



Florida Advanced Building Code-Significant Changes (2014) 1 Hr

Edition 1.0 (Internet)
FBC (Florida Building Commission)
Accredited Course #00XXXXX

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2014 Florida Advanced Building Code - Significant Changes

LEARNING OBJECTIVES

Upon completion of this module, the student will be able to:

1. Identify the base codes for the FBC and the applicability of each volume
 2. Become familiar with the significant changes from the 2010 FBC to the 2014 FBC
 3. Review significant changes from FBC volumes: Building, Residential, Existing Building, Mechanical, Fuel Gas, Plumbing and Energy Conservation
 4. Understand each section/table change and its impact on the 2010 FBC
 5. Identify online resources to access the complete FBC as well as resources to purchase hard copies
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Introduction

The 2014 Florida Building Code (FBC) is the 5th edition since inception in 2002 and the latest of the triennial updates. It became effective June 30, 2015.

The code is based from the International Building Code (IBC) 2012, the National Electric Code (NEC) 2011, and parts of American Society of Heating, Refrigerating and Air-conditioning Engineers' (ASHRAE) Standard 90.1-2010.

This course highlights the significant changes and updates in the 2014 FBC. The courses progresses through each volume of the FBC identifying chapters, sections, and tables including a brief description of the significant changed which occurred.

Note: The following presents only changes identified as significant. To view the complete version of 2014 FBC. Please visit: https://floridabuilding.org/bc/bc_default.aspx

BUILDING

This highlights the changes and updates within the 2014 FBC volume: Building. This volume applies to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures.



Exceptions:

1. Detached one- and two-family dwellings and multiple single-family dwellings (town houses) not more than three stories above grade plane in height.
2. Existing buildings undergoing repair, alterations or additions or change of occupancy.

Ch. 1: Scope and Administration

102.4-Conflicting Provisions between Codes and Standards

Where conflicts between provisions of this code and referenced standards exist, the provisions of this code shall apply.

Ch. 3: Use and Occupancy Classification

303.1-Assembly Group A

Clarifies when the use of small assembly tenant spaces or rooms within a tenant space may be deemed Business Occupancy or as the same as the primary occupancy.

303.1.1-Assembly Less Than 50 People

Small food service establishments <50 are now classified as Business instead of Mercantile.

308.2-Definition of Care Facilities

New and revised definitions of certain facilities have been addressed.

308.4-Occupancy Classification for Medical Care Facilities

Group 1-2 has established a minimum limitation of 6 or more individuals.

310.6-Uses Classified as Group R-4 Occupancies

Reference for allowing construction under FBC-R has been eliminated.

313-Day Care Occupancy (2010 FBC)

This occupancy classification is deleted and reorganized into 1-4 Occupancy (5th Edition).

Ch. 4: Special Detailed Requirements Based On Use and Occupancy

406.4, 406.5.2.1 & 406.5.5-Public and Open Parking Garages

Provides additions, modifications and clarifications to the technical code provisions of these structures.

410.6.3-Technical Production Areas

Provides updated clarification/definitions and eliminates outdated terminology.

419-Live/Work Units

Provides modifications to the means of egress and plumbing facility requirements for the non-residential portion of the unit.

424-Children's Play Structures

Provisions now expand to buildings of any occupancy classification and not just covered malls.

Ch. 5: General Building Heights and Areas

501.2-Address Identification

Modification and clarification to location of numbering to facilitate emergency response.

505.2.2-Mezzanine Means of Egress

Specific provisions of egress have been deleted and replaced with general reference to Chapter 10.

506.2-Allowable Area Frontage Increase

Clarification has been provided to calculate the allowable area.

509-Incidental Uses-Separation and Protection

An automatic fire sprinkler system is the only means to protect incidental use areas and not an

"automatic fire-extinguishing system" as previously listed in code.

Ch. 6 Types of Construction

Table 602-Fire Rating of Exterior Walls (note h)

Walls with unlimited openings as allowed per Table 705.8 no longer require a fire rating.

Ch. 7 Fire and Smoke Protection Features

703.7-Identification of Fire and Smoke Separation Walls

Lettering size and above-ceiling locations for identification has been modified.

705.2 through 705.3-Building Projections

Numerous modifications have been made to distance requirements and types of materials.

706.6 & 6.2-Fire Wall Height at Sloped Roofs

Provisions added for this condition.

707.8 & 707.9-Intersection of Fire Barriers at Roof Assembly

Addresses allowable materials to be used at voids where rated and non-rated walls meet.

708.1-Fire Partitions

The provision allowing walls between tenant spaces to not be rated (with limitations) has been re-adopted by this section which had previously been a code amendment and not a code provision.

713.14.1-High Rise Buildings-Elevator Lobbies

Modifies the requirements and level of protection for elevator lobbies.

714.4.1.2-Interruption of Horizontal Assemblies

A double wood top plate can now interrupt a rated ceiling membrane.

Table 716.5-Opening Protection Ratings and Markings

Table has been substantially expanded.

716.5.5.1, 716.6 & 716.6.4 - Fire Rated Glazing

Numerous modifications and limitations to fire glazing have been addressed.

717.5.4 - Fire Damper Exemption for Fire Partitions

Exemptions previously allowed for fire barriers now apply to fire partitions.

Ch. 9 Fire Protection Systems

903.2.4, 903.2.7 & 903.2.9-Furniture Storage and Display in F-1, M and S-1

Defines many conditions that may necessitate the installation of an automatic sprinkler system.

906.1 -Portable Fire Extinguishers in R-2 Occupancies

Eliminates need for FE in common areas if provided in each dwelling unit.

907.2.1.2, 907.2.3, 907.2.9.3 & 907.2.11.3-Various Fire Alarm Devices

Adds and modifies when various notification and detection devices are required based on occupancy classification (noticeable change addresses captioned message devices)

Ch. 10 Means Of Egress

1005-Means of Egress Capacity Determination

Reduced exit width factors have been established for sprinkled buildings with emergency voice/alarm communication systems.

1008.1.9.9-Electromagnetically Locked Egress Doors

Can be used in lieu of panic hardware provided the operation of the hardware interrupts the power of the magnetic lock.

1009 & 1010-Interior Stairs and Ramps

Significant changes to provisions and terminology throughout these sections.

1009.1-Application of Stairway Provisions

Provisions now apply to stairs serving all occupied areas and not just "required means of egress".

1011.2-Floor Level Exits Signs in R-1

Addition of low level exit signs in a means of egress serving guest rooms (locations specified).

1012.2-Handrail Height

Transition pieces of a continuous handrail can exceed the maximum height.

1012.3.1 & 1012.8-Handrail Graspability and Projections

A cross-sectional dimension has been established for a non-circular Type I handrail. Projection

locations and clear widths between projections have been clarified.

1013.1 & 101 3.8-Guards at Operable Windows

Requirements changed to this section with sill heights increasing from 24" to 36".

1021.2.3 & Table 1021.2(1)-Exits from Dwelling Units

Sections added and modified with substantial and multiple changes.

1022.5-Enclosure Penetrations of Interior Exit Stairways

Membrane penetrations to the outer walls of the stairway are now allowed if protected per FBC 714.

Ch. 12 Interior Environment

1203.1-Mechanical Ventilation Required

Natural ventilation may not be an option pending blower door test results.

Ch. 15 Roof Assemblies and Rooftop Structures

1507.2.8-Roof Covering Underlayment

Provisions for installation and type of material have been revised for most roof coverings.

Ch. 16 Structural Design

Table 1607.1 - Minimum Live Loads

Some live loads have been modified and updated to coordinate with ASCE7-10.

1611.2-Ponding Instability

The term "susceptible bay" has been added to coordinate provisions of FBC with ASCE7-10.

Ch. 21 Masonry

2101.2-Design Methods for Masonry Structures

A new design standard called TMS 403 - 10 is now referenced.

Ch. 24 Glass and Glazing

2406.1 & 2406.4-Safety Glazing-Hazardous Locations

Provisions for hazardous locations have been substantially reorganized to provide consistency between FBC and FBC-R.

Ch. 25 Gypsum Board and Plaster

2510.6-Water-Resistive Barriers for Stucco Applications

Details for a new two-layer system have been provided.

Ch. 26 Plastic

2603.4.1.14-Foam Plastic Insulation in Floor Assemblies

The use of ½” plywood has been added, with specific orientation and limitations.

2603.7 & 2603.8-Interior Finish in Plenums

Three different options for separating foam insulation have been provided.

261 0.3-Slope Requirements of a Dome Skylight

The dimension determining the minimum slope requirement has been revised.

Ch. 27 through 34-Building Services, Devices and Conditions

Notable changes have been initiated in the respective code books. (Electrical, Mechanical, Plumbing, Elevators, Public Way, Construction Safeguards, Existing Structures)

RESIDENTIAL

This highlights the changes and updates within the 2014 FBC volume: Residential. This volume applies to the construction, alteration, relocation, enlargement, replacement, repair, equipment, use and occupancy, location, maintenance, removal and demolition of detached one- and two-family dwellings and townhouses not more than three stories above grade plane in height with a separate means of egress and their accessory structures.

Note: Residential Codes will begin with prefix “R” for construction codes, prefix “M” for mechanical codes, prefix “G” for fuel gas codes, and prefix “P” for plumbing codes.

Ch. 3 Building Planning

R302.1-Exterior Walls

Fire separation distance to lot line has increased from 3' to 5' for unrated walls.

R302.2.2-Parapet Exception-Townhouse Dwellings

Roof penetrations are not allowed within 4' for separation without parapet wall.

R302.5.1-Garage Opening Protection

Doors between the garage and dwelling units shall require self-closing devices.

R303-Mechanical Ventilation

Modification now requiring ventilation provisions per M1507 for whole house ventilation of habitable rooms and local bathroom exhaust.

R308.4-Hazardous Locations for Glazing

Provisions for hazardous locations have been substantially reorganized and placed into separate subsections with descriptive titles.

R308.4.5-Glazing and Wet Surfaces

A new provision/subsection consolidates regulations near tubs and swimming pools

R303.5-Ventilation Intake Openings

The minimum vertical clearance from contaminant source to air intake increased from 2' to 3'.

R308.4.6-Glazing Adjacent Stairs and Ramps

Modification for glazing not covered in the hazardous location section of the code.

R308.4.7-Glazing Adjacent to the Bottom Stair Landing

Section has been modified to clarify the code application.

R310.1-Emergency Escape and Rescue Openings

Clarifies that the maximum sill height is measured from the finish floor to the bottom of the clear opening.

R311.3-Floor and Landings at Exterior Doors

Code writers acknowledged confusion with previous code cycles and attempts to provide clarity.

R311.75-Stair Treads and Risers

Reorganizes provisions for tread depth and riser height and adds a section for winders.

R311.76-Landings for Stairways

Modifies the application for landing widths for angular and curved stairs.

R312-Guards and Window Fall Protection

The provisions have been relocated to this section and offers updated terminology for opening devices.

R314-Smoke alarms

Code acknowledges wireless technology in lieu of inter-connectivity for new and existing dwelling units.

R316.4-Thermal Barrier

A new standard NFPA 275 is added and replaces previous standards as an alternate to ½" gypsum board.

R316.5.13-Thermal Barrier for Floors

The use of ½" plywood has been added, with specific orientation and limitations.

Ch. 5 Floors

R501.3-Fire Protection of Floors

Provisions added to require the application of ½" gypsum board to the underside of floor assemblies, with some exceptions.

R507-Decks

Deck provisions have been relocated (and new prescriptive provisions added) to this section related to ledger board bolt and lag attachment to correlate to NDS for Wood Construction.

Ch. 6 Wall Construction

R602.1.1-End Jointed Lumber

When used in a fire rated assembly, lumber must have HRA (heat resistant adhesive) noted in the grade mark.

Ch. 7 Wall Covering

R703.7.3.2-Masonry Veneer Lintel

Minimum and maximum heights of veneer are established for openings not greater than 18.25' wide,

R703.7.4-Masonry Veneer Anchorage

Fastening and air space provisions have been placed in a new table for ease of use.

R703.7.4.2-Crout Fill Behind Masonry Veneer

Mortar is no longer an acceptable material. Grout is specified if used as an alternate to air space.

Ch. 9 Roof Assemblies

R903.2.2-Crickets and Saddles for Unit Skylights and Roof Windows

Clarification that manufacturer's installation guidelines may eliminate these provisions.

R905.2.7-Roof Covering Underlayment Application

Provisions for installation and type of material have been revised for most roof coverings.

R907-Reroofing

Mitigation requirements previously in the Existing Building Code are now also in this section of FBC-R.

Ch. 10 Chimneys and Fireplaces

RI003.9.1 & 9.3-Masonry Chimney Caps and Rain Caps

New provisions addressing protection for masonry chimney terminations

Ch. 13 General Mechanical System Requirements

M1301 -Identification and Certification of Pipe, Tubing & Fittings

All components require a manufacturer's mark and third party testing or certification.

Ch. 14 Heating and Cooling Equipment and Appliances

M1411.6-Locking Access Port Caps

Any approved means to prevent unauthorized access to refrigerant ports is now recognized.

Ch. 15 Exhaust Systems

M1502.4-Dryer Exhaust Duct

Maximum duct support has increased from 4' to 12. Maximum prescriptive length of duct has increased from 25' to 35'.

M1507-Mechanical Ventilation

Prescriptive design for whole house ventilation systems have been added. Kitchen and bath ventilation is now described as local exhaust. New definitions added for whole house ventilation and local exhaust.

Ch. 19 Special Appliances, Equipment and Systems

M1901 -Ranges & Ovens

A number of modifications, clarification and additions discussed.

Ch. 23 Solar Energy Systems

M2301 & M2302-Thermal and Photovoltaic Solar Energy Systems

Photovoltaic systems have been added to distinguish them from solar systems.

Ch. 24 Fuel Gas

G2409.1 -Reduced Clearance to Combustible Materials

Gypsum board has been added to the material list as combustible.

G2419.4-Sediment Trap

An illustration has been added to provide clarity and lists some appliances exempt from traps.

G2442.4-Prohibited Sources of Outdoor and Return Air

Modifications of sources, depending on source location, have been addressed.

Ch. 26 General Plumbing Requirements

P2603.4-Pipes through Foundation Walls

A sleeve or relieving arch is no longer required under footings.

P2606-Sealing and Annular Spaces

This new section has been established to provide more clarity on materials and application.

Ch. 27 Plumbing Fixtures

P2702.1 & P2706.1-Plumbing Fixtures

Definition of plumbing fixtures has been revised. Requirement for strainers has been clarified. Attics and crawlspaces are now prohibited locations for waste receptors and standpipes. Clothes washer standpipes are now allowed in bathrooms.

P2709.1 & P2709.2-Shower Receptors and Linings

Shower liner extensions above finished thresholds have been reduced from 3" to 2". Liner thickness is now deferred to the referenced standards.

P2709.2.4-Liquid Type Shower Lining

This new technology is added as an acceptable material (per manufacturer's installation).

P2713.1 -Bathtub Waste Outlets and Overflows

Revised text clarifies that a bathtub requires an overflow outlet.

Ch. 29 Water Supply and Distribution

P2904.2.4.2-Minimum Fire Sprinkler Separation from Obstructions

An illustration is introduced providing prescriptive values for minimum distances.

EXISTING BUILDING

This highlights the changes and updates within the 2014 FBC volume: Existing Building. This volume applies to the repair, alteration, change of occupancy, addition and relocation of existing buildings.



Exceptions:

1. Public educational facilities and state licensed facilities (refer to Ch. 4 public educational facilities and state licensed facilities)

Ch. 2 Definitions

202 Definitions: Substantial Structural Damage

Definition revised to raise the trigger for damage to the elements of the lateral force resisting system from 20% to 33% of its lateral load-carrying capacity in any horizontal direction. Additionally, the trigger is now dependent only upon damage to the vertical elements of the lateral force resisting system.

Ch. 4 Prescriptive Compliance Method

403.6 Smoke alarms

New section requiring smoke alarms in individual sleeping units and individual dwelling units in Group R and I-1.

403.7, 603.2 and 703.2 - Smoke alarms in one family and two-family dwelling & townhomes

New sections were added to allow the use of 10-year non-removable, non-replaceable batteries.

405.1 changed to 505.1 - Scope (Alteration Level 3)

Revised to delete the requirement that to qualify as Level 3 alterations, the work has to be made

within any 12 month period. The exception that permits the exclusion of the work areas that are exclusively plumbing, mechanical or electrical from the total work area has been deleted.

Ch. 7 Alterations—Level 1

606.3.2 Changed to 706.3.2 – Roof diaphragms resisting wind loads in high wind regions

Section revised to apply specifically to connections of the roof diaphragm to roof framing members and roof-to-wall connections. Requires replacement or strengthening where the diaphragm and connections are not capable of resisting at least 75% of wind loads specified by the FBC-B.

611.7.2 Changed to 708.7.2 - Roof secondary water barrier for site-built single family residential structures

Revised to add underlayment complying with ASTM D 4869 Type II and Type IV.

707 - Energy Conservation

New section permits Level 1 alterations without requiring the entire building to comply with energy requirements of new construction.

Ch. 8 Alterations—Level 2

704.4.1 Changed to 804.4.1 – Occupancy requirements

New requirements for fire alarm systems for Groups E, I-1, I-2, I-3, R-1, R-2 and R-4 have been added.

Ch. 10 Change of Occupancy

1012.5.1.1 - Fire wall alternative

New section permitting fire barriers and horizontal assemblies to be used in lieu of fire walls in other than Groups H, F-1, and S-1, to subdivide the building into separate buildings for the purpose of complying with the area limitations. Additional conditions are also specified.

MECHANICAL

This highlights the changes and updates within the 2014 FBC volume: Mechanical. This volume applies to the design, installation, maintenance, alteration and inspection of mechanical systems that are permanently installed and used to control environmental conditions within buildings. This

includes regulating those mechanical systems, system components, equipment and appliances specifically addressed in this code.

Ch. 3 General Regulations

301.3 - Identification

New section requiring each length of pipe and tubing, and each fitting used in a mechanical system to bear the identification of the manufacturer.

304.3 - Elevation of ignition source

New section requiring equipment and appliances with an ignition source located in hazardous locations and public garage, private garages, repair garages, automotive motor fuel dispensing facilities and parking garages to be elevated such that the ignition source is not less than 18 inches above the floor.

- Exception: the elevation of the ignition source is not required for appliances listed as flammable vapor ignition resistant.

304.7 - Private garages

New section requiring appliances located in private garages and carports to be installed at least 6 feet above the floor.

- Exception: not applicable to appliances protected from motor vehicle impact and installed in accordance with Section 304.3

306.3 - Appliances in attics

Maximum passageway length has been increased to 20 feet.

- Exception: permits the passageway length to be 50 feet where it is not less than 6 feet high and 22 inches wide for its entire length. Also, see Energy Code.

Ch. 4 Ventilation

401.2 - Ventilation required

New language describing a building as "too tight" where the air infiltration rate is less than 5 air changes per hour when tested at 0.3 inch w.c. Language permitting compliance with ASHRAE 62.1 in lieu of Section 403.1 through 403.3 has been deleted.

Ch. 5 Exhaust Systems

504.6.4.1 - Specified length (clothes dryer ducts)

The exception for clothes dryer booster fans has been deleted.

506.3.1 0 changed to 506.3.1.1 - Grease duct enclosures

Revised to apply to Type I hoods that penetrate any wall, floor, or concealed space instead of fire-rated ceilings, walls, and floors. Revised to require the duct enclosure to have a fire - resistance rating of not less than 1 hour. The requirement that the enclosure be separated from the duct by a minimum of 6 inches and a maximum of 12 inches has been deleted.

508.1.1 - Makeup air temperature

New section requiring the temperature differential between makeup air and air in the conditioned space to not exceed 10°F unless the added heating and cooling loads of the makeup air do not exceed the capacity of the HVAC system.

513 - Smoke and carbon monoxide control systems changed to Smoke control systems

Revised to only apply to smoke control systems. Language limiting the application of this section to only high rise buildings has been deleted.

Ch. 6 Duct Systems

607.5.3 - Fire partitions

New exception for fire dampers in fire partition walls that are penetrated by ducted HVAC systems meeting the specified criteria.

FUEL GAS

This highlights the changes and updates within the 2014 FBC volume: Fuel Gas. This volume applies t to the installation of fuel-gas piping systems, fuel gas appliances, gaseous hydrogen systems and related accessories.

Ch. 3 General Regulations

305.5 - Private garages

New section requiring appliances installed in private garages to have a minimum clearance of 6 feet above the floor.

- Exception: shall not apply where the appliances are protected from motor

vehicle impact and installed in accordance with Section 305.3.

306.3 - Appliances in attics

Section has been revised to reduce the minimum passageway with from 6 feet to 22 inches. New exception permits passageway length to be no greater than 50 feet when passageway height is at least 6 feet for its entire length.

306.3.2 - Air-handling units in residential attics

Florida-specific requirements for installing air-handling units in residential attics have been deleted. Instructions for the notice to the homeowner have also been deleted.

Ch 4 Gas Piping Installations

401.9 - Identification

New section requiring manufacturer identification on each length of pipe and tubing and each fitting, utilized in a fuel gas system. New exception added requiring the manufacturer identification for fitting and pipe nipples to be on each piece or on packaging.

401.10-Third-party testing and certification

New section requiring piping, tubing and fittings to be tested by an approved third-party testing agency or certified by and approved third-party certification agency - was reserved.

404.1 - Installation of materials

New section requiring installation compliance in accordance with the applicable referenced standards or the manufacturer's installation instructions where specific standards do not exist. Language added clarifying that the provisions of the code apply where they differ from the manufacturer's installation instructions.

411.1.7 Outdoor appliance connectors

Section permitting outdoor gas hose connectors to be connected to portable outdoor gas-fired equipment has been deleted.

Ch. 5 Chimneys and Vents

504.2.9 - Chimney & Vent locations

New language requiring the vent to be enclosed for vents not considered to be exposed to the outdoor or engineered when the vent extends outdoors above the roof more 5 feet higher than required by Figure 503.6.4 and terminating in accordance with Section 503.6.4.

504.3.20 - Chimney & Vent locations

New language requiring the vent to be enclosed for vents not considered to be exposed to the outdoor or engineered when the vent extends outdoors above the roof more 5 feet higher than required by Figure 503.6.4 and terminating in accordance with Section 503.6.4.

Ch. 6 Specific Appliances

618.5 changed to 618.4 - Prohibited sources

Section revised to allow mechanical rooms to be used as plenums. New language allows forced air systems serving only a garage to obtain return air from the garage.

PLUMBING

This highlights the changes and updates within the 2014 FBC volume: Plumbing. This volume applies to the design, installation, maintenance, alteration and inspection of plumbing systems not specified in other volumes & sections.

Ch. 3 General Regulations

301.3 - Connections to drainage system

New exception permitting bathtubs, showers, lavatories, clothes washers, and laundry trays to discharge to gray water system.

Ch. 4 Fixtures, Faucets and Fixture Fittings

Table 403.1 - Minimum Number of Required Plumbing Fixtures

Revised to remove all Florida-specific amendments. Residential Care/Assisted Living Facilities deleted and replaced with Congregate Living Facilities. Term "patients" deleted and replaced with "care recipients". New Note "g", Business & mercantile occupancies now require service sinks unless occupancy load does not exceed 15.

403.2 - Separate facilities

Exception "2" revised to not require separate facilities for structures or tenant spaces with a total occupant load of 15 or less. Exception "3" revised to only apply to mercantile occupancies where the maximum occupant load is 100 or less.

Ch. 6 Water Supply and Distribution

Table 603.1 - Minimum Water Service Size Table deleted.

605.2.1 - Lead content of drinking water pipe fittings

New section requiring pipe, fittings, joints, valves, faucets, and fixture fittings to comply with NSF 372 and have an average lead content of 0.25 percent or less.

608.8 - Identification of nonpotable water

Revised to require all nonpotable water systems to be identified not just the systems in buildings.

Ch. 7 Sanitary Drainage

708.3.2 - Building sewers

Revised to require manholes for building sewers 8 inches and larger.

Ch. 8 Indirect/Special Waste

802.1.8 - Food utensils, dishes, pots and pans sinks

Revised to delete language allowing sinks used for washing, rinsing, or sanitizing of utensils, dishes, pots, pans, or service ware to be directly connected to the drainage system.

802.2 - Installation

Increases the length of indirect waste piping permitted without a trap to 30 inches in developed length measure horizontally or 54 inches in total developed length. New exception permits a waster receptor to not be trapped where it only receives clear waste and does not directly connect to a sanitary drainage system.

Ch. 9 Vents

904.1 - Roof extension

Minimum roof extension of 6 inches has been deleted with the intent of the minimum extension to be determined by the authority having jurisdiction.

Ch. 13 Gray Water Recycling Systems; Appendix C Vacuum Drainage System

Appendix C changed to Chapter 13 -Gray water recycling systems

New provisions for gray water recycling systems added to the body of the code replacing Appendix C in the 2010 FBC-P.

ENERGY CONSERVATION

This highlights the changes and updates within the 2014 FBC volume: Energy Conservation. This

volume applies to the design and construction of buildings for the effective use and conservation of energy over the useful life of each building.

Ch. 1 Scope and Administration

101.2 - Scope

Language stating that the statewide uniform code shall not be made more stringent or lenient by local government has been deleted. The 5th Edition of the FBC-EC separated the residential and commercial portions into two distinct, separate, stand-alone "codes." Both residential and commercial scopes were revised to include building sites in addition to systems and equipment associated with buildings and building sites.

Note: Commercial Codes will begin with prefix "C"; Residential Codes will begin with prefix "R"

Ch. 3 General Requirements

Table C301.1 (&R301.1) Climate Zones, Moisture Regimes, and Warm-Humid Designations by County

Climate zones expanded and now include:

- Broward
- Miami-Dade
- Monroe
- Collier (new)
- Hendry (new)
- Lee (new)
- Palm Beach (new)

R303.1.1.1.1 - R-Values

New section stating that the R-values referenced in Chapter 4 refer to the R-values of the added insulation only. R-values of structural building materials are not to be included.

Ch. 4 Residential Energy Efficiency

C402.2 - Specific insulation requirements (Prescriptive)

Section has been completely revised. All Florida specific requirements have been deleted and replaced with the base code criteria. Revised to require opaque assemblies to comply with Table C402.2. New text addressing provisions for the installation of continuous insulation board that contain a reference to the chapter on General

Requirements covering installation of insulation and requiring multiple layers of insulation board to have the joints staggered unless the board manufacturer's installation instructions specifically cover installation of multiple layers of insulation

C402.2.1.1 - Roof solar reflectance and thermal emittance

Added provisions addressing minimum solar reflectance and thermal emittance of roofs in Climate Zones 1 - 3 that have a slope less than 2 in 12 and a number of exceptions from those provisions for certain types of roof surfaces or those that are not exposed to solar radiation at certain times.

C402.3.1.1 - Increased vertical fenestration area with daylighting controls

Added provisions that allow up to 40% fenestration area to above-grade wall area in Climate Zones 1 - 6 when at least 50% of the conditioned floor area is within a daylight zone that also has daylighting controls and the VT of the fenestration, when within the scope of NFRC 200, is at least 10% greater than the SHGC.

Table R402.1.1

Most of the Florida-specific amendments to this table have been deleted and replaced with the requirements of the base code. A new note has been added for impact rated fenestration limiting the maximum U-factor to 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.

R402.2.1 - Ceilings with attic spaces

New section permitting the use of R-30 when R-38 is required where the full height of uncompressed R-30 insulation extends over the wall top plate at eaves. Similar reduction is permitted when R-49 is required.

402.3.5 - Thermally isolated sunroom U-factor changed to R402.3.5 - Sunroom U-factor

Sunrooms enclosing conditioned space must comply with this code. Exceptions exist in Climate Zones 4-8 such that the U-factor must be <0.45 and the skylight U-factor must be <0.75.

402.4.2.1 - Testing option changed to R402.4.1.2 - Testing

This section is now mandatory. Air changes per hour must not exceed five in Climate Zones 1 and 2, and must not exceed three in all others. The

conditions of testing have undergone slight modification but are essentially the same except that the condition that HVAC ducts not be sealed has been removed.

R402.4 Air leakage (Mandatory)

Blower door test and visual inspection as required by local code. Building envelope tightness must be less than the following performance measurement:⁶¹

- Climate Zones 1 - 2 : 5 ACH @50

R405.7.6 - Installation criteria for homes using the ceiling fan option

New section permitting a 2% reduction in cooling energy use for the proposed design when one or more ceiling fans are installed in each of the bedrooms and a minimum of one installed in all primary living areas. Specific ceiling fan criteria are also providing. New Table R406.7.6 specifies minimum fan sizes.

Appendix B

Appendix B - Criteria for computer modeling for performance-based code compliance changed to Appendix B - Calculation of end use energy loads

Appendices have been restructured to be consistent with the format of the 2010 International Energy Conservation Code by breaking into two groups - Residential and Commercial. Appendices for residential will continue to provide the compliance prescriptive form and the EPL display card. For commercial the code allows for more than one compliance option. The appendices for commercial have been restructured to include a form for the prescriptive compliance method from the IECC which is covered in Section C402. The specifications for the standard reference building and the proposed design is now in the body of the code instead of the appendices.

30% Rule Has New Clarification

Florida statute - Energy Code does not apply to Renovated Buildings where changes are less than 30% of the assessed value of the building

Staff interpretation = all changes

- Replacements, remodels, retrofits

2012 - Lots of debate, DEC statements, etc.

- System versus components
- Renovated building vs renovation

Clarifying Language

Building Systems and Components.

Thermal efficiency standards are set for the following building systems and components where new products are installed or replaced in existing buildings, and for which a permit must be obtained. New products shall meet the minimum efficiencies allowed by this code for the following systems and components:

- Heating, ventilating or air conditioning systems;
- Service water or pool heating systems;
- Electrical systems and motors;
- Lighting systems.
- Replacement Fenestration.

REFERENCES

Florida Building Code, 5th Edition (2014)

Online:

<http://floridabuilding2.iccsafe.org/>

Florida Building Code, 4th Edition (2010):

<http://publicecodes.cyberregs.com/st/fl/st/FL-P-2010-000011.htm>

Florida Building Code Resources:

<http://publicecodes.cyberregs.com/st/fl/st/FL-P-2010-000011.htm>

T. Eric Stafford, P.E.; Douglas W. Thornburg, AIA, CBO; John R. Henry, P.E.; Jay Woodward. 2014. Significant Changes to 2014 Florida Building Code, 5th Edition, International Code Council.

Acronyms/Definitions

ACH	Air Changes per Hour
ASHRAE	American Society of Heating, Refrigerating and Air-conditioning Engineers
ASTM	American Society of the International Association for Testing and Materials
CE	Continuing Education
DEC	Declaratory
FBC	Florida Building Code
FBC-B	Florida Building Code, Building
FBC-EB	Florida Building Code, Existing Building
FBC-EC	Florida Building Code, Energy Conservation
FBC-FG	Florida Building Code, Fuel Gas
FBC-M	Florida Building Code, Mechanical
FBC-P	Florida Building Code, Plumbing
FBC-R	Florida Building Code, Residential
FE	Fire Extinguishers
HRA	Heat Resistant Adhesive
HVAC	Heating Ventilation Air-Conditioning
IBC	International Building Code
NDS	National Design Specification
NEC	National Electric Code
NFPA	National Fire Protection Association
NFRC	National Fenestration Rating Council
SHGC	Solar Heat-Gain Coefficient
TMS	The Masonry Society
VT	Visible Transmittance
w.c.	Water Column