, these sections should read as follows:

<<please note: all other language in the original modification to remain unchanged>>

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 703.8 and comply with Section 722.7.

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 703.5.

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 703.5.

Thank you.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**”
[Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F11930

Date Submitted	02/10/2025	Section	722.6	Proponent	Fernando Pages
Chapter	7	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

722.6.2(3)

Summary of Modification

Adds insulated vinyl siding and backed vinyl siding to table 722.6.2(3).

Rationale

We intend with Table 722.6.2(3) to add backed siding and insulated vinyl siding as an option for use with fire rated assemblies. Backed siding and insulated vinyl siding are equivalent to vinyl siding as an option as cladding that does not impact the fire rating of the assembly.

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

Adds between 25% to 50% cost if backed or insulated options chosen.

Impact to industry relative to the cost of compliance with code

Adds between 25% to 50% cost if backed or insulated options chosen.

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

Adds between 25% to 50% cost if backed or insulated options chosen.

Requirements

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

Brings code up to date with upgraded structural and energy options now available in vinyl siding.

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

Brings code in line with national standards and provides better product options.

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

Alternate Language

2nd Comment Period

F11930-A1	Proponent	Fernando Pages	Submitted	8/20/2025 1:20:35 PM	Attachments	No
	Rationale: Prior submittal had incorrect ASTM reference number, this was corrected. We intend to add backed siding and insulated vinyl siding as an option for use with fire-rated assemblies, as specified in Table 722.6.2 (3). Backed siding and insulated vinyl siding are equivalent to vinyl siding as an option, as cladding that does not impact the fire rating of the assembly.					

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
Adds between 25% to 50% cost if backed or insulated options are chosen.

Impact to industry relative to the cost of compliance with code
Adds between 25% to 50% cost if backed or insulated options are chosen.

Impact to small business relative to the cost of compliance with code
Adds between 25% to 50% cost if backed or insulated options chosen.

Requirements

Has a reasonable and substantial connection with the health, safety, and welfare of the general public
Bring the code up to date with upgraded structural and energy options now available in vinyl siding.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction
Brings code in line with national standards and provides better product options.

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

F11930-A1 Text Modification

Adds insulated vinyl siding and backed vinyl siding to table 722.6.2(3).

TABLE 722.6.2(3)

MEMBRANE^a ON EXTERIOR FACE OF WOOD STUD WALLS

SHEATHING	PAPER	EXTERIOR FINISH
$\frac{5}{8}$ -inch T & G lumber $\frac{5}{16}$ -inch exterior glue wood structural panel $\frac{1}{2}$ -inch gypsum wallboard $\frac{5}{8}$ -inch gypsum wallboard $\frac{1}{2}$ -inch fiberboard	Sheathing paper	Lumber siding
		Wood shingles and shakes
		$\frac{1}{4}$ -inch fiber-cement lap, panel or shingle siding
		$\frac{1}{4}$ -inch wood structural panels-exterior type
		$\frac{1}{4}$ -inch hardboard
		Metal siding
		Stucco on metal lath
		Masonry veneer
		Vinyl siding
		<u>Insulated vinyl siding</u>
<u>Backed vinyl siding</u>		
<u>Polypropylene siding</u>		
None	—	$\frac{3}{8}$ -inch exterior-grade wood structural panels

For SI: 1 inch = 25.4 mm.

- 1. a. Any combination of sheathing, paper, and exterior finish is permitted.

F11930Text Modification

TABLE 722.6.2(3)

See attachement

F11930Text Modification

TABLE 722.6.2(3) MEMBRANE* ON EXTERIOR FACE OF WOOD STUD WALLS

SHEATHING	PAPER	EXTERIOR FINISH
5/8-inch T & G lumber	Sheathing paper	Lumber siding
5/16-inch exterior glue <i>wood structural panel</i>		Wood shingles and shakes
1/2-inch gypsum wallboard 5/8-inch gypsum wallboard		1/4-inch <i>fiber-cement</i> lap, panel or shingle siding 1/4-inch <i>wood structural panels</i> -exterior type
1/2-inch fiberboard		1/4-inch hardboard
		<u>Insulated Vinyl Siding</u>
	Metal siding	
	<u>Polypropylene Siding</u>	
	Stucco on metal lath	
	Masonry veneer	
	Vinyl siding	
	<u>Insulated vinyl Siding</u>	
	<u>Backed vinyl siding</u>	
None	—	3/8-inch exterior-grade <i>wood structural panels</i>

For SI: 1 inch = 25.4 mm.

a. Any combination of sheathing, paper and exterior finish is permitted.

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

15

F12266

Date Submitted	02/18/2025	Section	703.8	Proponent	Cade Booth
Chapter	7	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12266-G1	Proponent	Cade Booth	Submitted	8/22/2025 2:13:55 PM	Attachments	No
	Comment:	As promised, we have provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns, and we look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. This specific modification for noncombustible protection is unique to mass timber construction and this section constitutes a performance path for determining the contribution of noncombustible protection in addition to the fire resistance rating carried by the mass timber. see page 26 for more information on this section from TWB: https://www.iccsafe.org/wp-content/uploads/twb/TWB-proposals-in-cdpACCESS.pdf				

2nd Comment Period

F12266-G2	Proponent	Cade Booth	Submitted	8/22/2025 2:50:20 PM	Attachments	No
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Comment:
The AWC would also like to acknowledge that while the first TAC discussions were interested in the new concept of noncombustible protection, there were no specific or technical objections to the approach to cover combustible surfaces. One comment during a later proposal mentioned exposed combustible surfaces, which this requirement for noncombustible protection should address.

F12266 Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

SECTION 703

FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new section as follows:

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.

F12266Text Modification

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The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 **FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,** **AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
 2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}		1	1	1	1	1	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>				
H-2	NS ^{c, d}	UL	3	2	1	2	1	<u>1</u>	<u>1</u>	<u>1</u>	2	1	1
	S	<u>2</u>	<u>2</u>	<u>2</u>									
H-3	NS ^{c, d}	UL	6	4	2	4	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	<u>4</u>	<u>4</u>	<u>4</u>									
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>			
H-5	NS ^{c, d}		4	4	3	3	3	<u>2</u>	<u>2</u>	<u>2</u>	3	3	2
	S	<u>3</u>	<u>3</u>	<u>3</u>									
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>			
I-1 Condition 2	NS ^{d, e}	UL	9	4	3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5				<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2	1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3				<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>			
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>			
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>			

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	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	4	4	4	10	7	5		5	4
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		6	5
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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1</u> , <u>602.4.2.1</u> , <u>602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1</u> , <u>3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F12267

Date Submitted	02/18/2025	Section	703.9	Proponent	Cade Booth
Chapter	7	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12267-G1	Proponent	Cade Booth	Submitted	8/22/2025 2:23:25 PM	Attachments	No
	<p>Comment: As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. When panels of any construction material are connected, fire tests have shown that sealing abutting edges and intersections is critical to maintaining the separation. Construction adhesive or other sealants prevent air movement, which is especially important during a fire when differential pressures can drive hot gases through unsealed voids. The assemblies tested in support of this submittal were constructed with this sealing to ensure performance. This proposed modification addresses the need for sealing to ensure performance expected of all fire assemblies.</p>					

2nd Comment Period

F12267-G2	Proponent	Cade Booth	Submitted	8/22/2025 2:49:59 PM	Attachments	No
	Comment:					
	The AWC would also like to acknowledge that while the first TAC discussions were interested in the new concept of noncombustible protection, there were no specific or technical objections to the approach to cover combustible surfaces. One comment during a later proposal mentioned exposed combustible surfaces, which this requirement for noncombustible protection should address.					

CHAPTER 7**FIRE AND SMOKE PROTECTION FEATURES****SECTION 703****FIRE-RESISTANCE RATINGS AND FIRE TESTS**

Add new section as follows:

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.

F12267 Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2, b}	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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**CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

**SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,
AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	10	7	5		5	4
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		6	5
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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

F 12267 Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, g}	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 ^{d, h}	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	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000
	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 ^{d, h}	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	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000
	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 ^{d, h}	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
R-4	NS ^{d, h}	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	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000
	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 ⁱ	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	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

17

F12268

Date Submitted	02/18/2025	Section	705.5	Proponent	Cade Booth
Chapter	7	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12268-G1	Proponent Cade Booth	Submitted	8/22/2025 2:32:43 PM	Attachments	No
Comment:					
As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. This modification simply adds Types IV-A and IV-B construction to the fire separation distance requirements, aligning them with existing construction types that require the same level of protection. For more on this correlation, follow this link: https://www.iccsafe.org/wp-content/uploads/twb/602_4-Type-of-Construction.pdf					

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CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

**SECTION 705
PROJECTIONS**

Revise table as follows:

TABLE 705.5

FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE^{a, d, g}

FIRE SEPARATION DISTANCE=X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^b	All	3	2	1
5= X<10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10= X<30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIIB, VB	1	0	0
	Others	1	1	1 ^c
X=30	All	0	0	0

For SI: 1 foot = 304.8 mm.

a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.

b. See Section 706.1.1 for party walls.

c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.

d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.

e. For special requirements for Group H occupancies, see Section 415.6.

f. For special requirements for Group S aircraft hangars, see Section 412.4.1.

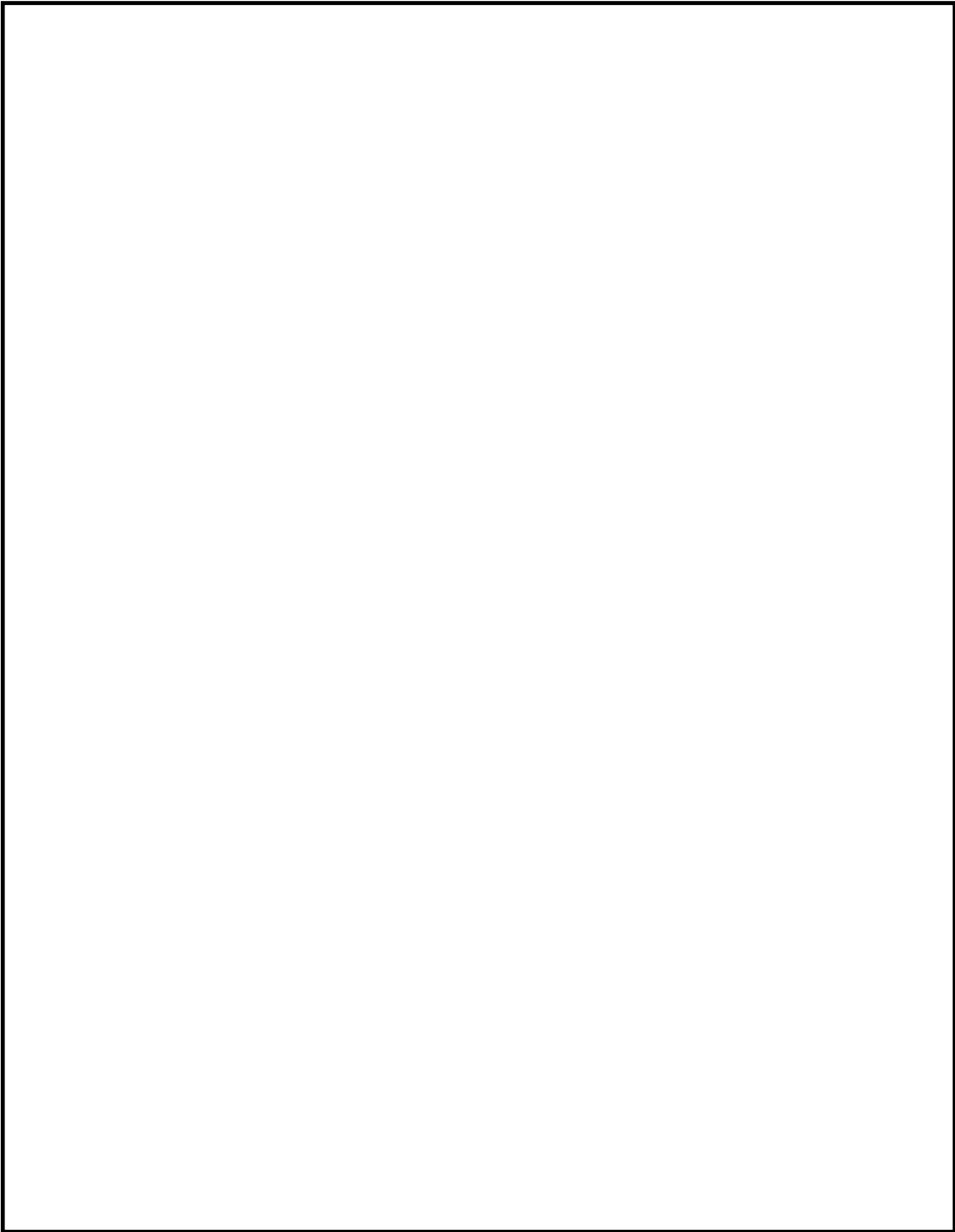
g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.

h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1^{1/2}	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>			
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>	2	1	1
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>			
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>			
H-4	NS ^{c, d}							<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	7	5	3	5	3	<u>8</u>	<u>7</u>	<u>6</u>			
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>	3	3	2
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>			
I-1 Condition 1	NS ^{d, e}							<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	9	4	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>			
I-1 Condition 2	NS ^{d, e}							<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	9	4	3	4	3	<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}							<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	4	2	1	1	NP	<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}							<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	4	2	1	2	1	<u>7</u>	<u>5</u>	<u>3</u>			
I-4	NS ^{d, g}							<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	5	3	2	3	2	<u>9</u>	<u>6</u>	<u>4</u>			
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>			

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4	4				4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	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	NS ^{d, 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	NS ^{d, 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	60,000	40,000	42,000	30,000	144,000	96,000	48,000	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	108,000	72,000	36,000	36,000	22,500	15,000	
I-4	NS ^{d, e}	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^{d, h}	UL	UL	UL	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	61,500	41,000	25,625	20,500	12,000	7,000	
	S13R													
	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 ^g	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	

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F12270

Date Submitted	02/18/2025	Section	722.7	Proponent	Cade Booth
Chapter	7	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language Yes

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

1st Comment Period History

Proponent	Cade Booth	Submitted	3/24/2025 2:59:10 PM	Attachments	Yes
F12270-A1	Rationale:				
	For alignment with the FBC, please correct the following reference: 1. Section 722.7.1 should reference Section 703.8 (not section 703.6). Once corrected, this section should read as follows: ~~ language preceding in original modification proposal to remain unchanged^^ 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 703.8. 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. ~~language following this section in original modification proposal to remain the same^^ Thank you.				

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

no changes from original impact statements. (FBC reference alignment correction)

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

no changes from original impact statements. (FBC reference alignment correction)

Impact to industry relative to the cost of compliance with code

no changes from original impact statements. (FBC reference alignment correction)

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

no changes from original statements. (FBC reference alignment correction).

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

no changes from original statements. (FBC reference alignment correction).

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

no changes from original statements. (FBC reference alignment correction).

Does not degrade the effectiveness of the code

no changes from original statements. (FBC reference alignment correction).

2nd Comment Period

Proponent	Cade Booth	Submitted	8/22/2025 2:42:08 PM	Attachments	No
F12270-G2	Comment:				
	As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. Mass timber elements are generally larger than structurally required due to extra laminations that result in excess capacity and improved fire endurance. This proposal provides a prescriptive method to calculate fire resistance by combining the inherent rating of the wood member with the additional protection time from noncombustible coverings and is a companion proposal to the testing protocol outlined in a previous section. Since this is a prescriptive solution, conditions of use including attachment, finishing, and edge treatments are outlined.				

2nd Comment Period

F12270-G3	Proponent	Cade Booth	Submitted	8/22/2025 2:49:03 PM	Attachments	No
Comment: The AWC would also like to acknowledge that while the first TAC discussions were interested in the new concept of noncombustible protection, there were no specific or technical objections to the approach to cover combustible surfaces. One comment during a later proposal mentioned exposed combustible surfaces, which this requirement for noncombustible protection should address.						

F12270-A1 Text Modification

<< language preceding in original modification proposal to remain unchanged>>

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~~ 703.8. 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.

<<language following this section in original modification proposal to remain the same>>

F12270Text Modification

CHAPTER 7

FIRE AND SMOKE PROTECTION FEATURES

**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new section as follows:

722.7 Fire-resistance rating for mass timber. The required fire resistance of mass timber elements in Section 602.4 shall be determined in accordance with Section 703.2. The fire-resistance rating of building elements shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The fire-resistance rating of the mass timber elements shall consist of the fire resistance of the unprotected element added to the protection time of the noncombustible protection.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

<u>REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (hours)</u>	<u>MINIMUM PROTECTION REQUIRED FROM NONCOMBUSTIBLE PROTECTION (minutes)</u>
<u>1</u>	<u>40</u>
<u>2</u>	<u>80</u>
<u>3 or more</u>	<u>120</u>

**TABLE 722.7.1(2)
PROTECTION PROVIDED BY NONCOMBUSTIBLE COVERING MATERIAL**

<u>NONCOMBUSTIBLE PROTECTION</u>	<u>PROTECTION CONTRIBUTION (minutes)</u>
<u>1/2-inch Type X gypsum board</u>	<u>25</u>
<u>5/8-inch Type X gypsum board</u>	<u>40</u>

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.

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Mod12270_TextOfModification.pdf

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 1 1/4-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).

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The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $^{19}/_{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>			
H-2	NS ^{c, d}	UL	3	2	1	2	1	<u>1</u>	<u>1</u>	<u>1</u>	2	1	1
	S							<u>2</u>	<u>2</u>	<u>2</u>			
H-3	NS ^{c, d}	UL	6	4	2	4	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S							<u>4</u>	<u>4</u>	<u>4</u>			
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}	4	4	3	3	3	3	<u>2</u>	<u>2</u>	<u>2</u>	3	3	2
	S							<u>3</u>	<u>3</u>	<u>3</u>			
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4	3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5				<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2	1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3				<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

F12270Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

F 12270 Text Modification

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

For alignment with FBC, please correct the following reference:

1. section 722.7.1 should reference Section 703.8 (not section 703.6)

Once corrected, this section should read as follows:

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 703.8. 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.

Thank you.

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BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

2

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

19

F11921

Date Submitted	02/06/2025	Section	1010.2.4	Proponent	John Woestman
Chapter	10	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

In Item 3, technical revisions are per F10603, and editorial revisions are from E53-24 tentatively approved as modified by committee for the 2027 IBC. The revisions in Item 5 are from E55-24 tentatively approved as submitted for the 2027 IBC.

Rationale

Prior to the 2017 FBC-B, 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 2017 FBC-B, item 3 was revised to be applicable to the main doors to a space for the same listed occupancies. And, the sign required by this section stated: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The intent of the change was to permit the provisions of Item 3 to be applicable to, for example, where the main doors to a restaurant open into a mall. Unfortunately, Item 3 is sometimes being interpreted as broadly as written: any doors that could be described as the main doors, to any space in the listed occupancies, regardless of the size or use of the space and regardless of how far into the bowels of the building, could be locked with a key operated lock preventing ingress and / or egress. This proposal is intended to bring the scope of the applicability of Item 3 to be more closely aligned to the stated intent: Item 3 would be applicable to the main exterior doors to the building, or the doors are the main doors to the tenant space. The editorial revisions in Item 3 are from E53-24 tentatively approved as modified by committee for 2027 IBC. The revisions in Item 5 are from E55-24 tentatively approved as submitted for the 2027 IBC, and explicitly requires what has been assumed to be applicable.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal to no effect on the impact of code enforcement.

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

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the

key cylinder locks may be permitted may decrease slightly.

Impact to industry relative to the cost of compliance with code

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

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

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Requirements

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

Removes the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

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

Yes, improves life safety by removing the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

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.

Alternate Language

2nd Comment Period

Proponent John Woestman **Submitted** 8/22/2025 2:15:27 PM **Attachments** No

Rationale:

F11921-A1

The reason for this proposal: Item 3 is sometimes being interpreted as broadly as currently 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 egress. New item 3.1 of this mod is intended to bring the scope of the applicability of Item 3 to be more closely aligned to our understanding of the intent: to be applicable to the main exterior doors to the building, and applicable to the main doors to the tenant space (examples: where the main doors of a smaller movie theatre or a restaurant open to an interior space such as a mall concourse).

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Should have minimal to no effect on the impact of code enforcement.

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

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Impact to industry relative to the cost of compliance with code

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

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

May increase the cost of construction if a key-operated lock on the egress side of main doors would not be permitted, and a higher cost lock is needed. May decrease the cost of construction as the locations where the key cylinder locks may be permitted may decrease slightly.

Requirements

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

Removes the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

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

Yes, improves life safety by removing the option to lock doors preventing egress through the main doors from spaces far to the interior of buildings.

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.

F11921-A1Text Modification

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices ~~from the which, when locked, prevent egress side~~ provided:

~~3.1~~ The doors are the main doors to the building, or the doors are the main doors to the tenant space.

~~3.2~~ The locking device is readily distinguishable as locked.

~~3.3~~ A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.

~~3.4~~ The use of the key-operated locking device is revocable by the building official for due cause.

F11921 Text Modification

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

- 1. Places of detention or restraint.
- 2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
- 3. In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices ~~from the which, when locked, prevent egress side~~ provided:

3.1 The doors are the main doors to the building, or the doors are the main doors to the tenant space.

~~3.42.~~ 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.

Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.

- 4. 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 that require a second non-simultaneous releasing motion, provided such devices are openable from the inside without the use of a key or tool.
- 6. – 10. No revisions proposed

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

20

F12186

Date Submitted	02/16/2025	Section	1027.5	Proponent	Jennifer Hatfield
Chapter	10	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Section 1024.3 proposed change

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification clarifies how Section 1027.5 is measured and removes contradictions between the minimum distance and fire separation distance.

Rationale

This code change is intended to clarify how 1027.5 is measured and to remove the contradictions between the minimum distance per 1027.5 and fire separation distance, as defined in Section 202. The term "fire separation distance" has a specific definition and application within the FBC and is not the correct term to use for 1027.5. Removing the term "fire separation distance" removes the contradiction between the fire separation distance definition and the minimum distance required per 1027.5. Item 1 was clarified to permit the minimum separation distance to be measured to the centerline of the street, alley, or public way. The reason a minimum 10 ft separation distance is required to an adjacent lot line is in case a future building is built right on an adjacent lot. Where the lot line faces a street, alley, or public way, the hazard of a building being built right on the adjacent property line is omitted and the separation distance should be measured to the centerline of the street, alley, or public way. Items 2 and 3 were revised to clarify the difference between the separation distance of 1027.5 and fire separation distance. The separation distance of 1027.5 specifically does not reference an imaginary lot line for separate buildings on the same lot. Item 3 addresses separate buildings on the same lot and states that the distance shall be measured perpendicular from the exterior exit stairway to the adjacent building and not an imaginary lot line. An exception was added to clarify that where separate buildings on the same lot are protected in accordance with FBC 705 based on fire separation distance the minimum 10 ft separation distance is not required.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No cost impact as the modification is editorial.

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

No cost impact as the modification is editorial.

Impact to industry relative to the cost of compliance with code

No cost impact as the modification is editorial.

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

No cost impact as the modification is editorial.

Requirements

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

Yes, as it provides needed clarity.

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

Yes, as it provides needed clarity.

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.

Alternate Language

2nd Comment Period

Proponent	Jennifer Hatfield	Submitted	8/21/2025 1:19:42 PM	Attachments	No
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Rationale:

This alternate language comment simply restores the word "have" that was unintentionally left out and the reason for TAC denial in order to be fixed. This alt lng comment would replace the original in total, with the remaining changes following the original proposal.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No cost impact as the modification is editorial.

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

No cost impact as the modification is editorial.

Impact to industry relative to the cost of compliance with code

No cost impact as the modification is editorial.

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

No cost impact as the modification is editorial.

Requirements

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

Yes, as it provides needed clarity.

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

Yes, as it provides needed clarity.

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.

F12186-A1 Text Modification

1027.5 Location.

*Exterior exit stairways and ramps shall be separated by, ~~have~~ a minimum ~~fire separation~~ distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway* or *ramps*, including landings, to:*

1. *Adjacent lot lines or to the centerline of a street, alley or public way.*
2. *Other portions of the building and other buildings on the same lot.*
3. ~~Other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.~~

For the purposes of this section, other portions of the building shall be treated as separate buildings.

~~Exception~~ Exceptions:

1. Exterior exit stairways and ramps serving individual dwelling units of Group R-3 shall have a minimum ~~fire separation~~ distance of 5 feet (1524 mm).
2. Where the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

F12186Text Modification

1027.5 Location.

*Exterior exit stairways and ramps shall ~~be separated by, have~~ a minimum ~~fire separation~~ distance of 10 feet (3048 mm) measured at right angles from the exterior edge of the *stairway or ramps*, including landings, to:*

1. Adjacent *lot lines* ~~or to the centerline of a street, alley or public way.~~
2. Other portions of the building ~~and other buildings on the same lot.~~
3. ~~Other buildings on the same lot unless the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.~~

For the purposes of this section, other portions of the building shall be treated as separate buildings.

~~Exception~~ Exceptions:

1. Exterior exit stairways and ramps serving individual dwelling units of Group R-3 shall ~~have~~ a minimum ~~fire separation~~ distance of 5 feet (1524 mm).
2. Where the adjacent building exterior walls and openings are protected in accordance with Section 705 based on fire separation distance.

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

21

F12226

Date Submitted	02/17/2025	Section	1010.2.4	Proponent	Jennifer Hatfield
Chapter	10	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to coordinate different criteria for single exit provisions for single dwelling units or sleeping units in Groups R.

Rationale

The intent of this provision is to coordinate different criteria for single exit provisions for single dwelling units or sleeping units in Groups R. It is appropriate to coordinate Section 1010.2.4 with this allowance to allow deadbolts to be installed for security on these doors. In order to not have a conflict in the future if this changes again, rather than change the number of occupants for individual dwelling units it is more appropriate to reference the section. The reference to Section 1006.3.3 is to allow for the individual dwelling units addressed in Exceptions 4 and 5.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, as it's a coordination of current requirements.

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

None, as it's a coordination of current requirements.

Impact to industry relative to the cost of compliance with code

None, as it's a coordination of current requirements.

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

None, as it's a coordination of current requirements.

Requirements

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

Yes, as it coordinates current requirements and prevents future conflicts.

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

Yes, as it coordinates current requirements and prevents future conflicts.

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.

Alternate Language

2nd Comment Period

Proponent	Jennifer Hatfield	Submitted	8/21/2025 1:17:58 PM	Attachments	No
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Rationale:

This alternate language comment simply deletes "single exit doors" to address a comment that came up to simply remove these words and start the sentence with "Doors complying with...". The remaining changes are as provided in the original proposal. This proposal is only addressing individual dwelling or sleeping units and aligns with NFPA and FFPC requirements, see specifically section 7.2.1.5.3.4.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, as it is a coordination of current requirements.

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

None, as it is a coordination of current requirements.

Impact to industry relative to the cost of compliance with code

None, as it is a coordination of current requirements.

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

None, as it's a coordination of current requirements.

Requirements

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

Yes, as it coordinates current requirements and prevents future conflicts.

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

Yes, as it coordinates current requirements and prevents future conflicts.

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.

F12226-A1

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The locking device is readily distinguishable as locked.
 - 3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.
5. ~~Single exit doors~~ Doors complying with Section 1006.2.1 or 1006.3.3 ~~Doors~~ from individual *dwelling* or *sleeping units* of Group R occupancies ~~having an occupant load of 10 or less are permitted to be~~ and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof, provided that when accessing the roof from the building the locks do not automatically lock, preventing re-entry into 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 Section 1009 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.

1010.2.4 Locks and latches.

Locks and latches shall be permitted to prevent operation of doors where any of the following exist:

1. Places of detention or restraint.
2. In Group I-1, Condition 2 and Group I-2 occupancies where the clinical needs of persons receiving care require containment or where persons receiving care pose a security threat, provided that all clinical staff can readily unlock doors at all times, and all such locks are keyed to keys carried by all clinical staff at all times or all clinical staff have the codes or other means necessary to operate the locks at all times.
3. In buildings in occupancy Group A having an *occupant load* of 300 or less, Groups B, F, M and S, and in *places of religious worship*, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:
 - 3.1. The locking device is readily distinguishable as locked.
 - 3.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.
 - 3.3. The use of the key-operated locking device is revocable by the *building official* for due cause.
4. Manual bolts, automatic flush bolts, and constant latching bolts on the inactive leaf of a pair of doors in accordance with Table 1010.2.4, provided that the inactive leaf does not have a doorknob, panic hardware, or similar operating hardware.
5. Single exit doors complying with Section 1006.2.1 or 1006.3.3 Doors from individual *dwelling* or *sleeping units* of Group R occupancies ~~having an occupant load of 10 or less are permitted to be~~ and equipped with a night latch, dead bolt or security chain that requires a second releasing motion, provided such devices are openable from the inside without the use of a key or tool.
6. *Fire doors* after the minimum elevated temperature has disabled the unlatching mechanism in accordance with *listed fire door* test procedures.
7. Doors serving roofs not intended to be occupied shall be permitted to be locked, preventing entry to the building from the roof, provided that when accessing the roof from the building the locks do not automatically lock, preventing re-entry into 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 Section 1009 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.

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

22

F12229

Date Submitted	02/17/2025	Section	1029.8	Proponent	Jennifer Hatfield
Chapter	10	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this proposal eliminates a conflict between two sections and clarifies the intent of the provisions.

Rationale

Footnote c of Table 1006.2.1 states "For a room or space used for assembly purposes having fixed seating, see Section 1029.8". Therefore, the shorter common path of travel in Section 1029.8 does not apply to areas that do not have fixed seating. The common path of travel in the table applies to those uses. However, the existing language in Section 1030.8 is written in such a way that it would apply to all assembly uses as outlined in Section 1029.1. This proposal eliminates the conflict between the two sections and clarifies the intent of the provisions.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

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

None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

Impact to industry relative to the cost of compliance with code

None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

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

None, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

Requirements

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

Yes, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

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

Yes, as it eliminates the conflict between the two sections and clarifies the intent of the provisions.

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.

2nd Comment Period

Proponent	Jennifer Hatfield	Submitted	8/23/2025 3:43:25 PM	Attachments	No
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F12229-G1
 Comment:
 The Building Officials Association of Florida (BOAF) is asking for the TAC to reconsider this proposal. A concern was raised about this proposal possibly conflicting with the FFPC. After a review by multiple parties we do not believe there is a conflict and urge the TAC to reconsider approving this proposal as submitted. This proposal correlates directly with other current code provisions. Specifically, the proposal only addresses fixed seating due to occupant load count. When you have fixed seats, you do a direct count based on the number of seats. Per the definition of fixed seating found in section 202, fixed seating means "...secured in place including bench-type seats and seat with or without backs or arm rests." Therefore, those that are zip tied or locked in side by side meet the definition of fixed seating. When you don't have fixed seats then the square footage is the driver for the occupant load count (i.e. 1 per 15sf or can go down to 1 per 7sf - Table 1004.5). In all cases, the occupant load determination based on square footage is more stringent so that common path of egress travel will not be an issue. For example, a room 750sf (25ft x 30ft) with no fixed seats, doing the 1 per 15sf will give you 50 occupant load and will require this room to have 2 exits. Therefore, this proposed code modification was to simply provide clarity on how to apply section 1029.8 that came from Table 1006.2.1 footnote c, eliminating any possible confusion.

F12229Text Modification

1029.8 Common path of egress travel.

The *common path of egress travel* for a room or space used for assembly purposes having fixed seating shall not exceed 30 feet (9144 mm) from any seat to a point where an occupant has a choice of two paths of egress travel to two *exits*.

Exceptions:

1. For areas serving less than 50 occupants, the *common path of egress travel* shall not exceed 75 feet (22 860 mm).
2. For smoke-protected or *open-air assembly seating*, the *common path of egress travel* shall not exceed 50 feet (15 240 mm).

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

23

F12288

Date Submitted	02/18/2025	Section	1405.5	Proponent	Cade Booth
Chapter	14	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12288-G1

Proponent	Cade Booth	Submitted	8/22/2025 4:19:40 PM	Attachments	No
Comment:	As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you.				

CHAPTER 14**EXTERIOR WALLS****SECTION 1405****INSTALLATION OF WALL COVERINGS**

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior hardboard siding or 0.375-inch (9.5 mm) exterior-type wood structural panels or particleboard and shall conform to the following:

1. The veneer shall not exceed 40 feet (12 190 mm) in height above grade. Where fire-retardant-treated wood is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The veneer is attached to or furred from a noncombustible backing that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood veneers (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the building wall.

F12288Text Modification

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 **FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,** **AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
 2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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**CHAPTER 1
SCOPE AND ADMINISTRATION**

**SECTION 110
INSPECTIONS**

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

**CHAPTER 2
DEFINITIONS**

**SECTION 202
DEFINITIONS**

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4									4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4									4	4
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

24

F12289

Date Submitted	02/18/2025	Section	1406.2.1	Proponent	Cade Booth
Chapter	14	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12289-G1	Proponent	Cade Booth	Submitted	8/22/2025 4:21:06 PM	Attachments	No
	<p>Comment: This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you. As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.</p>					

CHAPTER 14**EXTERIOR WALLS****SECTION 1406****COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALL**

Revise section as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>			
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>			
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	<u>3</u>	<u>3</u>	<u>3</u>			
	S	UL	10	5		3	4	<u>10</u>	<u>6</u>	<u>4</u>	4	3	2
I-2	NS ^{d, f}	UL	4	2		1	1	<u>NP</u>	<u>NP</u>	<u>NP</u>			
	S	UL	5	3		1	NP	<u>7</u>	<u>5</u>	<u>1</u>	1	1	NP
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

(continued)

F12289Text Modification

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted
For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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1

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

2

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**”
[Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

25

F12290

Date Submitted	02/18/2025	Section	1406.3	Proponent	Cade Booth
Chapter	14	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12290-G1	Proponent Cade Booth Comment: This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you. As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.	Submitted	8/22/2025 4:21:33 PM	Attachments	No
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CHAPTER 14**EXTERIOR WALLS****SECTION 1406****COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALL**

Revise section as follows:

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than fire-retardant-treated wood shall be fire-resistance rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the building's perimeter on each floor.

Exceptions:

1. On buildings of Type I and II construction, three stories or less above grade plane, fire-retardant-treated wood shall be permitted for balconies, porches, decks and exterior stairways not used as required exits.
2. Untreated wood, and plastic composites that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on buildings of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a fire-resistance rating where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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F12290 Text Modification

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.~~

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior load-bearing walls and nonload-bearing walls shall be mass timber construction, or shall be of noncombustible construction.

Exception: Exterior load-bearing walls and nonload-bearing walls of Type IV-HT construction in accordance with Section 602.4.4.

The interior building elements, including nonload-bearing walls and partitions, shall be of mass timber construction or of noncombustible construction.

Exception: Interior building elements and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In buildings of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 stories or 180 feet (54 864 mm) above grade plane, mass timber interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In buildings greater than 12 stories or 180 feet (54 864 mm) above grade plane, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, IVA	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, IVA, IVB	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV				Type V		
		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	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	120	90	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60	
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-1 Condition 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-1 Condition 2, I-2	NS ^{d,e,f}	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-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,h}	UL	160	65	55	65	55	65	65	65	65	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	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	8	5	4	3		
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	8	5	4	3		
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	3
	S13R	4	4												
	S	UL	12	5	5	5	5	18	12	5	5	4	4		
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	4	4	3	2
	S13R	4	4												
	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	4	3	1	
	S	UL	12	5	4	4	4	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	6	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		

- 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.
- 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 *Florida Building Code, Existing Building*.
 - 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, g}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

26

F12291

Date Submitted	02/18/2025	Section	3102.3	Proponent	Cade Booth
Chapter	31	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

***PLEASE NOTE: Individual sections have been submitted in addition to and alongside the full chapter portions to allow for focused discussion or otherwise if needed. This proposed modification serves as a placeholder. *** For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

F12291-G1	Proponent	Cade Booth	Submitted	8/22/2025 4:22:14 PM	Attachments	No
	<p>Comment: This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you. As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.</p>					

2nd Comment Period

F12291-G2

Proponent Cade Booth Submitted 8/22/2025 4:22:45 PM Attachments No
Comment:

This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you. As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.

CHAPTER 31**SPECIAL CONSTRUCTION****SECTION 3102
MEMBRANE STRUCTURES**

Revise section as follows:

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.

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The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and *nonload-bearing walls* and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw}) \leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ 602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
3. *A noncombustible material.*

~~602.4.3~~ 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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:*

1. *The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.*
2. *The concealed space shall be completely filled with noncombustible insulation.*
3. *Combustible surfaces 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.*

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $19/32$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5		3	4	3	<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3		1	1	NP	<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000	
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500	
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP	
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP	
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP	
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000	
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000	
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000	
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000	
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000	
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000	
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000	
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000	
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000	
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S13R			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	
	S1			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S13R			24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000	
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000	
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000	
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000	
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000	
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000	
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500	
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000	
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500	
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500	
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000	
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500	

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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**SECTION 508
MIXED USE AND OCCUPANCY**

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

**SECTION 509
INCIDENTAL USES**

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9.705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

FBC –Mass Timber Summary

1

FBC – Mass Timber Summary

Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

FBC –Mass Timber Summary

2

FBC – Mass Timber Summary

Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

27

F12251

Date Submitted	02/17/2025	Section	3314.1	Proponent	Cade Booth
Chapter	33	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Cade Booth Submitted 8/22/2025 3:07:14 PM Attachments No

Comment:

As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings. Specific to this modification are new special precautions during construction of buildings of Types IVA, IVB and IVC construction: Standpipes; Water supply for fire department connections; and Noncombustible protection required for mass timber elements as construction height increases. The goal of these are to provide guidance and requirements for while under construction prior to fire protection systems have been installed.

F12251-G1

CHAPTER 33**SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

SECTION 3314**FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

FBC 9th edition – Mass Timber Package

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F12251 Text Modification

FBC 9th edition – Mass Timber Package

**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

FBC 9th edition – Mass Timber Package

SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

FBC 9th edition – Mass Timber PackageSection 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	70	60		
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	70	60		
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	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		

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	4	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V			
		A	B	A	B	A	B	A	B	C		A	B		
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500	
	S1	UL	220,000	76,000	40,000	66,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000		
	SM	UL	165,000	57,000	30,000	49,500	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500		
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP		
	S1	UL	UL	60,000	44,000	48,000	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP		
	SM	UL	UL	45,000	33,000	36,000	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP		
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000		
	S1	UL	UL	60,000	40,000	42,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000		
	SM	UL	UL	45,000	30,000	31,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000		
I-4	NS ^{d, g}	UL	60,500	26,500	13,000	23,500	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000		
	S1	UL	121,000	106,000	52,000	94,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000		
	SM	UL	181,500	79,500	39,000	70,500	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000		
M	NS	UL	UL	21,500	12,500	18,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000		
	S1	UL	UL	86,000	50,000	74,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000		
	SM	UL	UL	64,500	37,500	55,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000		
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000		
	SM	UL	UL	72,000	48,000	72,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000		
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000		
	SM	UL	UL	72,000	48,000	72,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000		
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL		
	S13R			UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL		
	S1			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	SM			UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S13R			24,000	16,000	24,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000		
	S1	UL	UL	96,000	64,000	96,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000		
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000		
	S1	UL	192,000	104,000	70,000	104,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000		
	SM	UL	144,000	78,000	52,500	78,000	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000		
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500		
	S1	UL	316,000	156,000	104,000	156,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000		
	SM	UL	237,000	117,000	78,000	117,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500		
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500		
	S1	UL	142,000	76,000	34,000	56,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000		
	SM	UL	106,500	57,000	25,500	42,000	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500		

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. *Mass timber* elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members , 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**”
[Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Building

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F12263

Date Submitted	02/18/2025	Section	102.2.5	Proponent	Cade Booth
Chapter	35	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language Yes

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber’s history, the benefits of adoption for Florida, the need for action, and key supporting information. You’ll also find links to technical resources and documents that provide further validation. Don’t miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

Alternate Language

2nd Comment Period

Proponent Cade Booth **Submitted** 8/22/2025 4:32:22 PM **Attachments** No

Rationale:

Corrected some underlining mistakes since Florida already updated certain editions. Sections shown are limited to the Mass Timber sections to be added to the index/reference list. Thank you.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

No fiscal impact, updated standards for safety and consistency.

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

No fiscal impact, updated standards for safety and consistency.

Impact to industry relative to the cost of compliance with code

No fiscal impact, updated standards for safety and consistency.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes, of course - updated standards for most recent safety standards.

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

Yes, of course - updated standards for most recent requirements.

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

No, does NOT discriminate against materials or anything else. Proposal INCLUDES material previously not included.

Does not degrade the effectiveness of the code

does NOT degrade the effectiveness of the code - in fact IMPROVES effectiveness of code by providing consistent, thorough, tested code requirements for a building product already in use across Florida.

2nd Comment Period

Proponent Cade Booth **Submitted** 8/22/2025 4:26:09 PM **Attachments** No

Comment:

Comment was made during first TAC that there were AWC and other standards that were not listed as updated on this proposal. This proposal is limited to references applying to mass timber provisions ONLY. But, to address the comment, AWC standards have already been updated by staff in the FBC proposals. More information can be found on what standards they updated on their website.

Text of Modification

CHAPTER 35**REFERENCED STANDARDS**

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u> ,
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>

F12263-A1 Text Modification

UL 723—18

Standard for Test for Surface Burning Characteristics of Building Materials

602.4.1.1, 602.4.2.1, 602.4.3.1

CHAPTER 35

REFERENCED STANDARDS

Revise or add references as follows:

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<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u> ,
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
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NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2} ^b	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1 1/2	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac}) + (U_{tw}/U_{aw}) \leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

FBC 9th edition – Mass Timber PackageSection 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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be ~~is~~ protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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SECTION 718 CONCEALED SPACES

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of $\frac{19}{32}$ -inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating of the mass timber elements* shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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**CHAPTER 33
SAFEGUARDS DURING CONSTRUCTION**

Add new section as follows:

**SECTION 3314
FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B,
AND IV-C CONSTRUCTION**

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor levels.

Exceptions:

1. Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: Shafts and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intertied by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c, d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c, d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c, d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c, d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c, d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d, e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d, e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d, f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d, e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d, g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4										
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4										
	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, g}	UL	UL	60,500	26,500	13,000	23,500	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	UL	121,000	106,000	52,000	94,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	UL	181,500	79,500	39,000	70,500	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	UL	48,000	26,000	17,500	26,000	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	UL	192,000	104,000	70,000	104,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	UL	144,000	78,000	52,500	78,000	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	UL	79,000	39,000	26,000	39,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	UL	316,000	156,000	104,000	156,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	UL	237,000	117,000	78,000	117,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	UL	35,500	19,000	8,500	14,000	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	UL	142,000	76,000	34,000	56,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	UL	106,500	57,000	25,500	42,000	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

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CHAPTER 31 SPECIAL CONSTRUCTION

SECTION 3102 MEMBRANE STRUCTURES

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on **a combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Building

29

F12262

Date Submitted	02/18/2025	Section	102.2.5	Proponent	Cade Booth
Chapter	2704	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language No

Related Modifications

t601, 602.4, 703.8, 703.9, t705.5, 718.2.1, 722.7, 403.3.2, [F]3314.1, 2301.3, 2304.10.8, 2304.11.1.1, 2304.11.3, 2304.11.4, 1711.1, t1711.1, 1711.2, 110.3.14, 202, t504.3, t504.4, t506.2, 508.4.4.1, 509.4.1.1, 1405.5, 1406.2.1, 1406.3, 3102.3, 3102.6.1.1, D102.2.5, and refs ch 35.

Summary of Modification

The proposed updates the FBC to include mass timber, aligning it with national standards and advancements in building science, fire safety, and structural integrity. Backed by extensive research and testing, this ensures clear enforcement, cost-effective compliance, and statewide consistency.

Rationale

For a comprehensive understanding of the proposed mass timber code modifications, be sure to review the full rationale statement PDF. It includes a summary of mass timber's history, the benefits of adoption for Florida, the need for action, and key supporting information. You'll also find links to technical resources and documents that provide further validation. Don't miss this essential guide to why mass timber belongs in the Florida Building Code! In summary, as mass timber construction continues to gain traction across the U.S., including within Florida, it is crucial for the Florida Building Code (FBC) to be updated to incorporate provisions for this proven and innovative construction method. With 40 states already adopting mass timber regulations based on the International Building Code (IBC), these proposed modifications align Florida with nationally recognized consensus codes. The changes will provide a clear, standardized framework for enforcement, streamline compliance for building owners and developers, and support greater design flexibility, all while maintaining rigorous fire safety and structural integrity standards. Adopting mass timber into the FBC will also help Florida keep pace with emerging construction technologies, ensuring the state can effectively regulate these advancements without compromising safety or performance.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Positive; lowers impact. Including mass timber in the FBC provides a consistent regulatory framework for building and fire code officials. It streamlines enforcement, reduces uncertainty, and improves efficiency in plan reviews

and inspections by ensuring uniform standards across jurisdictions.

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

Positive; lowers impact. The inclusion of mass timber offers a new construction method that can lower costs for building owners. A consistent regulatory approach statewide simplifies approvals, reduces delays, and allows owners to choose cost-effective materials without uncertainty.

Impact to industry relative to the cost of compliance with code

Positive; neutral or lowers impact. Including mass timber in the FBC gives builders and developers more construction options, increasing competition and potentially lowering costs. Consistent enforcement across the state reduces regulatory uncertainty and streamlines the approval process.

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

Positive; lowers impact. Small businesses benefit from a uniform regulatory framework, reducing compliance costs. With mass timber, smaller firms can leverage prefabrication, shorter timelines, and cost savings, leading to more cost-effective projects and new business opportunities.

Requirements

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

Yes. Mass timber has been thoroughly tested for structural integrity and fire performance, proving its safety and durability. Its inclusion in the Florida Building Code ensures consistent regulation statewide, reducing uncertainty for officials and enhancing safety through uniform enforcement.

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

Yes, strengthens and improves FBC. Mass timber, included in national codes since 2021, is supported by comprehensive research and testing. It offers a durable, fire-safe alternative that expands construction options without compromising safety, strengthening the code with new, tested materials.

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

No discrimination and aligns with national standards since its 2021 IBC inclusion. Adopted in 40 states, with 6 more in process, mass timber is not replacing existing methods but adds a tested, proven option, ensuring fairness in material selection without preference or restriction.

Does not degrade the effectiveness of the code

Adopting mass timber strengthens the FBC by adding structural and fire safety criteria validated by testing and research from the ICC TWB. It doesn't alter or weaken requirements for other construction types but ensures consistent enforcement of tested, nationally accepted standards.

2nd Comment Period

Proponent Cade Booth Submitted 8/22/2025 4:32:53 PM Attachments No

Comment: This proposal simply adds the "-HT" designator to the section to limit the item to Heavy Timber, thereby not allowing it in Mass Timber for when Mass Timber may be included in the FBC. Thank you. As promised, the AWC has offered and provided direct training to TAC members and engaged in multiple discussions to help resolve outstanding concerns. We look forward to continuing the conversation on the mass timber provisions at the second TAC meetings.

F12262-G1

APPENDIX D**FIRE DISTRICTS****SECTION D102****BUILDING RESTRICTIONS**

Revise section as follows:

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 (9144mm).
5. Partitions complying with Section 603.1, Item 11.

FBC 9th edition – Mass Timber Package

The following document is a comprehensive package of all code modifications related to mass timber proposals. It is provided for your reference as it is essential these proposals be able to be reviewed in context rather than in isolation, as the adoption of new construction types – Type IV-A, IV-B, and IV-C – has broad implications throughout the Florida Building Code. Having context of these provisions together ensures a clear understanding of their interconnections, facilitating informed decision-making regarding the integration of mass timber construction into the code.

The proposed modifications to the Florida Building Code have been organized in a presentation sequence for logic rather than strictly following the order of the code. This approach ensures that the rationale for mass timber construction is presented clearly, allowing stakeholders to understand the technical justification before diving into specific code provisions. This proposal package first establishes the construction types themselves – Types IV-A, IV-B, IV-C – to provide a foundational understanding. It then transitions into details of fire protection, followed by specific provisions necessary to integrate mass timber into the code. Finally, it addresses additional supporting provisions, including inspections, allowable heights and areas, and distinctions where existing code is applicable to the existing Type IV-HT only. The sequence is intended to provide a comprehensive package for consideration and reference for the inclusion of mass timber in the Florida Building Code, 9th edition.

A Table of Contents (in order of appearance in the package) and Index (in order of section reference) have been provided for reference.

Thank you.

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**CHAPTER 6
TYPES OF CONSTRUCTION**

**SECTION 601
GENERAL**

Revise table as follows:

**TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS)**

BUILDING ELEMENT	TYPE I		TYPE II		TYPE III		TYPE IV			TYPE V		
	A	B	A	B	A	B	A	B	C	HT	A	B
Primary structural frame ^f (see Section 202)	3 ^{a, b}	2 ^{a, b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	3 ^a	2 ^a	2 ^a	HT	1	0
Bearing walls												
Exterior ^{e, f}	3	2	1	0	2	2	3	2	2	2	1	0
Interior	3 ^a	2 ^a	1	0	1	0	3	2	2	1/HT ^a	1	0
Nonbearing walls and partitions Exterior	See Table 705.5											
Nonbearing walls and partitions Interior ^d	0	0	0	0	0	0	0	0	0	See Section 2304.11.2	0	0
Floor construction and associated secondary structural members (see Section 202)	2	2	1	0	1	0	2	2	2	HT	1	0
Roof construction and associated secondary structural members (see Section 202)	1 ^{1/2, b}	1 ^{b, c}	1 ^{b, c}	0 ^c	1 ^{b, c}	0	1^{1/2}	1	1	HT	1	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 every part of the roof construction is 20 feet or more above the floor or mezzanine 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, 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 for roof construction, including primary structural frame members, where a 1-hour or less fire-resistance rating is required.
- d. Not less than the fire-resistance rating required by other sections of this code.
- e. Not less than the fire-resistance rating based on fire separation distance (see Table 705.5).
- f. Not less than the fire-resistance rating as referenced in Section 704.10.
- g. Heavy timber bearing walls supporting more than two floors or more than a floor and a roof shall have a *fire-resistance rating* of not less than 1 hour.

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SECTION 602 CONSTRUCTION CLASSIFICATION

Revise and add new sections 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.

Cross-laminated timber shall be labeled as conforming to ANSI/APA PRG 320 as referenced in Section 2303.1.4.

Exterior *load-bearing walls* and *nonload-bearing walls* shall be *mass timber* construction, or shall be of noncombustible construction.

Exception: Exterior *load-bearing walls* and *nonload-bearing walls* of Type IV-HT construction in accordance with Section 602.4.4.

The interior *building elements*, including *nonload-bearing walls* and partitions, shall be of *mass timber* construction or of noncombustible construction.

Exception: Interior *building elements* and nonload-bearing walls and partitions of Type IV-HT construction in accordance with Section 602.4.4.

Combustible concealed spaces are not permitted except as otherwise indicated in Sections 602.4.1 through 602.4.4. Combustible stud spaces within light frame walls of Type IV-HT construction shall not be considered concealed spaces, but shall comply with Section 718.

In *buildings* of Type IV-A, IV-B, and IV-C construction with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access, up to and including 12 *stories* or 180 feet (54 864 mm) above *grade plane*, *mass timber* interior exit and elevator hoistway enclosures shall be protected in accordance with Section 602.4.1.2. In *buildings* greater than 12 *stories* or 180 feet (54 864 mm) above *grade plane*, interior exit and elevator hoistway enclosures shall be constructed of noncombustible materials.

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

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less than 20 MJ/m² 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.

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.

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*.

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 *Florida Building Code, Mechanical*, 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.

602.4.2 Type IV-B. *Building elements* in Type IV-B construction shall be protected in accordance with Sections 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/m² 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.

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

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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 less than or equal to 100 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.2 Unprotected portions of *mass timber* walls, including attached columns, shall be permitted and shall be limited to an area less than or equal to 40 percent of the floor area in any *dwelling unit* within a story or *fire area* within a story.

1.3 Unprotected portions of both walls and ceilings of *mass timber*, including attached columns and beams, in any *dwelling unit* or *fire area* shall be permitted in accordance with Section 602.4.2.2.3.

2. *Mass timber* columns and beams that are not an integral portion of walls or ceilings, respectively, shall be permitted to be unprotected without restriction of either aggregate area or separation from one another.

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.

$$(U_{tc}/U_{ac})+(U_{tw}/U_{aw})\leq 1 \quad \text{(Equation 6-1)}$$

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 shall be not less than 15 feet (4572 mm) from unprotected portions of other 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. Except where unprotected *mass timber* ceilings are permitted in Section 602.4.2.2.2, the underside of floor assemblies shall be protected in accordance with

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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.

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 Florida Building Code, Mechanical, 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.

602.4.2.6 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/m² 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 Florida Building Code, Mechanical, 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,

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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 with a 2-hour rating or less.*

~~602.4.2~~ **602.4.4.2 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. 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 exterior surface of the cross-laminated timber and heavy timber elements shall be protected 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; or*
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 Florida Building Code, Mechanical. Concealed spaces shall comply with applicable provisions of Section 718. Concealed spaces shall be protected in accordance with one or more of the following:

1. The building shall be sprinklered throughout in accordance with Section 903.3.1.1 and automatic sprinklers shall also be provided in the concealed space.
2. The concealed space shall be completely filled with noncombustible insulation.
3. Combustible surfaces 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.

~~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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CHAPTER 7 FIRE AND SMOKE PROTECTION FEATURES

SECTION 703 FIRE-RESISTANCE RATINGS AND FIRE TESTS

Add new sections as follows:

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.

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.

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**SECTION 705
PROJECTIONS**

Revise table as follows:

**TABLE 705.5
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE
SEPARATION DISTANCE^{a, d, g}**

FIRE SEPARATION DISTANCE = X (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H ^e	OCCUPANCY GROUP F-1, M, S-1 ^f	OCCUPANCY GROUP A, B, E, F-2, I, R, S-2, U ^h
X < 5 ^p	All	3	2	1
5 ≤ X < 10	IA, <u>IVA</u>	3	2	1
	Others	2	1	1
10 ≤ X < 30	IA, IB, <u>IVA, IVB</u>	2	1	1 ^c
	IIB, VB	1	0	0
	Others	1	1	1 ^c
X ≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.

- a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
- b. See Section 706.1.1 for party walls.
- c. Open parking garages complying with Section 406 shall not be required to have a fire-resistance rating.
- d. The fire-resistance rating of an exterior wall is determined based upon the fire separation distance of the exterior wall and the story in which the wall is located.
- e. For special requirements for Group H occupancies, see Section 415.6.
- f. For special requirements for Group S aircraft hangars, see Section 412.4.1.
- g. Where Table 705.8 permits nonbearing exterior walls with unlimited area of unprotected openings, the required fire-resistance rating for the exterior walls is 0 hours.
- h. For a building containing only a Group U occupancy private garage or carport, the exterior wall shall not be required to have a fire-resistance rating where the fire separation distance is 5 feet (1523 mm) or greater.

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**SECTION 718
CONCEALED SPACES**

Revise section as follows:

718.2.1 Fireblocking materials. *Fireblocking* shall consist of the following materials:

1. Two-inch (51 mm) nominal lumber.
2. Two thicknesses of 1-inch (25 mm) nominal lumber with broken lap joints.
3. One thickness of 0.719-inch (18.3 mm) *wood structural panels* with joints backed by 0.719-inch (18.3 mm) *wood structural panels*.
4. One thickness of 0.75-inch (19.1 mm) *particleboard* with joints backed by 0.75-inch (19 mm) *particleboard*.
5. One-half-inch (12.7 mm) *gypsum board*.
6. One-fourth-inch (6.4 mm) cement-based millboard.
7. Batts or blankets of *mineral wool*, *mineral fiber* or other *approved* materials installed in such a manner as to be securely retained in place.
8. Cellulose insulation-installed as tested for the specific application.
9. *Mass timber* complying with Section 2304.11.
10. One thickness of ¹⁹/₃₂-inch (15.1 mm) *fire-retardant-treated wood* structural panel complying with Section 2303.2.

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**SECTION 722
CALCULATED FIRE-RESISTANCE**

Add new sections as follows:

722.7 Fire-resistance rating for mass timber. The required *fire resistance* of *mass timber* elements in Section 602.4 shall be determined in accordance with Section 703.2. The *fire-resistance rating of building elements* shall be as required in Tables 601 and 705.5 and as specified elsewhere in this code. The *fire-resistance rating* of the *mass timber* elements shall consist of the *fire resistance* of the unprotected element added to the protection time of the *noncombustible protection*.

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.

**TABLE 722.7.1(1)
PROTECTION REQUIRED FROM NONCOMBUSTIBLE COVERING MATERIAL**

REQUIRED FIRE-RESISTANCE RATING OF BUILDING ELEMENT PER Table 601 AND Table 602 (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

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.

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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 1 1/4-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).

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**CHAPTER 4
SPECIAL DETAILED REQUIREMENTS
BASED ON OCCUPANCY AND USE**

**SECTION 403
HIGH-RISE BUILDINGS**

Revise section as follows:

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 IV-A and IV-B 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.

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CHAPTER 33 SAFEGUARDS DURING CONSTRUCTION

Add new section as follows:

SECTION 3314 FIRE SAFETY REQUIREMENTS FOR BUILDINGS OF TYPES IV-A, IV-B, AND IV-C CONSTRUCTION

[F] 3314.1 Fire safety requirements for buildings of Types IV-A, IV-B, and IV-C construction. Buildings of Types IV-A, IV-B, and IV-C construction designed to be greater than six stories above grade plane shall comply with the following requirements during construction unless otherwise approved by the fire code official.

1. Standpipes shall be provided in accordance with Section 3313.
2. A water supply for fire department operations, as approved by the fire code official and the fire chief.
3. Where building construction exceeds six stories above grade plane, at least one layer of noncombustible protection where required by Section 602.4 shall be installed on all building elements more than 4 floor levels, including mezzanines, below active *mass timber* construction before erecting additional floor levels.

Exceptions:

1. *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.
2. Noncombustible material on the top of mass timber floor assemblies shall not be required before erecting additional floor levels.
4. Where building construction exceeds six stories above grade plane required exterior wall coverings shall be installed on all floor levels more than 4 floor levels, including mezzanines, below active mass timber construction before erecting additional floor level.

Exception: *Shafts* and vertical exit enclosures shall not be considered a part of the active mass timber construction.

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CHAPTER 23 WOOD

SECTION 2301 GENERAL

Revise section as follows:

2301.3 ~~Nominal sizes~~ Dimensions. For the purposes of this chapter, where dimensions of lumber are specified, they shall be deemed to be nominal dimensions unless specifically designated as actual dimensions (see Section 2304.2). Where dimensions of *cross-laminated timber* thickness are specified, they shall be deemed to be actual dimensions.

SECTION 2304 GENERAL CONSTRUCTION REQUIREMENTS

Add new section and revise sections as follows:

2304.10.8 Fire protection of connections. Connections used with *fire-resistance*-rated members and in *fire-resistance*-rated assemblies of Type IV-A, IV-B or IV-C construction shall be protected for the time associated with the *fire-resistance* rating. Protection time 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.

2304.11.1.1 Columns. Minimum dimensions of columns shall be in accordance with Table 2304.11. Columns shall be connected in an *approved* manner. Columns shall be continuous or aligned vertically from floor to floor in *superimposed* throughout all stories of Type IV-HT construction ~~and connected in an *approved* manner.~~ Girders and beams at column connections shall be closely fitted around columns and adjoining ends shall be cross tied to each other, or intiered by caps or ties, to transfer horizontal *loads* across joints. Wood bolsters shall not be placed on tops of columns unless the columns support roof *loads* only. Where traditional heavy timber detailing is used, connections shall be permitted to be by means of reinforced concrete or metal caps with brackets, by properly designed steel or iron caps, with pintles and base plates, by timber splice plates affixed to the columns by metal connectors housed within the contact faces, or by other *approved* methods.

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.

2304.11.4 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 an alternative that provides 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.

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**CHAPTER 17
SPECIAL INSPECTION AND TESTS**

**SECTION 1711
MASS TIMBER CONSTRUCTION**

Add new sections and table as follows:

1711.1 Mass timber construction. 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. Periodic *special 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*.

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CHAPTER 1 SCOPE AND ADMINISTRATION

SECTION 110 INSPECTIONS

Add new section as follows:

110.3.14 Types IV-A, IV-B, and IV-C connection protection inspection. 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 2304.10.8, inspection of the wood cover shall be made after the cover is installed, but before any other coverings or finishes are installed.

CHAPTER 2 DEFINITIONS

SECTION 202 DEFINITIONS

Revise and add new definitions 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 timber* wall that supports more than 200 pounds per linear foot (2919 N/m) of vertical load in addition to its own weight.

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*.

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**CHAPTER 5
GENERAL BUILDING HEIGHTS AND AREAS**

**SECTION 504
BUILDING HEIGHT AND NUMBER OF STORIES**

Revise tables as follows:

**TABLE 504.3^a
ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE**

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION													
		Type I		Type II		Type III		Type IV				Type V			
		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	65	65	50	40
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	
H-1, H-2, H-3, H-5	NS ^{c,d}	UL	160	65	55	65	55	120	90	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
H-4	NS ^{c,d}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	140	100	85	85	85	70	60	
I-1 Condition 1, I-3	NS ^{d,e}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-1 Condition 2, I-2	NS ^{d,e,f}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
I-4	NS ^{d,g}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S	UL	180	85	75	85	75	180	120	85	85	85	70	60	
R ^h	NS ^{d,h}	UL	160	65	55	65	55	65	65	65	65	65	50	40	
	S13R	60	60	60	60	60	60	60	60	60	60	60	60	60	
	S	UL	180	85	75	85	75	270	180	85	85	85	70	60	

For SI: 1 foot = 304.8 mm.

Note: UL = Unlimited; 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;

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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TABLE 504.4^{a, b}
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION												
		Type I		Type II		Type III		Type IV			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
A-1	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	3	2	
A-2	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-3	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-4	NS	UL	11	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	2	1	
	S	UL	12	4	3	4	3	<u>18</u>	<u>12</u>	<u>6</u>	4	3	2	
A-5	NS	UL	UL	UL	UL	UL	UL	<u>1</u>	<u>1</u>	<u>1</u>	UL	UL	UL	
	S	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL	
B	NS	UL	11	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	6	4	<u>18</u>	<u>12</u>	<u>9</u>	6	4	3	
E	NS	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
F-1	NS	UL	11	4	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	4	2	1	
	S	UL	12	5	3	4	3	<u>10</u>	<u>7</u>	<u>5</u>	5	3	2	
F-2	NS	UL	11	5	3	4	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	12	6	4	5	4	<u>12</u>	<u>8</u>	<u>6</u>	6	4	3	
H-1	NS ^{c,d}							<u>NP</u>	<u>NP</u>	<u>NP</u>				
	S	1	1	1	1	1	1	<u>1</u>	<u>1</u>	<u>1</u>	1	1	NP	
H-2	NS ^{c,d}							<u>1</u>	<u>1</u>	<u>1</u>				
	S	UL	3	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	1	1	
H-3	NS ^{c,d}							<u>3</u>	<u>3</u>	<u>3</u>				
	S	UL	6	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	2	1	
H-4	NS ^{c,d}	UL	7	5	3	5	3	<u>5</u>	<u>5</u>	<u>5</u>	5	3	2	
	S	UL	8	6	4	6	4	<u>8</u>	<u>7</u>	<u>6</u>	6	4	3	
H-5	NS ^{c,d}							<u>2</u>	<u>2</u>	<u>2</u>				
	S	4	4	3	3	3	3	<u>3</u>	<u>3</u>	<u>3</u>	3	3	2	
I-1 Condition 1	NS ^{d,e}	UL	9	4	3	4	3	<u>4</u>	<u>4</u>	<u>4</u>	4	3	2	
	S	UL	10	5	4	5	4	<u>10</u>	<u>7</u>	<u>5</u>	5	4	3	
I-1 Condition 2	NS ^{d,e}	UL	9	4		3	4	3	<u>3</u>	<u>3</u>	<u>3</u>	4	3	2
	S	UL	10	5					<u>10</u>	<u>6</u>	<u>4</u>			
I-2	NS ^{d,f}	UL	4	2		1	1	NP	<u>NP</u>	<u>NP</u>	<u>NP</u>	1	1	NP
	S	UL	5	3					<u>7</u>	<u>5</u>	<u>1</u>			
I-3	NS ^{d,e}	UL	4	2	1	2	1	<u>2</u>	<u>2</u>	<u>2</u>	2	2	1	
	S	UL	5	3	2	3	2	<u>7</u>	<u>5</u>	<u>3</u>	3	3	2	
I-4	NS ^{d,g}	UL	5	3	2	3	2	<u>3</u>	<u>3</u>	<u>3</u>	3	1	1	
	S	UL	6	4	3	4	3	<u>9</u>	<u>6</u>	<u>4</u>	4	2	2	
M	NS	UL	11	4	2	4	2	<u>4</u>	<u>4</u>	<u>4</u>	4	3	1	
	S	UL	12	5	3	5	3	<u>12</u>	<u>8</u>	<u>6</u>	5	4	2	

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TABLE 504.4^{a, b}—continued
ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

OCCUPANCY CLASSIFICATION	See Footnotes	TYPE OF CONSTRUCTION											
		Type I		Type II		Type III		Type IV			HT	Type V	
		A	B	A	B	A	B	A	B	C		A	B
R-1	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-2	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	4	4		4	3
	S	UL	12	5	5	5	5	18	12	8	5	4	3
R-3	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	3
	S13R	4	4					4	4	4		4	4
	S	UL	12	5	5	5	5	18	12	5	5	4	4
R-4	NS ^{d, h}	UL	11	4	4	4	4	4	4	4	4	3	2
	S13R	4	4					4	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	4	4	4	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	6	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

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.

- 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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

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**SECTION 506
BUILDING AREA**

Revise table as follows:

**TABLE 506.2^{a, b}
ALLOWABLE AREA FACTOR (A_f = 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	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												
	S1	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL	UL
	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	NS ^c	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	NS ^c	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	NS ^c	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	NS ^{c, 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	NS ^{c, 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	108,000	54,000	27,000

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_f = 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			HT	Type V		
		A	B	A	B	A	B	A	B	C		A	B	
I-1	NS ^{d, e}	UL	55,000	19,000	10,000	16,500	10,000	10,000	<u>54,000</u>	<u>36,000</u>	<u>18,000</u>	18,000	10,500	4,500
	S1	UL	220,000	76,000	40,000	66,000	40,000	40,000	<u>216,000</u>	<u>144,000</u>	<u>72,000</u>	72,000	42,000	18,000
	SM	UL	165,000	57,000	30,000	49,500	30,000	30,000	<u>162,000</u>	<u>108,000</u>	<u>54,000</u>	54,000	31,500	13,500
I-2	NS ^{d, f}	UL	UL	15,000	11,000	12,000	NP	NP	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	9,500	NP
	S1	UL	UL	60,000	44,000	48,000	NP	NP	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	38,000	NP
	SM	UL	UL	45,000	33,000	36,000	NP	NP	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	28,500	NP
I-3	NS ^{d, e}	UL	UL	15,000	10,000	10,500	7,500	7,500	<u>36,000</u>	<u>24,000</u>	<u>12,000</u>	12,000	7,500	5,000
	S1	UL	UL	60,000	40,000	42,000	30,000	30,000	<u>144,000</u>	<u>96,000</u>	<u>48,000</u>	48,000	30,000	20,000
	SM	UL	UL	45,000	30,000	31,500	22,500	22,500	<u>108,000</u>	<u>72,000</u>	<u>36,000</u>	36,000	22,500	15,000
I-4	NS ^{d, e}	UL	60,500	26,500	13,000	23,500	13,000	13,000	<u>76,500</u>	<u>51,000</u>	<u>25,500</u>	25,500	18,500	9,000
	S1	UL	121,000	106,000	52,000	94,000	52,000	52,000	<u>306,000</u>	<u>204,000</u>	<u>102,000</u>	102,000	74,000	36,000
	SM	UL	181,500	79,500	39,000	70,500	39,000	39,000	<u>229,500</u>	<u>153,000</u>	<u>76,500</u>	76,500	55,500	27,000
M	NS	UL	UL	21,500	12,500	18,500	12,500	12,500	<u>61,500</u>	<u>41,000</u>	<u>26,625</u>	20,500	14,000	9,000
	S1	UL	UL	86,000	50,000	74,000	50,000	50,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	56,000	36,000
	SM	UL	UL	64,500	37,500	55,500	37,500	37,500	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	42,000	27,000
R-1	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-2	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
R-3	NS ^{d, h}	UL	UL	UL	UL	UL	UL	UL	<u>UL</u>	<u>UL</u>	<u>UL</u>	UL	UL	UL
	S13R													
	S1													
	SM													
R-4	NS ^{d, h}	UL	UL	24,000	16,000	24,000	16,000	16,000	<u>61,500</u>	<u>41,000</u>	<u>25,625</u>	20,500	12,000	7,000
	S13R													
	S1	UL	UL	96,000	64,000	96,000	64,000	64,000	<u>246,000</u>	<u>164,000</u>	<u>102,500</u>	82,000	48,000	28,000
	SM	UL	UL	72,000	48,000	72,000	48,000	48,000	<u>184,500</u>	<u>123,000</u>	<u>76,875</u>	61,500	36,000	21,000
S-1	NS	UL	48,000	26,000	17,500	26,000	17,500	17,500	<u>76,500</u>	<u>51,000</u>	<u>31,875</u>	25,500	14,000	9,000
	S1	UL	192,000	104,000	70,000	104,000	70,000	70,000	<u>306,000</u>	<u>204,000</u>	<u>127,500</u>	102,000	56,000	36,000
	SM	UL	144,000	78,000	52,500	78,000	52,500	52,500	<u>229,500</u>	<u>153,000</u>	<u>95,625</u>	76,500	42,000	27,000
S-2	NS	UL	79,000	39,000	26,000	39,000	26,000	26,000	<u>115,500</u>	<u>77,000</u>	<u>48,125</u>	38,500	21,000	13,500
	S1	UL	316,000	156,000	104,000	156,000	104,000	104,000	<u>462,000</u>	<u>308,000</u>	<u>192,500</u>	154,000	84,000	54,000
	SM	UL	237,000	117,000	78,000	117,000	78,000	78,000	<u>346,500</u>	<u>231,000</u>	<u>144,375</u>	115,500	63,000	40,500
U	NS ⁱ	UL	35,500	19,000	8,500	14,000	8,500	8,500	<u>54,000</u>	<u>36,000</u>	<u>22,500</u>	18,000	9,000	5,500
	S1	UL	142,000	76,000	34,000	56,000	34,000	34,000	<u>216,000</u>	<u>144,000</u>	<u>90,000</u>	72,000	36,000	22,000
	SM	UL	106,500	57,000	25,500	42,000	25,500	25,500	<u>162,000</u>	<u>108,000</u>	<u>67,500</u>	54,000	27,000	16,500

(continued)

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TABLE 506.2^{a, b}—continued
ALLOWABLE AREA FACTOR (A_t = NS, S1, S13R, S13D or SM, as applicable)
IN SQUARE FEET

Note: UL = Unlimited; NP = Not Permitted

For SI: 1 square foot = 0.0929 m².

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.

- a. See Chapters 4 and 5 for specific exceptions to the allowable area 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 *Florida Building Code, Existing Building*.
- 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 the *Florida Fire Prevention 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.

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SECTION 508 MIXED USE AND OCCUPANCY

Revise section as follows:

508.4.4.1 Construction. Required separations shall be *fire barriers* constructed in accordance with Section 707 or *horizontal assemblies* constructed in accordance with Section 711, or both, so as to completely separate adjacent occupancies. Mass timber elements serving as *fire barriers* or *horizontal assemblies* to separate occupancies in Type IV-B or IV-C construction shall be separated from the interior of the *building* with an *approved* thermal barrier consisting of *gypsum board* that is not less than 1/2 inch (12.7 mm) in thickness or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as occupancy separations.

SECTION 509 INCIDENTAL USES

Add new section as follows:

509.4.1.1 Type IV-B and IV-C construction. Where Table 509 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.

Exception: The thermal barrier shall not be required on the top of horizontal assemblies serving as incidental use separations.

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CHAPTER 14 EXTERIOR WALLS

SECTION 1405 INSTALLATION OF WALL COVERINGS

Revise section as follows:

1405.5 Wood Veneers. Wood veneers on exterior walls of buildings of Type I, II, III and IV-HT construction shall be not less than 1 inch (25mm) nominal thickness, 0.438-inch (11.1 mm) exterior *hardboard* siding or 0.375-inch (9.5 mm) exterior-type *wood structural panels* or *particleboard* and shall conform to the following:

1. The *veneer* shall not exceed 40 feet (12 190 mm) in height above grade. Where *fire-retardant-treated wood* is used, the height shall not exceed 60 feet (18 290 mm) in height above grade.
2. The *veneer* is attached to or furred from a noncombustible *backing* that is fire-resistance rated as required by other provisions of this code.
3. Where open or spaced wood *veneers* (without concealed spaces) are used, they shall not project more than 24 inches (610 mm) from the *building* wall.

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**SECTION 1406
COMBUSTIBLE MATERIALS ON THE EXTERIOR SIDE OF EXTERIOR WALLS**

Revise sections as follows:

1406.2.1 Type I, II, III and IV-HT construction. On buildings of Type I, II, III and IV-HT construction, exterior wall coverings shall be permitted to be constructed of combustible materials, complying with the following limitations:

1. Combustible exterior wall coverings shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less.
2. Combustible exterior wall coverings shall be limited to 40 feet (12 192 mm) in height above grade plane.
3. Combustible exterior wall coverings constructed of fire-retardant-treated wood complying with Section 2303.2 for exterior installation shall not be limited in wall surface area where the fire separation distance is 5 feet (1524 mm) or less and shall be permitted up to 60 feet (18 288 mm) in height above grade plane regardless of the fire separation distance.
4. Wood veneers shall comply with Section 1405.5.

1406.3 Balconies and similar projections. Balconies and similar projections of combustible construction other than *fire-retardant-treated wood* shall be *fire-resistance* rated where required by Table 601 for floor construction or shall be of heavy timber construction in accordance with Section 2304.11. The aggregate length of the projections shall not exceed 50 percent of the *building's* perimeter on each floor.

Exceptions:

1. On *buildings* of Type I and II construction, three *stories* or less above *grade plane*, *fire-retardant-treated wood* shall be permitted for balconies, porches, decks and exterior *stairways* not used as required *exits*.
2. Untreated *wood*, and *plastic composites* that comply with ASTM D7032 and Section 2612, are permitted for pickets and rails or similar guard devices that are limited to 42 inches (1067 mm) in height.
3. Balconies and similar projections on *buildings* of Type III, IV-HT and V construction shall be permitted to be of Type V construction, and shall not be required to have a *fire-resistance rating* where sprinkler protection is extended to these areas.
4. Where sprinkler protection is extended to the balcony areas, the aggregate length of the balcony on each floor shall not be limited.

F12262 Text Modification

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**CHAPTER 31
SPECIAL CONSTRUCTION**

**SECTION 3102
MEMBRANE STRUCTURES**

Revise sections as follows:

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 the *membrane* is not less than 20 feet (6096 mm) above any floor, balcony or gallery.

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CHAPTER 35 REFERENCED STANDARDS

Revise or add references as follows:

AISI S220—20	North American Standard for Cold-formed Steel Framing-Nonstructural Members, 2020 Edition <u>722.7.2.1</u>
<u>ANSI/APA PRG 320-2019</u>	<u>Standard for Performance-Rated Cross-Laminated Timber</u> <u>602.4</u>
ASTM C920—18	Standard for Specification for Elastomeric Joint Sealants <u>703.9</u>
ASTM C1002—20	Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs <u>722.7.2.2</u>
ASTM D3498—19a	Standard Specifications for Adhesives for Field-Gluing Wood Structural Panels (Plywood or Oriented Strand Board) to Wood Based Floor Systems <u>703.9</u>
ASTM D7032—21	Standard Specification for Establishing Performance Ratings for Wood-Plastic Composite and Plastic Lumber Deck Boards, Stair Treads, Guards and Handrails <u>703.9, 705.2.3.1</u>
ASTM E84—21a	Standard Test Methods for Surface Burning Characteristics of Building Materials 202, 602.4.1.1.1, 602.4.2.1, <u>602.4.3.1</u>
ASTM E119—20	Standard Test Methods for Fire Tests of Building Construction and Materials <u>703.8</u>
ASTM E1354—17	Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter <u>602.4.1.1, 602.4.2.1, 602.4.3.1</u>
<u>NFPA 241—22</u>	<u>Standard for Safeguarding Construction, Alteration and Demolition Operations</u> <u>3301.1, 3303.2</u>
NFPA 275—22	Standard Method of Fire Tests for the Evaluation of Thermal Barriers 508.4.4.1, 509.4.1
NFPA 701—23	Standard Methods of Fire Tests for Flame Propagation of Textiles and Films 3102.3, 3102.6.1.1
UL 263—11	Fire Tests of Building Construction and Materials – with Revisions through August 2021 <u>703.8</u>
UL 723—18	Standard for Test for Surface Burning Characteristics of Building Materials 602.4.1.1, 602.4.2.1, 602.4.3.1

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APPENDIX D FIRE DISTRICTS

SECTION D102 BUILDING RESTRICTIONS

Revise section as follows:

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.

FBC – Mass Timber Summary

BACKGROUND

The **Ad Hoc Committee on Tall Wood Buildings (TWB)** was created by the ICC Board in 2015 to explore the science of tall wood buildings and develop code changes for such structures.

The TWB and its various working groups (WGs) held meetings, studied issues, and sought input from expert sources worldwide. The TWB posted these documents and input on its website for interested parties to follow its progress and allow public input throughout.

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

- **No collapse** under reasonable scenarios of complete burnout of fuel without considering automatic sprinkler protection.
- **No unusually high radiation exposure** from the subject building to adjoining properties that could present a risk of ignition under reasonably severe fire scenarios.
- **No unusual response to typical radiation exposure** from adjacent properties that could 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 meets these performance objectives.**

DEFINITIONS

Included in the proposal are three new or revised definitions: **Wall, Load-Bearing; Mass Timber;** and **Noncombustible Protection (for Mass Timber)**. These definitions are important for understanding the proposed changes to Type IV Construction.

Load-Bearing Wall

The modification to the term "**load-bearing wall**" has been updated to include "**mass timber**" as a category equivalent to other materials. Based on research conducted by 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 required of "load bearing".

Mass Timber

The term "**mass timber**" already exists undefined in previous editions of the Florida Building Code (FBC). The definition proposed represents both legacy heavy timber (a.k.a. Type IV construction) and the three new construction types proposed for **FBC Chapter 6**. The purpose of defining this term is to establish that the term represents various sawn and engineered timber products referenced in **FBC Chapter 23 (Wood)** and PRG-320 "Standard for Performance-Rated Cross-Laminated Timber."

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Noncombustible Protection (For Mass Timber)

The definition of "**Noncombustible Protection (For Mass Timber)**" was created to address the **passive fire protection** requirement of mass timber.

- Mass timber is permitted to have its **own fire-resistance rating** (e.g., Mass Timber only) and/or have a fire-resistance rating based on a **combination of mass timber fire resistance plus protection by noncombustible materials**, as defined in **Section 703.5** (e.g., additional materials that delay combustion, such as gypsum board).
- While it is uncommon to list a code section number within a definition, it was necessary in this case to ensure that the user understands the intent.
- Protection by a **noncombustible material** will act to **delay the combustion** of mass timber.

TYPES OF CONSTRUCTION

The committee recognized tall mass timber buildings worldwide generally fall into three categories:

1. **Fully Protected Mass Timber** – The mass timber is fully protected by noncombustible materials.
2. **Partially Exposed Mass Timber** – Some portions of mass timber may be exposed in limited amounts on walls and/or ceilings.
3. **Unprotected Mass Timber** – The mass timber structure may be fully exposed.

The **TWB** determined that fire testing was necessary to validate these concepts. During its first meeting, members discussed the nature and intent of fire testing to ensure meaningful results for the TWB and, more specifically, for the fire service. A test plan was subsequently developed, consisting of one-bedroom apartments on two levels, each with a corridor leading to a stairway. The purpose of the tests was to evaluate the contribution of mass timber to a fire, the performance of connections and joints, and conditions for responding fire personnel.

The **Fire WG** refined the test plan, which was implemented in a series of five full-scale, multi-story building tests at the **ATF laboratories** in Beltsville, MD. The results, along with testing conducted by others, helped form the basis for the **Codes WG** to develop its code change proposals, including this one, which was approved by the TWB.

MASS TIMBER CONSTRUCTION CLASSIFICATIONS

Type IV-A: Fully Protected Mass Timber

Type IV-A is completely protected with noncombustible materials, primarily layers of **5/8-inch Type X gypsum board**. Fire tests have shown that mass timber construction protected in this way can survive a complete burnout of a residential fuel load **without engaging the mass timber in the fire**.

To ensure uniform protection, the text clearly requires **all** building elements to be protected, including floor surfaces, walls and ceiling surfaces, interior roof surfaces, underside of floor surfaces, and shafts.

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Type IV-A is designed to have **the same fire resistance rating as Type I-A construction**, requiring **2-hour and 3-hour structural elements**. The fire resistance rating of structural elements was set conservatively to **sustain fuel loads without sprinkler protection** and **without contributing structural members to the fire**, similar to the IBC strategy for Type I construction.

Type IV-B: Partially Exposed Mass Timber

Type IV-B allows for some exposed **wood surfaces** on ceilings, walls, columns, and beams. However, the amount of exposed wood is **limited** to restrict potential contribution to an interior fire.

Type IV-B has undergone the same fire tests as Type IV-A. Results show a predictable char layer develops on mass timber, similar to traditional sawn lumber, provided **substantial delamination is avoided**. While portions of mass timber may be unprotected, concealed spaces, shafts, and other specified areas must **be fully protected** with noncombustible materials.

Type IV-B is designed to have **the same base fire resistance requirements as Type I-B construction**, and therefore requires **2-hour structural elements**. Unlike Type I-B, the IBC allowance to reduce structural elements to 1-hour protection **is not proposed for Type IV-B**.

Type IV-C: Fully Exposed Mass Timber

Type IV-C construction allows **fully exposed mass timber**, with the key restrictions that concealed spaces, shafts, elevator hoistways, and interior exit stairway enclosures must be protected with noncombustible materials.

This construction type is different from traditional **Heavy Timber (Type IV-HT)** because **Type IV-C requires a 2-hour fire rating**. However, despite this added fire rating, the **height in feet for Type IV-C remains the same as Type IV-HT**. The committee proposed **additional floors** for some occupancy groups in Type IV-C construction.

Modifications to Tables 601 and 602

This proposal includes **modifications to Tables 601 and 602** to set performance requirements for mass timber construction, aligning them with **Type I construction standards**:

- **Type IV-A → Same fire resistance ratings as Type I-A**
- **Type IV-B → Same fire resistance ratings as Type I-B**
- **Type IV-C → Fire resistance is achieved solely through mass timber**

Because **Type IV-C lacks a direct counterpart in Type I construction**, its fire resistance ratings were set to **match those of Type IV-B**. As a result, permitted building heights for Type IV-C are **significantly reduced** in both feet and stories, as reflected in proposed changes to Tables 504.3, 504.4, and 506.2.

Rationale Statement for Proposed Modification to the Florida Building Code, 9th edition (2026)

The proposed modification seeks to incorporate provisions for the use of mass timber in the 9th edition of the Florida Building Code (FBC), aligning it with advancements in building science, fire safety, and structural integrity. This proposal is supported by thousands of hours of research, rigorous fire and structural testing, and extensive modeling by national and international experts and researchers, including the ICC Ad Hoc Committee on Tall Wood Buildings (TWB).

The TWB was established in 2015 in response to concerns from code officials regarding mass timber buildings being constructed without the benefit of codified regulations – precisely the situation in Florida today. To ensure the appropriate degree of rigor, the TWB was composed of a balanced group of stakeholders and subject matter experts to investigate and evaluate the feasibility of tall wood construction and develop comprehensive code provisions addressing fire and life safety concerns. The result was a package of code changes that were successfully integrated into the 2021 International Building Code (IBC), followed by refinements in the 2024 IBC. These provisions now form the foundation for the safe and consistent use of mass timber in 40 states and counting.

Recognizing the critical importance of consistent regulatory frameworks, national consensus codes – including the IBC and NFPA standards – have incorporated mass timber as a safe and viable construction method. The National Association of State Fire Marshals (NASFM) reaffirmed this in a November 2022 position statement, emphasizing:

“The use of approved mass timber in tall-wood building construction is of the highest concern to NASFM as we stand for the safety of citizens and firefighters. This identified material and construction type has most recently been evaluated in the model code community. **Many facts have been discovered through independent research and testing that have validated this method as meeting the technical requirements of the codes.**” [Emphasis added]

Similarly, the International Association of Fire Chiefs (IAFC) urged jurisdictions to adopt the mass timber provisions of the IBC, stating in January 2020:

[The IAFC] “Urge communities who are considering new mass-timber buildings to utilize the code provisions found in the 2021 ICC Code documents. There are many opportunities for consideration of buildings that may be taller, larger, or without the protection that was studied. **Communities should continue to use the codes and standards that were established through the model code development process.**” [emphasis added]

Mass timber construction is expanding rapidly across the United States, including in Florida, as developers and architects seek sustainable, efficient, and cost-effective building solutions. However, Florida currently lacks codified mass timber provisions, creating regulatory uncertainty and enforcement challenges for building and fire code officials.

To address this gap, the American Wood Council (AWC) developed the Mass Timber AMM Guide to assist with the 8th edition of the Florida Building Code. This guide, based on the 2024 IBC, provided

for membership by the Building Officials Association of Florida (BOAF) and additionally available from the AWC, provides essential guidance on mass timber construction. However, because the guide does not carry the force of law, formal adoption of mass timber provisions in the Florida Building Code remains necessary to ensure consistent regulation and enforcement across jurisdictions, provide clarity and uniformity for building and fire code officials, streamline the permitting and inspection processes, and maintain the highest standards of fire and life safety.

By adopting these provisions into the Florida Building Code, Florida will:

1. **Ensure Regulatory Alignment** – Maintain consistency with the latest national model codes and standards, facilitating uniformity and a predictable regulatory environment for developers, architects, engineers, and code officials across jurisdictions.
2. **Enhance Sustainability** – Include an additional construction option utilizing renewable materials, contributing to lower embodied carbon for a more sustainable built environment.
3. **Promote Economic Growth** – Enable innovative construction methods that reduce costs and reduce construction timelines, benefiting both the public and private sectors with projected stimulation of Florida’s forestry and manufacturing industries.
4. **Strengthen Regulatory Consistency** – Provide clear and uniform guidelines for building and fire code officials, ensuring efficient enforcement of mass timber provisions across the state.
5. **Maintain Fire and Life Safety** – Ensure the adoption of mass timber includes the rigorous safety measures developed through extensive research and code development, in alignment with the positions of NASFM and the IAFC.

The Need for Action:

Mass Timber buildings are currently being constructed in Florida without the benefit of codified requirements, leaving building and fire code officials without the necessary framework to regulate these structures consistently and safely. Failing to adopt these provisions risks creating a patchwork of enforcement and inconsistent safety standards.

It is critical that Florida act now to provide a building code that will ensure that all mass timber buildings meet the highest standards of fire and life safety by adopting the proposed modifications.

For more information:

For more information, the following resources provide technical, regulatory, and real-world evidence demonstrating the safety, reliability, and benefits of tall mass timber construction:

- **ICC Ad Hoc Committee on Tall Wood Buildings:** This committee was established to explore the building science of tall wood buildings and develop related code changes. [iccsafe.org](https://www.iccsafe.org)
 - <https://www.iccsafe.org/products-and-services/i-codes/code-development/cs/icc-ad-hoc-committee-on-tall-wood-buildings/>
 - Note: The “Meeting Minutes and Documents” and “Resource Documents” sections of the committee webpage above contain the extensive research and technical information reviewed by the ad hoc committee, including original rationale statements for each proposed section.
 - Based on comprehensive analysis of this information, the committee developed a set of proposals that were adopted to establish regulations that were determined to effectively address fire and life safety considerations for tall mass timber buildings.
- **Understanding the Tall Mass Timber Code Changes:** A guide detailing the code changes approved by the ICC Ad Hoc Committee on Tall Wood Buildings, offering insights into the technical requirements and safety considerations for mass timber construction.
 - For Building Code Officials: <https://awc.org/wp-content/uploads/2023/11/MTCC-Guide-Print-20180919.pdf>
 - For Fire Code Officials: https://awc.org/wp-content/uploads/2022/01/tmt_toolkit.pdf
- **TMT Fire Testing:** A catalog of research and testing on the fire resistance and safety of mass timber components and structures, including related literature and fire test videos. awc.org
 - <https://awc.org/woodaware/tmt-fire-testing/>
- **Position Statements:**
 - International Association of Fire Chiefs (IAFC): www.iafc.org/about-iafc/positions/position/tall-wood-mass-timber-buildings
 - National Association of State Fire Marshals (NASFM): www.firemarshals.org/NASFM-Documents (on list at bottom of page)

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Existing Building

30

F12236

Date Submitted	02/17/2025	Section	804.2.4	Proponent	Jennifer Hatfield
Chapter	8	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), the intent of this modification is to provide consistency in the application of the provisions of automatic sprinkler system.

Rationale

The intent of this modification is to provide consistency in the application of the provisions of automatic sprinkler system. First cleanup is the proper use of the defined term found in Section 202 and Section 903 of the Florida Building Code, Building - "Automatic" Sprinkler Systems. Section 903.4, specific to the sprinkler system supervision and alarms, covers all of the requirements. Instead of listing them again here, it is better to refer to Section 903.4, and if changes occur in the future it will be only in once place in the code.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, editorial.

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

None, editorial.

Impact to industry relative to the cost of compliance with code

None, editorial.

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

None, editorial.

Requirements

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

Ensures sections remain consistent so no confusion.

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

Ensures sections remain consistent so no confusion and the accurate term is used.

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.

Alternate Language

2nd Comment Period

Proponent Jennifer Hatfield **Submitted** 8/21/2025 1:21:49 PM **Attachments** No

12236-A1

Rationale:

This alternate language comment simply adds in "NFPA 72 and..." to the original proposal to address the TAC comment and reason for denial. The rest of the proposal is as originally submitted.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

None, editorial.

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

None, editorial.

Impact to industry relative to the cost of compliance with code

None, editorial.

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

None, editorial.

Requirements

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

Ensures sections remain consistent so no confusion.

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

Ensures sections remain consistent so no confusion and the accurate term is used, along with the pointer to NFPA 72 that also applies.

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.

F12236-A1 Text Modification

804.2.4 Supervision.

~~Automatic Fire sprinkler systems required by this section shall be supervised by one of the following methods: provided with supervision and alarms in accordance with NFPA 72 and Section 903.4 of the Florida Building Code, Building.~~

- ~~1. Approved central station system in accordance with NFPA 72;~~
- ~~2. Approved proprietary system in accordance with NFPA 72;~~
- ~~3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or~~
- ~~4. When approved by the code official, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.~~

~~Exception: Supervision is not required for the following:~~

- ~~1. Underground key or hub gate valves in roadway boxes.~~
- ~~2. Halogenated extinguishing systems.~~
- ~~3. Carbon dioxide extinguishing systems.~~
- ~~4. Dry and wet chemical extinguishing systems.~~
- ~~5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.~~

F12236 Text Modification

804.2.4 Supervision.

~~Automatic fire sprinkler systems required by this section shall be supervised by one of the following methods: provided with supervision and alarms in accordance with Section 903.4 of the Florida Building Code, Building.~~

- ~~1. Approved central station system in accordance with NFPA 72;~~
- ~~2. Approved proprietary system in accordance with NFPA 72;~~
- ~~3. Approved remote station system of the jurisdiction in accordance with NFPA 72; or~~
- ~~4. When approved by the code official, approved local alarm service that will cause the sounding of an alarm in accordance with NFPA 72.~~

~~Exception: Supervision is not required for the following:~~

- ~~1. Underground key or hub gate valves in roadway boxes.~~
- ~~2. Halogenated extinguishing systems.~~
- ~~3. Carbon dioxide extinguishing systems.~~
- ~~4. Dry and wet chemical extinguishing systems.~~
- ~~5. Automatic sprinkler systems installed in accordance with NFPA 13R where a common supply main is used to supply both domestic and automatic sprinkler systems and a separate shutoff valve for the automatic sprinkler system is not provided.~~

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Residential

31

F11741

Date Submitted	01/13/2025	Section	315.1.1	Proponent	Mo Madani
Chapter	3	Affects HVHZ	No	Attachments	Yes
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments Yes

Alternate Language Yes

Related Modifications

NA

Summary of Modification

This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer's installation instructions.

Rationale

See attached - Overlap

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Overlap

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

Overlap

Impact to industry relative to the cost of compliance with code

Overlap

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

Overlap

Requirements

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

Overlap

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

Overlap

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

Overlap

Does not degrade the effectiveness of the code

Overlap

Alternate Language

2nd Comment Period

Proponent Amanda Hickman **Submitted** 8/23/2025 9:18:15 AM **Attachments** No

Rationale:

This comment is meant to replace the original modification. This clarification will ensure uninterrupted power for the device's entire 10-year lifespan. Overwhelming fire department data shows that a significant number of alarm failures were caused by dead or removed batteries in older, replaceable-battery units. This change will ensure that does not happen.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

Clarifies enforcement of battery type.

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

There is minimal cost to install a seal-battery over a non-sealed battery and in many cases is less expensive than a hard-wired alternative.

Impact to industry relative to the cost of compliance with code

There is minimal cost to install a seal-battery over a non-sealed battery and in many cases is less expensive than a hard-wired alternative.

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

Overlap

Requirements

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

Yes. Ensuring CO alarms that use batteries are sealed provides a much higher degree of safety and certainty.

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

Yes. Ensuring CO alarms that use batteries are sealed provides a much higher degree of safety and certainty.

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

No. Battery alarms are still permitted.

Does not degrade the effectiveness of the code

Improves the effectiveness.

2nd Comment Period

Proponent Mo Madani **Submitted** 7/31/2025 10:55:24 AM **Attachments** No

Comment:

Staff request approval of this mod. This is an overlap issue.

F11741-A1Text Modification

R315.1.1 Carbon monoxide alarm. The requirements of Section R315.1 shall be satisfied by providing for one of the following alarm installations:

1. A hard-wired carbon monoxide alarm.
2. A battery-powered carbon monoxide alarm. Alarms that are solely battery powered shall have a nonreplaceable, nonremovable battery that is capable of powering the alarm for a minimum of 10 years.
3. A hard-wired combination carbon monoxide and smoke alarm.
4. A battery-powered combination carbon monoxide and smoke alarm.

F11741 Text Modification

See attached.

F11741 Text Modification

2024 IRC

R315.1.1 Listings. Carbon monoxide alarms shall be *listed and labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed and labeled* in accordance with UL 2034 and UL 217.

R315.1.2 Installation. Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their *listing* and the manufacturer's instructions.

8th Edition (2023) FBC, Residential

R315.1 Carbon monoxide protection. Every separate building or an addition to an existing building for which a permit for new construction is issued and having a fossil-fuel-burning heater or appliance, a fireplace, an attached garage, or other feature, fixture, or element that emits carbon monoxide as byproduct of combustion shall have an operational carbon monoxide alarm installed within 10 feet of each room used for sleeping purposes.

Exception: This section shall not apply to existing buildings that are undergoing alterations or repair unless the alteration is an addition as defined in Section R315.1.3.

R315.1.1 Carbon monoxide alarm. The requirements of Section R315.1 shall be satisfied by providing for one of the following alarm installations:

1. A hard-wired carbon monoxide alarm.
2. A battery-powered carbon monoxide alarm.
3. A hard-wired combination carbon monoxide and smoke alarm.
4. A battery-powered combination carbon monoxide and smoke alarm.

R315.1.2 Combination alarms. Combination smoke/carbon monoxide alarms shall be listed and labeled by a nationally recognized testing laboratory.

R315.1.3 Addition shall mean. An extension or increase in floor area, number of stories or height of a building or structure.

[\(F11462\) \(RB124-22 AM\) Overlap](#)

RB124-22

Original Proposal

IRC: R315.1.1, R315.1.2 (New)

Proponents: Jonathan Roberts, UL, UL (jonathan.roberts@ul.com)

2021 International Residential Code

Revise as follows:

R315.1.1 Listings. Carbon monoxide alarms shall be *listed and labeled* in accordance with UL 2034. Combination carbon monoxide and smoke alarms shall be *listed and labeled* in accordance with UL 2034 and UL 217.

Add new text as follows:

R315.1.2 Installation. Carbon monoxide alarms shall be installed in accordance with their *listing* and the manufacturer's instructions.

Reason: This proposal adds requirement for these devices to be listed and labeled, since listed alarms will include a listing mark (label). It also requires CO alarms to be installed in accordance with the listing and the manufacturer's installation instructions. "Listed" and "Labeled" are both defined terms.

Cost Impact: The code change proposal will not increase or decrease the cost of construction. Listed carbon monoxide alarms are already identified by a label, and there is no additional cost associated with verifying they are installed in accordance with their listing and the manufacturer's instructions.

Public Hearing Results

Committee Action **As Modified**

Committee Modification:

R315.1.2 Installation. Carbon monoxide alarms, and combination carbon monoxide and smoke alarms, shall be installed in accordance with their *listing* and the manufacturer's instructions.

Committee Reason: The modification to Section R315.1.2 added combination carbon monoxide/smoke alarms to the installation requirements. This is consistent with the committee recommendation for RB122-22 and would coordinate with the two types of systems addressed in Section R315.1.1. The committee approved this proposal as modified for consistency with committee's action on RB122-22 and ensure the proper installation of carbon monoxide alarms and combination carbon monoxide/smoke alarms. (Vote: 10-0)

Final Hearing Results

RB124-22

AM

TAC: Fire

Total Mods for **Fire** in **Denied** : 31

Total Mods for report: 33

Sub Code: Residential

32

F11774

Date Submitted	01/17/2025	Section	311.7	Proponent	Julie Seraphin
Chapter	3	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

1.Stairways not within or serving a buildingporch or deck.Needs clarification. 2.Stairways leading to nonhabitable attics.Delete this entirely or clarify that fixed stairways (vs pulldown stairs or ladders) NOT excepted. 3.Stairways leading to crawl spaces.Deleteor specify what type of stairs

Rationale

The change is required to make fixed stairs to attics, habitable or non-habitable conform to the general stairway requirements. Without this change, builder can build fixed walk-up stairs to storage room over a garage, for instance, without having the headroom clearance, proper width or tread and riser requirements. This status quo will result in an unacceptably unsafe condition for users of those stairs without the code protection. One builder locally built a set of fixed stairs to the attic with a clearance of 5'7 inches. He claimed that because the attic was uninhabitable, as per the 8th Edition changes, that he wasn't required to make the fixed stairs conform to any code. This is obviously an absurd situation that has been created by the current "Exceptions".

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

Impact is greater safety for homeowners and inspectors.

Impact to industry relative to the cost of compliance with code

None

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

None

Requirements

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

There is a definite connection with health safety and welfare of both homeowner and inspector alike,
Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by adding definitions and specifying that fixed stairs are different from pulldowns stairs or ladders to attic area.

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

Alternate Language

2nd Comment Period

Proponent Julie Seraphin **Submitted** 7/31/2025 8:14:19 AM **Attachments** No

Rationale:

The rationale is pretty basic and common sense: Under current exemption #2, a fixed stairway can be built to a second story storage room that doesn't have to comply with safety requirements including headroom clearance, handrails, or tread and riser spacing requirements. This is an obvious safety hazard threat to residential homeowners. Exemption #2 does not address Fixed Stairs leading to nonhabitable attic storage rooms. In Florida, these are commonly called "Florida Basements", but across the nation, there are many examples of fixed stairs leading to an attic storage area. In this reference, fixed stairs should not be confused with pull-down stairs or a ladder affixed in some "permanent" way.

Fiscal Impact Statement

Impact to local entity relative to enforcement of code

This change allows local building officials to enforce the stairway code requirements to fixed stairs regardless of the status of the room to which they lead.

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

Protects property owners without any added cost.

Impact to industry relative to the cost of compliance with code

No impact since this deletion will ensure builders revert back to pre-2024 code modifications and make permanent stairways safe for the homeowner.

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

None

Requirements

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

This change will have a dramatic affect on the health and safety of the general public by ensuring that stairs are safe for use.

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

No

Does not degrade the effectiveness of the code

Improves the code.

F11774-A4

F11774-A4Text Modification

311.7 Stairways

Exceptions:

1. Stairways not within or serving a building, porch or deck
2. ~~Stairways leading to nonhabitable attics.~~
3. Stairways leading to crawl spaces.

F11774 Text Modification

1. 1 .Stairways not within or serving a building, porch or deck. An example of a stairway not within or serving a building, porch or deck would be:.....
2. 2. Pull down stairs or ladders leading to nonhabitable attics. Fixed stairs shall meet the full stairway requirement regardless of habitable or non-habitable.

3. Stairways leading to *crawl spaces*. It is necessary to define the stairway type here. One can't build unsafe steps or stairs to access a crawl space

TAC: Fire

Total Mods for Fire in Denied : 31

Total Mods for report: 33

Sub Code: Residential

33

F12190

Date Submitted	02/16/2025	Section	314.3	Proponent	Jennifer Hatfield
Chapter	3	Affects HVHZ	No	Attachments	No
TAC Recommendation	Denied				
Commission Action	Pending Review				

Comments

General Comments No

Alternate Language Yes

Related Modifications

Summary of Modification

On behalf of the Building Officials Association of Florida (BOAF), this modification provides for smoke alarms in attached garages.

Rationale

This proposal addresses the increased hazards of lithium-ion batteries for lawnmowers, e-bikes, e-scooters, power tools, etc., stored in garages. A smoke alarm in the garage due to the increased use of these products is therefore necessary.

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

The cost of the smoke alarm if one was not already being put in.

Impact to industry relative to the cost of compliance with code

None

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

None

Requirements

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

Yes, it provides for increased safety and welfare for homeowners.

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

Yes, it strengthens the codes by providing for a smoke alarm in an attached garage.

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.

Alternate Language

2nd Comment Period

Proponent	Jennifer Hatfield	Submitted	8/21/2025 1:20:46 PM	Attachments	No
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Rationale:

This alternate language comment simply addresses the duplicate language that is not needed by deleting the second mention of being interconnected to the smoke alarms as it is covered in the first instance of its use in the new Item 5. This addresses the reason for denial. The rest of the proposal is as originally submitted.

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

The cost of the smoke alarm if one was not already being put in.

Impact to industry relative to the cost of compliance with code

None

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

None

Requirements

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

Yes, it provides for increased safety and welfare for homeowners.

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

Yes, it strengthens the code by providing for a smoke alarm in an attached garage.

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.

12190-A1

F12190-A1Text Modification

R314.3 Location.

Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.
5. In an attached garage. A heat detector, *listed* and interconnected to the smoke alarms, shall be interconnected to the smoke alarms, shall be installed in locations with dwelling units and attached garages where smoke alarms cannot be installed based on their *listings*.

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Mod12190_A1_TextOfModification.pdf

F12190Text Modification

R314.3 Location.

Smoke alarms shall be installed in the following locations:

1. In each sleeping room.
2. Outside each separate sleeping area in the immediate vicinity of the bedrooms.
3. On each additional story of the dwelling, including basements and habitable attics and not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.
4. Smoke alarms shall be installed not less than 3 feet (914 mm) horizontally from the door or opening of a bathroom that contains a bathtub or shower unless this would prevent placement of a smoke alarm required by Section R314.3.
5. In an attached garage. A heat detector, listed and interconnected to the smoke alarms, shall be interconnected to the smoke alarms, shall be installed in locations with dwelling units and attached garages where smoke alarms cannot be installed based on their listings.

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Mod12190_TextOfModification.pdf