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## **Advanced Course on the Significant Changes in Florida Building Code 7<sup>th</sup> Edition**

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# Introduction

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## Executive Summary

This course presents the most significant changes in Florida Building Code, Building, 7<sup>th</sup> edition (2020) which went into effect on December 31, 2020. In particular, this course covers the additions and/or modifications to the following chapters:

- Chapter 1: Scope and Administration;
- Chapter 2: Definitions;
- Chapter 3: Use and Occupancy Classification;
- Chapter 5: General Building Heights and Areas;
- Chapter 9: Fire Protection Systems;
- Chapter 17: Special Inspections and Tests;
- Chapter 27: Electrical; and
- Chapter 31: Special Construction.

While this course does not cover all the changes from the 6<sup>th</sup> edition of the Florida Building Code to the 7<sup>th</sup> edition, it presents the most significant amendments from the previous Florida Building Code (i.e. 6<sup>th</sup> Edition, 2017) to the current Florida Building Code (i.e. 7<sup>th</sup> Edition, 2020). The parts that have been added or modified in the latest edition are presented in *italics* and the parts that remain unchanged are underlined.

## History

The State of Florida first mandated statewide building codes during the 1970s at the beginning of the modern construction boom. The first law required all municipalities and counties to adopt and enforce one of the four state-recognized model codes known as the "state minimum building codes." During the early 1990s a series of natural disasters, together with the increasing complexity of building construction regulation in vastly changed markets, led to a comprehensive review of the state building code system. The study revealed that building code adoption and enforcement was inconsistent throughout the state and those local codes thought to be the strongest proved inadequate when tested by major hurricane events. The consequences of the building codes system failure were devastation to lives and economies and a statewide property insurance crisis. The response was a reform of the state building construction regulatory system that placed emphasis on uniformity and accountability.

The 1998 Florida Legislature amended chapter 553, Florida Statutes, Building Construction Standards, to create a single state building code that is enforced by local governments. As of March 1, 2002, the Florida Building Code, which is developed and maintained by the Florida Building Commission, supersedes all local building codes. The Florida Building Code is updated every three years and may be amended in the interim in accordance with criteria set out in section 553.73, Florida Statutes.

## **Scope**

The Florida Building Code is based on national model building codes and national consensus standards, in addition to Florida-specific provisions. The code incorporates all building construction-related regulations for public and private buildings in the State of Florida other than those specifically exempted by section 553.73, Florida Statutes. It has been harmonized with the Florida Fire Prevention Code, which is developed and maintained by the Department of Financial Services, Office of the State Fire Marshal, to establish unified and consistent standards.

The code is composed of nine main volumes: the Florida Building Code, Building, which also includes state regulations for licensed facilities; the Florida Building Code, Plumbing; the Florida Building Code, Mechanical; the Florida Building Code, Fuel Gas; the Florida Building Code, Existing Building; the Florida Building Code, Residential; the Florida Building Code, Energy Conservation; the Florida Building Code, Accessibility and the Florida Building Code, Test Protocols for High-Velocity Hurricane Zones. Chapter 27 of the Florida Building Code, Building, adopts the National Electrical Code, NFPA 70, by reference.

Under certain strictly defined conditions, local governments may amend technical requirements to be more stringent than the code. All local technical amendments to the Florida Building Code must be adopted in accordance with the requirements of section 553.73(4), Florida Statutes, and reported to the Florida Building Commission, then posted on [www.floridabuilding.org](http://www.floridabuilding.org) in legislative format for 30 days prior to being enforced. Local amendments to the Florida Building Code and the Florida Fire Prevention Code may be obtained from the Florida Building Commission website, or from the Florida Department of Business and Professional Regulation or the Florida Department of Financial Services, Office of the State Fire Marshal, respectively.

# Significant Changes in Florida Building Code, Building, 7<sup>th</sup> Edition (2020)

## CHAPTER 1: SCOPE AND ADMINISTRATION

### Section 105: Permits

#### 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:*

*1.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.*

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

*3.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.*

*4.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.*

#### 105.6 Denial or revocation.

Whenever a permit required under this section is denied or revoked because the plan, or the construction, erection, alteration, modification, repair, or demolition of a building, is found by the local enforcing agency to be not in compliance with the Florida Building Code, the local enforcing agency shall identify the specific plan or project features that do not comply

#### Study Question 1

According to which section of the Florida Statutes, may a property owner close a building permit by complying with certain requirements?

with the applicable codes, identify the specific code chapters and sections upon which the finding is based, and provide this information to the permit applicant. If the local building code administrator or inspector finds that the plans are not in compliance with the Florida Building Code, the local building code administrator or inspector shall identify the specific plan features that do not comply with the applicable codes, identify the specific code chapters and sections upon which the finding is based, and provide this information to the local enforcing agency. The local enforcing agency shall provide this information to the permit applicant.

*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.*

### **105.7 Placement of permit.**

The building permit or copy shall be kept on the site of the work until the completion of the project.

## **Section 107: Submittal Documents**

### **107.2.5 Exterior balcony and elevated walking surfaces.**

*Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow or irrigation, and the structural framing is protected by an impervious moisture barrier, the construction documents shall include details for all elements of the impervious moisture barrier system. The construction documents shall include manufacturer's installation instructions.*

## **Section 110: Inspections**

### **110.3.6 Weather-exposed balcony and walking surface waterproofing.**

*Where balcony or other elevated walking surfaces are exposed to water from direct or blowing rain, snow or irrigation, and the structural framing is protected by an impervious moisture barrier, all elements of the impervious-moisture-barrier system shall not be concealed until inspected and approved.*

### **110.8.1**

*During new construction or during repair or restoration projects in which the structural system or structural loading of a building is being modified, the enforcing agency shall require a special inspector to perform structural inspections on a threshold building pursuant to a structural inspection plan prepared by the engineer or architect of record. The structural inspection plan must be submitted to the enforcing agency prior to the issuance of a building permit for the construction of a threshold building. The purpose of the structural inspection plans is to provide specific inspection procedures and schedules so that*

*the building can be adequately inspected for compliance with the permitted documents. The special inspector may not serve as a surrogate in carrying out the responsibilities of the building official, the architect, or the engineer of record. The contractor's contractual or statutory obligations are not relieved by any action of the special inspector.*

## **CHAPTER 2: DEFINITIONS**

### **Section 202: Definitions**

**ACCESSORY COMPONENTS.** *Components used in the installation of pedestals and pedestrian deck panels or pavers of the exterior elevated flooring system. Accessory components are made of either plastic, metal or other approved materials. Accessory components may be used to provide lateral bracing of the pedestals, to provide vertical support, for leveling the pedestal, to restrain the pedestrian deck panels or pavers to the top of the pedestal, or for other system requirements.*

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

- 1.A change of occupancy classification.*
- 2.A change from one group to another group within an occupancy classification.*
- 3.Any change in use within a group for which there is a change in the application of the requirements of this code.*

**CHILDREN'S PLAY STRUCTURE.** *A structure composed of one or more components, where the user enters a play environment.*

**COMBINED PILE RAFT.** *A geotechnical composite construction that combines the bearing effect of both foundation elements, raft and piles, by taking into account interactions between the foundation elements and the subsoil.*

#### **Study Question 2**

True or False. Independent systems are those where pedestals are attached to the roof or other supporting structure by mechanical fasteners, adhesives or both.

**EXTERIOR ELEVATED FLOORING SYSTEM.** *An assembly installed over a roof assembly or other exterior supporting structure consisting of a walking surface of pedestrian deck panels or pavers mounted on pedestals using other accessory components, mechanical fasteners or adhesives as required by the manufacturer's installation instructions for attaching pedestrian deck panels or pavers to pedestals and other accessory components. Exterior elevated flooring systems may have pedestals attached to the roof or other supporting structure or pedestals installed independently of the roof or supporting structure with the restraint of the pavers at the perimeter and discontinuous edges. Exterior elevated flooring systems are not part of the roof assembly.*

**Attached systems.** *Attached systems are those where pedestals are attached to the roof or other supporting structure by mechanical fasteners, adhesives or both.*

**Independent systems.** *Independent systems are those where pedestals are not attached to the roof but rest on the roof or other supporting structure.*

**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.*

**GAS DETECTION SYSTEM.** *A system or portion of a combination system that utilizes one or more stationary sensors to detect the presence of a specified gas at a specified concentration and initiate one or more responses required by this code, such as notifying a responsible person, activating an alarm signal, or activating or deactivating equipment. A self-contained gas detection and alarm device is not classified as a gas detection system.*

**OPEN-AIR ASSEMBLY SEATING.** *Seating served by means of egress that is not subject to smoke accumulation within or under a structure and is open to the atmosphere.*

**PEDESTAL.** *A fixed or adjustable-height support column composed of a support base, a vertical structural element and a load-bearing top cap surface.*

**SWIMMING POOL.** *Any structure, basin, chamber or tank containing an artificial body of water for swimming, diving or recreational bathing located in a residential area serving four or fewer living units having a depth of 2 feet (610 mm) or more at any point as defined in Section 515.25, Florida Statutes, or the body of water is a public pool as defined in Section 514.011, Florida Statutes.*

**VAPOR PERMEABLE.** The property of having a moisture vapor permeance rating of 5 perms ( $2.9 \times 10^{-10}$  kg/Pa  $\times$  s  $\times$  m<sup>2</sup>) or greater when tested in accordance with Procedure A or Procedure B of ASTM E96. A vapor permeable material permits the passage of moisture vapor.

## **CHAPTER 3: USE AND OCCUPANCY CLASSIFICATION**

### **Section 301: Scope**

#### **301.1 General.**

*The provisions of this chapter shall control the classification of all buildings and structures as to occupancy and use. Different classifications of occupancy and use represent varying levels of hazard and risk to building occupants and adjacent properties.*

### **Section 302: Occupancy Classification and Use Designation**

#### **302.1 Occupancy classification.**

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



*occupancy most nearly resembles, according to the fire safety and relative hazard involved, and shall comply with Section 503.1.4.*

1. Assembly (see Section 303): Groups A-1, A-2, A-3, A-4 and A-5.
2. Business (see Section 304): Group B.
3. Educational (see Section 305): Group E.
4. Factory and Industrial (see Section 306): Groups F-1 and F-2.
5. High Hazard (see Section 307): Groups H-1, H-2, H-3, H-4 and H-5.
6. Institutional (see Section 308): Groups I-1, I-2, I-3 and I-4.
7. Mercantile (see Section 309): Group M.
8. Residential (see Section 310): Groups R-1, R-2, R-3 and R-4.
9. Storage (see Section 311): Groups S-1 and S-2.
10. Utility and Miscellaneous (see Section 312): Group U.

### **302.2 Use designation.**

*Occupancy groups contain subordinate uses having similar hazards and risks to building occupants. Uses include, but are not limited to, those functional designations listed within the occupancy group descriptions in Section 302.1. Certain uses require specific limitations and controls in accordance with the provisions of Chapter 4 and elsewhere in this code.*

## **CHAPTER 5: GENERAL BUILDING HEIGHTS AND AREAS**

### **Section 503: General Building Height and Area Limitations**

#### **503.1.4 Occupied roofs.**

*A roof level or portion thereof 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:*

- 1. 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.*
- 2. 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.*

*Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.*

*Exception: Penthouses constructed in accordance with Section 1510.2 and towers, domes, spires and cupolas constructed in accordance with Section 1510.5.*

## **CHAPTER 9: FIRE PROTECTION SYSTEMS**

### **Section 903: Automatic Sprinkler Systems**

#### **903.3.1.2.3 Attics.**

*Attic protection shall be provided as follows:*

*1. Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system.*

*2. Where fuel-fired equipment is installed in an unsprinklered attic, at least one quick response intermediate temperature sprinkler shall be installed above the equipment.*

*3. 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:*

- a. Provide automatic sprinkler system protection.*
- b. Construct the attic using noncombustible materials.*
- c. Construct the attic using fire-retardant treated wood complying with Section 2303.2.*
- d. 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.*

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

- a. Provide automatic sprinkler system protection.*
- b. 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.*
- c. Construct the attic using noncombustible materials.*
- d. Construct the attic using fire-retardant treated wood complying with Section 2303.2.*

#### **Study Question 3**

Is an automatic sprinkler system required for attics that are used for living or storage purposes?

*e. Fill the attic with noncombustible insulation.*

## **Section 915: Carbon Monoxide Protection**

### **915.1 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 a byproduct of combustion shall have an operational carbon monoxide alarm installed within 10 feet (3050 mm) of each room used for sleeping purposes in the new building or addition, or at such other locations as required by this code.*

*Exceptions:*

*1. An approved operational carbon monoxide detector shall only be required to be installed inside or directly outside of each room or area where a fossil fuel-burning heater, engine or appliance is located within a hospital, inpatient hospice facility or skilled nursing home facility licensed by the Agency for Health Care Administration, or a new state correctional institution. The carbon monoxide detector shall be connected to the fire-alarm system of the hospital, inpatient hospice facility or nursing home facility as a supervisory signal.*

*2. This section shall not apply to existing buildings that are undergoing alterations or repairs unless the alteration is an addition as defined in Section 915.1.3.*

#### **915.1.1 Carbon monoxide alarm.**

*The requirements of Section 915.1 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.*

#### **915.1.2 Combination alarms.**

*Combination smoke/carbon monoxide alarms shall be listed and labeled by a nationally recognized testing laboratory.*

#### **915.1.3**

*Addition shall mean an extension or increase in floor area, number of stories or height of a building or structure.*

## **Section 916: Gas Detection Systems**

### **916.1 Gas detection systems.**

*Gas detection systems required by this code shall comply with Sections 916.2 through 916.11.*

### **916.2 Permits.**

*Permits shall be required as set forth in the Florida Fire Prevention Code.*

#### **916.2.1 Construction documents.**

*Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.*

### **916.3 Equipment.**

*Gas detection system equipment shall be designed for use with the gases being detected and shall be installed in accordance with manufacturer's instructions.*

### **916.4 Power connections.**

*Gas detection systems shall be permanently connected to the building electrical power supply or shall be permitted to be cord connected to an unswitched receptacle using an approved restraining means that secures the plug to the receptacle.*

### **916.5 Emergency and standby power.**

*Standby or emergency power shall be provided or the gas detection system shall initiate a trouble signal at an approved location if the power supply is interrupted.*

### **916.6 Sensor locations.**

*Sensors shall be installed in approved locations where leaking gases are expected to accumulate.*

### **916.7 Gas sampling.**

*Gas sampling shall be performed continuously. Sample analysis shall be processed immediately after sampling, except as follows:*

- 1. For HPM gases, sample analysis shall be performed at intervals not exceeding 30 minutes.*
- 2. For toxic gases, sample analysis shall be performed at intervals not exceeding 5 minutes in accordance with the Florida Fire Prevention Code.*
- 3. Where a less frequent or delayed sampling interval is approved.*

### **916.8 System activation.**

*A gas detection alarm shall be initiated where any sensor detects a concentration of gas exceeding the following thresholds:*

- 1. For flammable gases, a gas concentration exceeding 25 percent of the lower flammability limit (LFL).*
- 2. For nonflammable gases, a gas concentration exceeding one-half of the IDLH, unless a different threshold is specified by the section of this code requiring a gas detection system.*

*Upon activation of a gas detection alarm, alarm signals or other required responses shall be as specified by the section of this code requiring a gas detection system. Audible and visible alarm signals associated with a gas detection alarm shall be distinct from fire alarm and carbon monoxide alarm signals.*

### **916.9 Signage.**

*Signs shall be provided adjacent to gas detection system alarm signaling devices that advise occupants of the nature of the signals and actions to take in response to the signal.*

### **916.10 Fire alarm system connections.**

*Gas sensors and gas detection systems shall not be connected to fire alarm systems unless approved and connected in accordance with the fire alarm equipment manufacturer's instructions.*

### **916.11 Inspection, testing and sensor calibration.**

*Gas detection systems and sensors shall be inspected, tested and calibrated in accordance with the Florida Fire Prevention Code.*

## **CHAPTER 17: SPECIAL INSPECTIONS AND TESTS**

### **Section 1710: Anchorage**

#### **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<sup>1/2</sup> 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.*

**Study Question 4**

Under what condition the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate?

*Where the wood buck thickness is 1<sup>1/2</sup> 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.*

**CHAPTER 27: ELECTRICAL**

**Section 2701: General**

**2701.1 Scope.**

*The provisions of this chapter and NFPA 70 shall govern the design, construction, erection and installation of the electrical components, appliances, equipment and systems used in buildings and structures covered by this code. The Florida Fire Prevention Code and NFPA 70 shall govern the use and maintenance of electrical components, appliances, equipment and systems. The Florida Building Code, Existing Building and NFPA 70 shall govern the alteration, repair, relocation, replacement and addition of electrical components, appliances, equipment and systems.*

## **Section 2702: Emergency and Standby Power systems**

### **2702.1.2 Fuel line piping protection.**

*Fuel lines supplying a generator set inside a high-rise building shall be separated from areas of the building other than the room the generator is located in by an approved method, or an assembly that has a fire-resistance rating of not less than 2 hours. Where the building is protected throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1, the required fire-resistance rating shall be reduced to 1 hour.*

### **2702.1.8 Group I-2 occupancies.**

*In Group I-2 occupancies located in flood hazard areas established in Section 1612.3, where new essential electrical systems are installed, and where new essential electrical system generators are installed, the systems and generators shall be located and installed in accordance with ASCE 24. Where connections for hookup of temporary generators are provided, the connections shall be located at or above the elevation required in ASCE 24.*

### **2702.2.5 Exhaust systems.**

*Standby power shall be provided for common exhaust systems for domestic kitchens located in multistory structures as required in Section 505.3 of the Florida Building Code, Mechanical. Standby power shall be provided for common exhaust systems for clothes dryers located in multistory structures as required in Section 504.10 of the Florida Building Code, Mechanical and Section 614.10 of the Florida Building Code, Fuel Gas.*

### **2702.3 Critical circuits.**

*Required critical circuits shall be protected using one of the following methods:*

- 1. Cables, used for survivability of required critical circuits, that are listed in accordance with UL 2196 and have a fire-resistance rating of not less than 1 hour.*
- 2. Electrical circuit protective systems having a fire-resistance rating of not less than 1 hour. Electrical circuit protective systems shall be installed in accordance with their listing requirements.*
- 3. Construction having a fire-resistance rating of not less than 1 hour.*

## **CHAPTER 31: SPECIAL CONSTRUCTION**

### **Section 3115: Exterior Elevated Flooring Systems**

#### **3115.1 Scope.**

*This section applies to exterior elevated flooring systems installed over roof assemblies or other exterior supporting structures, such as an exterior deck. Each exterior elevated flooring system consists of pedestrian deck panels or pavers supported by pedestals placed directly on roof assemblies or other exterior supporting structures, to provide a level walking surface. Pedestals may be adjustable or a fixed height. The pedestals need not be mechanically or adhesively attached to the supporting structure. The exterior elevated flooring system comprised of the pedestrian deck panels or pavers and pedestals shall be*

*restrained on all sides and along any ramps and walkway areas against horizontal and vertical movement using a perimeter-restraining system.*

**3115.1.1 Attached exterior elevated flooring systems.**

*Attached systems shall be designed and constructed as a roofing system in accordance with Chapter 15 of this code.*

**3115.1.2 Independent exterior elevated flooring systems.**

*Independent systems shall comply with the provisions of Section 3115.*

**3115.2 Materials information submitted with permit application.**

*In addition to other information required to accompany the permit application, product-specific information shall be provided as follows:*

**3115.2.1 Pedestrian deck panels or pavers.**

*Documentation describing the weight, dimensions and specifications, and the manufacturing process of the materials. Specifications for materials shall include required material strength properties used in analysis or reference to appropriate tests used to determine paver load capacity.*

**3115.2.2 Pedestals.**

*Documentation describing materials, dimensions, specifications and manufacturer's installation instructions. Specifications shall include the allowable axial compression capacity of the pedestal.*

**3115.2.3 Fasteners.**

*Documentation describing mechanical fasteners and adhesives as applicable. A statement shall be provided regarding whether or not the fasteners are commonly available or are proprietary.*

**3115.2.4 Plastics for outdoor exposure HVHZ.**

*Plastics for outdoor exposure in the HVHZ shall comply with Florida Building Code, Building Section 2615.2.*

**3115.2.5 Packaging and identification.**

*A description of the method of packaging and identification of pedestrian deck panels or pavers, pedestals and accessory components. Identification provisions shall include the manufacturer's name, the product name and a copy of the installation instructions as packaged with the product.*



### **3115.3 Product approval and manufacturer’s installation instructions.**

#### **3115.3.1 Product approval.**

*Exterior elevated flooring systems shall have Florida product approval or local product approval.*

#### **3115.3.2 Manufacturer’s installation instructions.**

*Manufacturer’s installation instructions shall include information on the protection of the roof surface during installation, procedures for removing pavers to facilitate reroofing, roofing repairs, and roofing maintenance. In addition to the copy of the manufacturer’s installation instructions submitted with the permit application, the manufacturer’s installation instructions shall be kept on the job site and made available to inspection personnel.*

### **3115.4 Structural requirements for exterior elevated flooring systems.**

#### **3115.4.1 General.**

*Exterior elevated flooring systems shall withstand the applicable uniform loads of Florida Building Code, Building Table 1607.1, the applicable load combinations and other applicable loads contained in the Florida Building Code, Building, Chapter 16. Independent systems shall not be permitted in the HVHZ.*

#### **3115.4.2 Pedestrian deck panels or pavers.**

*Where analysis of panels or pavers is not consistent with codified material design procedures, testing for uniform load and concentrated load capacities shall be performed in accordance with ASTM E2322 and CISCA Recommended Test Procedures for Access Floors achieving a load capacity three (3) times the uniform load capacity designated in the specifications.*

#### **Study Question 5**

What is the amount of concentrated surface load that a pedestal support surface or a roofing membrane shall be able to support?

#### **3115.4.3 Pedestals.**

*Where analysis of pedestals is not consistent with codified material design procedures, testing for axial load capacity shall be performed in accordance with CISCA Recommended Test Procedures for Access Floors, 2016, Section 5 achieving a load capacity three (3) times the axial load capacity designated in the specifications.*

#### **3115.4.4 Wind resistance.**

*Wind resistance of independent exterior elevated flooring systems shall be determined by wind tunnel testing in accordance with ASCE 7 Chapter 31 and Section 30.1.5 where applicable. Testing shall be conducted, and the data analyzed by a registered design professional. Exterior elevated flooring systems shall be evaluated by a registered design professional to withstand applicable wind loads as specified in ASCE 7 Chapters 26 through 30, as applicable, as well as combined load effects of other applicable gravity loads in the Florida Building Code, Building, Chapter 16, such as live and dead loads.*

**3115.4.5 Deflection.**

*Pedestrian deck panels or pavers shall meet the deflection requirement of floor members in Table 1604.3 and Section 1616.3.1 in the HVHZ.*

**3115.5 Substrate requirements for exterior elevated flooring systems.**

**3115.5.1 Bearing capacity.**

*Pedestal support surface or roofing membrane shall be able to support a concentrated surface load of 40 psi (6.89 kPa) under the pedestal base.*

**3115.5.2 Drainage.**

*The substrate immediately below the pedestals shall provide positive drainage.*

**3115.5.3 Analysis.**

*Load effects on structural members and their connections that provide support for independent exterior elevated flooring systems shall be determined by methods of structural analysis that take into account equilibrium, general stability, geometric compatibility and both short- and long-term material properties. Roof structures that provide support for exterior elevated flooring systems shall be checked for deflection in accordance with Section 1604.3.6 or Section 1616 for buildings sited in the HVHZ. Roof structures shall be checked in accordance with Section 1611 for ponding. The design shall account for concentrated loads of the pedestals.*

**3115.6 Accessibility.**

*Accessibility shall comply with the Florida Building Code, Accessibility.*

# Appendix A

## Answers to Study Questions

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### Study Question 1

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**According to which section of the Florida Statutes, may a property owner close a building permit by complying with certain requirements?**

Section 553.79(15), Florida Statutes.

### Study Question 2

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**True or False. Independent systems are those where pedestals are attached to the roof or other supporting structure by mechanical fasteners, adhesives or both.**

False.

### Study Question 3

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**Is an automatic sprinkler system required for attics that are used for living or storage purposes?**

Yes... "Attics that are used or intended for living purposes or storage shall be protected by an automatic sprinkler system."

### Study Question 4

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**Under what condition the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate?**

Where the wood buck thickness is 1<sup>1/2</sup> inches (38 mm) or greater.

### Study Question 5

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**What is the amount of concentrated surface load that a pedestal support surface or a roofing membrane shall be able to support?**

40 psi (6.89 kPa).

# Appendix B

## References

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2020 Florida Building Code, Building, 7<sup>th</sup> Edition  
<https://codes.iccsafe.org/content/FLBC2020P1>

Florida Building Code  
<https://floridabuilding.org/c/default.aspx>

Florida Board of Professional Engineers: Advanced Building Course  
<https://fbpe.org/continuing-education/advanced-building-code-course/>