Advanced Internet Course in Florida Building Code 7th Edition (2020) Changes

1

Professional Development Hours (PDH) or Continuing Education Hours (CE)

FDA, Inc.

Online PDH or CE course

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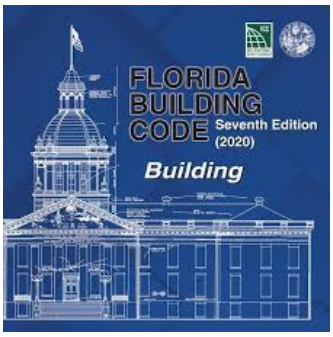
2020 FBC (7th Ed) Significant Code Changes

This is a Florida Advanced Building Code Course (1 hour) meeting the requirements of the Florida Department of Business and Professional Regulation (DBPR) for Advanced Florida Building Code Module.



This course presents the significant code changes from the 2017 Florida Building Code Sixth Edition to the 2020 Florida Building Code – Seventh Edition. The course includes the Florida specific changes, legislative changes and any other changes. The course includes topics such as occupancies, height and area, fire protection, fire protection systems, means of egress and wood construction, and elevators. The Florida Building Code can be viewed at www.floridabuilding.org

Learning Objectives

Upon completion of this course, participants will understand the changes made to the 2020 Florida Building Code including but not limited to the requirements for administration, occupancies, fire resistance protection, fire protection systems, means of egress, roof assemblies, structural design, and wood construction and apply them to their respective professions.

2020 Florida Building Code 7th Edition

The 2020 FBC uses the 2017 FBC as base code. The 2017 FBC is based on the IBC 2015 codes. The 2020 FBC incorporates amendments that have been made to strengthen the Florida Building Code, declaratory statements and Legislative mandates.

Significant Changes to Chapter 1
Scope and Administration

Additional Options for Closing a Permit FBC 105.5

Legislative changes allows a property owner to close out expired permits.

In accordance with Section 553.79(15), Florida Statutes, new language has been added to the code establishing conditions for which a building permit may be closed (conditions of the permit satisfied) by the property owner.

In accordance with Section 553.79(16), Florida Statutes, new language has been added affirming that a permit cannot be denied to a property owner where a building permit applied for by a previous owner of the property was not closed. Additionally, a contractor cannot be denied a permit solely because the contractor is listed on other building permits that are not closed.

Significance: Many properties have expired building permits that were never properly closed out. Often times the expired permit was from a previous owner or contractor that is no longer in business. This allows the property owner to clear any expired permits. During sale of properties, the title company or bank finds expired permits that are required to be resolved before the real estate transaction can be finalized.

Code excerpts:

105.5 Additional options for closing a permit.

Pursuant to Section 553.79(15), Florida Statutes, a property owner, regardless of whether the property owner is the one listed on the application for the building permit, may close a building permit by complying with the following requirements: The property owner may retain the original contractor listed on the permit or hire a different contractor appropriately licensed in this state to perform the work necessary to satisfy the conditions of the permit and to obtain any necessary inspection in order to close the permit. If a contractor other than the original contractor listed on the permit is hired by the property owner to close the permit, such contractor is not liable for any defects in the work performed by the original contractor and is only liable for the work that he or she performs.

The property owner may assume the role of an ownerbuilder, in accordance with Sections 489.103(7) and 489.503(6), Florida Statutes.

If a building permit is expired and its requirements have been substantially completed, as determined by the local enforcement agency, the permit may be closed without having to obtain a new building permit, and the work required to close the permit may be done pursuant to the building code in effect at the time the local enforcement agency received the application for the permit, unless the contractor has sought and received approval from the local enforcement agency for an alternative material, design or method of construction.
A local enforcement agency may close a building permit 6 years after the issuance of the permit, even in the absence of a final inspection, if the local enforcement agency determines that no apparent safety hazard exists.
For purposes of this section, the term "close" means that the requirements of the permit have been satisfied.

Denial or Revocation of Permit FBC 105.6

In accordance with Section 553.79(16), Florida Statutes, new language has been added affirming that a permit cannot be denied to a property owner where a building permit applied for by a previous owner of the property was not closed.

A contractor cannot be denied a permit solely because the contractor is listed on other building permits that are not closed.

Significance: Some building departments have withheld building permits to homeowners and contractors until expired permits have been resolved and closed. This change prohibits building departments from withholding permits based on expired permits from previous owners or contractors.

Code Excerpt:
105.6 Denial or revocation.
Pursuant to Section 553.79(16), Florida Statutes, a local enforcement agency may not deny issuance of a building permit to; issue a notice of violation to; or fine, penalize, sanction or assess fees against an arm's-length purchaser of a property for value solely because a building permit applied for by a previous owner of the property was not closed. The local enforcement agency shall maintain all rights and remedies against the property owner and contractor listed on the permit.
Pursuant to Section 553.79(16), Florida Statutes, a local enforcement agency may not deny issuance of a building permit to a contractor solely because the contractor is listed on other building permits that were not closed.

Required Inspections FBC 110.3

New language added requiring in-progress inspections of exterior wall coverings and soffits.

Significance: Many failures of exterior envelopes in recent high wind events have been attributed to poor or improper installation of soffits and exterior wall coverings; therefore the code now requires inspections of these elements and systems.

Code excerpt: Exterior wall coverings. Shall at a minimum include the following building components in progress inspections:

Exterior wall coverings and veneers

Soffit coverings

Threshold Building FBC 110.8.1

Section 110.8.1 has been revised to clarify that threshold building inspections required by Section 110.8 also apply to repair or restoration projects in which the structural system or structural loading of an existing threshold building is being modified.

Significance: There has been confusion whether threshold inspections apply to existing buildings. This clarifies that any repairs or modifications to the structural system of a threshold building will required threshold inspections.

Significant Code Changes to Chapter 2
Definitions

Change of Occupancy

Change of Occupancy definition was revised to clarify that a change of occupancy specifically includes a change of occupancy classification and a change from one group to another group within an occupancy classification.

Significance: Aligns definition of change of occupancy with the Florida Existing Building Code

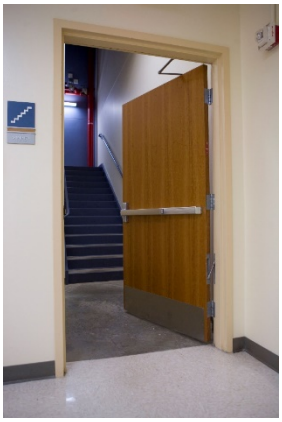
Code excerpt: CHANGE OF OCCUPANCY. A change in the use of a building or a portion of a building which results in one of the following:

A change of occupancy classification.

A change from one group to another group within an occupancy classification.

Any change in use within a group for which there is a change in the application of the requirements of this code.

Delayed Action Closer



New definition for delayed action closer was added to address a type of closer that would allow time for occupants to pass through a door before closing.

Significance: Section 716 has new requirements for delayed action closer and a definition is required to define this device for these new requirements.

Code Excerpt: DELAYED ACTION CLOSER. Self-closing device that incorporates a delay prior to the initiation of closing. Delayed action closers are mechanical devices with an adjustable delay.

Existing Building

New definition of existing building

Significance: Definition was added for consistency with the Florida Building Code, Existing Building volume.

Code Excerpt: EXISTING BUILDING. A building erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.

Fenestration

The definition of fenestration has been revised to address the most distinguishing characteristics of that product type. A new definition of vertical fenestration has been added to clearly distinguish vertical fenestrations from skylights and sloped glazing.

Significance: Clarifies types of fenestration and difference between fenestration in a vertical plane and fenestration in a roof such as skylights.

Code Excerpt:

> *FENESTRATION. Products classified as either vertical fenestration or skylights and sloped glazing, installed in such a manner as to preserve the weather-resistant barrier of the wall or roof in which they are installed. Fenestration includes products with glass or other transparent or translucent materials.*
>
> *FENESTRATION, VERTICAL. Windows that are fixed or movable, opaque doors, glazed doors, glazed block and combination opaque and glazed doors installed in a wall at less than 15 degrees from vertical.*

Sleeping Unit

The definition of a sleeping unit was revised to clarify that a sleeping unit would also apply to suites as well as a single bedroom

Significance: Expands the definition to include a suite with multiple sleeping units.

> *Code excerpt: SLEEPING UNIT. A single unit providing rooms or spaces for one or more persons, which can also include permanent provisions for living, eating,*

sleeping and either sanitation or kitchen facilities but not both. Such rooms and spaces that are also part of a dwelling unit are not sleeping units.

Wind-Borne Debris Region

Definition of Wind Borne debris region was revised to correlate with ASCE 7-16 by including a reference to the new Risk Category IV wind speed map.

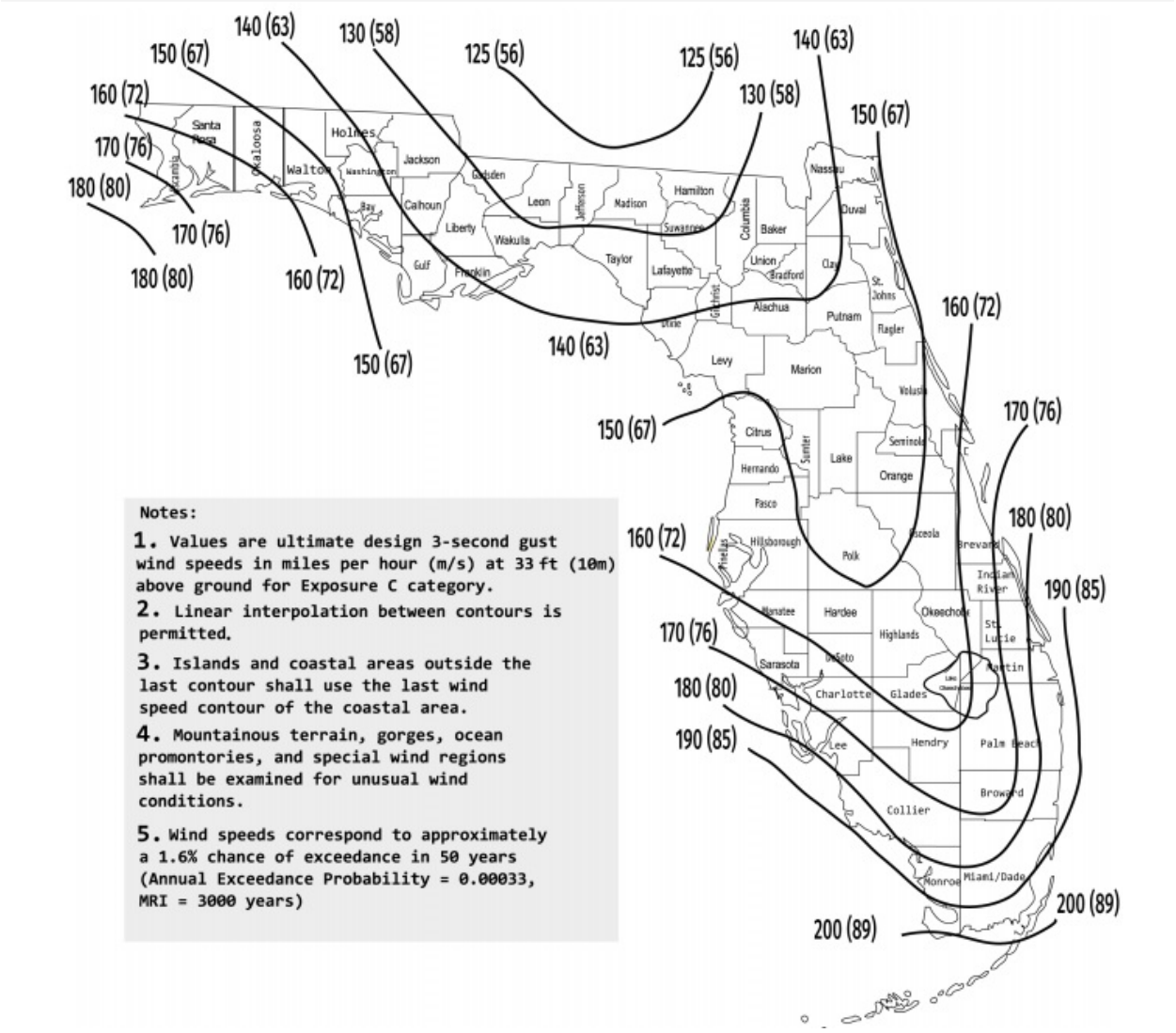
Code excerpt:

WIND-BORNE DEBRIS REGION. Areas within hurricane-prone regions located:

Within 1 mile (1.61 km) of the coastal mean high water line where the ultimate design wind speed, Vult, is 130 mph (58 m/s) or greater; or 2. In areas where the ultimate design wind speed, Vult, is 140 mph (63.6 m/s) or greater.

For Risk Category II buildings and other structures and Risk Category III buildings and other structures, except health care facilities, the wind-borne debris region shall be based on Figure 1609.3(1). For Risk Category III health care facilities, the wind-borne debris region shall be based on Figure 1609.3(2).

For Risk Category IV buildings and other structures, the wind-borne debris region shall be based on Figure 1609.3(3).



FIGURE·1609.3(3)¶

ULTIMATE·DESIGN·WIND·SPEEDS,·VULT,·FOR·RISK·CATEGORY·IV·BUILDINGS·AND·OTHER·STRUCTURES¶

Significant Code Changes to Chapter 3
Use and Occupancy Classification

Residential Group R FBC 310.5

Section 310.5 was revised to classify lodging houses as Group R-3 when they are owner-occupied and have 10 or fewer occupants.

Section 310.5.2 was revised to allow lodging houses to be built in accordance with the FBC-Residential Code with five or fewer guest rooms and 10 or fewer occupants.

Significance: Expands on the limitations of the number of occupants for a Group R-3 lodging house. Previously there was no limit specified on the number of occupants; only number of guest rooms was limited.

Code excerpt:

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

Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer occupants

310.5.2 Lodging houses. Owner-occupied lodging houses with five or fewer guest rooms and 10 or fewer occupants shall be permitted to be constructed in accordance with the Florida Building Code, Residential.

Significant Code Changes to Chapter 4
Special Detailed Requirements Based on Occupancy and Use

Motor-Vehicle- Related Occupancies FBC 406

Section 406 has been reorganized for clarity. Requirements that are applicable to all motor-vehicle related occupancies have been consolidated and relocated to the general provisions of Section 406.1. Relocated provisions include:

Automatic garage door openers and vehicular gates.

- Clear height of floor levels.
- Accessible parking spaces.
- Permitted floor surfaces.

- Openings between sleeping rooms and motor-vehicle related occupancies.
- Fuel dispensing.
- Electric vehicle charging stations.
- Mixed occupancy and separation.
- Equipment and appliances.

Significance: This change placed all of the requirements in one place that pertain to any motor vehicle related occupancy. This change will help achieve uniform compliance of these requirements.

Groups I-1, R-1, R-2, R-3 and R-4 FBC 420

Section 420.7 is a new section permitting certain spaces in assisted living facilities to be open to fire resistance rated corridors, similar to those permitted in section 407.2.5 and 407.2.6 for Group I-2 nursing homes. Shared living spaces, group meeting, or multipurpose therapeutic spaces are permitted to be open to a fire resistance rated corridor provided the specified criteria is met.

Significance: Many spaces in nursing homes and assisted living are necessary to be open to the corridors for residents to socialize and allow supervision of staff without requiring partitioning and fire separation. These facilities have many additional safety features to compensate for open rooms to corridors.

Code excerpts:

420.7 Assisted living housing units. In Group I-1 occupancies, where a fire resistance corridor is provided, in areas where assisted living residents are

housed, shared living spaces, group meeting or multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria:
The walls and ceilings of the space are constructed as required for corridors.
The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509 or hazardous uses.
Groups I-1, R-1, R-2, R-3 and R-4 FBC 420
The open space is protected by an automatic fire detection system installed in accordance with Section 907.
In Group I-1, Condition 1, the corridors onto which the spaces open are protected by an automatic fire detection system installed in accordance with Section 907, or the spaces are equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
In Group I-1, Condition 2, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
The space is arranged so as not to obstruct access to the required exits.

Storm Shelters FBC 423

Section 423.1 added new language requiring building or structures designated as emergency shelters to be designed in accordance with ICC 500 and as Risk Category IV structures.

New language in section 423.1.1 was added clarifying that facilities used as emergency shelters after a storm are outside the scope of ICC 500 (Standard for the Design and Construction of Storm Shelters) and are required to be designed as Risk Category IV structures.

Significance: Clarifies the standard by which emergency shelters are to be designed for whether uses as an emergency shelter during a storm or after a storm.

Code excerpt: 423.1 General. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC 500. Buildings or structures that are also designated as emergency shelters shall also comply with Table 1604.5 as Risk Category IV structures.
423.1.1 Design of facilities for use as emergency shelters after the storm is outside the scope of ICC 500 and shall comply with Table 1604.5 as a Risk Category IV structure.

Nursing Homes FBC 450

Section 450.4.1.3 added the definition for the term “During and Immediately following”

Section 450.4.2.6.2 was revised to require nursing home facilities to provide an alternate power source for equipment necessary to maintain safe indoor air temperatures for not less than 96 hours following the loss of normal power.

Significance: This change was prompted after 8 residents of a south Florida nursing home died from sweltering heat after hurricane Irma knocked out power to the facility. Now nursing homes are required to provide an alternate power source for mechanical equipment to maintain safe indoor temperatures for a period of 96 hours.

Code Excerpts:
450.4.1.3 DURING AND IMMEDIATELY FOLLOWING.
A period of 96 hours following the loss of normal support utilities to the facility that are necessary to support the health, safety and welfare of the residents and staff. These support utilities include but are not limited to normal electrical power, potable water supply, sewer and telecommunications.
450.4.2.6.2 As determined by the governing body of the facility, occupied resident areas and resident support areas shall be supplied with temperature and

humidity control during and immediately following loss of normal utilities. At a minimum, these areas hall be maintained at a dry-bulb temperature at or below 81°F (27.2°C). Vulnerable components of new mechanical equipment necessary to maintain safe indoor air temperature shall be protected from horizontal impact in accordance with Section 450.4.2.5.4 and shall be connected to the facility's essential electrical system described in Section 450.3.18.1 or connected to the optional standby generator described in 450.4.2.9.6.

Assisted Living Facilities FBC 464

Section 464.4.2.2 was revised to incorporate the rule developed by the Department of Elder Affairs requiring assisted living facilities to provide an alternate power source for equipment necessary to maintain safe indoor air temperatures for not less than 96 hours following the loss of normal power. New language provides a reference to the rule and specifies requirements for a safe and reliable method for connecting the alternate power source.

Significance: This change is a similar change in Section 450 for nursing homes providing safe temperatures for residents in an assisted living facility following the loss of normal power.

Code Excerpt:

464.4.2.2 A new facility shall be equipped with either a permanent on-site alternate power source to operate at least the equipment necessary to maintain safe indoor air temperatures, life safety systems and equipment for resident care needs, or there shall be a permanently installed predesigned electrical service entry for the electrical system that will allow a quick connection to a temporary alternate power source to operate at least the equipment necessary to maintain safe indoor air temperatures, life safety systems and equipment for resident care needs. This quick connection shall be installed inside of a permanent metal enclosure rated for this purpose and may be located on the exterior of the building.

See Chapter 59A-36.025, Florida Administrative Code, "Emergency Environmental Control for Assisted Living Facilities" for additional requirements.

Swimming Pools and Bathing Places FBC 454

Several updates were incorporated in the pool sections such as:

- Additional definitions and clarifications
- Signage
- Slopes
- Barriers
- Pool lighting
- Fixture counts include interactive water features
- Plunge pools

New language in Section 454.1.1.1 specifies bathing loads for transient and nontransient facilities.

New language was added requiring that where a pool's turnover rate is calculated to be less than 3 hours it is required to comply with Section 454.1.7.9 for automated controllers.

Significance: This code change distinguishes how to calculate bathing loads for a transient or nontransient facility.

Code Excerpt:

454.1.1.1 Sizing. The pools provided at a transient facility shall be able to accommodate one bather per five living units, while the bathing load at a nontransient facility shall be at least one bather per seven living units. Recreational vehicle sites, campsites and boat slips designated for live-aboards shall be considered a transient living unit. For properties with multiple pools, this requirement includes the cumulative total bathing load of all swimming pools,

spas, wading pools and interactive water features. The bathing load for conventional swimming pools, wading pools, interactive water features, water activity pools and special purpose pools shall be computed either on the basis of one person per 5 gpm (0.32 L/s) of recirculation flow, or one person per each 20 square feet (1.9 m2) of surface area, whichever is less. The bathing load for spa type pools shall be based on one person per each 10 square feet (0.9 m2) of surface area. Where a pool's turnover rate is calculated to be less than 3 hours, that pool shall comply with Section 454.1.7.9 for automated controllers.

Hospice Inpatient Facilities and Units FBC 467

Section 467 was revised and reorganized to clarify the requirements for hospice impatient facilities and units. New definitions have been added for existing, unit, and inpatient facility. Reference to the 2018 Guidelines has been added. Room requirements and window sill heights have be revised to meet CMS requirements.

Redundant language found in other standards and codes has been deleted. Permits the use of wireless nurse call.

Significant Code Changes to Chapter 5
General Building Heights and Areas

General Building Height and Area Limitations FBC 503

New section establishing criteria for heights and areas of buildings that have occupied roofs.

An occupied roof is not included in the building area regulated by Section 506 provided the occupancy of the occupied roof is an occupancy permitted by Table 504.4 for the story immediately below the roof.

Exception 1 permits the occupied roof to be any occupancy provided the building is equipped throughout with an automatic sprinkler system complying with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Section 907.5 is provided in the area of the occupied roof.
Exception 2 permits assembly occupancies on roofs of open parking garages of Type I or II construction in accordance with the exception to Section 903.2.1.6

Significance: The code now addresses requirements for occupied roofs. Roof top bars and restaurants have become very popular, and in the past have been prohibited in the code due to the type of construction of the building. This code change gives guidance on the allowance of occupied roofs.

Code Excerpt:
503.1.4 Occupied roofs. A roof level or portion thereo shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof.
The area of the occupied roofs shall not be included in the building area as regulated by Section 506.
Exceptions:
The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the story immediately below the roof where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Section 907.5 is provided in the area of the occupied roof.
Assembly occupancies shall be permitted on roofs of open parking garages of Type I or Type II construction, in accordance with the exception to Section 903.2.1.6.

Significant Changes to Chapter 6
Types of Construction

Heavy Timber Construction FBC 602.4

Heavy timber has been revised in Chapter 6. Specific code requirements regarding construction of heavy timber are relocated to Chapter 23.

Section 602.4.1 and 602.4.2 were added for minimum thickness (6 inches) requirements for fire-retardant-treated wood and cross-laminated timber in exterior walls.

Significance: The requirements of heavy timber are consolidated and located in one place in Chapter 23 - Wood requirements.

Significant Changes to Chapter 7
Fire and Smoke Protection Features

Exterior Walls FBC 705

The fire separation distance (FSD) has been revised for clarity. The minimum distance from the FSD line for projections has been revised for FSD's of 5 feet and greater. The 20-foot minimum separation for a FSD of 30 feet and greater has been deleted. Where the FSD is 5 feet or greater, the minimum distance of the projection from the property line (or other line used to determine the FSD) is now 40 inches.

Significance: Allows projections with a fire separation of 2 feet. Makes application of the requirements for projections related to fire separation distance easier to apply.

TABLE 705.2
MINIMUM DISTANCE OF PROJECTION

FIRE SEPARATION DISTANCE (FSD) (feet)	MINIMUM DISTANCE FROM LINE USED TO DETERMINE FSD
0 to less than 2	Projections not permitted
2 to less than 3	24 inches
3 to less than 5	24 inches plus 8 inches for every foot of FSD beyond 3 feet or fraction thereof
5 or greater	40 inches

For SI: 1 foot = 304.8 mm; 1 inch = 25.4 mm.

Penetrations FBC 714

New section 714.2 requiring listed penetration firestop systems to be installed in accordance with the manufacturer's installation instructions and listing criteria.

Significance: Provides clarity in the installation of firestop penetration systems to be installed both according to the manufacturer's installation instructions and the listing criteria by the approved testing laboratories.

> *Code Excerpt: 714.2 Installation. A listed penetration firestop system shall be installed in accordance with the manufacturer's installation instructions and the listing criteria.*

Opening Protectives FBC 716

New entry added to Table 716.3 recognizing ASTM E119 or UL 263 tested and listed products for rated floor/ceiling assemblies using the marking FC. New note a provides a reference to glass walkways in Section 2409.1.

Significance: Gives clarity for fire rated glazing requirements in floor/ceiling assemblies

TABLE 716.3
MARKING FIRE-RATED GLAZING ASSEMBLIES

FIRE TEST STANDARD	MARKING	DEFINITION OF MARKING
ASTM E119 or UL 263	W	Meets wall assembly criteria.
ASTM E119 or UL 263	FC	Meets floor/ceiling criteria.[a]
NFPA 257 or UL 9	OH	Meets fire window assembly criteria including the hose stream test.
NFPA 252 or UL 10B or UL 10C	D H T	Meets fire door assembly criteria. Meets fire door assembly hose stream test. Meets 450°F temperature rise criteria for 30 minutes.
	XXX	The time in minutes of the fire resistance or fire protection rating of the glazing assembly.

For SI: °C = [(°F) - 32]/1.8.
a. See Section 2409.1.

New section 716.5.9.3 permits doors required to be self-closing, but not automatic closing, to be equipped with delayed action closers.

New definition of delayed action closer has been added to Chapter 2.

Smoke-activated doors moved to section 716.9.4 and was revised to clarify the permission to use hold open devices activated by smoke detection for certain doors.

Significance: Allows delayed action closers on self closing doors and expands and clarifies the requirements for smoke activated doors. The type of closer must be identified on the plan in order to apply the correct requirements and installation of the specified closer.

Code Excerpts:

716.5.9.3 Delayed action closers. Doors required to be self-closing and not required to be automatic closing shall be permitted to be equipped with delayed action closers.

716.5.9.4 Smoke-activated doors. Automatic-closing doors installed in the following locations shall be permitted to have hold-open devices. Doors shall automatically close by the actuation of smoke detectors installed in accordance with Section 907.3 or by loss of power to the smoke detector or hold-open device.

Doors that are automatic-closing by smoke detection shall not have more than a 10-second delay before the door starts to close after the smoke detector is actuated.

Opening Protectives FBC 716

Automatic-closing doors that protect openings installed in the following locations shall comply with this section:

In walls that separate incidental uses in accordance with Section 509.4.

In fire walls in accordance with Section 706.8.

In fire barriers in accordance with Section 707.6.

In fire partitions in accordance with Section 708.6.

In smoke barriers in accordance with Section 709.5.

In smoke partitions in accordance with Section 710.5.2.3.

In shaft enclosures in accordance with Section 713.7.

In waste and linen chutes, discharge openings and access and discharge rooms in accordance with Section 713.13. Loading doors installed in waste and linen chutes shall meet the requirements of Sections 716.5.9 and 716.5.9.1.1.

Significant Code Changes to Chapter 9
Fire Protection Systems

Automatic Sprinkler Systems FBC 903

New section 903.3.1.2.3 was added specific to the protection of attics for Group R occupancies with a NFPA 13R system.

Some previous requirements for Group R4 Condition 2 now apply to all attics with a NFPA 13R system

1. Attics used or intended for living purposes or storage;
2. Where fuel-fired equipment is installed in an unsprinklered attic, at least one quick-response sprinkler is required to be installed above the equipment.

3. Attic protection is now required for Types III, IV, and V construction where the roof assembly is located more than 55 feet above the lowest level of required fire department vehicle access.
   Alternatives to sprinkler protection include constructing the attic of noncombustible materials or fire-retardant-treated wood or fill the attic with noncombustible insulation.

The existing requirements in Section 903.2.8.3 for Group R-4, Condition 2 have been relocated to this new section applicable to attic protection.

Significance: NFPA 13R has many exceptions for areas not requiring protection. This code change provides protection of attics beyond the requirements in NFPA 13R. Attics in Group R occupancies with a NFPA 13R fire sprinkler system may be required to be protected with fire sprinkler protection, noncombustible construction, fire retardant treated wood or noncombustible insulation.
Automatic Sprinkler Systems FBC 903

Code excerpt: 903.3.1.2.3 Attics. Attic protection shall be provided as follows: Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.
Where fuel-fired equipment is installed in an unsprinklered attic, at least one quick response intermediate temperature sprinkler shall be installed above the equipment.
Automatic Sprinkler Systems FBC 903
Where located in a building of Type III, Type IV or Type V construction designed in accordance with Section 510.2 or Section 510.4, attics not required by Item 1 to have sprinkler protection shall comply with one of the following if the roof assembly is located more than 55 feet (16 764 mm) above the lowest level of required fire department vehicle access:
Provide automatic sprinkler system protection.
Construct the attic using noncombustible materials.

Construct the attic using fire-retardant treated wood complying with Section 2303.2.

Fill the attic with noncombustible insulation.

The height of the roof assembly shall be determined by measuring the distance from the lowest required fire vehicle access road surface adjacent to the building to the eave of the highest pitched roof, the intersection of the highest roof to the exterior wall, or the top of the highest parapet, whichever yields the greatest distance. For the purpose of this measurement, required fire vehicle access roads shall include only those roads that are necessary for compliance with the Florida Fire Prevention Code.

Group R-4 Condition 2 occupancy attics not required by Item 1 to have sprinklers shall comply with one of the following:

Provide automatic sprinkler system protection.

Provide a heat detector system throughout the attic that is arranged to activate the building fire alarm system in accordance with Section 907.2.10.

Construct the attic using noncombustible materials.

Construct the attic using fire-retardant treated wood complying with Section 2303.2.

Fill the attic with noncombustible insulation.

Fire Alarm and Detection Systems FBC 907

Section 907.2.1 was revised to also require a manual fire alarm system where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge.

Significance: This change will make requirements for Group A occupancies located on a level other than that of exit discharge to be consistent with Group B requirements for a fire alarm system.

Code excerpt:

907.2.1 Group A. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group A occupancies where the occupant load due to the assembly occupancy is 300 or more, or where the Group A occupant load is more than 100 persons above or below the lowest level of exit discharge. Group A occupancies not separated from one another in accordance with Section 707.3.10 shall be considered as a single occupancy for the purposes of applying this section. Portions of Group E occupancies occupied for assembly purposes shall be provided with a fire alarm system as required for the Group E occupancy.

Section 907.5.2.3.2 is revised to clarify that visible alarm notification is required in habitable spaces in dwelling units and sleeping units in Group I-1 and R-1 occupancies in accordance with Table 907.5.2.3.2.

Significance: The previous codes only required visual alarm notification in public use and common use areas. A habitable space is defined as a space in a building for living, sleeping, eating or cooking. Additional visual alarm notification devices will be required.

Code excerpt: 907.5.2.3.2 Groups I-1 and R-1. Habitable spaces in dwelling units and sleeping units in Group I-1 and R-1 occupancies in accordance with Table 907.5.2.3.2 shall be provided with visible alarm notification. Visible alarms shall be activated by the in-room smoke alarm and the building fire alarm system.

Carbon Monoxide Protection FBC 915

The carbon monoxide protection provisions have been relocated to Section 915 (from section 908.8). Requirements are unchanged from the previous edition.

Gas Detection Systems FBC 916

Provisions for gas detection systems have been consolidated into a new Section 916. Sections 908.3 through 908.7 have been deleted with the specific requirements relocated to Section 916.

Significance: The revisions remove inconsistencies with how gas detection systems are treated in the code and improve enforceability

Significant Change to Chapter 10
Means of Egress

Occupant Load FBC 1004

New section 1004.3 stipulating that where an area contains multiple functions having different occupant load factors, the design occupant load is required to be based on the floor area of each function calculated independently.

Significance: Accounts for all of the occupant load to be calculated; therefore providing adequate capacity for the means of egress.

Code excerpt:

1004.3 Multiple function occupant load. Where an area under consideration contains multiple functions having different occupant load factors, the design occupant load for such area shall be based on the floor area of each function calculated independently.

New section 1004.8 was added addressing occupant loads for concentrated business uses including telephone call centers, trading floors, electronic data processing centers and similar

business use areas that have a higher density of occupants than a normal business occupancy.

The occupant load is permitted to be the actual occupant load when approved by the building official but not less than 1 occupant per 50 square feet.

Significance: Previously all business areas were calculated at 100 sf per occupant. The business occupancies with higher densities of occupants did not account for the proper occupant load needed for egress. This change calculates the proper occupant load for a business occupancy with a higher density of occupants providing adequate egress capacity.

Code excerpt:

1004.8 Concentrated business use areas. The occupant load factor for concentrated business use shall be applied to telephone call centers, trading floors, electronic data processing centers and similar business use areas with a higher density of occupants than would normally be expected in a typical business occupancy environment. Where approved by the building official, the occupant load for concentrated business use areas shall be the actual occupant load, but not less than one occupant per 50 square feet (4.65 m2) of gross occupiable floor space.

Doors, Gates and Turnstiles FBC 1010

New section 1010.1.4.4 permits egress doors from classrooms, offices, and other occupied rooms in Group E and Group B educational occupancies to have locking arrangements designed to keep intruders from entering the room. The following conditions must be satisfied:

- The door must be capable of being unlocked from outside the room with a key or other approved means.

- The door must be openable from within the room in accordance with Section 1010.1.9.
- Listed panic hardware, fire door hardware, and door closers cannot be modified.

Significance: In recent years we have seen a rise in mass school shootings including colleges. This change allows classroom doors to be locked keeping active shooters and other intruders from entering classrooms and providing safety for students and teachers.

Code excerpts:

1010.1.4.4 Locking arrangements in educationa occupancies. In Group E and Group B educational occupancies, egress doors from classrooms, offices and other occupied rooms shall be permitted to be provided with locking arrangements designed to keep intruders from entering the room where all of the following conditions are met:

The door shall be capable of being unlocked from outside the room with a key or other approved means.

The door shall be openable from within the room in accordance with Section 1010.1.9.

Modifications shall not be made to listed panic hardware, fire door hardware or door closer.

1010.1.4.4.1 Remote operation of locks. Remote operation of locks complying with Section 1010.1.4.4 shall be permitted.

New exception in Section 1010.1.7 for doors serving dwelling units or sleeping units that limits the height of the threshold to that required to pass the water resistance test of AAMA/WDMA/CSA 101/I.S.2/A440 or TAS 202, or the maximum allowable height distance between interior and exterior floor levels as specified in new Table 1010.1.7.

Significance: In the HVHZ and other coastal high wind areas, thresholds are typically required to be higher than the maximum ¾ inch threshold in order to pass the door test for water resistance; therefore this provides an exception to allow a threshold height in accordance with the product approval listing of the door.

Code excerpt:

1010.1.7 Thresholds. Thresholds at doorways shall not exceed 3/4 inch (19.1 mm) in height above the finished floor or landing for sliding doors serving dwelling units or 1/2 inch (12.7 mm) above the finished floor or landing for other doors. Raised thresholds and floor level changes greater than 1/4 inch (6.4 mm) at doorways shall be beveled with a slope not greater than one unit vertical in two units horizontal (50-percent slope).

Exceptions:

For exterior doors serving dwelling units, or sleeping units, thresholds at doorways shall not exceed the height required to pass the water resistance test of AAMA/WDMA/CSA 101/I.S.2/A440, or TAS 202 for high-velocity hurricane zones, or the maximum allowable height difference between interior floor levels. Exterior floor level shall comply with Table 1010.1.7.

Significant Code Changes to Chapter 15
Roof Assemblies and Rooftop Structures

Performance Requirements FBC 1504

New section 1504.3.3 requires metal roof shingles to be applied to a solid or closely fitted deck to be tested in accordance with FM 4474, UL 580, UL 1897, ASTM D3161, or TAS 107. New Table 1504.3.3 specifies the required classification of metal shingles tested to ASTM D3161 based on the ultimate design wind speed (similar to the

classification requirements for asphalt shingles).

Significance: Provides requirements for metal shingles.

Code Excerpt:

1504.3.3 Metal roof shingles. Metal roof shingles applied to a solid or closely fitted deck shall be tested in accordance with FM 4474, UL 580, UL 1897, ASTM D3161 or TAS 107. Metal roof shingles tested in accordance with ASTM D3161 shall meet the classification requirements of Table 1504.3.3 for the appropriate maximum basic wind speed and the metal shingle packaging shall bear a label to indicate compliance with ASTM D3161 and the required classification in Table 1504.3.3.

TABLE 1504.3.3
CLASSIFICATION OF METAL ROOF SHINGLES TESTED IN ACCORDANCE WITH ASTM D3161

MAXIMUM BASIC WIND SPEED FROM FIGURE 1609.3(1), FIGURE 1609.3(2), FIGURE 1609.3(3), FIGURE 1609.3(4) or ASCE 7	V_{asd}	ASTM D3161
110	85	D or F
116	90	D or F
129	100	D or F
142	110	F
155	120	F
168	130	F
181	140	F
194	150	F

Requirements for Roof Coverings FBC 1507

Underlayment types and installation for all roof coverings have been revised to be consistent with the recommendations from IBHS to create a “sealed roof deck.” The key changes are as follows:

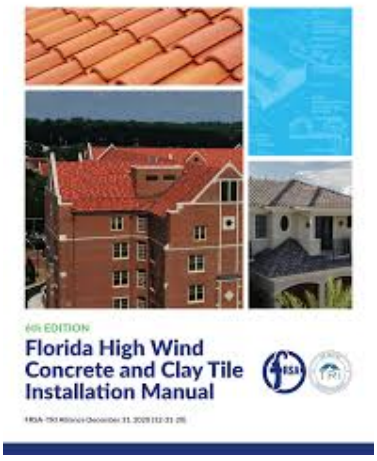
- Where felt underlayment is used, it must be 30# or equivalent (ASTM D 226 Type II, ASTM D4869 Types III or IV).
- Installation techniques such as number of plies, lapping, and fastener spacing has been strengthened.

- Where self-adhering strips/tapes are applied over roof deck joints, a 30# equivalent underlayment with enhanced fastening is required over the strips/tapes.

New table 1507.1.1.1 specifies the required underlayment types, lapping, and fasteners for underlayment with self-adhering strips/tapes over roof deck joints. Significance: Provides clarity of type of underlayment and how to apply underlayment.

TABLE 1507.1.1.1
UNDERLAYMENT WITH SELF-ADHERING STRIPS OVER ROOF DECKING JOINTS

Roof Covering	Underlayment Type	Underlayment Attachment	
		2:12 = Roof Slope < 4:12	Roof Slope > 4:12
Asphalt Shingles, Metal Roof Panels, Photovoltaic Shingles	ASTM D226 Type II ASTM D4869 Type III or IV ASTM D 6757	Apply in accordance with Section 1507.1.1.1, Item 4 or Section 1507.1.1.3, Item 3 as applicable to the type of roof covering.	Underlayment shall be applied shingle fashion, parallel to and starting from the eave and lapped 4 inches; end laps shall be 6 inches and shall be offset by 6 feet. The underlayment shall be attached to a nailable deck with two staggered rows in the field of the sheet with a maximum fastener spacing of 12 inches o.c., and one row at the end and side laps fastened 6 inches o.c. Underlayment shall be attached using annular ring or deformed shank nails with metal or plastic caps with a nominal cap diameter of not less than 1 inch. Metal caps are required where the ultimate design wind speed, V_{ult}, equals or exceeds 170 mph. Metal caps shall have a thickness of not less than 32-gage sheet metal. Power-driven metal caps shall have a minimum thickness of 0.010 inch. The minimum thickness of the outside edge of plastic caps shall be 0.035 inch. The cap nail shank shall be not less than 0.083 inch for ring shank cap nails and 0.091 inch for smooth shank cap nails. The cap nail shank shall have a length sufficient to penetrate through the roof sheathing or not less than $^3/_4$ inch into the roof sheathing.
Metal Roof Shingles, Mineral-Surface Roll Roofing, Slate and Slate-type Shingles, Wood Shingles, Wood Shakes	ASTM D226 Type II ASTM D4869 Type III or IV		



Underlayment for concrete and clay tile roofs is required to be in accordance FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual Sixth edition.

Significance: Updates the requirement for installation of concrete and clay roof tile to the latest edition of the FRSA/TRI Florida High Wind Concrete and Clay Roof Tile Installation Manual. The manual addresses the latest wind codes, eliminates system designations, recognizes the latest products, reduces redundancy, adds drawings and gives clarity for proper installation for contractors and inspectors.

Requirements For Roof Coverings FBC 1511

A new exception in section 1511.1 permits an existing self-adhered membrane to remain on the roof provided that, if required, re-nailing of the roof deck in accordance with Section 706.7.1 of the FBCEB can be confirmed or verified. An approved underlayment for the applicable roof coverings is required to be applied over the existing self-adhered membrane.

Significance: Does not require the removal of an existing self-adhered membrane provided it meets the requirements of this section.

Code excerpt:

1511.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of Chapter 15.

Exceptions:

Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (2-percent slope) in Section 1507 for roofs that provide positive roof drainage.

An existing self-adhering modified bitumen underlayment that has been previously installed over the roof decking and, where it is required, renailing of the roof sheathing in accordance with Section 706.7.1 of the Florida Building Code, Existing Building can be confirmed or verified. An approved underlayment in accordance with Table 1507.1.1.1 for the applicable roof covering shall be applied over the entire roof over the existing self-adhered modified bitumen underlayment.

Significant Code Changes to Chapter 16

Structural Design

Live Loads FBC 1607

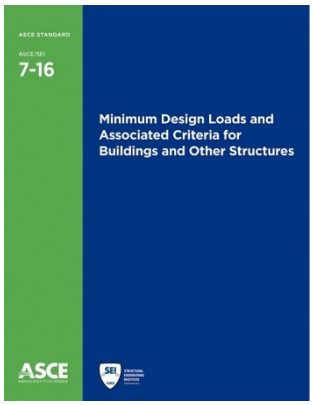
Uniform live loads for balconies and decks have been modified to be 1.5 times the live load for the area served but not more than 100 psf. This change will align the

uniform live loads on decks and balconies with ASCE 7-16. Additionally, Table 1607.1 and notes have been revised to identify more clearly which live loads are permitted to be reduced and which ones are not.

Significance: The change for balcony live loads will align the uniform live loads on decks and balconies with ASCE 7-16. Provides clarity on reduction of live loads.

TABLE 1607.1
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS, L_o, AND MINIMUM CONCENTRATED LIVE LOADS[g]

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (pounds)
1. Apartments (see residential)	—	—
2. Access floor systems Office use Computer use	 50 100	 2,000 2,000
3. Armories and drill rooms	150[n]	—
4. Assembly areas Fixed seats (fastened to floor) Follow spot, projections and control rooms Lobbies Movable seats Stage floors Platforms (assembly) Other assembly areas	 60[m] 50 100[m] 100[m] 150[n] 100[m] 100[m]	 —
5. Balconies and decks[h]	1.5 times the live load for the area served. Not required to exceed 100 psf.	—



ASCE 7 - 16

Chapter 35 updated ASCE 7 referenced standard to the ASCE 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures with Supplement No. 1

Significance: Updates the code to the most recent ASCE 7 standard.

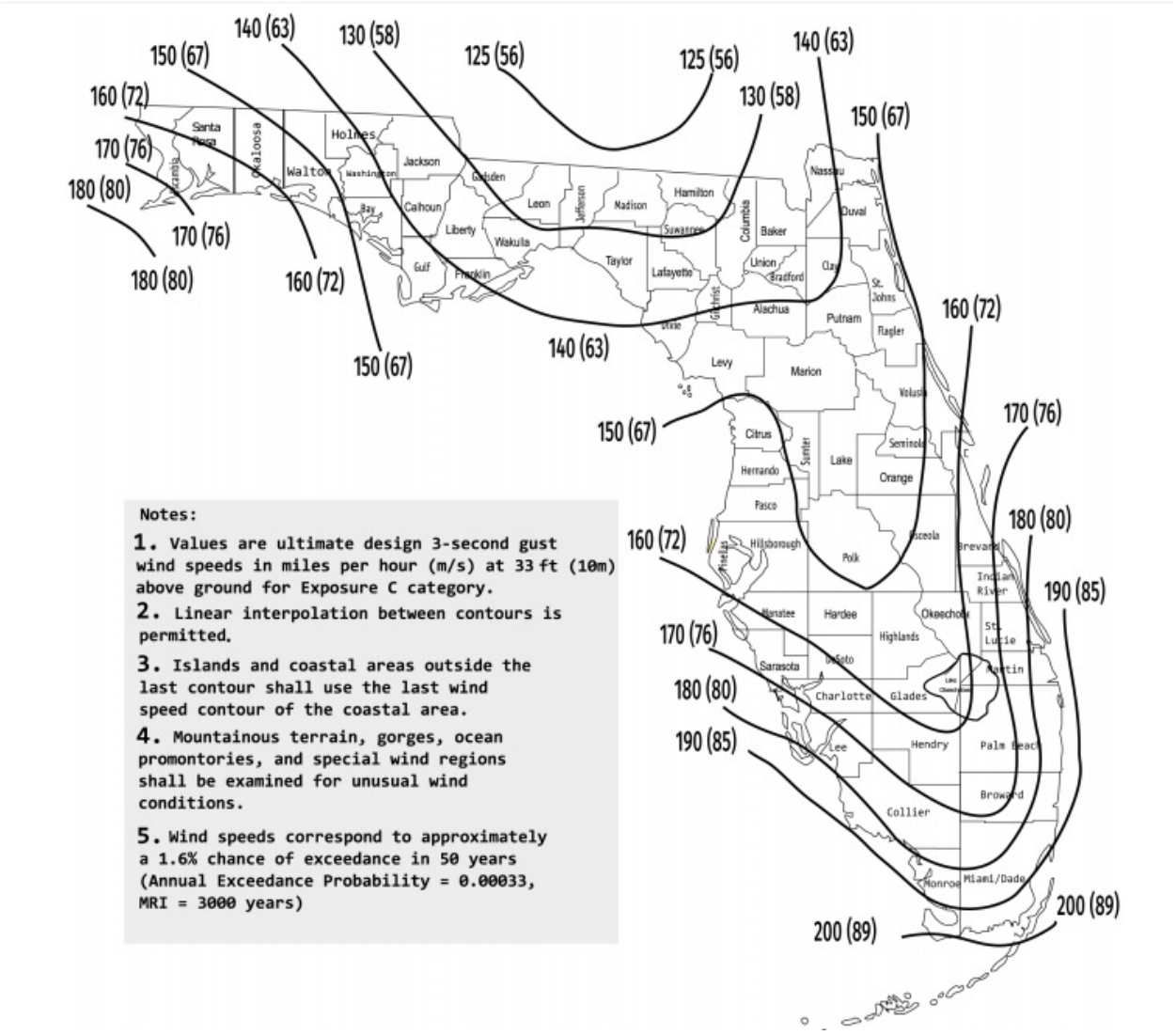
Wind Loads FBC 1609

A new wind speed map, figure 1609.3(3) specific to Risk Category IV buildings and structures has been added. This map is consistent with ASCE 7-16 and is based on a mean recurrence interval of 3000 years.

Figure 1609.3(2) now only applies to Risk Category III buildings and structures.

Numerous sections throughout the code have been modified to incorporate a reference to Figure 1609.3(3).

Significance: Updates the map and provides clarity for use of the proper wind maps for each risk category.



FIGURE·1609.3(3)¶

ULTIMATE·DESIGN·WIND·SPEEDS,·VULT,·FOR·RISK·CATEGORY·IV·BUILDINGS·AND·OTHER·STRUCTURES¶

Significant Code Changes to Chapter 17
Special Inspections and Tests

Anchorage FBC 1710

New section 1710 was added specifying minimum anchorage requirements for window and door assemblies. The provisions address anchorage to masonry,

concrete, or other structural substrate and wood or other approved framing materials.

Significance: The requirements were inadvertently omitted from the 5th Edition (2014) and 6th Edition (2017) FBCB and have been reestablished in the 7th Edition (2020). These requirements are the same requirements in the FBCR and were also in the 2010 FBCB.

Code excerpt: 1710.1 Anchorage methods. The methods cited in this section apply only to anchorage of window and door assemblies to the main windforce-resisting system.
1710.2 Anchoring requirements. Window and door assemblies shall be anchored in accordance with the published manufacturer's recommendations to achieve the design pressure specified. Substitute anchoring systems used for substrates not specified by the fenestration manufacturer shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice.
1710.3 Masonry, concrete or other structural substrate. Where the wood shim or buck thickness is less than 1 1/2 inches (38 mm), window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system, in accordance with the manufacturer's published installation instructions. Anchors shall be securely fastened directly into the masonry, concrete or other structural substrate material. Unless otherwise tested, bucks shall fully support the window or door frame. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.
Where the wood buck thickness is 1 1/2 inches (38 mm) or greater, the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate and the buck shall fully support the window or door frame. Window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange to the secured wood buck in

accordance with the manufacturer's published installation instructions. Unless otherwise tested, bucks shall fully support the window or door. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame assembly to the secured wood buck.

1710.4 Wood or other approved framing materials. Where the framing material is wood or other approved framing material, window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange in accordance with the manufacturer's published installation instructions. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.

Significant Code Changes to Chapter 23
Wood

General Construction Requirements FBC 2304

Heavy timber sizes and requirements have been relocated from Chapter 6 to Section 2304.11. New Table 2304.11 is for minimum sizes of structural components for heavy timber. New reference to Section 2304.9 for lumber decking to make users aware of the detailing and fastening of lumber decking where applicable to heavy timber construction.

Significance: The requirements of heavy timber are consolidated and located in one place in Chapter 23. Table 2304.11 provides clarity and easy reference to the minimum sizes for structural components for heavy timber.

Code excerpt:

2304.11 Heavy timber construction. Where a structure, portion thereof or individual structural elements are required to be of heavy timber by provisions of this code, the building elements therein shall comply with the applicable provisions of Sections 2304.11.1 through 2304.11.4. Minimum dimensions of heavy timber shall comply as applicable in Table 2304.11 based on roofs or floors supported and the configuration of each structural element, or as applicable in Sections 2304.11.2 through 2304.11.4. Lumber decking shall also be in accordance with Section 2304.9.

TABLE 2304.11
MINIMUM DIMENSIONS OF HEAVY TIMBER STRUCTURAL MEMBERS

		MINIMUM NOMINAL SOLID SAWN SIZE		MINIMUM GLUED-LAMINATED NET SIZE		MINIMUM STRUCTURAL COMPOSITE LUMBER NET SIZE	
SUPPORTING	HEAVY TIMBER STRUCTURAL ELEMENTS	Width (inches)	Depth (inches)	Width (inches)	Depth (inches)	Width (inches)	Depth (inches)
Floor loads only or combined floor and roof loads	Columns; Framed sawn or glued-laminated timber arches that spring from the floor line; Framed timber trusses	8	8	$6^{3}/_{4}$	$8^{1}/_{4}$	7	$7^{1}/_{2}$
	Wood beams and girders	6	10	5	$10^{1}/_{2}$	$5^{1}/_{4}$	$9^{1}/_{2}$
Roof loads only	Columns (roof and ceiling loads); Lower half of: wood-frame or glued-laminated arches that spring from the floor line or from grade	6	8	5	$8^{1}/_{4}$	$5^{1}/_{4}$	$7^{1}/_{2}$
	Upper half of: wood-frame or glued-laminated arches that spring from the floor line or from grade	6	6	5	6	$5^{1}/_{4}$	$5^{1}/_{2}$
	Framed timber trusses and other roof framing;[a] Framed or glued-laminated arches that spring from the top of walls or wall abutments	4[b]	6	3[b]	$6^{7}/_{8}$	$3^{1}/_{2}$[b]	$5^{1}/_{2}$

For SI: 1 inch = 25.4 mm.

a. Spaced members shall be permitted to be composed of two or more pieces not less than 3 inches (76 mm) nominal in thickness where blocked solidly throughout their intervening spaces or where spaces are tightly closed by a continuous wood cover plate of not less than 2 inches (51 mm) nominal in thickness secured to the underside of the members. Splice plates shall be not less than 3 inches (76 mm) nominal in thickness.

b. Where protected by approved automatic sprinklers under the roof deck, framing members shall be not less than 3 inches (76 mm) nominal in width.

Conventional Light-Frame Construction FBC 2308

Section 2308 was deleted. Section 2308 is not applicable in Florida due to the wind limitations in Section 2308.2.4 of a maximum of 115 mph.

Significance: The TAC and Commission voted to delete this section to eliminate confusion.

Significant Code Changes to Chapter 35

Referenced Standards

The following are some of the standards that were updated in Chapter 35

Aluminum Association of Florida

- AAF-20 Guide to Aluminum construction in High Wind Areas (2020)

American Architectural Manufacturers Association

- AAMA/WDMA/CSA 101/I.S.2/A440-08, 11, 17 North American Fenestration Standard/Specifications for Windows, Doors and Skylights
- AAMA 501-15 Methods of Test for Exterior Walls
- Several voluntary standards are referenced

American Concrete Institute

- 318-14 Building Code Requirements for Structural Concrete

American Institute of Steel

- AISC-2017 Steel Construction Manual

American Iron and Steel Institute

- Standards were updated to more current standards

APA – Engineered Wood Association

- Many standards were updated relating to Glulam and Engineered wood products

Association of Pool and Spa Professionals

- ANSI/APSP/ICC 4-12 American National Standard for Aboveground/Onground Residential Swimming Pools Includes Addenda A Approved April 4, 2013

- ANSI/APSP 16-2017 American National Standard for Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs

American Society of Civil Engineers Structural Engineering Institute

- ASCE/SEI 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures with Supplement No. 1
- ASCE/SEI 24-14 Flood Resistant Design and Construction
- Many other standards were updated

ASTM International

- Many standards were updated

National Fire Protection Association

- Many standards were updated

The Masonry Society

- TMS 402-2016 Building Code for Masonry Structures
- TMS 403-2017 Direct Design Handbook for Masonry Structures
- TMS 602-2016 Specification for Masonry Structures

UL LLC

- Many standards were updated

Conclusion:

This concludes the course Advanced 2020 7th Edition FBCB Significant Code Changes. For more information on the Florida Building Code, visit www.floridabuilding.org.