



Structural-Not a Glitch

Glitch Modifications

**This document created by the Florida Department of Community Affairs -
850-487-1824**

Sub Code: Building

Total Mods for UG & 1st 4

Date Submitted	9/22/2010	Section	1203.2 Attic spaces. Exception 1	Proponent	Langefels Daniel
Chapter	12	Affects HVHZ	No	Attachments	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments	No	Alternate Language	No
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Related Modifications**Summary of Modification**

Proposed modification - add the words in brackets ~ ^in the following text..."provided a vapor retarder having a transmission rate not exceeding 1 perm in accordance with ASTM E 96 is installed on the warm~in-winter^ side of the attic insulation"...

Rationale

The Base Code language (IRC) refers to the "warm side of the attic insulation". In northern (cold outside) climates the placement of the vapor barrier, according to this language, would be above the ceiling gypsum plane attached to the underside of the truss bottom chords, below the attic insulation. In Florida's (hot outside) climate, with this language, the vapor barrier would be placed on top of the attic insulation which is not the proper location. By changing the language to "warm-in-winter", the vapor barrier will be properly located above the ceiling gypsum plane attached to the underside of the truss bottom chords, below the attic insulation. Additionally, the "warm-in-winter" phrase will be consistent with the language already used in the Florida Residential Code Section R806.2.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

The suggested modification is not a matter of financial consideration. It is a matter of building science, water intrusion mitigation, and also to provide consistent language with the FRC.

Impact to building and property owners relative to cost of compliance with code

The suggested modification is not a matter of financial consideration. It is a matter of building science, water intrusion mitigation, and also to provide consistent language with the FRC.

Impact to industry relative to the cost of compliance with code

The current language makes placement of the vapor barrier impractical, if not impossible within webbed pre-manufactured roof trusses, therefore more roof vents are required. Roof vents are openings in the roof. More roof penetrations create more opportunities for water intrusion.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Welfare for the general public / property owner - Fewer roof vents reduces the opportunity for storm driven water to enter the attic, preventing property damage (insulation & drywall).

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Improves the code by making the language accurate.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

The language change does not discriminate because it does not alter any existing practices.

Does not degrade the effectiveness of the code

It strengthens the effectiveness of the Code by making the FBC and the FRC consistent in their respective practices.

Chapter 12

SECTION 1203 VENTILATION

1203.2 Attic spaces. Enclosed attics and enclosed rafter spaces formed where ceilings are applied directly to the underside of roof framing members shall have cross ventilation for each separate space by ventilating openings protected against the entrance of rain and snow. Blocking and bridging shall be arranged so as not to interfere with the movement of air. A minimum of 1 inch (25 mm) of airspace shall be provided between the insulation and the roof sheathing. The net free ventilating area shall not be less than $\frac{1}{150}$ of the area of the space ventilated, with 50 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.

Exceptions:

1. The minimum required net free ventilating area shall be $\frac{1}{300}$ of the area of the space ventilated, provided a vapor retarder having a transmission rate not exceeding 1 perm in accordance with ASTM E 96 is installed on the warm-*in-winter* side of the attic insulation and provided 50 percent of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 feet (914 mm) above eave or cornice vents, with the balance of the required ventilation provided by eave or cornice vents.

Date Submitted	3/10/2011	Section	1620.2	Proponent	Michael Goolsby
Chapter	16	Affects HVHZ	Yes	Attachments	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				

Comments

General Comments No **Alternate Language** No

Related Modifications**Summary of Modification**

Correlation of Section 1620.2 wind speeds with ASCE 7-10.

Rationale

The proposed code change corrects a conflict within the updated code. The Florida specific need is created due to unintended results from the integration of previously adopted Florida-specific amendments to the model code. Wind speeds previously modified do not accurately reflect wind speeds as verified through comprehensive ASCE 7-10 review and analysis and will be in conflict with the reference standard. The proposed code change will have a positive impact on small business by expanding the number of component and cladding systems which will become compliant.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

No impact.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

No impact.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Not applicable. Corrects a conflict within the updated code.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Not applicable. Corrects a conflict within the updated code.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Not applicable. Corrects a conflict within the updated code.

Does not degrade the effectiveness of the code

Not applicable. Corrects a conflict within the updated code.

1620.2 Wind velocity (3-second gust) used in structural calculations shall be as follows: 140 miles per hour (63 m/s) in Broward County and 146 miles per hour (65 m/s) in Miami-Dade County.

Miami-Dade County

Risk Category I Buildings and Structures: ~~175~~ 165 mph

Risk Category II Buildings and Structures: ~~185~~ 175 mph

Risk Category III and IV Buildings and Structures: ~~195~~ 186 mph

Broward County

Risk Category I Buildings and Structures: ~~160~~156 mph

Risk Category II Buildings and Structures: 170 mph

Risk Category III and IV Buildings and Structures: 180 mph

Date Submitted	3/11/2011	Section	1626.2 through 1626.4	Proponent	Shawn Collins
Chapter	16	Affects HVHZ	Yes	Attachments	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				
Comments					
General Comments	No	Alternate Language	No		

Related Modifications

Building-Section 423.25-requires updating to incorporate modified 1626 standards for clarity.

Summary of Modification

Requiring structures defined as "essential facilities" in Table 1604.5 of FBC 2010 to have large missile impact speeds (80 f/s) that correspond to the "enhanced protection" requirements of ASTM E1996. Corrects conflict between ASCE 7-10 and FBC 2010.

Rationale

With the incorporation of ASCE 7-10 into the 2010 Florida Building Code a conflict exists within the code. Section 26.10.3.2 of ASCE 7-10 requires Risk Category IV structures to comply with the "enhanced protection" requirements of Table 3 of ASTM E1996. The debris impact requirements of ASTM E1996 for "Enhanced Protection" are more demanding than Section 1626.2 (80 fps missile speed v. 50 fps missile speed). Buildings of the type referenced in Section 419 and 423.25 (EHPA) and would be regarded as "Essential Facilities" by the Code, ASCE 7-10 and ASTM E1996. This issue is most easily resolved by modifying Section 1626.2 as other sections of the code reference this section.

The proposed code change has a Florida Specific need to comply with national standards. The glitch within the Code could result in structures that are designed and constructed to standards less than the national standards.

Manufacturers of wind-borne debris resistant product are generally not regarded as small business. Local small business could potentially see an increase in revenue to comply with the increased performance presented in the proposed code change.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

None

Impact to building and property owners relative to cost of compliance with code

Product that meets these requirements may experience a minimal price increase to accommodate additional material, additional testing, additional engineering and approvals to demonstrate compliance.

Impact to industry relative to the cost of compliance with code

Applicable industry would experience marginal fiscal impact that would be associated with re-tooling, additional testing, additional engineering and approvals to demonstrate compliance.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

With the implementation of the "enhanced protection" requirements of ASTM E1996 into the HVHZ debris impact standards the health, safety and welfare of the general public is significantly enhanced by further fortifying these essential facilities.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

The code is strengthened and provides better protection for those facilities that need to remain fully operational during catastrophic events.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

As with current code enforcement with regards to wind borne debris, any product, method or system of construction that demonstrates compliance shall be acceptable.

Does not degrade the effectiveness of the code

The code is intended to promote the health, safety and welfare of the general public and the proposed code modification reinforces these principles.

1626.2 Large missile impact tests.

1626.2.1 This test shall be conducted on three test specimens. This test shall be applicable to the construction units, assemblies and materials to be used up to and including 30 feet (9.1 m) in height in any and all structures.

1626.2.2 The test specimens shall consist of the entire assembled unit, including frame and anchorage as supplied by the manufacturer for installation in the building, or as set forth in a referenced specification, if applicable. Fasteners used in mounting the test specimen shall be identical in size and spacing to what is used in field installations.

1626.2.3 The large missile shall be comprised of a piece of timber having nominal dimensions of 2 inches by 4 inches (51 mm by 102 mm) weighing 9 pounds (4.1 kg).

1626.2.4 The large missile shall impact the surface of each test specimen at a speed of 50 feet per second (15.2 m/s).

Exception: The large missile impact speed shall be 80 feet per second (24.4 m/s) if products are intended for Essential Facilities noted as Risk Category IV in Table 1604.5

Date Submitted	2/25/2011	Section	1715, 2405.5	Proponent	Roger LeBrun
Chapter	17	Affects HVHZ	No	Attachments	No
TAC Recommendation	Pending Review				
Commission Action	Pending Review				
Comments					
General Comments	No	Alternate Language	No		

Related Modifications

4575, if this is too extensive to be considered a glitch amendment.

Summary of Modification

Clarify and repair glitch related to Mod 4332

Rationale

Approved Mod 4332 was not well coordinated with structure of the base code with Florida amendments inserted. Staff requested assistance correlating the intent of the approved Mod with the base code structure. This proposal eliminates conflicts and clarifies existing skylight requirements, while staying true to Florida-specific requirements. Addresses conflicts within the updated code, so it falls within the glitch criteria. Has no negative effect on small businesses, and should assist them in their compliance efforts.

Fiscal Impact Statement**Impact to local entity relative to enforcement of code**

Should aid in the understanding of all applicable requirements related to skylights, TDDs and sloped glazing.

Impact to building and property owners relative to cost of compliance with code

No impact.

Impact to industry relative to the cost of compliance with code

Should aid in the understanding of all applicable requirements related to skylights, TDDs and sloped glazing.

Requirements**Has a reasonable and substantial connection with the health, safety, and welfare of the general public**

Keeps the effectiveness of the code's structural requirements related to overhead fenestration intact.

Strengthens or improves the code, and provides equivalent or better products, methods, or systems of construction

Adds clarity and conciseness.

Does not discriminate against materials, products, methods, or systems of construction of demonstrated capabilities

Does not affect or discriminate against currently allowed products.

Does not degrade the effectiveness of the code

Makes the current language easier to understand, without changing any requirements.

1715.5 Exterior window, skylight and door assemblies. This section defines performance and construction requirements for exterior window, skylight and door assemblies installed in wall systems. Waterproofing, sealing and flashing systems are not included in the scope of this section.

1715.5.1 The design pressure for window, skylight and door assemblies shall be calculated in accordance with component and cladding wind loads in 1609.

1715.5.2 Exterior windows, skylights, sliding and patio glass doors.

1715.5.2.1 Testing and labeling. Exterior windows, unit skylights and glass doors shall be tested by an approved independent testing laboratory, and shall be labeled to indicate compliance with the requirements of one of the following specifications:

ANSI/AAMA/NWDA 101/I.S. 2 or ANSI/AAMA/WDMA/101/I.S. 2/NAFS or AAMA/WDMA/CSA 101/I.S. 2/A440 or TAS202 (HVHZ shall comply with TAS202 utilizing ASTM E 1300-98 or ASTM E 1300-04 or Section 2404).

Exterior windows, unit skylights and sliding glass doors shall be labeled with a permanent label, marking, or etching providing traceability to the manufacturer and product. The following shall also be required either on a permanent label or on a temporary supplemental label applied by the manufacturer: information identifying the manufacturer, the product model/series number, positive and negative design pressure rating, product maximum size, glazing thickness, impact-resistance rating if applicable, Florida Product Approval number or Miami-Dade Product Approval number, applicable test standard(s), and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade Product Approval.

The labels are limited to one design pressure rating per reference standard. The temporary supplemental label shall remain on the window, skylight or door until final approval by the building official.

Exceptions:

1. Door assemblies installed in nonhabitable areas where the door assembly and area are designed to accept water infiltration need not be tested for water infiltration.
2. Door assemblies installed where the overhang (OH) ratio is equal to or more than 1 need not be tested for water infiltration. The overhang ratio shall be calculated by the following equation:

OH ratio = OH Length/OH Height

Where: OH length = The horizontal measure of how far an overhang over a door projects out from door surface.

OH height = The vertical measure of the distance from the door sill to the bottom of the overhang over a door.

Glass Strength: Products tested and labeled as conforming to ANSI/AAMA/NWDA 101/I.S.2 or ANSI/AAMA/WDMA/101/I.S.2/NAFS or AAMA/WDMA/CSA 101/I.S.2/A440 or TAS 202 shall not be subject to

1715.5.2.1.1 Testing and labeling of skylights. Exterior skylights shall be tested by an approved independent testing laboratory, and shall be labeled to indicate compliance with the requirements of one of the following specifications: ANSI/AAMA/WDMA 101/I.S.2/NAFS or AAMA/WDMA/CSA 101/I.S.2/A440, or TAS 202 (HVHZ shall comply with TAS 202).

Exterior skylights shall be labeled with a permanent label, marking, or etching providing traceability to the manufacturer and product. The following shall also be required either on a permanent label or on a temporary supplemental label applied by the manufacturer: information identifying the manufacturer, the product model/series number, positive and negative design pressure rating, product maximum size, type and thickness of glass or glazing material, impact resistance rating if applicable, Florida Product Approval number or Miami-Dade Product Approval number, applicable test standard(s), and approved product certification agency, testing laboratory, evaluation entity or Miami-Dade Product Approval. Labels are limited to one design pressure rating per reference standard. The temporary supplemental label shall remain on the skylight until final approval by the building official. **Skylights and sloped glazing.** Unit skylights and tubular daylighting devices (TDDs) shall comply with the requirements of Sections 1715.5.2.1 and 2405. All other skylights and sloped glazing shall comply with the requirements of Chapter 24.

1715.7 Installation instruction for exterior windows, skylights and doors. Windows, skylights and doors shall be installed in accordance with the manufacturer's installation instruction.

2405.5 Unit skylights. Unit skylights shall be tested and labeled as complying with AAMA/WDMA/CSA 101/I.S.2/A440. The label shall state the name of the manufacturer, the approved labeling agency, the product designation and the performance grade rating as specified in AAMA/WDMA/CSA 101/I.S.2/A440. If the product manufacturer has chosen to have the performance grade of the skylight rated separately for positive and negative design pressure, then the *label* shall state both performance grade ratings as specified in AAMA/WDMA/CSA 101/I.S.2/A440 and the skylight shall comply with Section 2405.5.2. If the skylight is not rated separately for positive and negative pressure, then the performance grade rating shown on the *label* shall be the performance grade rating determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440 for both positive and negative design pressure and the skylight shall conform to Section 2405.5.1.

2405.5.1 Unit skylights rated for the same performance grade for both positive and negative design pressure.

The design of unit skylights shall be based on the following equation:

$$F_g = P_G \quad \text{(Equation 24-13)}$$

where:

F_g = Maximum load on the skylight determined from Equations 24-2 through 24-4 in Section 2404.2.

P_G = Performance grade rating of the skylight.

2405.5.2 Unit skylights rated for separate performance grades for positive and negative design pressure. The

where:

$PGPos$ = Performance grade rating of the skylight under positive design pressure;

$PGNeg$ = Performance grade rating of the skylight under negative design pressure; and

Fgi and Fgo are determined in accordance with the following:

For $Wo \geq D$,

where:

Wo = Outward wind force, psf (kN/m²) as calculated in Section 1609.

D = The dead weight of the glazing, psf (kN/m²) as determined in Section 2404.2 for glass, or by the weight of the plastic, psf (kN/m²) for plastic glazing

Fgi = Maximum load on the skylight determined from Equations 24-3 and 24-4 in Section 2404.2.

Fgo = Maximum load on the skylight determined from Equation 24-2.

For $Wo < D$,

where:

Wo = Is the outward wind force, psf (kN/m²) as calculated in Section 1609.

D = The dead weight of the glazing, psf (kN/m²) as determined in Section 2404.2 for glass, or by the weight of the plastic for plastic glazing.

Fgi = Maximum load on the skylight determined from Equations 24-2 through 24-4 in Section 2404.2.

Fgo = 0.