2001 Florida Building Code to 2004 Florida Building Code Comparison

Florida Extruder Milestone Series 500, 1000, 1500, 1750, 2000 & 3000 Aluminum Fenestration and Series 4000 Vinyl Fenestration

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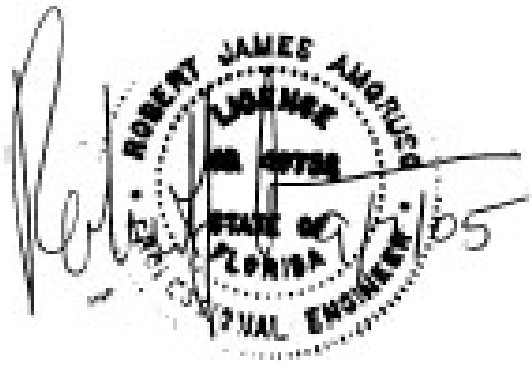
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1.0 Objective

The objective of this report is to compare the pertinent sections of the 2001 Florida Building Code (2001 FBC) related to exterior windows and patio doors and compare them to the corresponding sections of the 2004 Florida Building Code – Building and Residential Volumes (2004 FBC/2004 FRC).

Based on the comparison, determine if:

- Any substantive differences exist.
- If so, determine the following.
    - What is the affect?
    - How does it affect the testing, labeling, engineering analysis and product evaluations performed in the Florida Product Approval Applications listed in Section 2.3 below?
    - Are any revisions required to the testing, labeling, engineering analysis, installation drawings or product evaluation?
- If not, determine the following.
    - Discuss any changes deemed "non-substantive" and why they do not affect code compliance.
- Present final conclusions.

2.0 References

2.1 Florida Building Code – 2001 (adopted 3-1-02) with 2003 amendments

2.2 Florida Building Code – 2004 (effective 10-1-05)

2.2.1 Residential Volume (2004 FRC)
2.2.2 Building Volume (2004 FBC)

2.3 Florida Rule 9B-72 Product Applications

2.3.1 Aluminum Fenestration, Series 500, 1000, 1500, 1750, 2000 and 3000

2.3.1.1 FL42, Single Hung Windows, Impact and Non-Impact.
2.3.1.1.1 Series 1000
2.3.1.1.2 Series 1500
2.3.1.1.3 Series 2000
2.3.1.2 FL43, Horizontal Slider Windows, Non-Impact.
2.3.1.2.1 Series 1000
2.3.1.3 FL44, Fixed Windows, Impact and Non-Impact.
2.3.1.3.1 Series 1000
2.3.1.3.2 Series 1750 (Internal Designation for special shapes enveloped by the rectangular test specimens.
2.3.1.3.3 Series 2000
2.3.1.4 FL45, Sliding Glass Patio Doors, Impact and Non-Impact.

2.3.1.5 FL4062, Sliding Glass Patio Doors, Impact and Non-Impact.
2.3.1.6 FL4705, Continuous Head and Sill Single Hung Window, 2 and 3 Bay Configurations, Non-Impact.
2.3.1.6.1 Series 1000
2.3.1.7 FL4708, Single Hung Window, Non-Impact with IG.
2.3.1.7.1 Series 1000

2.3.2 Vinyl Fenestration, Series 4000

2.3.2.1 FL4129, Single Hung Windows, Impact and Non-Impact.
2.3.2.2 FL4130, Casement Windows, Impact and Non-Impact.
2.3.2.3 FL4131, Horizontal Slider Windows, Impact and Non-Impact.
2.3.2.4 FL4132, Fixed Windows, Impact and Non-Impact.

3.0 Code Requirement Summary

3.1 See Appendix 1 for summary of Code requirements related to Impact and Opening Protection.

3.2 See Appendix 2 for summary and comparison of Code requirements related to the following.
3.2.1 Window and door testing and labeling.
3.2.2 Anchorage requirements
3.2.3 Identification and safety glazing requirements.
3.2.4 Glass supports and framing deflections.
3.2.5 Loads on glass.

4.0 Analysis & Results

4.1 WINDOWS AND DOORS, OPENING PROTECTION - Based on the comparison in Appendix 1, the following conclusions are drawn.

4.1.1 No significant or substantive changes in testing or engineering requirements exist for Mullions. Verbiage has been changed to enhance and clarify portions of the requirements only.

4.1.2 ASTM E1886 and E1996 have been updated to the 2002 versions vs. the 1997 and 1999 versions respectively referenced in the 2001 FBC.

4.1.3 Review of ASTM E1886 and E1996 indicates that no changes occurred that affect the testing or results reporting requirements. The 2002 version of ASTM E1996 added a Wind Zone 4 that is synonymous with the HVHZ in Florida.

4.1.4 See Appendix 1 for further details and comments.

4.2 WINDOWS AND DOORS, PERFORMANCE TESTING, LABELING, INSTALLATION, SAFETY GLAZING, DEFLECTIONS AND LOADS ON GLASS - Based on the comparison in Appendix 2, the following conclusions are drawn.

4.2.1 Testing and Labeling of Fenestration Products

4.2.1.1 The basic requirements of the sections of the Code related to testing and labeling exterior windows and patio sliding glass doors remain unchanged.

4.2.1.2 ANSI/AAMA/NWWDA 101/I.S. 2 is still referenced and remains at the same revision level.

4.2.1.3 AAMA's 101/I.S. 2/NAFS-2 has been added based on an equivalency evaluation performed by the FBC's Structural TAC and approved by the Commission.

4.2.1.4 Verbiage has been added to mandate that the glass installed during the manufacturer of the window has a load resistance based on ASTM E1300 that meets or exceeds the opening's Design Pressure.

4.2.1.4.1 Windows must still be glazed in accordance with their testing (i.e., you cannot glaze thinner or weaker then what was originally tested).

4.2.1.4.2 Glazing for opening pressure is a function governed by the buyer who orders the product with glazing having a load resistance per ASTM E1300 that meets or exceeds the opening's design pressure.

4.2.1.5 Comparative Analysis remains unchanged.

4.2.2 Anchorage requirements.

4.2.2.1 No changes. Verbiage remains the same. Only section numbers differ.

4.2.3 Identification and safety glazing requirements.

4.2.3.1 The 2004 Codes have provided clarification and expansion on this subject.

4.2.3.2 The clarifications and expansions do not affect the underlying requirements.

4.2.3.3 No additions or changes to the Code that affect current practice of the following:

4.2.3.3.1 Human Impact Loads to the CPSC 16 CFR 1201 requirements.

4.2.3.3.2 Tempered and Laminated Glass is permanently marked.

4.2.3.3.3 Other types of glass can be labeled temporarily.

4.2.3.3.4 Glazing size and type only have to be on the non-tempered and non-laminated glazing temporary

label.

4.2.4 Glass supports and framing deflections.

4.2.4.1 The 2004 Codes have provided clarification and expansion on this subject.

4.2.4.2 The basic requirement that deflections will not exceed l/175 remains unchanged.

4.2.5 Loads on glass.

4.2.5.1 The 2004 FBC added a requirement that design of exterior windows and glass doors must use the same edition of ASTM E1300used in testing.

4.2.5.2 This requirement affects the use of the product more than the testing and labeling or installation so does not influence product approved under the 2001 FBC.

4.2.5.3 Glazing for opening pressure is a function governed by the buyer who orders the product with glazing having a load resistance per ASTM E1300 that meets or exceeds the opening's design pressure. However, the glazing shall not be thinner or weaker then that used during testing.

4.3 Conclusions

4.3.1 No substantive changes exist.

4.3.2 Non-substantive changes include section numbering changes, clarifications and additions resulting from these clarifications to the Code. Changes, additions, deletions, or clarifications discussed In Appendix 2 have no substantive affect on the performance testing, labeling requirements, engineering calculations, installation drawing or product evaluation.

4.4 Therefore, all previously submitted documentation to the DCA/BCIS website for product approvals (Ref. 2.3) and certified to the 2001 FBC does not require revision for the 2004 FBC and 2004 FRC.

4.4.1 For future issues of drawings, 2004 FBC and 2004 FRC section references may be added.

APPENDIX 1

Comparison of 2001 FBC to 2004 FBC

Exterior Window and Patio Sliding Glass Door

Impact Protection of Openings and Testing

CODE SECTIONS RELATED TO IMPACT PROTECTION OF OPENINGS AND REQUISITE TESTING				
ITEM	**2001 FBC**	**2004 FBC**	**2004 FRC**	**Comments**
Opening Protection and Impact Testing	1606.1.4 Protection of openings. In windborne debris regions, exterior glazing that receives positive pressure in the lower 60 feet (18.3 m) in buildings shall be assumed to be openings unless such glazing is impact resistant or protected with an impact resistant covering meeting the requirements of SSTD 12, ASTM E 1886 and ASTM E 1996, or Miami-Dade PA 201, 202 and 203 referenced therein as follows: 1. Glazed openings located within 30 feet (9.1 m) of grade shall meet the requirements of the Large Missile Test. 2. Glazed openings located more than 30 feet (9.1 m) above grade shall meet the provisions of the Small Missile Test. 1606.1.5 Definitions.	1609.1.4 Protection of openings. In wind-borne debris regions, exterior glazing that receives positive pressure in the lower 60 feet (18.3 in) in buildings shall be assumed to be openings and the balance of glazed openings in the rest of the building shall be assumed to be zero unless such glazing that receives positive pressure is impact resistant or protected with an impact resistant covering meeting the requirements of SSTD 12. ASTM E IS86 and ASTM E 1996, or Miami-Dade TAS 201. 202 and 203 referenced therein as follows: 1. Glazed openings located within 30 feet (9.1 m) of grade shall meet the requirements of the Large Missile Test. 2. Glazed openings located more than 30 feet (9.1 m) above grade shall meet the provisions of the Small Missile Test. 1609.2 Definitions.	R301.2.1.2 Internal pressure. Windows in buildings located in wind-borne debris regions shall have glazed openings protected from wind- borne debris or the building shall be designed us a partially enclosed building in accordance with the Florida Building Code, Building. Glazed opening protection for wind-borne debris shall meet the requirements of the Large Missile Test of ASTM E1996 and of ASTM E1886. SSTD 12, or TAS 201, 202 and 203 referenced therein.	2001 FBC and 2004 FBC are very close in verbiage. No substantive changes or additions exist that affect impact testing. 2001 FBC and 2004 FRC different in verbiage and extent of coverage; however the substantive testing requirements have not changed. FEI Impact Product has been tested to the following: SBCCI SSTD 12-99 Or ASTM E1886-97 / ASTM E1996-99 All FEI product tests were large missile tests using a 2x4.

	The following definitions apply only to the provisions of 1606. Wind-Borne Debris Region. 1. Areas within one mile (1.6 km) of the coastal mean high water line where the basic wind speed is 110 mph (49 m/s) or greater. 2. Areas where the basic wind speed is 120 mph (53 m/s) or greater except from the eastern border of Franklin County to the Florida-Alabama line where the region includes areas only within 1 mile of the coast.	The following words and terms shall, for the purposes of Section 1609.6 have the meanings shown herein. Wind-Borne Debris Region. 1. Areas within one mile (1.6 km) of the coastal mean high water line where the basic wind speed is 110 mph (49 m/s) or greater. 2. Areas where the basic wind speed is 120 mph (53 m/s) or greater except from the eastern border of Franklin County to the Florida-Alabama line where the region includes areas only within 1 mile of the coast.		FEI Impact product is not tested to HVHZ test protocols. Limitations of Use all state that Impact Product not rated for HVHZ use.
Impact Testing Standards	Chapter 35 Reference Standards ASTM E 1886-97 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Pressure Differentials ASTM E 1996-99 Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.	Chapter 35 Reference Standards ASTM E 1886-02 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Pressure Differentials ASTM E 1996-02 Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.	Chapter 43 Reference Standards ASTM E 1886-02 Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Pressure Differentials ASTM E 1996-02 Standard Specification for Performance of Exterior Windows, Glazed Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes.	Changes in the ASTM E1996 and E1886 are not substantive as they relate to FEI product testing. See below for further discussion.

	SBCCI SSTD 12-99, Standard for Determining Impact Resistance from Windborne Debris	SBCCI SSTD 12 is not referenced in Chapter 35.	SBCCI SSTD 12 is not referenced in Chapter 43.	SSTD 12 is no longer maintained due to consolidation of the model code groups (SBCCI, BOCA, ICBO) into ICC. The standard remains valid and archived by ICC and referenced in the FBC/FRC and ICC Model Codes.

ASTM E1886-97 vs. ASTM E1886-02

Using the Adobe Acrobat Professional Program, the PDF versions of the two standards listed above where compared using a "textural comparison algorithm" that is part of the program. Based on the results, the substantive changes are the following.

Change	Comment
Section 6.2.7.1 Small Missile impact speed was changed from 0.75 to 0.85.	This change increases the speed of the steel ball due to Basic Wind Speed. Given that, it would appear the change is conservative. However, FEI product is only tested to the large missile so this change DOES NOT affect our product testing.
Section 11.4.2.3 moved to 11.4.2.4 and a new allowance added to the test procedure. It states: *11.4.2.3 It is permitted for the test specimen to be removed, reversed and reinstalled in the test chamber between the positive and negative pressure cycles.*	This allowance was not specifically disallowed in the 97 version. Additionally, this reversing of the specimen is a normal test lab process. It would appear to have been added for clarification only. This addition has NO affect of product testing.
CONCLUSION: No changes and additions to the ASTM's affect the testing requirements or results of FEI product tests.	

ASTM E1996-99 vs. ASTM E1996-02

ASTM E1996-99 is not available in PDF Format from ASTM. E1996-99 was the first issue of this standard. The next issue, E1996-01 is available and the following issue E1996-02. Using the Adobe Acrobat Professional Program, the PDF versions of the two standards listed above where compared using a "textural comparison algorithm" that is part of the program. Based on the results, the substantive changes are the following.

ASTM E1996-99 in hardcopy format was compared to the E1996-01 and found not to contain substantive changes related to test processes and methods used in FEI testing. Substantive changes between the 01 and 02 versions are listed below.

Change	Comment
Section 3.2.4 Integral mullion definition added	FEI product with integral mullions not tested for impact.
Section 5 Added Wind Zone 4 >140mph impact testing.	FEI product not tested to Wind Zone 4 which is synonymous with the HVHZ.
CONCLUSION: No changes and additions to the ASTM's affect the testing requirements or results of FEI product tests.	

APPENDIX 2

Comparison of 2001 FBC to 2004 FBC

Exterior Window and Patio Sliding Glass Door

Performance Testing, Installation and Glazing Requirements

STRUCTURAL TESTS AND INSPECTIONS – Window/Door Testing and Labeling				
ITEM	**2001 FBC**	**2004 FBC**	**2004 FRC**	**Comments**
PERFORMANCE REQUIREMENTS	1707.4 Exterior Window and Door Assemblies. This section defines performance and construction requirements for exterior window and door assemblies installed in wall systems. Waterproofing, sealing and flashing systems are not included in the scope of this section.	1714.5 Exterior window and door assemblies. This section defines performance and construction requirements for exterior window and door assemblies installed in wall systems. Waterproofing, sealing and flashing systems are not included in the scope of this section.	SECTION R613 EXTERIOR WINDOWS AND DOOR ASSEMBLIES R613.1 General. This section prescribes performance and construction requirements for exterior window systems installed in wall systems. Waterproofing, sealing and flashing systems are not included in the scope of this section.	Same wording between all three codes. ***Note that: "Waterproofing, sealing and flashing systems are not included in the scope of this section."***
DESIGN WIND (PRESSURE) LOADS	1707.4.1 The design pressure for window and door assemblies shall be calculated in accordance with component and cladding wind loads in 1606.	1714.5.1 The design pressure for window and door assemblies shall be calculated in accordance with component and cladding wind loads in 1609.	R613.2 Performance. Exterior windows and doors shall be designed to resist the design wind loads specified in Table R301.2(2) adjusted for height and exposure per Table R301.2(3).	All three code section reference the wind loads calculation section of the codes. This section dictates that users of fenestration products must ensure that product choices consider the Opening Design Pressure placed on the product.
TESTING AND LABELING	1707.4.2 Exterior Windows, Sliding & Patio Glass Doors. 1707.4.2.1 Testing and Labeling. Exterior windows and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled with an approved label identifying the manufacturer, performance characteristics and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade Notice of Acceptance to indicate compliance with the requirements of one of the following specifications: ANSI/AAMA/NWWDA 101/I.S. 2-97 or TAS 202 (HVHZ shall comply with TAS 202)	1714.5.2 Exterior windows, siding and patio glass doors. 1714.5.2.1 Testing and labeling. Exterior windows and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled with an approved label identifying the manufacturer, performance characteristics and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade Product Approval to indicate compliance with the requirements of one of the following specifications: ANSI/AAMA/NWWDA 101/I.S.2 or 101/I.S. 2/NAFS or TAS 202 (HVHZ shall comply with TAS 202 utilizing ASTME E 1300 or Section 2404. Glass strength: Determination of load resistance of glass for specified loads of products tested and certified in accordance with Section 1714.5.2.1 shall be designed to comply with ASTM E 1300 in accordance with Section 2404.	R613.3 Exterior windows, sliding and patio glass doors. R613.3.1 Testing and Labeling. Exterior windows and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled with an approved label identifying the manufacturer, performance characteristics and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade notice of acceptance to indicate compliance with the requirements of one of the following specifications: ANSI/AAMA/NWWDA 101/I.S. 2-97 or 101/I.S. 2/NAFS or TAS 202 (HVHZ shall comply with TAS 202 utilizing ASTM E 1300-98 or ASTM E 1300-02). Glass Strength: Determination of load resistance of glass for specified loads of products tested and certified in accordance with s. R613.3.1 shall be designed to comply with ASTM E 1300.	All codes allow testing to the ANSI/AAMA/NWWDA 101/I.S.2 standard which remains at the 1997 revision level in all three codes. 101/I.S. 2/NAFS has been added in 2004. Additionally, this standard as been determined to be equivalent to ANSI/AAMA/NWWDA 101/I.S.2 by the FBC. E1300 verbiage added in the 2004 FBC and FRC require that glass load resistance for specified loads be designed in accordance with Section 2404 (2004 FBC with no corresponding section in 2001 FBC). The purpose of this requirement is to mandate that the window be glazed with glass having a load resistance derived from E1300 that meets or exceeds the prescribed wind loading based on its proposed use in a structure. Note: 2004 FBC changes Miami-Dade NOA to Product Approval.

SUPPLEMENTAL LABEL -------/------ COMPARATIVE ANALYSIS	1707.4.2.2 Supplemental Label. A supplemental temporary label conforming to AAMA 203, Procedural Guide for the Window Inspection and Notification System shall be acceptable for establishing calculated allowable design pressures higher than indicated on the label required by 1707.4.2.1 for window sizes smaller than that required by the ANSI/AAMA/NWWDA 101/IS2 test requirements. This supplemental label shall remain on the window until final approval by the building official.	1714.5.2.2 Supplemental label. A supplemental temporary label conforming to AAMA 203, Procedural Guide for the Window Inspection and Notification System shall be acceptable for establishing calculated allowable design pressures higher than indicated on the label required by Section 1714.5.2.1 for window sizes smaller than that required by the ANSI/AAMA/NWWDA 101/I.S.2 test requirements. This supplemental label shall remain on the window until final approval by the building official.	R613.3.2 Supplemental label. A supplemental temporary label conforming to AAMA 203, Procedural Guide for the Window Inspection and Notification System shall be acceptable for establishing calculated allowable design pressures higher than indicated on the label required by R613.3.1 for window sizes smaller than that required by the ANSI/AAMA/NWWDA 101/IS2 test requirements. This supplemental label shall remain on the window until final approval by the building official.	Verbiage and requirements remain the same. This is Comparative Analysis used to determine the smaller product's load rating using AAMA 203.
STRUCTURAL TESTS AND INSPECTIONS – Window/Door Installation				
ANCHORAGE METHODS	1707.4.4 Anchorage Methods. The methods cited in this section apply only to anchorage of window and door assemblies to the main wind force resisting system.	1714.5.4 Anchorage methods. The methods cited in this section apply only to anchorage of window and door assemblies to the main wind force resisting system.	R613.6 Anchorage methods. Reserved.	Verbiage and requirements remain the same.
ANCHORING REQUIREMENTS	1707.4.4.1 Anchoring Requirements. Window and door assemblies shall be anchored in accordance with the published manufacturer's recommendations to achieve the design pressure specified. Substitute anchoring systems used for substrates not specified by the fenestration manufacturer shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice.	1714.5.4.1 Anchoring requirements. Window and door assemblies shall be anchored in accordance with the published manufacturer's recommendations to achieve the design pressure specified. Substitute anchoring systems used for substrates not specified by the fenestration manufacturer shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice.	R613.6.1 Anchoring requirements. Window and door assemblies shall be anchored in accordance with the published manufacturer's recommendations to achieve the design pressure specified. Substitute anchoring systems used for substrates not specified by the fenestration manufacturer shall provide equal or greater anchoring performance as demonstrated by accepted engineering practice.	Verbiage and requirements remain the same.
MASONRY, CONCRETE OR OTHER STRUCTURAL SUBSTRATE	1707.4.4.2 Masonry, Concrete or Other Structural Substrate. Where the wood shim or buck thickness is less than 1-1/2 inches, window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system, in accordance with the manufacturers published installation instructions. Anchors shall be securely fastened directly into the masonry, concrete or other structural substrate material. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door	1714.5.4.2 Masonry, concrete or other structural substrate. Where the wood shim or buck thickness is less than 11/2 inches (38 mm), window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system, in accordance with the manufacturer's published installation instructions. Anchors shall be securely fastened directly into the masonry, concrete or other structural substrate material. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door	R613.6.2 Masonry, concrete or other structural substrate. Where the wood shim or buck thickness is less than 1½ inches (38 mm), window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system, in accordance with the manufacturers published installation instructions. Anchors shall be securely fastened directly into the masonry, concrete or other structural substrate material. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door	Verbiage and requirements remain the same.

	frame to the rough opening substrate. Where the wood buck thickness is 1-1/2 inches or greater, the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate and the buck shall extend beyond the interior face of the window or door frame. Window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange to the secured wood buck in accordance with the manufacturers published installation instructions. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame assembly to the secured wood buck.	frame to the rough opening substrate. Where the wood buck thickness is 11/2 inches (38 mm) or greater, the buck shall be securely fastened to transfer load to the masonry, concrete or other structural subtrate and the buck shall extend beyond the interior face of the window or door frame. Window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange to the secured wood buck in accordance with the manufacturer's published installation instructions. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame assembly to the secured wood buck.	frame to the rough opening substrate. Where the wood buck thickness is 1½ inches (38 mm) or greater, the buck shall be securely fastened to transfer load to the masonry, concrete or other structural substrate and the buck shall extend beyond the interior face of the window or door frame. Window and door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange to the secured wood buck in accordance with the manufacturers published installation instructions. Unless otherwise tested, bucks shall extend beyond the interior face of the window or door frame such that full support of the frame is provided. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame assembly to the secured wood buck.	
WOOD OR OTHER APPROVED FRAMING MATERIAL	1707.4.4.3 Wood or Other Approved Framing Material. Where the framing material is wood or other approved framing material, window and glass door assemblies shall be anchored through the main frame or by jamb clip or sub-frame system or through the flange in accordance with the manufacturers published installation instructions. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.	1714.5.4.3 Wood or other approved framing materials. Where the framing material is wood or other approved framing material, window and glass door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange in accordance with the manufacturer's published installation instructions. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.	R613.6.3 Wood or other approved framing material. Where the framing material is wood or other approved framing material, window and glass door assemblies shall be anchored through the main frame or by jamb clip or subframe system or through the flange in accordance with the manufacturer's published installation instructions. Shims shall be made from materials capable of sustaining applicable loads, located and applied in a thickness capable of sustaining applicable loads. Anchors shall be provided to transfer load from the window or door frame to the rough opening substrate.	Verbiage and requirements remain the same.
Glass and Glazing – Identification and Safety Glazing Requirements				
NONE PERMANENT LABELING OF GLAZING OTHER THAN TEMPERED, LAMINATED OR SAFETY GLAZING.	SECTION 2403 LABELING 2403.1 Labels. Each light shall bear the manufacturer's label designating the type and thickness of glass. When approved by the building official, labels may be omitted from other than tempered glazing materials, providing an affidavit is furnished by the glazing contractor certifying that each light is glazed in accordance with the approved plans and specifications.	SECTION 2403 - GENERAL REQUIREMENTS FOR GLASS 2403.1 Identification. Each pane shall bear the manufacturer's label designating the type and thickness of the glass or glazing material. With the exception of tempered glazing materials or laminated materials, the identification shall not be omitted unless approved and an affidavit is furnished by the glazing contractor certifying that each light is glazed in accordance with approved construction documents that comply with	SECTION R308 – GLAZING R308.1 Identification. Except as indicated in Section R308.1.1, each pane of glazing installed in hazardous locations as defined in Section R308.4 shall be provided with a manufacturer's or installer's label, designating the type and thickness of glass and the safety glazing standard with which it complies, which is visible in the final installation. The label shall be acid etched, sandblasted, ceramic-fired, embossed mark, or shall be of a type which once	Identification and labeling of safety glazing has received clarification and its own section in the 2004 FBC and 2004 FRC The basic requirement to permanently mark each pane of safety glazing in windows and doors remain unchanged. The identification or labeling of glazing not including tempered,

		the provisions of this chapter. Safety glazing shall be identified in accordance with Section 2406.2.	applied cannot be removed without being destroyed. Exceptions: 1. For other than tempered glass, labels may be omitted provided the building official approves the use of a certificate, affidavit or other evidence confirming compliance with this code. 2. Tempered spandrel glass may be identified by the manufacturer with a removable paper label.	impact or safety glazing using a non-permanent label is fundamentally the same in the 2001 FBC and 2004 FBC. However, this requirement appears to be absent in the 2004 FRC. Section R308.1 speaks to hazardous location glazing, its permanent marking and exceptions. In the exceptions, it mentions that labeling may be omitted for other than tempered glass providing an affidavit is submitted to the building official. ----------/---------- The requirement that tempered or safety glazing based on the proximity to areas that human impact loads are likely is fundamentally satisfied by the diligent purchaser of windows and doors CORRECTLY specifying the appropriate glazing at the time of order. The manufacturer does not generally know where the product will be installed and would not be able to specify the glazing type in this circumstance lacking this knowledge. ----------/---------- As a matter of course, a SGD are generally supplied with only two glazing options, tempered or laminated glazing.
PERMANENT LABELING OF TEMPERED AND LAMINATED GLAZING	SECTION 2403 LABELING 2403.2 Identification. Each unit of tempered glass shall be permanently identified by the manufacturer. The identification shall be etched or ceramic fired on the glass and be visible when the unit is glazed. Tempered spandrel glass is exempted from permanent labeling. This type of glass shall be identified with a removable paper label by the manufacturer.	SECTION 2403 - GENERAL REQUIREMENTS FOR GLASS 2403.1 Identification (continued) Each pane of tempered or laminated glass, except tempered or laminated spandrel glass, shall be permanently identified by the manufacturer. The identification label shall be acid etched, sand blasted, ceramic fired, embossed or shall be of a type that once applied cannot be removed without being destroyed. Tempered or laminated spandrel glass shall be provided with a removable paper marking by the manufacturer.	SECTION R308 – GLAZING R308.1 Identification. Except as indicated in Section R308.1.1, each pane of glazing installed in hazardous locations as defined in Section R308.4 shall be provided with a manufacturer's or installer's label, designating the type and thickness of glass and the safety glazing standard with which it complies, which is visible in the final installation. The label shall be acid etched, sandblasted, ceramic-fired, embossed mark, or shall be of a type which once applied cannot be removed without being destroyed. Exceptions: 1. For other than tempered glass, labels may be omitted provided the building official approves the use of a certificate, affidavit or other evidence confirming compliance with this code. 2. Tempered spandrel glass may be identified by the manufacturer with a removable paper label.	
PERMANENT LABELING OF SAFETY GLAZING	SECTION 2403 LABELING 2403.1 Labels. Each light shall bear the manufacturer's label designating the type and thickness of glass. When approved by the building official, labels may be omitted from other than tempered glazing materials, providing an affidavit is furnished by the glazing contractor certifying that each light is glazed in accordance with the approved plans and specifications.	SECTION 2406 – SAFETY GLAZING 2406.2 Identification of safety glazing. Except as indicated in Section 2406.2.1, each pane of safety glazing installed in hazardous locations shall be identified by a label specifying the labeler, whether the manufacturer or installer, and the safety glazing standard with which it complies, as well as the information specified in Section 2403.1. The label shall be acid etched, sand blasted, ceramic fired or an embossed mark, or shall be of a type that once applied cannot be removed without being destroyed.	SECTION R308 – GLAZING R308.1 Identification Except as indicated in Section R308.1.1, each pane of glazing installed in hazardous locations as defined in Section R308.4 shall be provided with a manufacturer's or installer's label, designating the type and thickness of glass and the safety glazing standard with which it complies, which is visible in the final installation. The label shall be acid etched, sandblasted, ceramic-fired, embossed mark, or shall be of a type which once applied cannot be removed without being destroyed.	

	2403.2 Identification. Each unit of tempered glass shall be permanently identified by the manufacturer. The identification shall be etched or ceramic fired on the glass and be visible when the unit is glazed. Tempered spandrel glass is exempted from permanent labeling. This type of glass shall be identified with a removable paper label by the manufacturer.	Exceptions: 1. For other than tempered glass, labels are not required, provided the building official approves the use of a certificate, affidavit or other evidence confirming compliance with this code. 2. Tempered spandrel glass is permitted to be identified by the manufacturer with a removable paper label.	Exceptions: 1. For other than tempered glass, labels may be omitted provided the building official approves the use of a certificate, affidavit or other evidence confirming compliance with this code. 2. Tempered spandrel glass may be identified by the manufacturer with a removable paper label.	
	No corresponding section in the 2004 FRC.	SECTION 2406 – SAFETY GLAZING 2406.2.1 Multilight assemblies. Multilight glazed assemblies having individual lights not exceeding 1 square foot (0.09 square meter) in exposed area shall have at least one light in the assembly marked as indicated in Section 2406.2. Other lights in the assembly shall be marked "CPSC 16 CFR 1201" or "ANSI Z97.1," as appropriate.	SECTION R308 – GLAZING R308.1.1 Identification of multipane assemblies. Multi-pane assemblies having individual panes not exceeding 1 square foot (0.09 m2) in exposed area shall have at least one pane in the assembly identified in accordance with Section R308.1. All other panes in the assembly shall be labeled "16 CFR 1201."	A new section defining the allowance of true-divided lights with panes less than 1 sq ft area only requiring one pane to be permanently identified was added to both 2004 Codes.
LOUVERED WINDOWS OR JALOUSIES	SECTION 2404 LOUVERED WINDOWS OR JALOUSIES Regular float, wired or patterned glass in jalousies and louvered windows shall be no thinner than nominal 3/16 inch (5 mm) and no longer than 48 inches (1219 mm). When other glass types are used, design shall be submitted to the building official for approval. Exposed glass edges shall be smooth. Wired glass with wire exposed on longitudinal edges shall not be used in jalousies or louvered windows.	SECTION 2403 - GENERAL REQUIREMENTS FOR GLASS 2403.5 Louvered windows or jalousies. Float, wired and patterned glass in louvered windows and jalousies shall be no thinner than nominal 3/16 inch (4.8 mm) and no longer than 48 inches (1219 mm). Exposed glass edges shall be smooth. Wired glass with wire exposed on longitudinal edges shall not be used in louvered windows or jalousies. Where other glass types are used, the design shall be submitted to the building official for approval.	SECTION R308 – GLAZING R308.2 Louvered windows or jalousies. Regular, float, wired or patterned glass in jalousies and louvered windows shall be no thinner than nominal 3/16 inch (4.76 mm) and no longer than 48 inches (1219 mm). Exposed glass edges shall be smooth. R308.2.1 Wired glass prohibited. Wired glass with wire exposed on longitudinal edges shall not be used in jalousies or louvered windows.	Fundamentally the same requirement here even though section and verbiage changes exist. In the 2004 FRC, the allowance for other glass types and approval by the building official appears to have been omitted.
HUMAN IMPACT LOADS	SECTION 2405 IMPACT, WIND, AND OTHER LOADS 2405.1 General. Individual glazed areas including glass mirrors in hazardous locations such as those indicated in 2405.2 shall pass the test requirements of CPSC 16-CFR, Part 1201 or by comparative test shall be proven to produce at least equivalent performances. EXCEPTIONS:	SECTION 2406 SAFETY GLAZING 2406.1 Human impact loads. Individual glazed areas, including glass mirrors, in hazardous locations as defined in Section 2406.3 shall comply with Sections 2406.1.1 through 2406.1.5. 2406.1.1 CPSC 16 CFR 1201. Except as provided in Sections 2406.1.2 through	SECTION R308 – GLAZING R308.3 Human impact loads. Individual glazed areas including glass mirrors in hazardous locations such as those indicated as defined in Section R308.4 shall pass the test requirements of CPSC 16 CFR, Part 1201. Glazing shall comply with the CPSC 16 CFR, Part 1201 criteria for Category I or Category II as indicated in Table R308.3.	Safety Glazing must meet the requirements of CPSC 16 CFR, Part 1201 with regards to Human Impact Loading. To this extent, the requirements remain unchanged. Wording and section location has been changed to align the 2001 FBC with the ICC Model Code used for the 2004 Code update.

	1. Polished wire glass installed in fire doors, fire windows and view panels in fire resistant walls and hazardous locations in 2405.2.1(3) and 2405.2.1(4) shall comply with ANSI Z97.1. 2. Approved plastic materials used as glazing in hazardous locations shall comply with ANSI Z97.1.	2406.1.5, all glazing shall pass the test requirements of CPSC 16 CFR 1201, listed in Chapter 35. Glazing shall comply with the CPSC 16 CFR, Part 1201 criteria, for Category I or II as indicated in Table 2406.1. 2406.1.2 Wired glass. In other than Group E, wired glass installed in fire doors, fire windows and view panels in fire-resistant walls shall be permitted to comply with ANSI Z97.1. 2406.1.3 Plastic glazing. Plastic glazing shall meet the weathering requirements of ANSI Z97.1. 2406.1.4 Glass block. Glass-block walls shall comply with Section 2101.2.5. 2406.1.5 Louvered windows and jalousies. Louvered windows and jalousies shall comply with Section 2403.5.	Exceptions: 1. Polished wired glass for use in fire doors and other fire resistant locations shall comply with ANSI Z97.1. 2. Louvered windows and jalousies shall comply with Section R308.2.	
HAZARDOUS LOCATIONS DEFINITIONS	SECTION 2405 IMPACT, WIND, AND OTHER LOADS 2405.2 Hazardous locations 2405.2.1 The following shall be considered specific hazardous locations for the purposes of glazing: 1. Glazing in swinging doors and fixed and sliding panels of sliding (patio) door assemblies. 1. Glazing in swinging doors and fixed and sliding panels of sliding (patio) door assemblies. 2. Glazing in doors and walls of enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs, showers and other such facilities where such glazing is located 36 inches (914 mm) or less, measured horizontally, from a standing or walking surface within the enclosure and where the bottom edge of the exposed glazing is less than 60 inches (1524 mm), measured vertically, above	SECTION 2406 SAFETY GLAZING 2406.3 Hazardous locations. The following shall be considered specific hazardous locations requiring safety glazing materials: 1. Glazing in swinging doors except jalousies (see Section 2406.3.1). 2. Glazing in fixed and sliding panels of sliding door assemblies and panels in sliding and bifold closet door assemblies. 3. Glazing in storm doors. 4. Glazing in unframed swinging doors. 5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any portion of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above a standing surface.	SECTION R308 – GLAZING R308.4 Hazardous locations. The following shall be considered specific hazardous locations for the purposes of glazing: 1. Glazing in swinging doors except jalousies. 2. Glazing in fixed and sliding panels of sliding door assemblies and panels in sliding and bifold closet door assemblies. 3. Glazing in storm doors. 4. Glazing in all unframed swinging doors. 5. Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers. Glazing in any part of a building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface.	Storm Doors and Unframed Swinging Doors added to definitions. The requirement that tempered or safety glazing based on the proximity to areas that human impact loads are likely is fundamentally satisfied by the diligent purchaser of windows and doors CORRECTLY specifying the appropriate glazing at the time of order. The manufacturer does not generally know where the product will be installed and would not be able to specify the glazing type in this circumstance lacking this knowledge.

	such standing or walking surfaces. 3. Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24-inch (610 mm) radius of the door in a closed position and whose bottom edge is less than 60 inches (1524 mm) above the floor or walking surface. EXCEPTION: Glazing in walls perpendicular to the plane of the door in a closed position in Group R3 or within dwelling units in Group R2 shall be subject to 2405.2.1(4). 4. Glazing in an individual fixed or operable panel, other than those locations described in items 2 and 3 above, that meets all of the following conditions: 4.1. Exposed area of an individual pane greater than 9 sq ft (0.84 m^2). 4.2. Bottom edge less than 18 inches (457 mm) above the floor. 4.3. Top edge greater than 36 inches (914 mm) above the floor. 4.4. One or more walking surfaces within 36 inches (914 mm) horizontally of the plane of the glazing.	6. Glazing in an individual fixed or operable panel adjacent to a door where the nearest exposed edge of the glazing is within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the walking surface. Exceptions: 1. Panels where there is an intervening wall or other permanent barrier between the door and glazing. 2. Where access through the door is to a closet or storage area 3 feet (914 mm) or less in depth. Glazing in this application shall comply with Section 2406.3, Item 7. 3. Glazing in walls perpendicular to the plane of the door in a closed position, other than the wall towards which the door swings when opened, in one- and two-family dwellings or within dwelling units in Group R-2. 7. Glazing in an individual fixed or operable panel, other than in those locations described in preceding Items 5 and 6, which meets all of the following conditions: 7.1. Exposed area of an individual pane greater than 9 square feet (0.84 m2); 7.2. Exposed bottom edge less than 18 inches (457 mm) above the floor; 7.3. Exposed top edge greater than 36 inches (914 mm) above the floor; and 7.4. One or more walking surface(s) within 36 inches (914 mm) horizontally of the plane of the glazing. Exception: Safety glazing for Item 7 is not required for the following installations: 1. A protective bar 1½ inches (38 mm) or more in height, capable of withstanding a horizontal load of 50 pounds plf (730 N/m) without contacting the glass, is installed on the accessible sides of the glazing 34	6. Glazing, in an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24-inch (610 mm) arc of the door in a closed position and whose bottom edge is less than 60 inches (1524 mm) above the floor or walking surface. 7. Glazing in an individual fixed or operable panel, other than those locations described in Items 5 and 6 above, that meets all of the following conditions: 7.1. Exposed area of an individual pane greater than 9 square feet (0.836 m2). 7.2. Bottom edge less than 18 inches (457 mm) above the floor. 7.3. Top edge greater than 36 inches (914 mm) above the floor. 7.4. One or more walking surfaces within 36 inches (914 mm) horizontally of the glazing.	

		inches to 38 inches (864 mm to 965 mm) above the floor. 2. The outboard pane in insulating glass units or multiple glazing where the bottom exposed edge of the glass is 25 feet (7620 mm) or more above any grade, roof, walking surface or other horizontal or sloped (within 45 degrees of horizontal) (0.78 rad) surface adjacent to the glass exterior.		
	5. All glazing in railings regardless of area or height above a walking surface including structural baluster panels and nonstructural in- fill panels. 6. Glazing in walls and fences enclosing indoor and outdoor swimming pools and spas where the bottom exposed edge of the glazing is: (1) less than 60 inches (1525 mm) above the walking surface on the pool side of the glazing, and (2) the glazing is within 60 inches (1525 mm) horizontally of the water's edge of a swimming pool or spa. This shall apply to single glazing and all panes in multiple glazing.	8. Glazing in guards and railings, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface. 9. Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where all of the following conditions are present: 9.1. The bottom edge of the glazing on the pool or spa side is less than 60 inches (1524 mm) above a walking surface on the pool or spa side of the glazing; and 9.2. The glazing is within 60 inches (1524 mm) horizontally of the water's edge of a swimming pool or spa. 10. Glazing adjacent to stairways, landings and ramps within 36 inches (914 mm) horizontally of a walking surface; when the exposed surface of the glass is less than 60 inches (1524 mm) above the plane of the adjacent walking surface. 11. Glazing adjacent to stairways within 60 inches (1524 mm) horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60 inches (1524 mm) above the nose of the tread.	8. All glazing in railings regardless of an area or height above a walking surface. Included are structural baluster panels and nonstructural in-fill panels. 9. Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where the bottom edge of the glazing is less than 60 inches (1524 mm) above a walking surface and within 60 inches (1524 mm) horizontally of the water's edge. This shall apply to single glazing and all panes in multiple glazing. 10. Glazing adjacent to stairways, landings and ramps within 36 inches (914 mm) horizontally of a walking surface when the exposed surface of the glass is less than 60 inches (1524 mm) above the plane of the adjacent walking surface. 11. Glazing adjacent to stairways within 60 inches (1524 mm) horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60 inches (1524 mm) above the nose of the tread. Exception: The following products, materials and uses are exempt from the above hazardous locations: 1. Openings in doors through which a 3-inch (76 mm) sphere is unable to pass. 2. Decorative glass in Items 1, 6 or 7. 3. Glazing in Section R308.4, Item 6, when there is an intervening wall or other permanent barrier between	

			the door and the glazing. 4. Glazing in Section R308.4, Item 6, in walls perpendicular to the plane of the door in a closed position or where access through the door is to a closet or storage area 3 feet (914 mm) or less in depth. Glazing in these applications shall comply with Section R308.4, Item 7. 5. Glazing in Section R308.4, Items 7 and 10, when a protective bar is installed on the accessible side(s) of the glazing 36 inches ± 2inches (914 ± mm 51 mm) above the floor. The bar shall be capable of withstanding a horizontal load of 50 pounds per linear foot (74.5 kg/m) without contacting the glass and be a minimum of 1½ inches (38 mm) in height. 6. Outboard panes in insulating glass units and other multiple glazed panels in Section R308.4, Item 7, when the bottom edge of the glass is 25 feet (7620 mm) or more above grade, a roof, walking surface, or other horizontal [within 45 degrees (0.79 rad) of horizontal] surface adjacent to the glass exterior. 7. Louvered windows and jalousies complying with the requirements of Section R308.2. 8. Mirrors and other glass panels mounted or hung on a surface that provides a continuous backing support. Exception: Safety glazing for Item 10 or 11 is not required for the following installations where: 1. The side of a stairway, landing or ramp which has a guardrail or handrail, including balusters or in-fill panels, complying with the provisions of Sections 1012 and 1607.7; and 2. The plane of the glass is greater than 18 inches (457 mm) from the railing. 9. Safety glazing in Section R308.4, Items 10 and 11 is not required where: 9.1 The side of a stairway, landing or ramp has a guardrail or handrail, including balusters or in-fill panels, complying with the provisions of Sections 1012 and 1607.7 of the Florida Building Code, Building; and 9.2. The plane of the glass is greater than 18 inches (457 mm) from the railing.	
Glass and Glazing – Glass Supports and Framing Deflections				
	SECTION 2406 -GLASS SUPPORTS 2406.1 Deflection. Glass supports such as sash members, glazing stops or glazing clips shall be considered firm when deflection of the support at design load does not exceed 1/175	SECTION 2403 - GENERAL REQUIREMENTS FOR GLASS 2403.3 Framing. To be considered firmly supported, the framing members for each individual pane of glass shall be designed so the deflection of the edge of the glass	No corresponding section in the 2004 FRC.	This section deals with the l/175 deflection limitation on window or door glass framing components. The 2004 FBC added a ¾” maximum limitation to the l/175 deflection.

	of the span.	perpendicular to the glass pane shall not exceed 1/175 of the glass edge length or ¾ inch (19.1 mm), whichever is less, when subjected to the larger of the positive or negative load where loads are combined as specified in Section 1605.		The 2004 FRC does not seem to have any limitation on framing component deflection.
GLASS SUPPORTS	SECTION 2406 GLASS SUPPORTS 2406.2 Special cases. Where other than firm support on all sides is provided, (three sides, two sides, cantilever, or highly flexible, for example), detailed shop drawings, specifications and rational analysis and/or test data assuring safe performance for the specific installation shall be prepared by engineers experienced in this work and shall be submitted for and receive, if warranted, formal approval by the building official.	SECTION 2403 - GENERAL REQUIREMENTS FOR GLASS 2403.2 Glass supports. Where one or more sides of any pane of glass are not firmly supported, or are subjected to unusual load conditions, detailed construction documents, detailed shop drawings and analysis or test data assuring safe performance for the specific installation shall be prepared by a registered design professional.	No corresponding section in the 2004 FRC.	The section speaks to special circumstances where one or more edges of glass is not firmly supported (presumably were the deflection limitation is exceeding) requiring heightened detailing, testing and evaluation to ensure acceptability of the design. The 2004 FRC does not seem to speak to this subject.
Glass and Glazing – Loads on Glass				
LOADS ON GLASS	SECTION 2405 IMPACT, WIND, AND OTHER LOADS 2405.3 Wind, snow, and dead and impact loads 2405.3.1 Vertical glass. All glass within 15 degrees (0.26 rad) of vertical in windows, curtain walls, doors and other exterior applications shall be chosen to resist the wind loads for component and cladding. The allowable wind load shall be determined in accordance with 2405.3.1.1 and 2405.3.1.2. 2405.3.1.1 From Figure 2405.3 determine the maximum allowable equivalent load for the glass dimensions and applicable glass thickness. For laminated glass, the applicable glass thickness is the total glass thickness. For insulating glass units, it is the thickness of one pane. See footnotes to Table 2405.3A and Table 2405.3B for other glass types. 2405.3.1.2 Multiply the value from §2405.3.1.1 by the appropriate factor from Table 2405.3A. This product is the maximum allowable wind load for the glass. The glass is in compliance if the maximum allowable wind load is at least as great as the design wind load determined from 1606.	SECTION 2404 WIND AND DEAD LOADS ON GLASS 2404.1 Vertical glass. Glass sloped 15 degrees (0.26 rad) or less from vertical in windows, curtain and window walls, doors and other exterior applications shall be designed to resist the wind loads for components and cladding. The load resistance of glass under uniform load shall be determined in accordance with ASTM E 1300. ***Design of exterior windows and glass doors in accordance with Section 2404.1 shall utilize the same edition of ASTM E 1300 used for testing in accordance with Section 1714.5.*** The design of vertical glazing shall be based on the following equation: Fgw ≤ Fga (Equation 24-1) where: Fgw is the wind load on the glass computed in accordance with Section 1609 and Fga is the short duration load resistance of the glass as determined in accordance with ASTM E 1300.	No corresponding section in the 2004 FRC.	Section 2404.1 added the following requirement. ***Design of exterior windows and glass doors in accordance with Section 2404.1 shall utilize the same edition of ASTM E 1300 used for testing in accordance with Section 1714.5.*** This requirement affects the "after-the-fact" testing and labeling of windows and doors. Users of fenestration products will have to consider this when comparing the glass load resistance with the opening's Design Pressure. ----------/---------- The 2004 FBC will have scope over residential construction not covered by the scope of the 2004 FRC which states: "R101.2 Scope. The provisions of the Florida Building Code, Residential shall apply to the construction, alteration, movement,

				enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one- and two-family dwellings and multiple single-family dwellings (townhouses) not more than three stories in height with a separate means of egress and their accessory structures. Construction standards or practices which are not covered by this code shall be in accordance with the provisions of Florida Building Code, Building." As no corresponding section is in the 2004 FRC, then this is not required for structures meeting the FRC scope statement.