State Product Approval, **The Florida Building Code** and the Florida Energy **Conservation Code (6th Edition**) **Codes and Standards**

Codes and Standards
 Mo Madani, CBO, Technical Unit Director
 Joe Bigelow, Training Design



Building Codes and Standards



- Part 1 Organization
- Part 2 Local/State PA Review Process
- Part 3 6th Edition FBC Process
- Part 4 Florida Energy Conservation Code
 - Residential
 - Commercial
- Part 5 Interpretation Process Overview

Part 1 – Organization



Florida Product Approval System Department of Business and Professional Regulation Technical and Product Approval Team

* Mo Madani – Technical Director

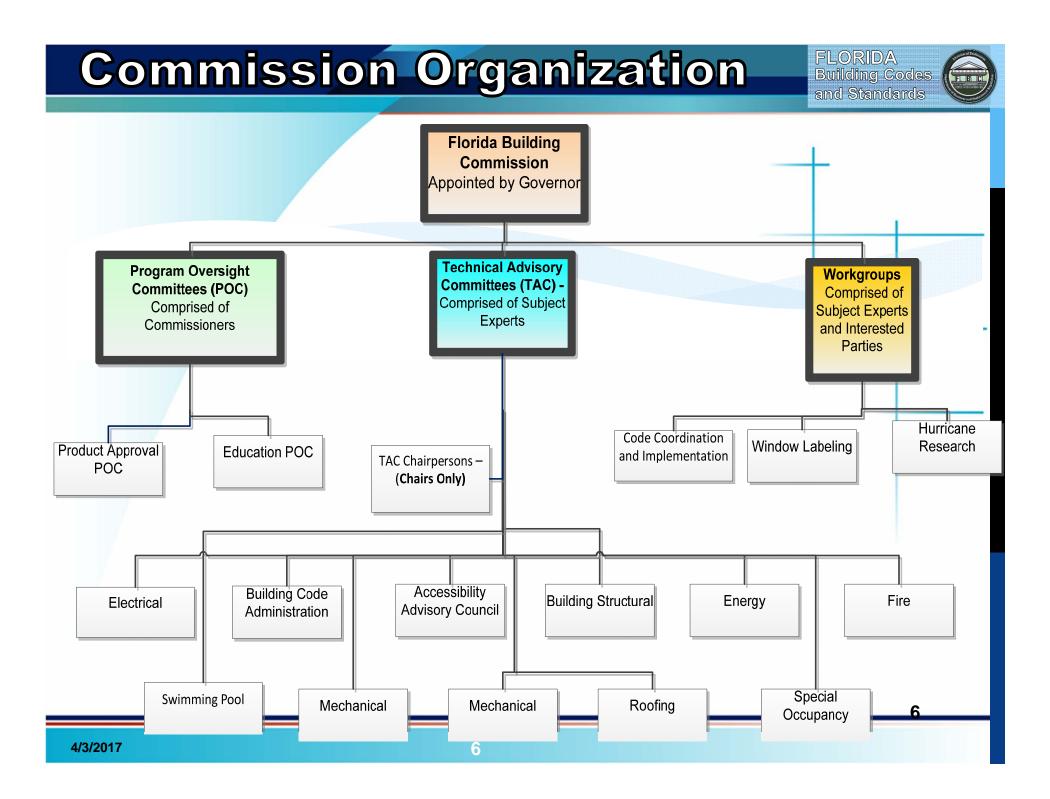
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- * Marlita Peters <u>-marlita.peters@myfloridalicense.com</u> 850-717-1831
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- * Joe Bigelow joe.bigelow@myfloridalicense.com 850-717-1829
- * Robert Benbow –<u>robert.benbow@myfloridalicense.com</u> 850-717-1828
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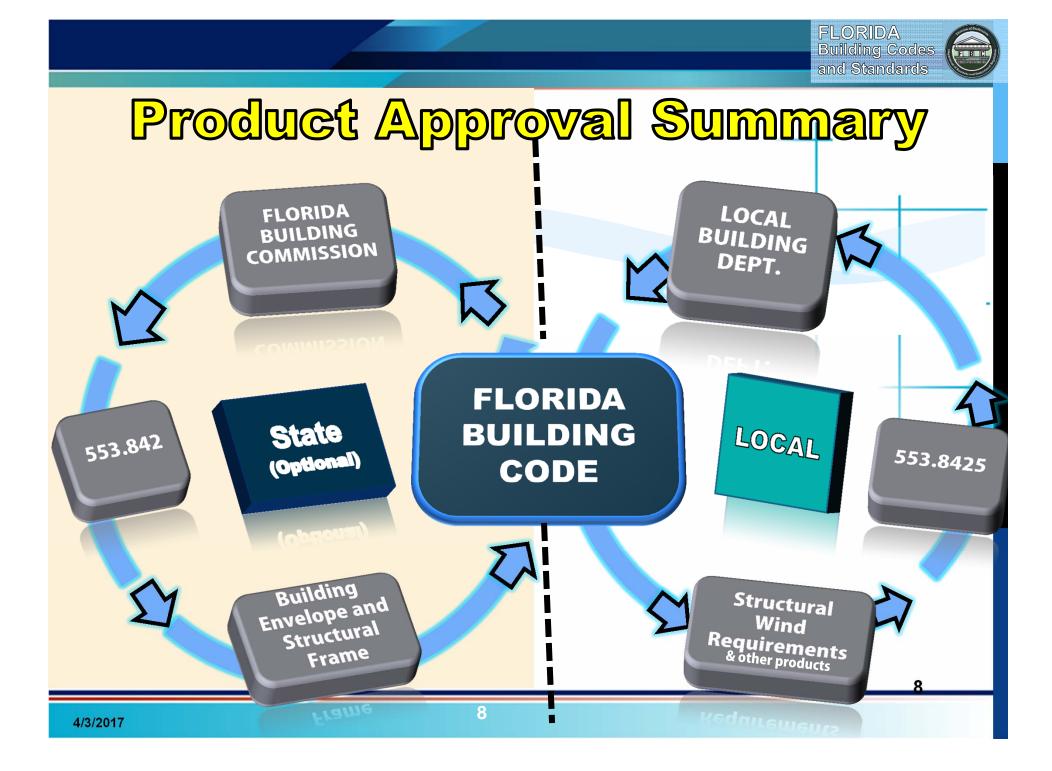
Florida Building Commission

- Located within Florida Department of Business
 and Professional Regulation
- Composed of 27 members appointed by the governor
 - Architects, engineers, contractors, fire protection, Building Officials, Product manufacturers, insurance industry representatives, public education representatives, green building representatives
- Chair Mr. Richard Browdy, President, Browdy & Browdy Inc., Jacksonville, FL
- Meets every 6 weeks Across the state



Part 2 – Local / State PA Review Process







State Product Approval - Rule

* Administrator DBPR –



RULE 61G20-3 F.A.C.

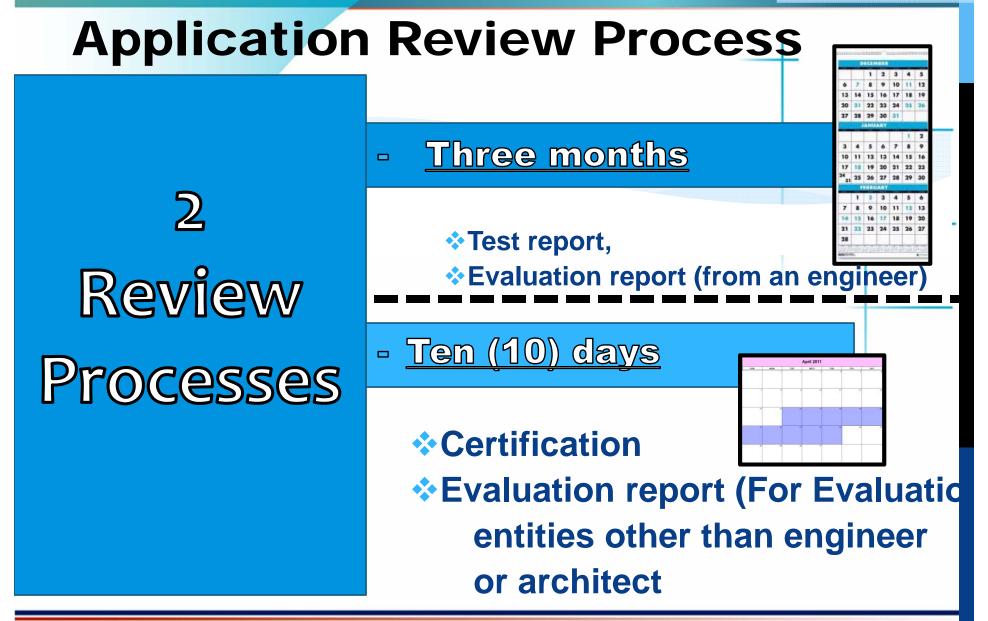
This rule applies to approval of products and systems which comprise the building envelope and structural frame, for compliance with the structural requirements of the Florida Building Code



4 Methods for State Approval

Method	Approving Authority
Certification Method	DBPR
 Evaluation Report from an Evaluation Entity 1. The National Evaluation Service (NES/ICC) 2. Miami Dade 3. The International Association of Plumbing and Mechanical Officials Evaluation Service (IAPMO) 	DBPR
Evaluation Report from a Florida licensed Architect or a Florida Professional Engineer	Florida Building Commission
Test Report	Florida Building Commission





4/3/2017



2014 FBC PA Statistics to Date 5360 approved applications 22,814+ approved products 128 approved entities



Florida Building Code 2017

There are three ways to have your product comply with the new code

- Self-Affirmation of existing application
- Revision of existing application
- New application



Self-Affirmation FBC 2017

- Application Self Affirmation
 - Upon review of the new Code, if the standards and restrictions in the new Code applicable to your product have not changed, you can "self-affirm" that your product complies with applicable standards of the new Code.
 - Please contact our offices before initiating a self-affirmation
 - Self Affirmations cost \$100.



Self-Affirmation FBC 2017

- 61G20-3.007 Product Approval by the Commission.
- As part of application for self-affirmation, if the evaluation report refers to the previous edition of the Code, the manufacturer of the approved product shall submit a statement from an approved evaluation or validation entity that the product complies with the subsequent code version via an attachment uploaded and submitted through the BCIS.



Application Revision FBC 2017

 If the standards or restrictions pertaining to your product in the 2017 Code have changed, then a product revision application must be submitted

 New evidence such as a test report or an evaluation report demonstrating compliance must also be submitted

Revisions cost \$500



Florida Building Code

- * 5th Edition (2014)
 - The 2014 Florida Building Code is available online at www.floridabuilding.org.
 - * The Effective Date for 2014 Code is June 30, 2015
- * 6th Edition (2017)
 - The 2017 Florida Building Code is available online at www.floridabuilding.org.
 - The Effective Date for the 6th Edition (2017) Code is December 31, 2017

Timeline for 2017 (application for submittal and Review)

POC Meeting Date	Commission Meeting:	
	Commission Meeting: June 13, 2017	
June 1, 10:00 A.M.	Apr 13- Midnight - Deadline for Submittal/Validation Deadline Apr 21 - Midnight - Completion Deadline May 8 - Report Posted for public comment (Includes DBPR Approvals) May 16 - NOON - Deadline for public comments to be mailed to the Administrator May 25- Final Report Posted (Includes DBPR Approvals)	
	Commission Meeting: August 8, 2017	
July 27 10:00 A.M.	Jun 16- Midnight - Deadline for Submittal/Validation Deadline June 26 - Midnight - Completion Deadline July 3 - Report Posted for public comment (Includes DBPR Approvals) July 10 - NOON -Deadline for public comments to be mailed to the Administrator July 19 - Final Report Posted (Includes DBPR Approvals)	_
	Commission Meeting: October 10, 2017	
September 28 10:00 A.M.	Aug 18 - Midnight - Deadline for Submittal/Validation Deadline Aug 28 - Midnight - Completion Deadline Sept. 5- Report Posted for public comment (Includes DBPR Approvals) Sept 12 - NOON - Deadline for public comments to be mailed to the Administrator Sept 20 - Final Report Posted (Includes DBPR Approvals)	
	Commission Meeting: December 12, 2017	
November 30 10:00 A.M.	Oct 13 - Midnight - Deadline for Submittal/Validation Deadline Oct 27 - Midnight - Completion Deadline Nov 1 - Report Posted for public comment (Includes DBPR Approvals) Nov 7 - NOON - Deadline for public comments to be mailed to the Administrator Nov 20 - Final Report Posted (Includes DBPR Approvals)	

FLORIDA

Building Codes



New Feature for Quality Assurance Entities

- * This new module will implement a new feature to allow Quality Assurance Entities to update Quality Assurance Entity contract expiration dates.
- This new feature allows Quality Assurance Entities to update expiration fields and manage expiring contracts.
- The new field consists of a direct link to the manufacturers application from an updated manage tab inside your manage applications area.

Part 3 6th Edition (2017) Florida Building Code Development Process

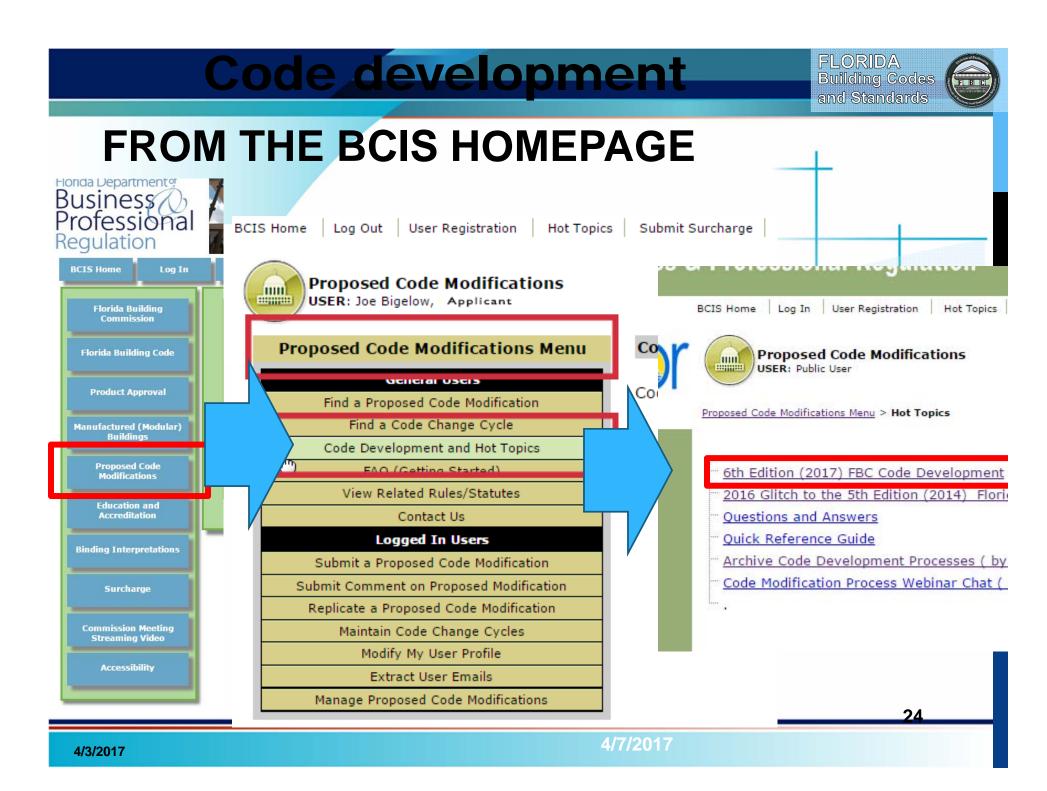


TASK	SCHEDULE
Primary Code Development Phase:	
2014 NEC published and available to the public;	08/2013
2015 International Codes published and available to the public;	05/2014
Commission selects 2015 I Codes and 2014 NEC as foundation for 6 th Edition (2017) FBC (<i>April 2015</i> Commission meeting)	04/14/2015
2015 I Codes plus the Preliminary Supplement – posted online	6/30/2015
Period for public to propose modifications to the 2015 I Codes and the Preliminary Supplement	7/1/2015 — 1/3/2016
1 st 45 day comment period ends (By law -45 day min before TAC review)	2/25/2016

FLORIDA Building Codes and Standards **Triennial Update** RIBC 9 8 45 days – **I-CODES File Rule** PUBLISHED Chapter 120 Hearing 10 7 2 6-9 Months Supplement + TAC Review Commission Published before effective date Action l-Codes **Z**-years 2013 Building 45-Day 3 6 3 Month – Public Comment Period **Public Submits Modification** Proposals 45-Day 5 Public Comment Period **TAC** Review

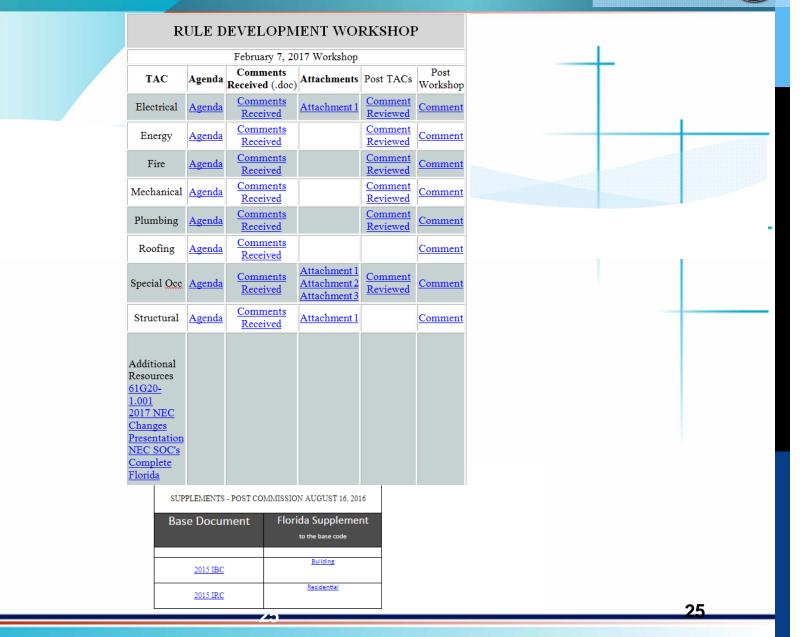
4/3/2017

TACs consider proposed modifications including comments from the 1 st 45 day	4/1-15/2016
comment period and adopt recommendations	
TACs meetings - 4-day on-site meetings in conjunction with the April 2016	
Commission meeting	
TACs recommendations posted to the website	5/6/ 2016
2 nd 45 day comment period ends <i>(by law – 45 day min before Commission review)</i>	6/21/2016
TACs consider public comments on their actions and prepare public comment for consideration by the Commission.	7/18-21/2016
TACs meetings – 4-day meetings [2-day on-site (Gainesville) and 2 – day via conference/webinar]	
Commission considers TAC recommendations at Rule development Workshops - Commission – 2-day meeting	8/16-17/2016
Draft 6 th Edition (2017) FBC (Florida Supplement plus I Codes) posted online Provide Supplements to ICC for integration into the 2015 I-Code	9/19/2016
Rule development Workshops	12/13/2016 2/7/2017 & April 4, 2017
Integrated Draft 6 th Edition (2017) FBC – Posted online	4/21/2017
<i>Final Rule Hearing</i> on 6 th Edition (2017) FBC/Commission approves final version of Code 6 th Edition (2017) Florida Fire Prevention Code available in final format	6/13/2017
2017 FBC (6 th edition) effective date (6 – months after	12/31/2017
publication)	
Glitch Correction Phase: after effective date, if needed	



Code Development

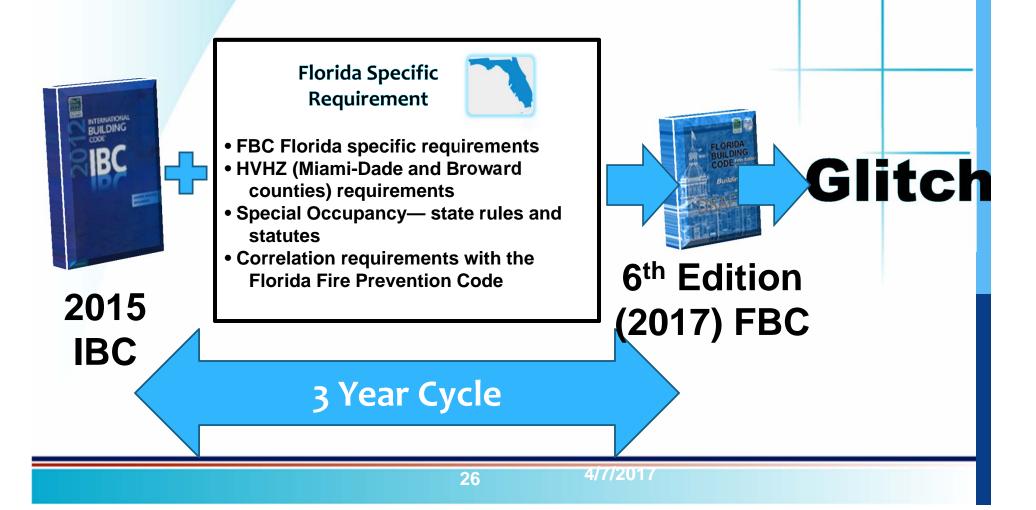
FLORIDA Building Codes and Standards



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Code Printing

Integration (Current Process) 6th Edition (2017) FBC



Effective Dates

FLORIDA Building Codes and Standards

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	20 FE	2001 FBC		2004 FBC			2 F	BC	7		10 3C	V	ersion 5 th ditio 2014	ר ו	6 th Edition (2017)
	Original	2003 Supplement	Original	2005 Supplement	2006 Supplement	2007 Supplement	Original	1 st 2009 Supplement	2 nd 2009 Supplement	Original	2012 Supplement	Original	Supplement 1	Supplement 2	
Effective Date	March 1, 2002	June 30, 2003	Oct 1, 2005	Dec 16, 2005	Dec 8, 2006	July 1, 2007	March 1, 2009	March 1, 2009	Oct 1, 2009	March 15, 2012	April 15, 2012	June 30, 2015	July 1, 2016	October 8, 2016	Tentative Date December 31, 2017

Part 4 Florida Energy Conservation Code 6th Edition (2017)

General

- Fewer Florida specifics are integrated into the document. IECC are us.
- The base document is the 2015 International Energy Conservation Code (IECC)

4/3/2017

INTERNATION



FLORIDA

Building Codes and Standards

Residential



TABLE R402.1.2 INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT^a

CLIMATE ZONE	FENESTR ATION U- FACTOR bj	SKYLIG HTb U- FACTO R	GLAZED FENEST RATION SHGCb, e	CEILING R-VALUE	WOOD FRAME WALL R- VALUE	MASS WALL R- VALUEi	FLOOR R-VALUE	BASEME NTc WALL R- VALUE	SLABd R-VALUE & DEPTH	CRAWL SPACEc WALL R- VALUE	
1	<u>NR.65</u>	0.75	0.25	30	13	3/4	13	0	0	0	
2	0.40	0.65	0.25	38	13	4/6	13	0	0	0	
3	0.35	0.55	0.25	38	20 or 13+5h	8/13	19	5/13f	0	5/13	1
4 except Marine	0.35	0.55	0.40	49	20 or 13+5h	8/13	19	10 /13	10, 2 ft	10/13	
5 and Marine 4	0.32	0.55	NR	49	20 or 13+5h	13/17	30g	15/19	10, 2 ft	15/19	
6	0.32	0.55	NR	49	20+5 or 13+10h	15/20	30g	15/19	10, 4 ft	15/19	
7 and 8	0.32	0.55	NR	49	20+5 or 13+10h	19/21	38g	15/19	10, 4 ft	15/19	

[No change to footnotes a - i]

j. For impact rated fenestration complying with Section R301.2.1.2 of the *Florida Building Code, Residential* or Section 1609.1.2 of the *Florida Building Code, Building* the maximum *U*-factor shall be 0.75 in Climate Zone 1 and 0.65 in Climate Zone 2.

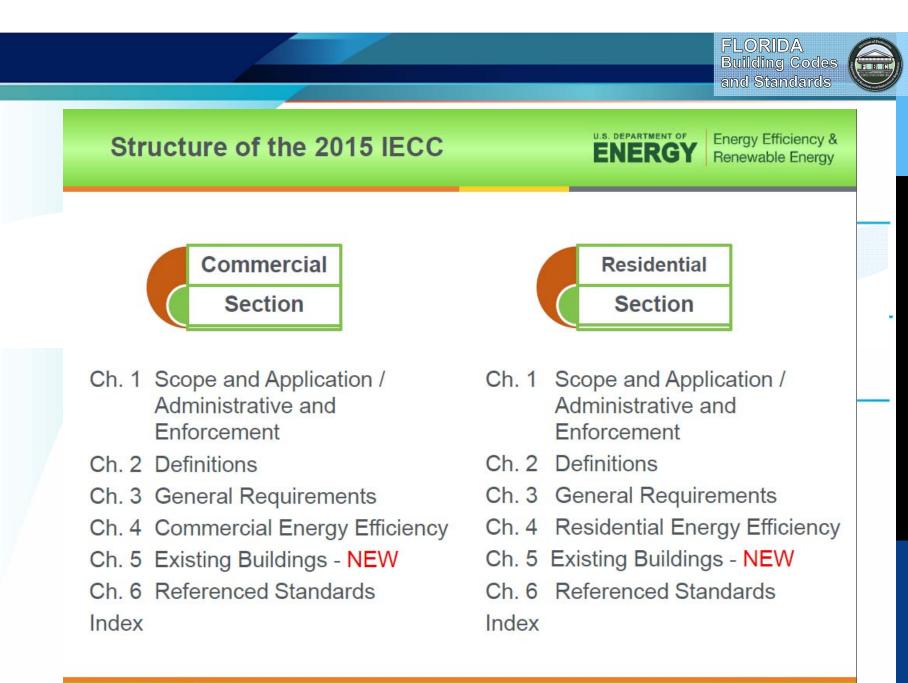
Residential

TABLE R406.4 MAXIMU	M ENERGY RATING INDEX	
CLIMATE ZONE	ENERGY RATING INDEX	
1	52 <u>58</u>	-
2	52 58	
3	51	_
4	54	
5	55	
6	54	
7	53	
8	53	

(HB 535)

FLORIDA Building Codes and Standards

FBC



BUILDING ENERGY CODES

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Scope Section R101



Energy Efficiency & Renewable Energy



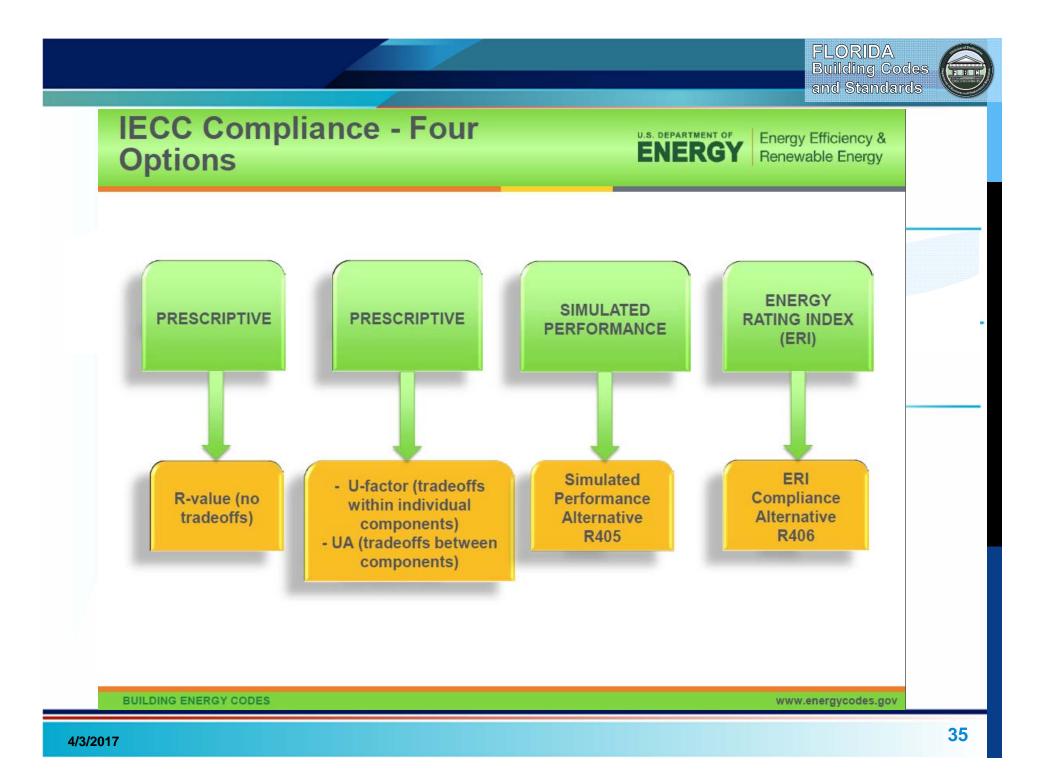


Residential Buildings:

- ✓ One- and two-family dwellings, townhouses of any size and R-2, R-3, R-4 ≤ 3 stories
- All buildings that are not "residential" by definition are "commercial"

BUILDING ENERGY CODES

www.energycodes.gov



Energy Efficiency &

Renewable Energy

U.S. DEPARTMENT OF

ENERGY



Fenestration Section R402.3.2 – Dynamic Glazing

- ✓ Dynamic glazing (New)
 - ✓ Ratio of higher to lower labeled SHGC ≥ 2.4
 - Automatically controlled to modulate amount of solar gain into space in multiple steps
 - Shall be considered separately from other fenestration (area weighted average)
 - Exception not required to comply when both high and low rated SHGC meet Table R402.1.2

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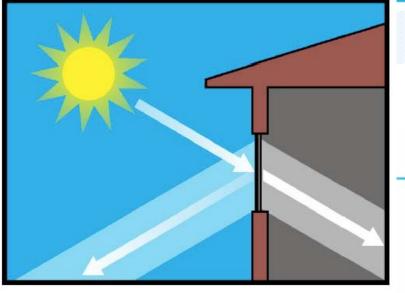
Fenestration Trade-off Limits, cont'd.

U.S. DEPARTMENT OF

Energy Efficiency & Renewable Energy

Hard limit on Solar Heat Gain Coefficient in southern U.S. (Zones 1-3)

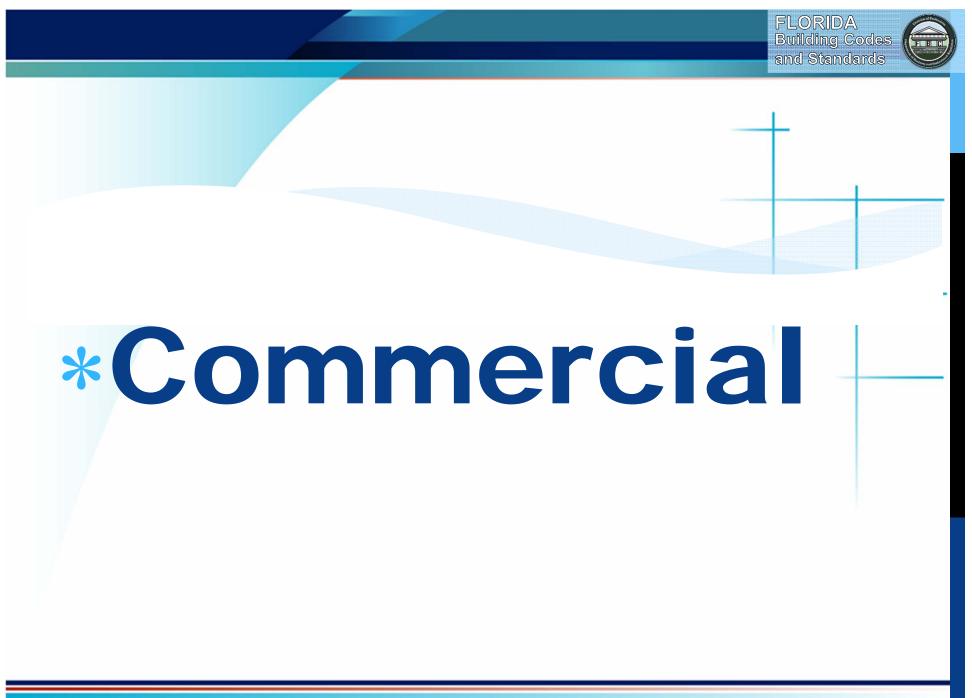
- ✓ SHGC cannot exceed
 0.50, even in performance tradeoffs
- SHGCs of individual windows or skylights can be higher if maximum area-weighted average is below this limit.

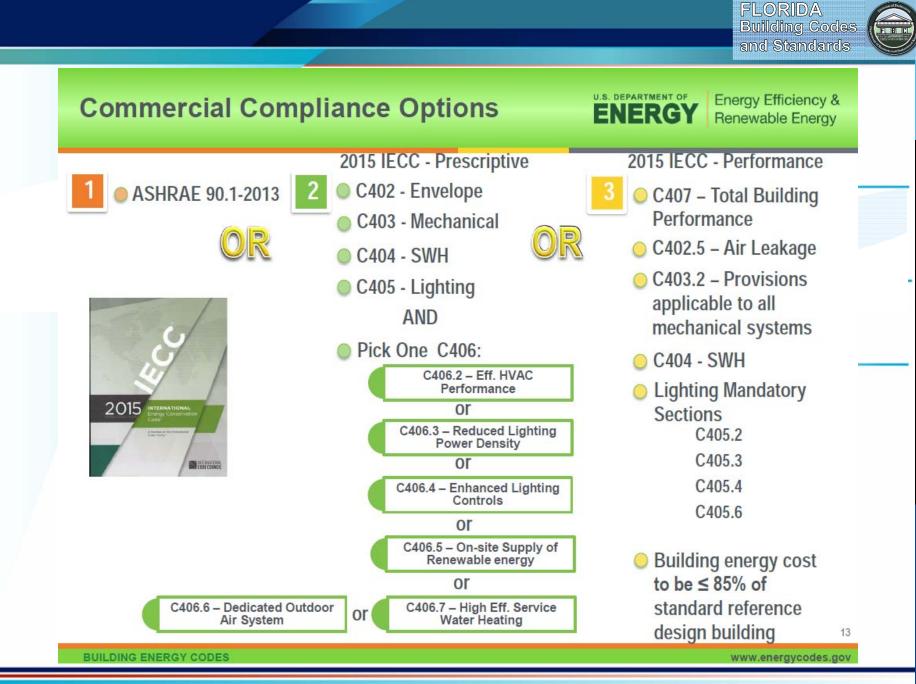


Solar Heat Gain Coefficient

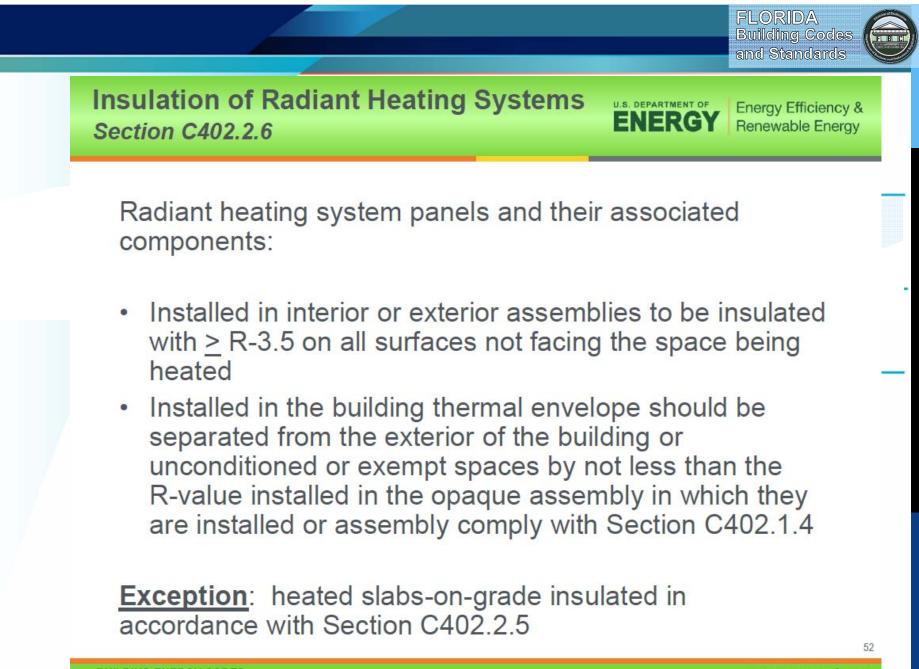
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FLORIDA Building Codes and Standards



Percentage of Vertical Fenestration Area to Gross Wall Area

- Allowed up to 30% maximum of above grade wall
 - In Climate Zones 1-6, up to 40% maximum of above grade wall with daylighting controls

54

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BUILDING ENERGY CODES

***Changes to the Florida Building Code 6th Edition (2017)**, **Residential and** Commercial



Florida Building Code, 6th Edition (2017), Residential



Florida Building Code 6th Edition (2017), Residential

* R609.2.1. Custom doors.

* <u>Custom doors. Custom (one-of-a-kind) exterior</u> <u>door assemblies shall be tested by an approved</u> <u>testing laboratory or be designed and</u> <u>engineered in accordance with accepted</u> <u>engineering practices by a Florida Registered</u> <u>Design Professional. Signed and sealed copies of</u> <u>the rational analysis and calculations shall be</u> <u>provided to the building official upon permit</u> <u>application.</u>

*(S6813 AM)

FBC-Residential



Florida Building Code 6th Edition (2017), Residential

* R609.3 Testing and labeling.

Exterior windows and sliding doors shall be tested by an *approved* independent laboratory, and bear a *label* identifying manufacturer, performance characteristics and *approved* inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440 or TAS 202 (HVHZ shall comply with TAS 202 and ASTM E 1300). Exterior side-hinged doors shall be tested and *labeled* as conforming to AAMA/WDMA/CSA 101/I.S.2/A440 or AMD 100 ANSI/WMA 100, or comply with Section R609.5.Exterior windows and doors shall be labeled with a permanent label, marking, or etching providing traceability to the manufacturer and product.

R609.8.2 Deflection.

Mullions shall be capable of resisting the design pressure loads applied by the window and door assemblies to be supported without deflecting more than L/175, for spans up to and including 13 foot 6 inches, and $L/240 + \frac{1}{4}$ inch for spans over 13 foot 6 inches, where L is the span of the mullion in inches.

- R609.10 Door Components <u>Substitution of door components shall comply</u> <u>with ANSI/WMA 100.</u>
- (S6814 AM & S6896 AM)
 (S6814 AM



Florida Building Code 6th Edition (2017), Building

- * 449.4.2.5 Exterior unit standards Debris impact protection standards.
- * 449.4.2.5.1 All exterior window units, skylights, exterior louvers and exterior door units including vision panels and their anchoring systems shall be impact resistant or protected with an impact-resistant covering meeting the requirements of the Testing Application Standards (TAS) 201, 202, and 203 of this code in accordance with the requirements of Sections 1626.2 thru 1626.4 of this code or the debris impact requirements of ASTM E 1996 as described in Section 1609.1.2.2 Application of ASTM E 1996 of the Florida Building Code. For the purpose of this requirement, facilities located in areas where the ultimate design wind speeds are 130 MPH or less as described in figure 1609B of this code, shall be meet the requirements for Wind Zone 1. The impact resistant coverings may be either permanently attached or may be removable if stored on site of the facility. Facilities located in the high velocity hurricane zone (HVHZ) shall comply with Section 1626.2. through 1626.4.

 * 450.4.2.5 Exterior unit standards. Debris impact protection standards.

450.4.2.5.1 All exterior window units, skylights, exterior louvers and exterior door units including vision panels and their anchoring systems shall be impact resistant or protected with an impact-resistant covering meeting the requirements of the Testing Application Standards (TAS) 201, 202, and 203 of this code in accordance with the requirements of Sections 1626.2 through 1626.4 of this code or the debris impact requirements of ASTM E 1996 as described in Section 1609.1.2.2 Application of ASTM E 1996 of the Florida Building Code. For the purpose of this requirement, facilities located where the ultimate design wind speeds are 130 MPH or less as described in figure 1609B of this code, shall meet the requirements for Wind Zone 1. The impact resistant coverings may be either permanently attached or may be removable if stored on site of the facility. Facilities located in the high velocity hurricane zone (HVHZ) shall comply with Section 1626.2. through 1626.4.

FLORIDA

Building Codes and Standards

Florida Building Code, 6th Edition (2017), Building



Florida Building Code, 6th Edition (2017), Building

- * 449.4.2.5/450.4.2.5 Exterior unit standards <u>Debris impact</u> protection standards.
- * 449.4.2.5.1/450.4.2.5 All exterior window units, skylights, exterior louvers and exterior door units including vision panels and their anchoring systems shall be impact resistant or protected with an impact-resistant covering meeting the requirements of the Testing Application Standards (TAS) 201, 202, and 203 of this code in accordance with the requirements of Sections 1626.2 thru 1626.4 of this code or the debris impact requirements of ASTM E 1996 as described in Section 1609.1.2.2 Application of ASTM E 1996 of the Florida Building Code. For the purpose of this requirement, facilities located in areas where the ultimate design wind speeds are 130 MPH or less as described in figure 1609B of this code, shall be meet the requirements for Wind Zone 1. The impact resistant coverings may be either permanently attached or may be removable if stored on site of the facility. Facilities located in the high velocity hurricane zone (HVHZ) shall comply with Section 1626.2. through 1626.4. (SP6960 AM)



State Requirements for Educational Facilities

* 453.25.4 Structural standard for wind loads. At a minimum, EHPAs shall be designed for hurricane wind loads in accordance with ASCE 7, Minimum Design Loads for Buildings and Other Structures, Risk Category IV (Essential Buildings) ICC 500-2014 Standard for the **Design and Construction of Storm Shelters.** Openings shall withstand the impact of wind-borne debris missiles in accordance with the impact and cyclic loading criteria per ASTM E-1886, and ASTM E-1996 or SBC/SSTD 12. Based on a research document, Emergency Shelter Design Criteria for Educational Facilities, by the University of Florida for the DOE, it is highly recommended by the department that the shelter be designed using the map wind speed plus 40 mph.



Florida Building Code, 6th Edition (2017), Building State Requirements for Educational Facilities

* 1709.5.3 Door components evaluated by an approved product evaluation entity, certification agency, testing laboratory or engineer may be interchangeable in exterior door assemblies provided that the door components provide equal or greater structural performance as demonstrated by accepted engineering practices.

*(S6815 AS)



High Velocity Hurricane Zones

- * 2411.3.2.4 Structural wind load design pressures for window and door units other than the size tested in accordance with Section 2411.3.2.1 shall be permitted to be different than the design value of the tested unit provided such different pressures are determined by accepted engineering analysis or validated by an additional test of the window or door unit to the different design pressure in accordance with section 2411.3.2.1. All components of the alternate size unit shall be the same as the tested or labeled unit.
- i. Operable windows and glass doors rated in this manner shall comply with the following:
- The frame area of the alternate size unit shall not exceed the frame area of the tested approved unit.
- * <u>1. For windows and doors (other than sliding or bi-fold), the frame area</u> of the alternate size unit shall not exceed the frame area of the tested approved unit.
- * 2. For sliding or bi-fold doors, the panel area of the alternate size unit shall not exceed the panel area of the tested approved unit and if the door stiles or interlocks do not meet 1616.3(5) the maximum allowed unit's frame area shall be limited to 1.5 times the tested frame area.

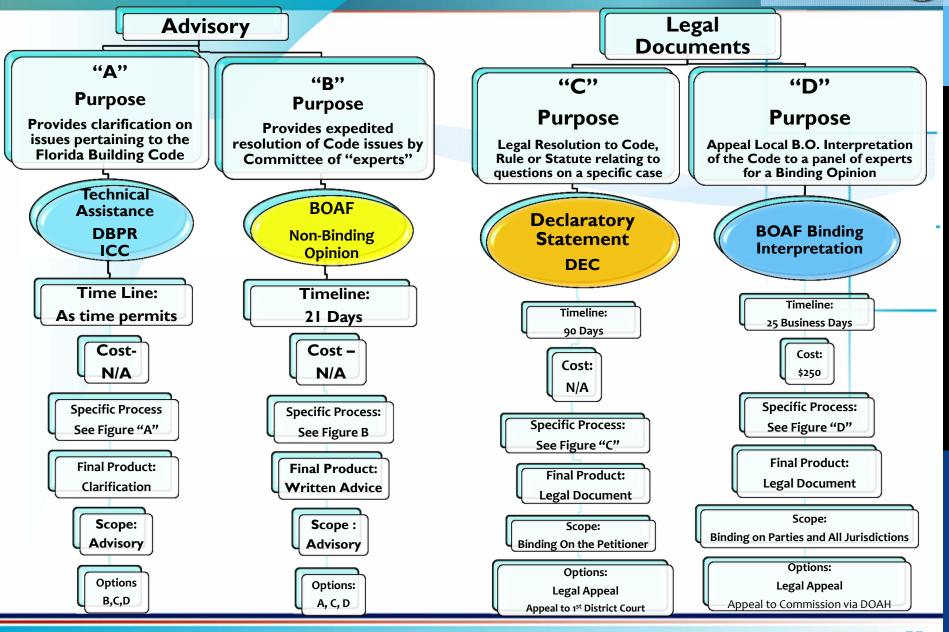
Part 5 – Interpretation Process Overview

Interpretation Processes in place are working!

4/3/2017

Overview of Code Resolution Process

FLORIDA Building Codes and Standards



4/3/2017



4/3/2017