Analysis of Changes for the 5th Edition (2014) of the Florida Codes

Changes to the Florida Building Code, Energy Conservation

This *Analysis of Changes for the 5th Edition (2014) of the Florida Codes* is intended to provide a comprehensive comparison of the provisions in the *2010 Florida Building Code, Energy Conservation* (FBCEC) and the *5th Edition (2014) of the Florida Building Code, Energy Conservation*. The *2009 International Energy Conservation Code* was the base code for the 2010 FBCEC. The *2012 International Energy Conservation Code* is the base code for the 5th Edition (2014) of the FBCEC. As a result of changing the base code and Florida-specific amendments, certain provisions and criteria of the code have changed. This *Analysis* will serve a useful tool to facilitate the transition to the new code.

This *Analysis* is arranged so that comparable provisions in the two codes can be easily located. The left two columns contain section numbers and a brief overview of the corresponding requirements from the 2010 FBCEC. The next two columns contain section numbers and a brief overview of the corresponding requirements in the 5th Edition (2014) of the FBCEC. The far right column contains a brief analysis or comment on the differences between the provisions.

This *Analysis* is not intended to replace or interpret the provisions contained in either the 2010 FBCECor the 5th Edition (2014) of the FBCEC. This information simply points out the differences. The *Analysis* is not designed to be used without the aid of the representative code books, as all the details pertaining to a specific section may or may not be provided. However, this *Analysis* will provide an easy means for identifying differences in the two codes, as well as enabling the user to locate issue specific provisions in the 5th Edition (2014) of the FBCECby means of a numbered section cross reference.

This *Analysis* provides a cross-reference for the majority of the sections that changed in the 5th Edition (2014) of the FBCEC. In some cases, sections were grouped together due to substantial differences. This grouping enables the extent of the differences to be more readily identified.

Notable changes deemed to be the most significant or to have the greatest impact have been highlighted in yellow.

Note: Seismic loading and snow loading provisions in the code are no longer reserved (deleted) in the 5th Edition (2014) of the FBCEC, even though they do not apply in the State of Florida. While they are technically new sections and provisions to the Florida Codes, they are not shown here in this *Analysis* because they do not apply to construction in the State of Florida.

2010 FBCEC		5th Edition of theFBCEC		
Section	**Requirement**	**Section**	**Requirement**	**Analysis**
Chapter 1: Administration				
101.2	Scope	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 FBCEC 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.
101.4.1	Existing buildings	C101.4.1 R101.4.1	Existing buildings	Language requiring existing buildings to meet the criteria of Table 101.4.1 has been deleted.
Table 101.4.1	Nonexempt Existing Buildings	-	-	Table deleted. Criteria is covered in Section 101.4.8.
101.4.2	Historic buildings	C101.4.2 R101.4.2	Historic buildings	Reference to Florida Statutes has been deleted.
101.4.3	Additions, alterations, renovations, or repairs	C101.4.3	Additions, alterations, renovations, or repairs	New exception added for surface applied window film. New exception added for replacement of existing doors.
		R101.4.3		New exception added for surface applied window film. New exception added for replacement of existing doors. New exception added for swimming pool filtration pumps and motors.
101.4.7	Building systems and components	C101.4.7 R101.4.7	Building systems and components	Replacement fenestration is added as an item regulated by this section.
101.4.7.1	Replacement HVAC equipment	C101.4.7.1	Replacement HVAC equipment	Section revised to state that existing cooling and heating equipment need not meet the minimum efficiencies of Sections C403.2.3 except to preserve the

				original approval or listing.
101.4.7.1.2	Replacement equipment sizing (Mandatory)	-	-	Section deleted from commercial requirements. Only applies to residential.
101.4.7.1.3	Existing equipment efficiencies	-	-	Section deleted from commercial requirements. Only applies to residential.
101.4.8	Exempt buildings	C101.4.8	Exempt buildings	Revised to clarify that exempt buildings are those addressed by Section C101.4.8.1 through C101.4.8.4. Clarifies that buildings considered renovated buildings, occupancy type changes, or previously unconditioned buildings where conditioning is added do not qualify as exempt buildings.
		R101.4.8	Exempt buildings	Revised to clarify that exempt buildings are those addressed by Section C101.4.8.1 through C101.4.8.4.
101.4.8.2	Hunting or recreational buildings < 1,000 square feet	-	-	Section deleted from commercial requirements. Only applies to residential.
-	-	101.4.8.2	Historic buildings	New section exempting historic buildings meeting the criteria of Section 101.4.2.
-	-	101.4.8.3	Low energy buildings as described in Section C101.5.2	New section exempting low energy buildings meeting Section C101.5.2.
-	-	101.4.8.3	Buildings designed for purposes other than general space comfort conditioning	New section exempting buildings where heating or cooling systems are provided which are design for purposes other than general space comfort conditioning.
101.4.9	Shell buildings	-	-	Section deleted.
-	-	101.5.1	Compliance materials	New section requiring the Florida Building Commission to approve specific computer software.
-	-	101.5.1.1	Alterations, renovations, and building systems	New section permitting alterations, renovations, and building systems

				to use Form C402.
102.1	General	102.1	General	Language permitting the use of nationally recognized energy analysis procedures to demonstration less energy use than a code compliant building has been deleted.
103.2.1	Code demonstration forms	-	-	Section deleted from commercial requirements.
Table 103.2.1	Index to Code Compliance Forms	-	-	Table deleted.
103.2.3.1	Residential (Compliance certification)	103.1.1.2	Residential (Code compliance demonstration)	Revised to refer to the Residential Provisions.
110	Reporting	-	-	Section deleted.
Chapter 2 [CE] [RE]: Definitions – Commercial and Residential				
202	Definitions: Absorptance	-	-	Definition deleted.
202	Definitions: Annual fuel utilization efficiency (AFUE)	-	-	Definition deleted.
202	Definitions: Astronomical time switch	-	-	Definition deleted.
202	Definitions: Bedroom	-	-	Definition deleted.
-	-	C202	Definitions: Building commissioning	Newly defined term - Verifying and documenting that a building operates according to the owner's requirements and to minimum code requirements.
-	-	C202	Definitions: Building entrance	Newly defined term - Any portal with access to the building from the outside.
-	-	C202 R202	Building site	Newly defined term - A continuous area of land owned by a single entity.
202	Definitions: Building thermal envelope	C202 R202	Building thermal envelope	Editorial clarification regarding boundaries between conditioned space and any exempt of unconditioned space.
202	Definitions: Circulating system	-	-	Definition deleted.
202	Definitions: Combustion appliance, direct vent	-	-	Definition deleted.

202	Definitions: common wall, ceiling, or floor	-	-	Definition deleted.
-	-	C202 R202	Definitions: Computer room	New definition specific to rooms whose primary function is to house equipment for the processing and storage of electronic data.
-	-	C202 R202	Definitions: Continuous air barrier	Newly defined term - Building materials or assemblies that restrict air passage through the building envelope.
202	Definitions: Continuous insulation	-	-	Definition deleted.
-	-	C202 R202	Definitions: Demand recirculation water system	Newly defined term - A system that primes hot water piping with hot water upon demand.
-	-	C202	Definitions: Dynamic glazing	Newly defined term - A fenestration product capable of changing its performance properties, such as U-factor, SHGC, or VT.
202	Definitions: Design energy cost	-	-	Definition deleted.
202	Definitions: Design professional	-	-	Definition deleted.
202	Definitions: Ducts in conditioned space	-	-	Definition deleted.
202	Definitions: Effective air space emittance	-	-	Definition deleted.
202	Definitions: Efficacy	-	-	Definition deleted.
202	Definitions: Emissivity	-	-	Definition deleted.
202	Definitions: Emittance	-	-	Definition deleted.
202	Definitions: Energy cost budget	-	-	Definition deleted.
202	Definitions: Energy efficiency ratio (EER)	-	-	Definition deleted.
202	Definitions: Energy factor (EF)	-	-	Definition deleted.
202	Definitions: Energy management system	-	-	Definition deleted.
202	Definitions: Energy	-	-	Definition deleted.

	performance level			
-	-	C202	Definitions: Enclosed space	Newly defined term - A three-dimensional area surrounded by solid surfaces or operable devices (e.g., doors, windows).
-	-	C202	Definitions: Equipment room	Newly defined term - Any room whose equipment, machinery, or pumps support the building.
202	Definitions: Existing building	-	-	Definition deleted.
202	Definitions: Existing equipment	-	-	Definition deleted.
202	Definitions: Existing system	-	-	Definition deleted.
-	-	C202	Definitions: Fenestration product, field-fabricated	Newly defined term - Frames, jambs, and other fenestration parts created from materials near the site that were not originally intended for that purpose (e.g., the use of excess lumber to create window frames). This does not, however, include site-built parts that were created in factories for the fenestration purpose and then assembled on site.
-	-	C202 R202	Definitions: Fenestration product, site-built	Newly defined term - A fenestration product made from parts created in factories for the purpose of fenestration and assembled on site.
202	Definitions: Fenestration, vertical	-	-	Definition deleted.
202	Definitions: Firewall	-	-	Definition deleted.
202	Definitions: Fixture	-	-	Definition deleted.
202	Definitions: Floor, envelope	-	-	Definition deleted.
202	Definitions: Floor area, gross	-	-	Definition deleted.
202	Definitions: Flue damper	-	-	Definition deleted.
202	Definitions: Fossil fuel	-	-	Definition deleted.
202	Definitions: Fuel	-	-	Definition deleted.
-	-	C202	Definitions: Furnace electricity ratio	Newly defined term - The ratio of furnace electricity use to total furnace energy use. ER = $3.412E_{AE}/(1000E_F + 3.412E_{AE})$.

-	-	C202	Definitions: General lighting	Newly defined term - Lighting that remains at a uniform level over a given area. This does not include decorative lighting and task-specific lighting.
202	Definitions: Glazing	-	-	Definition deleted.
202	Definitions: Grade	-	-	Definition deleted.
202	Definitions: Gross area, floor	-	-	Definition deleted.
202	Definitions: Heat capacity	-	-	Definition deleted.
202	Definitions: Heat pump	-	-	Definition deleted.
202	Definitions: Heated building	-	-	Definition deleted.
202	Definitions: Heating seasonal performance factor	-	-	Definition deleted.
202	Definitions: Historic	-	-	Definition deleted.
202	Definitions: Home insulation	-	-	Definition deleted.
202	Definitions: Integrated energy efficiency ratio	-	-	Definition deleted.
202	Definitions: Interior lighting power	-	-	Definition deleted.
202	Definitions: Knee walls	-	-	Definition deleted.
202	Definitions: Lighting, decorative	-	-	Definition deleted.
202	Definitions: Lighting, general	-	-	Definition deleted.
202	Definitions: Lighting power density	-	-	Definition deleted.
202	Definitions: Lighting, task	-	-	Definition deleted.
202	Definitions: Low-rise residential	-	-	Definition deleted.
202	Definitions: Luminaire	-	-	Definition deleted.
202	Definitions: Mass floor	-	-	Definition deleted.
202	Definitions: Mass wall	-	-	Definition deleted.
202	Definitions: Mass wall insulation position	-	-	Definition deleted.
202	Definitions: Mechanical equipment plenum chamber	-	-	Definition deleted.
202	Definitions: Mechanical heating	-	-	Definition deleted.
202	Definitions: Mechanical cooling	-	-	Definition deleted.
202	Definitions: Mechanical	-	-	Definition deleted.

	ventilation			
202	Definitions: Metal building	-	-	Definition deleted.
202	Definitions: Multiple family residence	-	-	Definition deleted.
202	Definitions: Multi-scene control	-	-	Definition deleted.
202	Definitions: Multi-zone systems	-	-	Definition deleted.
202	Definitions: Non-depletable energy sources	-	-	Definition deleted.
202	Definitions: Non-renewable energy	-	-	Definition deleted.
202	Definitions: Nonresidential	-	-	Definition deleted.
202	Definitions: Normative	-	-	Definition deleted.
202	Definitions: Occupant sensor	-	-	Definition deleted.
-	-	C202	Definitions: On-site renewable energy	Newly defined term - Any system located on site that provides energy from a renewable source (e.g., solar, wind, geothermal, tidal, biomass).
202	Definitions: Opaque	-	-	Definition deleted.
202	Definitions: Operable aperture areas	-	-	Definition deleted.
202	Definitions: Optimum start controls	-	-	Definition deleted.
202	Definitions: Orientation	-	-	Definition deleted.
202	Definitions: Overhang separation	-	-	Definition deleted.
202	Definitions: Packaged terminal air conditioner	-	-	Definition deleted.
202	Definitions: Packaged terminal heat pump	-	-	Definition deleted.
202	Definitions: Permanently installed	-	-	Definition deleted.
202	Definitions: Photosensor	-	-	Definition deleted.
202	Definitions: Pool	-	-	Definition deleted.
202	Definitions: Primary air system	-	-	Definition deleted.
202	Definitions: Projection factor	-	-	Definition deleted.
202	Definitions: Radiant barrier	-	-	Definition deleted.

	system			
202	Definitions: Radiant heating system	-	-	Definition deleted.
202	Definitions: Recooling	-	-	Definition deleted.
202	Definitions: Reflectance	-	-	Definition deleted.
202	Definitions: Reheat	-	-	Definition deleted.
202	Definitions: Renovation	-	-	Definition deleted.
-	-	C202 R202	Definitions: Renovated building	New definition for variations or changes to insulation, HVAC systems, water heating systems, or exterior envelope conditions provided the estimated cost exceeds 30 percent of the assessed value of the structure.
202	Definitions: Reset	-	-	Definition deleted.
202	Definitions: Resistance, electric	-	-	Definition deleted.
202	Definitions: Residential	-	-	Definition deleted.
202	Definitions: Room air conditioner	-	-	Definition deleted.
202	Definitions: Seasonal energy efficiency ratio	-	-	Definition deleted.
202	Definitions: Setback	-	-	Definition deleted.
202	Definitions: Set point	-	-	Definition deleted.
202	Definitions: Shell building	-	-	Definition deleted.
202	Definitions: Single package vertical air conditioner	-	-	Definition deleted.
202	Definitions: Single package vertical heat pump	-	-	Definition deleted.
202	Definitions: Single-zone system	-	-	Definition deleted.
202	Definitions: Single assembly	-	-	Definition deleted.
202	Definitions: Single family residence	-	-	Definition deleted.
202	Definitions: Site-installed components and features	-	-	Definition deleted.
202	Definitions: Site-recovered energy	-	-	Definition deleted.
202	Definitions: Site-solar energy	-	-	Definition deleted.
202	Definitions: Skylight	C202	Definitions: Skylight	Changed defining angle of skylights

		R202		from at least 15 degrees from vertical to less than 60 degrees from horizontal.
202	Definitions: Slab-on-grade floor	-	-	Definition deleted.
-	-	C202 R202	Definitions: Small duct, high velocity system	New definition for products meeting the criteria of the definition.
202	Definitions: Solar energy source	-	-	Definition deleted.
202	Definitions: Solar system	-	-	Definition deleted.
202	Definitions: Space-constrained product	-	-	Definition deleted.
202	Definitions: Space-permitting insulation	-	-	Definition deleted.
202	Definitions: Space type	-	-	Definition deleted.
202	Definitions: Split system	-	-	Definition deleted.
202	Definitions: Stem wall	-	-	Definition deleted.
202	Definitions: Story	-	-	Definition deleted.
202	Definitions: Substantial contact	-	-	Definition deleted.
202	Definitions: Substantially leak free	-	-	Definition deleted.
202	Definitions: Supplementary heat	-	-	Definition deleted.
202	Definitions: System, existing	-	-	Definition deleted.
202	Definitions: Tandem wiring	-	-	Definition deleted.
202	Definitions: Thermal conductance	-	-	Definition deleted.
202	Definitions: Thermal efficiency	-	-	Definition deleted.
202	Definitions: Thermal mass	-	-	Definition deleted.
202	Definitions: Thermal resistance	-	-	Definition deleted.
202	Definitions: Thermostatic control	-	-	Definition deleted.
202	Definitions: Through-the-wall air conditioner and heat pump	-	-	Definition deleted.
202	Definitions: Tinted	-	-	Definition deleted.
202	Definitions: Townhouse	-	-	Definition deleted.

202	Definitions: Transfer grille	-	-	Definition deleted.
202	Definitions: Unitary cooling equipment	-	-	Definition deleted.
202	Definitions: Heat pump	-	-	Definition deleted.
202	Definitions: Variable air volume system	-	-	Definition deleted.
-	-	C202 R202	Definitions: Variable refrigerant flow multi-split air conditioner	New definition.
202	Definitions: Vent damper	-	-	Definition deleted.
-	-	C202 R202	Definitions: Visible transmittance	Newly defined term - A number from zero to one that describes the ratio of visible light to total incident light passing through a fenestration product.
202	Definitions: Wall area, gross	-	-	Definition deleted.
202	Definitions: Water heater	-	-	Definition deleted.
202	Definitions: Watt	-	-	Definition deleted.
202	Definitions: Worst case	-	-	Definition deleted.
Chapter 3 [CE] [RE]: General Requirements - Commercial and Residential				
-	-	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.
-	-	R303.1.1.1.2	Two layers of bulk or board insulation	New section pertaining to summing the R-values of materials.
303.1.3	Fenestration product rating	C303.1.3 R303.1.3	Fenestration product rating	Expanded ratings to include VT for fenestration products whose SHGC ratings are determined by the NFRC 200.
Table 303.1.3(3)	Default glazed fenestration SHGC	Table C303.1.3(3) Table R303.1.3(3)	Default glazed fenestration SHGC	Added VT requirements to the table.
303.2	Insulation installation	-	-	Section deleted from commercial requirements.
303.2.1	Compressed insulation	-	-	Section deleted from commercial requirements.

303.2.2	Substantial contact	-	-	Section deleted from commercial requirements.
303.2.3	Recessed equipment	-	-	Section deleted from commercial requirements.
303.2.4	Insulation protection	-	-	Section deleted from commercial requirements.
Table 303.2	Insulation installation standards	-	-	Section deleted from commercial requirements.
Table 303.2.1	R-Values of compressed insulation	-	-	Section deleted from commercial requirements.
-	-	C303.2	Installation	New section requiring all materials, systems and equipment to be installed in accordance with the manufacturer's instructions and the FBCB.
303.3.1	Commercial buildings	-	-	Section deleted.
Chapter 4 [CE]: Commercial Energy efficiency				
501.1 501.2	Scope Application	C401.1 C401.2	Scope Application	Changed the caveats related to compliance. ANSI/ASHRAE/IES Standard 90.1-2010 has been added as a "deemed-to-comply" option. Alternatively, all commercial provisions of the FBCEC must be satisfied. However, the 5th Edition of the FBCEC has added three new provisions (Section C406), one of which must also be chosen. The total building performance compliance path remains, although instead of the proposed design having an annual energy cost less than the standard reference design building, that criterion has been reduced to 85% of the standard reference design building (although the provisions in 506.3 of the 2010 FBCEC have not been similarly changed in Section C407.3 of the 5th Edition of the FBCEC).
-	-	C401.2.1	Application to existing	Added a new subsection to provide that additions, alterations, and

			buildings	repairs to existing buildings meet either ASHRAE 90.1-10, or the envelope, HVAC, service water heating, and lighting provisions of the FBCEC.
502.1	General (Prescriptive)	C402.1	General (Prescriptive)	Added criteria to clarify that the building envelope has to meet either the insulation and fenestration criteria, or could use the U-factor alternative criteria in lieu of meeting the required R-values for insulation. Reference to Tables 502.1.1.1(1) and 502.1.1.1(2) has been deleted.
-	-	C402.1.1	Insulation and fenestration criteria	New section requiring the building thermal envelope to meet Tables C402.2 and C402.3.
C402.1.2	U-factor alternative	C402.1.2	U-factor alternative	Revised to base the U-factor alternative on the values in new Table C402.1.2.
502.1.1.1	Shell buildings, renovations and alterations	-	-	Section deleted.
C402.2	Specific insulation requirements (Prescriptive)	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 board.
502.2.1	Roof assembly	C402.2.1	Roof assembly	Section has been completely revised. All Florida-specific requirements have been deleted and replaced with the

				base code criteria. Reference to Tables 502.1.1.1(1) and 502.1.1.1(2) have been deleted and replaced with reference to new Table C402.2. Added provisions covering insulation of skylight curbs: the lesser of R-5 or the R-value of the roof insulation that is entirely above the roof deck unless the skylight curb is included as a component of the skylight assembly that is rated according to NFRC 100.
-	-	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.
502.2.1.2	Ceiling insulation	C402.2.1	Roof assembly	Provisions relocated and covered in Section C 402.2.1. Language permitting the insulation installed on a suspended ceiling to be considered part of the thermal resistance if the roof/ceiling cavity is sealed from the exterior has been deleted.
502.2.1.3	Above ceiling cavities	-	-	Section deleted.
502.2.3.1	Vented cavities	-	-	Section deleted.
502.2.3.2	Cavities used as plenums	-	-	Section deleted.
-	-	C402.2.2	Classification of walls	New section defining above-grade and below-grade walls.
502.2.2.1	Above-grade walls	C402.2.3	Thermal resistance of above-grade walls	Editorial change in subsection title. Revised to refer to Table C402.2 and reference to Tables 502.1.1.1(1) and 502.1.1.1(2) has been deleted.
502.2.2.1.2	Below-grade walls	C402.2.4	Thermal resistance of below-grade walls	Editorial change in subsection title. Revised to refer to Table C402.2 and reference to Tables 502.1.1.1(1) and

				502.1.1.1(2) has been deleted.
502.2.3.1.1	Floors over outdoor air or unconditioned space	C402.2.5	Floors over outdoor air or unconditioned space	Revised to refer to Table C402.2 and reference to Tables 502.1.1.1(1) and 502.1.1.1(2) has been deleted.
502.2.3.1.2	Slabs on grade	C402.2.6	Slabs on grade	Revised to refer to Table C402.2 for R-values of slabs on grade.
-	-	C402.2.8	Insulation of radiant heating systems	Added provisions to ensure that radiant heating systems for indoor space heating are insulated with at least R-3.5.
-	-	Table C402.1.2	Opaque thermal envelope assembly requirements	New table that's part of several changes and new tables resulting from Florida-specific requirements being deleted and replaced with the base code requirements.
-	-	Table C402.2	Opaque thermal envelope requirements	New table that's part of several changes and new tables resulting from Florida-specific requirements being deleted and replaced with the base code requirements.
502.2.5	Fenestration (Prescriptive)	C402.3	Fenestration (Prescriptive)	Entire section has been completely revised. All Florida-specific requirements have been deleted and replaced with the base code criteria. Reference to Tables 502.1.1.1(1) and 502.1.1.1(2) have been deleted and replaced with reference to new Table C402.3. Added reference to new provision that daylighting controls specified in Section C402.3 must satisfy the lighting section of the FBCEC (Section C405).
502.2.5.1.1	Maximum area	C402.3.1	Maximum area	The percentage limit of vertical fenestration area as a function of above-grade wall area has been changed to 30% and the percentage limit of skylight area as a function of roof area remains unchanged at 3%. New provisions have been added that allow the 30% to increase to

				40%, and the 3% to increase to 5%.
-	-	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.
-	-	C402.3.1.2	Increased skylight area with daylighting controls	The percentage limit of skylight area as a function of roof area can be increased from over 3% to up to 5% when the daylight zone under the skylights has automatic daylighting controls.
-	-	C402.3.2	Minimum skylight fenestration area	Enclosed spaces greater than 10,000 ft² with ceilings higher than 15 ft that are being used for one of several special purposes (e.g., office, lobby, atrium) must have at least half of the floor area in a daylighting zone and have a minimum skylight area percentage based on skylight VT or effective aperture. Exceptions are made depending on climate zone, lighting power densities, blockage of direct sunlight on the roof, and areas where the daylight zone is more than 50% of the enclosed floor area.
-	-	C402.3.2.1	Lighting controls in daylight zones under skylights	All lighting in the daylighting zone must be controlled by multi-level controls that comply with Section C405.2.2.3.3. Exceptions are made depending on climate zone, lighting power densities, blockage of direct sunlight on the roof, and areas where the daylight zone is more than 50% of the enclosed floor area.
-	-	C402.3.2.2	Haze factor	Skylights in certain areas (e.g.,

				office, storage, automotive service) must have a glazing material or diffuser that creates a haze factor greater than 90% according to ASTM D 1003. An exception is made for skylights using baffles or skylight geometry to exclude direct sunlight from entering the area.
502.3.3	Maximum U-factor and SHGC	C402.3.3	Maximum U-factor and SHGC	All Florida-specific requirements have been deleted and replaced with the base code criteria. Reference to Tables 502.1.1.1(1) and 502.1.1.1(2) have been deleted and replaced with reference to new Table C402.3. For windows and glass doors having different PF values, the option of using an area-weighted PF value has been removed. Each must be evaluated separately.
-	-	Table C402.3	Building envelope requirements - fenestration	New table that's part of several changes and new tables resulting from Florida-specific requirements being deleted and replaced with the base code requirements.
-	-	C402.3.3.1	SHGC adjustment	Added new provisions to allow for the adjustment of maximum allowable fenestration SHGC values upwards based on projection factor and orientation of the fenestration.
-	-	C402.3.3.2	Increased vertical fenestration and SHGC	There will be an SHGC maximum of 0.40 for all windows that are entirely placed at least 6 ft above the finished floor in Climate Zones 1-3.
-	-	C402.3.3.3	Increased skylight SHGC	Skylights above daylighting zones that have automated control systems will have a maximum SHGC of 0.60 in Climate Zones 1-6.
-	-	C402.3.3.4	Increased skylight U-factor	Skylights above daylighting zones that have automated control systems will have a maximum U-factor of 0.90 in Climate Zones 1-3 and 0.75 in

				Climate Zones 4-8.
-	-	C402.3.3.5	Dynamic glazing	For dynamic glazing, the SHGC used to comply with Section 402.3.3 will be the lowest rated by the manufacturer, and the VT/SHGC ratio will use the highest rating for each metric. Area-weighted averaging of dynamic glazing together with non-dynamic windows will not be permitted.
-	-	C402.3.4	Area-weighted U-factor	Area-weighted U-factors are only permitted for windows within the same product category (e.g., operable windows and fixed windows cannot be calculated together to find area-weighted averages).
502.3	Air leakage	C402.4	Air leakage	Revised the air leakage provisions by adding provisions for air barriers, adding more detail on air leakage associated with doors and access openings, and revised provisions associated with fenestration air leakage, vestibules, and recessed lighting.
-	-	C402.4.1	Air barriers	The thermal building envelope must provide a continuous air barrier either inside, outside, or within the envelope assemblies or any combination thereof. Specifics are given in the next several sections. Exception: Climate Zones 1-3.
-	-	C402.4.1.1	Air barrier construction	The continuous air barrier is expected to be: (1) across all joints and assemblies; (2) sealed at joints and changes of position or materials; and (3) compliant with Section C404.2.8 where the barrier is penetrated (recessed light fixtures, etc.). However, buildings complying with Section C402.4.1.2.3 are exempt from (1) and (3).

-	-	C402.4.1.2	Air barrier compliance options	Opaque building envelopes must meet the conditions of Sections C402.4.1.2.1-C402.4.1.2.3.
-	-	C402.4.1.2.1	Materials	A list of 15 materials (e.g., plywood, gypsum board) must be tested in accordance with ASTM E 2178 if they have an air leakage greater than 0.004 cfm/ft² under a pressure differential of 75 Pa.
-	-	C402.4.1.2.2	Assemblies	Material assemblies must be tested to ASTM E 2357, ASTM E 1677, and ASTM E 283 and display an average air leakage no greater than 0.04 cfm/ft² at a pressure differential of 75 Pa. Two particular assemblies—coated concrete masonry walls and a Portland cement/sand parge—need only comply with Section C402.4.1.1.
-	-	C402.4.1.2.3	Building test	The completed building envelope air leakage should not exceed 0.40 cfm/ft² for a pressure differential of 75 Pa in accordance with ASTM E 779 or an equivalent method approved by a code official.
502.3.1 502.3.2	Window and door assemblies Curtain walls, storefront glazing and commercial entrance doors	C402.4.3 Table C402.4.3	Air leakage of fenestration Maximum air infiltration rate of fenestration assemblies	Deleted the provisions from the 2010 FBCEC and replaced them with a table that lists the maximum allowable air infiltration rates for fenestration. All maximum air leakage rates are reduced except certain fenestration tested to AAMA/WDMA/CSA 101/I.S.2/A440 at 300 Pa can continue to have an air leakage rate of 0.30 cfm/ft². Also added air leakage limits for garage doors and rolling doors and added NFRC 400 as an acceptable test standard. Provisions allowing site-constructed windows and doors to be weather stripped and sealed in

				lieu of meeting the air infiltration rates were deleted.
502.3.3	Sealing of the building envelope	C402.4.2	Air barrier penetrations	Deleted the provisions from the 2010 FBCEC and replaced them with new provisions addressing sealing all paths of air leakage in the air barrier at both penetrations of and joints and seams in the air barrier.
502.3.4	Apertures in the building envelope	-	-	Section deleted.
-	-	C402.4.4	Doors and access openings to shafts, chutes, stairways, and elevator lobbies	These openings must have dampers and be in accordance with Section C402.4.5.1 and Section C402.4.5.2.
		C402.4.5	Air intakes, exhaust openings, stairways and shafts	These openings must have dampers and be in accordance with Section C402.4.5.1 and Section C402.4.5.2.
		C402.4.5.1	Stairway and shaft vents	Must have Class I motorized dampers with a maximum leakage rate of 4 cfm/ft² at 249 Pa when tested to AMCA 500D. Controls must be installed that open the dampers when activated by a fire alarm system or when power to the dampers is interrupted.
		C402.4.5.2	Outdoor air intakes and exhausts	Must have Class I motorized dampers with a maximum leakage rate described in Section C402.4.5.1. Exceptions: Gravity dampers with a maximum leakage of 20 cfm/ft² at 249 Pa when tested to AMCA 500D are permitted when used for exhaust or relief dampers, in buildings less than three stories above grade, buildings in Climate Zones 1-3, or where design air intake/exhaust in <300 cfm. Dampers smaller than 24 in. may have a leakage up to 40 cfm/ft².
-	-	C402.4.7	Vestibules	New section added from the base

				code
-	-	C402.4.8	Recessed lighting	Editorial change to state the limitation of 2.0 cfm first and then the ASTM test standard instead of the reverse. No change in the “end state” technical requirements in the 5th Edition of the FBCEC.
503.2.1	Calculation of heating and cooling loads	C403.2.1	Calculation of heating and cooling loads	Added a sentence that the required design loads must account for building envelope, lighting, ventilation, and occupancy-related loads of the project.
503.2.2	Equipment and system sizing	C403.2.2	Equipment and system sizing	For clarification, heating and cooling equipment and systems capacity is defined as output capacity. Exception 3 has been deleted.
403.2.2.1	Buildings with assembly occupancies	-	-	Section deleted.
503.2.3	HVAC equipment performance requirements	C403.2.3	HVAC equipment performance requirements	Addition of plate-type liquid-to-liquid heat exchangers, which must meet the requirements of Table C403.2.3(9). Exception has been revised and relocated to Section C403.2.3.1
503.2.3	Exception	C403.2.3.1	Water-cooled centrifugal chilling packages	Two equations (Equations 4-3 and 4-4) are given for equipment not designed for operation at AHRI Standard 550/590 test conditions. These equations refer to Table 6.8.1C of the AHRI Standard and replace the earlier equations used in the 2010 FBCEC. These equations only apply to centrifugal chillers having (1) exit evaporative fluid temperature $\geq$36°F; (2) exit condenser fluid temperature $\leq$115°F; and (3) delta temperature for these two fluids $\geq$20°F and $\leq$80°F. Chillers designed to operate outside of these ranges need not comply.

Tables 503.2.3(1)-(7)	Minimum efficiency requirements: electrically operated unitary air conditioners and condensing units	Table C403.2.3(1)-(9)	Minimum efficiency requirements: electrically operated unitary air conditioners and condensing units	An additional column has been added titled “Heating Section Type,” which differentiates electric resistance equipment from other types in some areas of the table. Some additional equipment types (e.g., through-the-wall, air-cooled) have been added, numerous quantitative changes have been made to the SEER requirements, and some test procedures have changed, but otherwise these tables have the same format as in the 2010 version. Two additional tables have been added for heat rejection and heat transfer equipment. Florida-specific amendments have been deleted and replaced with the base code requirements.
Table 503.2.3(1)	Minimum efficiency requirements: Electrically operated unitary air conditioners and condensing units	Table C403.2.3(1)	Minimum efficiency requirements: Electrically operated unitary air conditioners and condensing units	Added a column covering the type of heating section provided with the air conditioner. Added provisions for small-duct high-velocity air-cooled equipment and condensing units over 135K Btu/h air, water or evaporatively cooled. Minimum efficiency for air-cooled air conditioners under 65K Bth/h and for through-the-wall air-cooled units not over 30K Btu/h did not change. Minimum energy efficiency ratios for air, water, or evaporatively cooled air conditioners changed in some instances, based on part because of the new distinction associated with the type of heating section and the addition in all cases of a minimum IEER as well.
Table 503.2.3(2)	Unitary air conditioners and condensing units electrically operated minimum efficiency	Table C403.2.3(2)	Minimum efficiency requirements: Electrically operated unitary and applied	Added a column covering the type of heating section provided with the heat pump that applies to the cooling

	requirements		heat pumps	mode of air-cooled heat pumps. Added heating and cooling mode provisions for single- (small) duct high-velocity air equipment. Efficiency for air-cooled cooling mode heat pumps remains unchanged or increased based on capacity and all now have a minimum IEER in addition to the previous energy efficiency requirements. Water-source cooling mode provisions are unchanged. Added a rating point and energy efficiency requirement (77F/13.4 EER) for groundwater source heat pumps in the cooling mode. Deleted cooling efficiency for ground source heat pumps. Added new classifications and efficiency requirements for the cooling and heating modes of water source water-to-water and groundwater-source brine-to-water equipment. Heating seasonal performance factor for heating mode of air-cooled under 65K Btu/h and through-the-wall heat pumps remain unchanged. COP for heating mode of air- cooled heat pumps at least 65K Btu/h remain unchanged for high-temperature rating condition but added a new low-temperature rating condition and COP requirement. Heating mode efficiency of water-source, groundwater-source, and ground-source heat pumps remain unchanged.
Table 503.2.3(3)	Packaged terminal air conditioners and packaged terminal heat pumps	Table C403.2.3(3)	Minimum efficiency requirements: Electrically operated packaged terminal air conditioners,	Added new minimum efficiencies for packaged terminal air conditioner and packaged terminal heat pump equipment listed in the 2010 FBCEC that are effective October 18,

			packaged terminal heat pumps, single package vertical air conditioners, single vertical heat pumps, room air conditioners and room air-conditioner heat pumps	2012. Until then, the same provisions in the 2010 FBCEC are retained. Also added provisions for single package vertical equipment and a number of room air conditioner types effective before October 18, 2012, and after that date as well based on input capacity and select test conditions.
Table 503.2.3(5)	Boilers, gas and oil- fired minimum efficiency requirements	Table C403.2.3(5)	Minimum efficiency requirements: Gas and oil-fired boilers	Revised the format of the table to focus first on type of boiler (hot water or steam) as opposed to fuel type. Combined oil-fired and boilers (residual) with all oil-fired boilers. The minimum efficiency (annual fuel utilization efficiency) remains unchanged for gas and oil-fired boilers under 300K Btu/h input. All others have been revised to either increase the stated thermal efficiency or combustion efficiency or change the metric from combustion to thermal efficiency and reduce the minimum efficiency.
-	-	Table C403.2.3(7)	Minimum efficiency requirements: Water chilling packages	Table deleted and replaced with table from the base code.
-	-	Table C403.2.3(8)	Minimum efficiency requirements: Heat rejection equipment	Table deleted and replaced with table from the base code.
-	-	Table C403.2.3(9)	Heat transfer equipment	Added a new table covering plate-type liquid-to-liquid heat exchangers, referencing AHRI 400 and indicating there are no efficiency requirements.
-	-	Table C403.2.3(10)	Minimum efficiency air conditioners and condensing units serving computer rooms	Added new table covering minimum efficiencies for air conditioners and condensing units serving computer rooms
-	-	Table	Minimum efficiency	Added new table covering minimum efficiencies requirements for variable

		C403.2.3(11)	requirements variable refrigerant flow multi-split air conditioners and heat pumps	refrigerant flow multi-split air conditioners and heat pumps.
-	-	C403.2.3.2	Positive displacement (air- and water-cooled) chilling packages	Equipment with leaving fluid temperatures >32 °F must meet Table C403.2(7) requirements when tested or certified to a referenced test procedure.
503.2.4.1	Thermostatic controls	C403.2.4.1	Thermostatic controls	Language permitting a dwelling unit to be permitted to be considered a single zone has been deleted.
503.2.4.3.2	Automatic setback and shutdown capabilities	C403.2.4.3.2	Automatic setback and shutdown capabilities	Option for using an interlock to a security system that shuts the system off when the security system is activated has been deleted.
-	-	C403.2.4.3.3	Automatic start capabilities	Automatic start controls are required on all HVAC systems and must adjust the daily starting time to bring all occupied spaces to desired temperature immediately before scheduled occupancy.
503.2.4.4	Shutoff damper controls	C403.2.4.4	Shutoff damper controls	Revised to require motorized dampers. Three new exceptions added for gravity dampers.
503.2.4.6	Air distribution system controls	-	-	Section deleted.
503.2.5.1	Demand control ventilation	C403.2.5.1	Demand control ventilation	Demand control ventilation is now required where average occupancy load is 25 people per 1,000 ft². An additional exception has been made for ventilation used only for process loads.
503.2.5.2.1	Stair and elevator shaft vents	-	-	Section deleted.
503.2.5.2.2.1	Non-residential kitchen spaces	-	-	Section deleted.
503.2.5.2.2.2	Fume hoods	-	-	Section deleted.
503.2.5.3	Gravity hoods, vents, and ventilators	-	-	Section deleted.
503.2.5.4	Shutoff damper controls	-	-	Section deleted.
503.2.5.4.1	Damper leakage	-	-	Section deleted.
503.2.6	Exhaust air energy recovery for cooling systems	C403.2.6	Energy recovery ventilation system	Section revised to delete the Florida-specific requirements and

				replaced with base code requirements. Table 403.2.6, "Energy Recovery Requirement," has been created to define requirements for design supply air flow rates according to climate zone and percentage of outdoor air at full design rates. Systems that exceed these requirements must include an energy recovery system capable of changing the enthalpy of the outdoor air supply by at least 50% of the difference between outdoor air and return air enthalpies at design conditions. Where an air economizer is required, the energy recovery system must have a bypass or controls that permit the economizer to operate according to Section C403.4. Some changes have been made to Exceptions 3, 5, 6, and 7, and additional exceptions have been made for single exhaust locations that are below 75% of the design rate and for systems expected to operate less than 20 hours/week while complying with Table C403.2.6.
503.2.8	Piping insulation	C403.2.8	Piping insulation	Changes have been made to Exceptions 3, 4, and 5, and an additional exception has been made for direct buried pipe conveying fluids ≤60 °F.
-	-	C403.2.8.1	Protection of piping insulation	Exposed piping insulation must be protected from damage from sunlight, moisture, maintenance, wind, and solar radiation. Adhesive tape is not allowed.
Table 503.2.8	Minimum pipe insulation	Table C403.2.8	Minimum pipe insulation thickness	This table's format has been expanded to consider fluid operating temperature range (no longer

				differentiated by fluid type), conductivity, mean rating temperature, and nominal pipe size (diameter).
503.2.9	HVAC system completion	C403.2.9	Mechanical systems commissioning and completion requirements	All of Section 503.2.9 and its subsections have been moved to Section C408.2. Florida-specific requirements have been deleted and replaced with the base code requirements.
503.2.10.1	Allowable fan floor horsepower	C403.2.10.1	Allowable fan floor horsepower	Single-zone VAV systems must comply with the constant volume fan power limitation. Exception 3 for fans that exhaust air from fume hoods has been eliminated.
Table 5023.2.10.1(1)	Fan power limitation	Table C403.2.10.1(1)	Fan power limitation	Added a definition for the term CFM_D that us used in determining the value of the term A when using Option 2 for compliance with the fan power limitation provisions.
Table 503.2.10.1(2)	Fan power limitation pressure drop adjustment	Table C403.2.10.1(2)	Fan power limitation pressure drop adjustment	Several devices have been added (e.g., biosafety cabinet, coil runaround loop) and deductions have been eliminated, but the general format of this table is the same.
503.2.10.3	Optimum start controls	-	-	Section deleted.
503.2.10.4	Zone isolation	-	-	Section deleted.
503.2.10.5	Ventilation systems	-	-	Section deleted.
503.2.10.6	Building pressures	-	-	Section deleted.
503.2.12	Heating systems having additional functions	-	-	Section deleted.
503.3	Simple HVAC systems and equipment	C403.3	Simple HVAC systems and equipment	Deleted the text indicating what the section does not apply to and referencing those named items to the section on complex HVAC systems.
-	-	C403.3.1	Economizers	New section applicable to economizers with requirements taken from the base code. Requires all cooling systems with a fan to have

				an economizer that meets the requirements stated in Sections C403.3.1.1-C403.3.1.4. Exceptions exist for several systems (e.g., systems operating <20 hours/week).
Table 503.3.1(1)	Economizer requirements	Table C403.3.1(1)	Economizer requirements	New table specifying economizer requirements
-	-	C403.3.1.1	Air economizers	Air economizers must comply with Sections C403.1.1.1-C403.1.1.4.
-	-	C403.3.1.1.1	Design capacity	Must be able to modulate up to 100% of the design supply air as outdoor air for cooling.
-	-	C403.3.1.1.2	Control signal	Dampers must be able to be sequenced with cooling equipment and not only by mixed air temperature. An exception exists for systems controlled from space temperature (e.g., single-zone systems).
-	-	C403.3.1.1.3	High-limit shutoff	Must automatically reduce outdoor air intake to design minimum when it will no longer reduce energy usage. Table C403.3.1.1.3(1) shows the allowed and prohibited control types by climate zones, and Table C403.3.1.1.3(2) shows the settings required by device type and climate zone.
-	-	Table C403.3.1.1.3(1)	High-limit shutoff control options for air economizers	Added provisions that vary by climate zone for control type acceptability in meeting the provisions requiring high-limit controls.
-	-	Table C403.1.1.3(2)	High-limit shutoff control setting for air economizers	Added provisions that vary by device type and climate zone that address the high-limit settings at which the economizer must shut off.
-	-	C403.3.1.1.4	Relief of excess outdoor air	Systems must relieve excess outdoor air to avoid overpressurizing the building. The outlet must not recirculate air into the building.

503.4.1	Economizers	C403.4.1	Economizers	New section applicable to economizers with requirements taken from the base code. Sections C403.4.1.1-C403.4.1.4 have been created for these requirements.
-	-	C403.4.1.1	Design capacity	Water economizers must be able to cool by indirect evaporation and provide up to 100% of the cooling load at outdoor temperatures of ≤50 °F dry bulb and ≤45 °F wet bulb. An exception exists for systems that cannot meet dehumidification requirements at these temperatures. For such systems, the requirements are ≤50 °F dry bulb and ≤45 °F wet bulb.
-	-	C403.4.1.2	Maximum pressure drop	Precooling coils and water-to-water heat exchangers in these systems need to have a water-side pressure drop of <15 ft or a secondary loop so that pressure drop is not seen by the circulating pumps in non-economizer mode.
-	-	C403.4.1.3	Integrated economizer control	Must be integrated with the mechanical system and able to provide partial cooling even when the mechanical system is needed. Exceptions exist for direct expansion systems that reduce outdoor air to prevent coil frosting if it is no greater than 25% of system capacity, and for direct expansion units rated less than 54K Btu/h that use nonintegrated controls, which preclude simultaneous use of the economizer and mechanical system.
-	-	C403.4.1.4	Economizer heating system impact	HVAC system design and controls must not increase heating energy use. An exception exists for VAV

				systems that cause zone-level heating to increase due to reduced supply air temperature.
503.4.2.1	Variable air volume (VAV) fan control	C403.4.2	Variable air volume (VAV) fan control	Florida-specific requirements have been deleted and replaced with the base code text. Requirements now apply to fans with motors ≥7.5 hp. The second requirement from the 2010 FBCEC may be replaced with a vane-axial fan with variable-pitch blades.
503.4.2.2	Static pressure sensor location	C403.4.2.1	Static pressure sensor location	Revised to require sensors downstream of duct splits to have a sensor in each branch.
503.4.2	Variable air volume (VAV) fan control (second paragraph)	C403.4.2.2	Set points for direct digital control	The static pressure set point must be reset based on the zone needing the most pressure.
503.4.5	Requirements for complex mechanical systems serving multiple zones	C403.4.5	Requirements for complex mechanical systems serving multiple zones	Exception 7 applicable to systems that are designed and dedicated to condition only the outdoor ventilation air stream has been deleted.
503.4.5.5	Dehumidification	-	-	Section deleted.
503.4.7	Hot gas bypass limitation	C403.4.7	Hot gas bypass limitation	New exception fo unitary packaged systems with cooling capacities not greater than 90,000 btu/h.
Table 504.2	Minimum performance of water-heating equipment	Table C404.2	Minimum performance of water-heating equipment	Florida-specific requirements in the table have been deleted and replaced by the base code requirements. New Florida-specific amendments have been added for pool heaters.
504.2.1	Combination water and space heating systems	-	-	Section deleted.
504.5	Pipe insulation	C404.5	Pipe insulation	Heat-traced systems are now included in this section and must meet the manufacturer's installation instructions.
504.6	Hot water system controls	C404.6	Hot water system controls	Additional wording requiring ready access to operating controls.

504.7.3	Pool covers	C404.7.3	Covers	Change in title from pool covers to covers, which according to Section C404.7 would apply to pools and inground permanently installed spas. The R-12 cover requirement has been deleted. Changed the exception from 60% to 70% of site-recovered energy, added examples (heat pump or solar energy source) and added that the percentage contribution be assessed over an operating season.
505.1	General (Mandatory)	C405.1	General (Mandatory)	Exception to compliance now exists only for units with 75% of permanent light fixtures having high efficacy lighting.
-	-	C405.2.1	Manual lighting controls	Added a new section to refer to subsequent subsections that cover manual lighting controls.
505.2.1	Interior lighting controls	C405.2.1.1	Interior lighting controls	Florida-specific requirements have been deleted and replaced with the base code requirements.
505.2.1.1	Classrooms and meeting rooms	-	-	Section deleted.
505.2.1.2	All other spaces	-	-	Section deleted.
505.2.1.3	Additional controls	-	-	Section deleted.
-	-	C405.2.2	Additional controls	New section requiring additional controls for each area that is required to have a manual control.
-	-	C405.2.1.2	Light reduction controls	New section requiring each area that is required to have a manual control to also allow the occupant to reduce the connected lighting load by at least 50 percent.
502.2.2.2.1	Occupant override	C405.2.2.1	Automatic time switch control devices	Added new section on automatic time switch control devices and in part included the intent of 502.2.2.2.1 from the 2010 FBCEC. The new section indicates that all automatic control devices must be

				installed in all buildings other than for emergency egress lighting and lighting in spaces with occupancy sensors (new text in Section C405.2.2.2).
502.2.2.2.2	Holiday scheduling	-	-	Provisions on holiday scheduling deleted.
-	-	C405.2.2.2	Occupancy sensors	Occupancy sensors are required in several specifically named types of spaces (e.g., classrooms, lunch rooms). Controls must turn off lights in rooms that are unoccupied for 30 minutes and must be manual on or automatically turn lighting to no more than 50% power. An exception exists for spaces that are used for safety and security (e.g., corridors, stairways).
505.2.2.3	Daylight zone control	C405.2.2.3	Daylight zone control	Lighting in daylight zones must be controlled separately from other areas and must conform to Section C405.2.2.3.1 or C405.2.2.3.2. Daylight control zones must not be greater than 2,500 ft^2. Contiguous zones and zones under skylights still follow the 2010 FBCEC.
-	-	C405.2.2.3.1	Manual daylighting controls	Required in daylight zones unless automatic controls are installed according to Section C405.2.2.3.2.
-	-	C405.2.2.3.2	Automatic daylighting controls	Calibrating controls (set point) must be readily accessible. Daylighting controls must either: (1) reduce lighting to less than 35% of rated maximum power; or (2) incorporate stepped dimming such that at least one step 50-70% of design power and another step is no greater than 35% of maximum power.
-	-	C405.2.2.3.3	Multi-level lighting controls	Added provisions for multi-level lighting controls in daylight zones to

				ensure that, where such controls are provided to meet the daylight zone control provisions, the general lighting in the zone is separately controlled by one multi-level control that reduces space lighting power in response to daylighting. The control must also control the power draw of the general lighting to no more than 35% of rated power when the day-lit illuminance in the space is greater than the rated illuminance of the general lighting in the zone. The control must be located so calibration and set point controls are readily accessible and separate from the light sensor.
-	-	C405.2.3	Specific application controls	Added a new section to outline situations where additional lighting controls are required. New situations include display and accent lighting, cases used for display case purposes, supplemental task lighting, lighting for non-visual applications, and lighting equipment that is for sale or demonstration.
505.2.4	Exterior lighting controls	C405.2.4	Exterior lighting controls	Florida-specific requirements have been deleted and replaced with requirements from the base code.
505.3	Tandem wiring	C405.3	Tandem wiring	Florida-specific requirements have been deleted and replaced with requirements from the base code.
505.5.2.5	Luminaire wattage	-	-	Section deleted.
505.5.3	Interior lighting power	C405.5.2	Interior lighting power	In addition to Table C405.5.2(1), used for the building area method, a second table has been created, Table C405.5.2(2) for a space-by-space method. The approach is similar, choosing the appropriate category, multiplying the given

				number by the floor area, and then taking the sum of all numbers. However, the second table allows for specific spaces within a building type (e.g., dining areas, lobbies within a hotel). Documented justification for the need for higher power in some areas is allowed according to the authority having jurisdiction. The original table has been changed slightly, but the general format remains the same.
505.5.3.1	Standard reference design, interior lighting power	-	-	Section deleted.
-	-	Table C405.5.2(1)	Interior lighting power allowances: Building area method	New table for interior lighting power allowances using the building area method.
Table 505.5.3	Lighting power densities (LPD) using the space-by-space method	Table C405.5.2(2)	Interior lighting power allowances: Space-by-space method	Added a new table based on ASHRAE 90.1-10 for the new space-by-space compliance method added to the code. Retained footnote 'b' covering additional lighting power for retail areas from the building area method table and moved it to footnote 'a' of the space-by-space method table. Revised the footnote so the retail allowance starts at 500 watts instead of 1000 watts.
505.6	Exterior lighting	C405.6	Exterior lighting	Section now only applies where the power for exterior lighting is supplied through the energy service to the building.
505.7.5	Electric motors	-	-	Section deleted.
Table 505.7.5	Minimum nominal efficiency for general purpose design A and design B motors	-	-	Table deleted.
-	-	C406	Additional efficiency package options	An optional section now exists for superior performance regarding HVAC equipment, lighting, or on-site renewables.
-	-	C406.2	Efficient HVAC performance	

			Tables C406.2(1) through C406.2(7)	Tables C406.2(1) through C406.2(7) will replace the tables used in Section C403 only if the efficiencies here are superior to those listen in C403.
-	-	C406.3 C406.3.1	Efficient lighting system Reduced lighting power density	The numbers in Table C406.3 will be used in place of those in Section C405.
-	-	C406.4	On-site renewable energy	Minimum ratings of on-site systems must either provide 1.75 BTUs or 0.50 W/ft² of conditioned floor area, or at least 3% of the energy used for mechanical equipment, service hot water heating, and lighting.
507.1	Scope (total building performance)	C407.1	Scope (total building performance)	Language limiting the use of total building performance for all designs except those with no mechanical system has been deleted.
506.3.1	Trade-offs limited to building permit	-	-	Section deleted.
506.3.2	Envelope limitation	-	-	Section deleted.
-	-	C408 C408.1	System commissioning General	This entire section has been added to the previous code and applies to the commissioning of systems in Sections C403 and C405.
-	-	C408.2	Mechanical systems commissioning and completion requirements	Before completion of the final inspection, documentation must be provided with evidence of mechanical systems commissioning. Exceptions exist for systems with a capacity of less than 480K Btu/h cooling and 600K Btu heating and for systems from Section C403.3 that serve dwelling units in hotels, motels, etc.
-	-	C408.2.1	Commissioning plan	Must include: (1) a narrative description of each phase of the commissioning and personnel required; (2) a list of the equipment and appliances to be tested; (3)

				functions (e.g., calibrations) to be tested; (4) environmental conditions (e.g., seasonal) for testing; and (5) performance criteria.
-	-	C408.2.2	Systems adjusting and balancing	HVAC systems should be balanced and adjusted within product specification tolerances.
-	-	C408.2.2.1	Air systems balancing	Supply air outlets and zone terminals must have air balancing that meets FBCM Chapter 6. Discharge dampers cannot be used with constant volume fans and VAV motors >10 hp. Must first minimize throttling losses then adjust fan speed to meet design conditions. An exception exists for fan motors $\leq$1 hp.
-	-	C408.2.2.2	Hydronic systems balancing	Hydronic heating and cooling coils must be used to measure flow, minimize throttle losses, and meet design flow conditions. Systems must either measure pressure across the pump or test ports at each side. Exceptions exist for pump motors $\leq$5 hp or where throttling is less than 5% of nameplate power, which is beyond a trimmed impeller.
-	-	C408.2.3	Functional performance testing	Testing is required for equipment, controls, and economizers according to Sections C408.2.3.1-C408.2.3.3.
-	-	C408.2.3.1	Equipment	Must demonstrate operation of components and system-to-system interfacing according to specifications during conditions of full load, partial load, and several emergency conditions (e.g., back up loads, alarms). An exception exists for equipment listed in Section C403, which do not require air economizers.
-	-	C408.2.3.2	Controls	HVAC controls must be tested and

				documented to be calibrated, adjusted, and operate according to specifications.
-	-	C408.2.3.3	Economizers	Must be tested to show operation in accordance with specifications.
-	-	C408.2.4	Preliminary commissioning report	Documented evidence of test procedures and results must be given to the building owner and must identify: (1) deficiencies that have not been corrected; (2) tests deferred due to climatic conditions; and (3) climatic conditions required for deferred tests.
-	-	C408.2.4.1	Acceptance of report	Before final mechanical inspection, a letter of receipt of the report must be given to the code official from the owner.
-	-	C408.2.4.2	Copy of report	The code official may require a copy of the code report.
-	-	C408.2.5	Documentation requirements	Construction documents must specify that the documents in this section be provided to the building owner within 90 days of the receipt of certificate of occupancy.
-	-	C408.2.5.1	Drawings	Must include the location and performance data for all equipment.
503.2.9.3	Manuals	C408.2.5.2	Manuals	The provisions for HVAC system manuals were deleted from the 2010 FBCEC and are now included in Section C408.2.5.3 of the 5th Edition of the FBCEC, which applies to HVAC and electrical and lighting systems.
-	-	C408.2.5.3	System balancing report	A written report based on the findings from Section C408.2.2.
-	-	C408.2.5.4	Final commissioning report	Must include: (1) results of performance tests; (2) deficiencies found during testing and corrective measures proposed; and (3) performance test procedures used. An exception exists for test deferred

				due to climatic conditions.
-	-	C408.3	Lighting system functional testing	Controls for lighting systems must comply with Section C408.3.
-	-	C408.3.1	Functional testing	Must ensure that hardware and software function according to construction documents and manufacturer's instructions. Code official may require a third party to conduct testing and provide documentation. In areas with occupancy sensors, time switches, and other procedures must confirm: (1) placement; sensitivity, and time-out adjustments for sensors are acceptable; (2) time switches are programmed to turn lights off; and (3) placement and sensitivity for photo sensors reduce light based on usable daylight as specified.
Chapter 4 [RE]: Residential Energy Efficiency				
401.2	Compliance	R401.2	Compliance	The language has been editorially changed from referencing specific section numbers to referencing provisions that are mandatory, prescriptive, and performance.
402.1.1	Component insulation and fenestration criteria	R402.1.1	Insulation and fenestration criteria	Added specific text that the building thermal envelope must meet the criteria in Table R402.1 based on the climate zone. Reference to the air distribution system has been deleted.
Table R402.1.1	Component efficiencies required	Table R402.1.1	Insulation and fenestration requirements by component	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.
Table 402.1.1.3	Equivalent U-factors	Table R402.1.3	Equivalent U-factors	The Florida-specific amendments to this table have been deleted and

				replaced with the requirements of the base code.
402.1.1.2	U-factor alternative	R402.1.3	U-factor alternative	Text requiring all other prescriptive criteria of Table 402.1.1, the prescriptive criteria in Section 402.1.2.4, and footnotes to Table 402.1.1.3 to be met, has been deleted.
402.1.1.3	Total UA alternative	R402.1.4	Total UA alternative	Text requiring all other prescriptive criteria of Table 402.1.1, the prescriptive criteria in Section 402.1.2.4, and footnotes to Table 402.1.1.3 to be met, has been deleted.
402.1.2	Limitations to compliance by Section 402	-	-	Section deleted.
402.1.2.1	Electric space heating	-	-	Section deleted.
402.1.2.2	Air handlers in attics	-	-	Section deleted.
402.1.2.3	Maximum percent window area	-	-	Section deleted.
402.1.2.4	Equipment efficiencies	-	-	Section deleted.
402.2	Specific insulation requirements (Prescriptive)	R402.2	Specific insulation requirements (Prescriptive)	Added specific text that clarifies that the insulation must meet the thermal envelope provisions as well as all the specific insulation requirements outlined in subsections to Section R402.2.
-	-	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.
-	-	R402.2.3	Eave baffle	If an attic is vented and has air permeable insulation, it must have a baffle adjacent to soffit and eave vents that is no less in size than the vent itself and must extend over top of the insulation.

402.2.5	Steel-frame ceilings, walls, and floors	R402.2.6	Steel-frame ceilings, walls, and floors	Deleted the exception that allowed steel-framed wall assemblies with studs spaced at 24 inches on center to use the equivalent insulation requirements in Table 402.2.5(2). Provisions are now covered in Table R402.2.6
Table 402.2.5(2)	Steel frame wall insulation R-value for 24 inch spacing of studs	-	-	Table deleted.
Table 402.2.5(1)	Steel-frame ceiling, wall, and floor insulation (R-value)	Table R402.2.6	Steel-frame ceiling, wall, and floor insulation (R-value)	Steel-framed walls have been divided into two categories, 16 in. O.C. and 24 in. O.C., having separate requirements for each. The rest of the table is unchanged.
-	-	R402.2.9	Slab-on-grade floors	New section specifying insulation requirements for slab-on-grade floors.
402.2.11	Thermally isolated sunroom insulation	R402.2.12	Sunroom insulation	Sunrooms enclosing conditioned spaces must comply with this code. For sunrooms with thermal isolation, the ceiling R-values need only be R-19 in Climate Zones 1-4 and R-24 in Climate Zones 5-8; wall R-values need only be R-13 in all climate zones.
402.2.12	Walls considered ceiling areas	-	-	Section deleted.
402.3.5	Thermally isolated sunroom U-factor	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	Air leakage (Mandatory)	R402.4	Air leakage (Mandatory)	The 2010 FBCEC had no text in this section. Text has been added to indicate that the provisions of all subsections to Section R402.4 must be satisfied.
402.4.1	Building thermal envelope	R402.4.1	Building thermal envelope	The provisions of the code have been deleted, other than the requirement associated with

				dissimilar material expansion and contraction, and replaced with a reference to the provisions in the two subsections that address installation and testing.
Table 402.4.2	Air barrier and insulation inspection component criteria	Table R402.4.1.1	Air barrier and insulation installation	One category (common wall) has been added and several changes have been made to the criteria, including a footnote. All other formatting remains the same.
402.4.2.1	Testing option	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.
402.4.2.2	Visual inspection option	R402.4.1.1	Installation	The provisions of the code have been relocated. While the wording has been revised, the intent is to ensure application of the provisions in the table on air barrier and insulation installation. Unlike the 2010 FBCEC, these provisions must be satisfied in all cases (see Section R402.4).
402.4.3	Fireplaces	R402.4.2	Fireplaces	New wood-burning fireplaces now require tight-fitting flue dampers rather than gasketed doors.
402.4.5	Recessed lighting	R402.4.4	Recessed lighting	The wording has been edited to provide the air leakage rate limit first, followed by the test standard instead of the test standard first, followed by the air leakage rate limit.
402.5	Maximum fenestration U-factor and SHGC	-	-	Section deleted.
403.1.3	Humidity control	-	-	Section deleted.
403.2	Ducts	403.2	Ducts	The 2010 FBCEC had no text in this section. Text has been added to

				indicate that the provisions of all Section R403.2 subsections must be satisfied.
403.2.1	Insulation (ducts)	R403.2.1	Insulation (ducts)	Exceptions have all been deleted.
403.2.2	Sealing (Mandatory)	403.2.2	Sealing (Mandatory)	New exception indicating the total leakage test is not required for ducts and air handlers located entirely within the building thermal envelope.
403.2.5	Air distribution system sizing and design	-	-	Section deleted.
-	-	R403.2.2.1	Sealed air handler	Air handlers must have a manufacturer's air leakage of ≤2% of design air flow rate when tested to ASHRAE 193.
-	-	R403.3.1	Protection of piping insulation	Exposed insulation must be protected from damage (e.g., from sunlight, moisture, maintenance). Adhesive tape is not permitted.
-	-	R403.4	Service hot water systems	New provisions have been added to distinguish provisions for pipe insulation and circulating systems as applying to service hot water systems (see Sections R403.4.1 and R403.4.2).
403.4	Circulating hot water systems (Mandatory)	R403.4.1	Circulating how water systems (Mandatory)	The provision concerning R-2 insulation has been deleted (see Section R403.4.2). The code now only addresses controls as covered in the previous code requirements.
-	-	R403.4.2	Hot water pipe insulation (Prescriptive)	R-3 insulation is required with hot water piping for the following piping: (1) ¾-in. diameter; (2) serving more than one dwelling unit; (3) from water heater to kitchen outlets; (4) outside conditioned space; (5) from water heater to distribution manifold; (6) under floor slab; (7) buried piping; (8) supply and return recirculation other than demand recirculation; and (9)

				having greater run lengths than the distance specified in Table R403.4.2.
-	-	Table R403.4.2	Maximum run length	A new table has been added providing pipe lengths as a function of pipe diameter over which R-3 pipe insulation is required unless the pipe's location or function is specifically listed in Section R403.4.2.
403.4.3.2	Water heater efficiencies	R403.4.4.2	Water heating equipment	Section revised by deleting previous text and simply requiring water heating equipment installed in residential units to meet the minimum efficiencies of Table C404.2 for the type of equipment installed. Table 403.4.3.2 has also been deleted.
403.4.3.2.1	Electric water heaters	-	-	Section deleted.
403.4.3.2.2	Gas- and oil-fired water heater efficiencies	-	-	Section deleted.
403.4.3.2.2.1	Gas instantaneous tankless water heaters	-	-	Section deleted.
403.4.3.2.2.2	Combination service water heating and space heating equipment	-	-	Section deleted.
403.5	Mechanical ventilation (Mandatory)	R403.5	Mechanical ventilation (Mandatory)	Must now meet the requirements of the FBCR or FBCM or with other approved means of ventilation.
-	-	R403.5.1	Whole-house mechanical ventilation system fan efficiency	Must meet the requirements of Table 403.5.1. An exception exists for fans integral to tested and listed HVAC systems, which must have an electrically commutated motor.
-	-	Table R403.5.1	Mechanical ventilation system fan efficiency	Added new provisions (see Section R403.5.1) for minimum fan efficiency in cfm/watt by fan location (e.g., range, in-line, bathroom, utility room) as a function of minimum and maximum fan air flow rate.
403.6.2	Equipment performance standards	-	-	Section deleted.
403.9.1.2	Heat pump pool heaters	R403.9.1.2	Heat pump pool heaters	Revised to exempt geothermal

				swimming pool heat pumps from meeting this standard.
403.9.2	Time switches	R403.9.2	Time switches	Revised to permit the use of control methods other than time switches.
403.9.4	Residential pool pumps and pump motors	-	-	Section deleted.
403.9.5	Portable spa standby power	-	-	Section deleted.
404.1	Lighting (Prescriptive)	R404.1	Lighting (Mandatory)	This section is now mandatory. At least 75% of all fixtures must be high efficacy. An exception exists for low-voltage fixtures.
-	-		R404.1.1 Lighting equipment (Mandatory)	Fuel gas lighting may not have continuous pilot lights.
405.4	Documentation	R405.4	Documentation	Text has been included in the 5th Edition of the FBCEC to specifically refer to and require compliance with subsections to this section of the code.
405.4.1	Compliance software tools	R405.4.1	Compliance software tools	Requires computer software utilized to have been approved by the Florida Building Commission.
405.5	Calculation procedure	R405.5	Calculation procedure	Text has been included in the 5th Edition of the FBCEC to specifically refer to and require compliance with subsections to this section of the code.
405.6	Calculation software tools	R405.6	Calculation software tools	Text has been included in the 5th Edition of the FBCEC to specifically refer to and require compliance with subsections to this section of the code.
405.6.1	Minimum capabilities	R405.6.1	Minimum capabilities	Calculation of whole-building sizing for heating and cooling equipment is now in accordance with the standard reference design in Section R403.6.
Table 405.5.2(1)	Specifications for the standard reference and proposed designs	Table 405.5.2(1)	Specifications for the standard reference and proposed designs	Revisions have been made to the table for interior shade fraction, the air-exchange rate, heating systems, cooling systems, and thermal distribution systems. Footnotes to the table have also been revised to

				reflect changes to the table.
-	-	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	Calculation of end use energy loads	Appendix B	Criteria for computer modeling for performance-based code compliance	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.