

Issue: DCA10-DEC-209 by Michael Murray of StromWatch, Inc. The Petitioner is requesting clarification with regard to Section 1613.1.9 of the FBC, Building and amendment to Rule 9N-3 to comply with Florida Statute 553.842(1) (a).

Background:

Situation:

The Product Approval Administrator advised StormWatch, Inc that the product approval FL10348 has been determined to be non-compliant with 1613.1.9 based on a finding that deflection of the fabric storm panel exceeds an alleged 2" limit when compared to an L/30 formula (L/30). This finding arose from public comments at POC meetings where comments suggested L/30 would apply to fabric storm panels. We have concerns. FL 10348 and other fabric storm panels should not be subject to an alleged L/30 requirement of 1613.1.9, applying L/30 to fabric storm panels has no engineering basis and is inconsistent with the promotion of new technology and innovation per Florida Statute 553.842(1) (a).

2007 Florida Building Code:

Section 1613.1 Allowable deflections. The deflection of any structural member or component when subjected to live, wind and other superimposed loads set forth herein shall not exceed the following:

1. Roof and ceiling or components supporting plaster L/360
2. Roof members or components not supporting plaster under L/240
3. Floor members or components L/360
4. Vertical members and wall members or components consisting of or supporting material that hardens in place, is brittle or lacks resistance to cracking caused by bending strains L/360
5. Vertical members and wall members or components not required to meet the conditions of Section 1613.1, item 4 L/180
6. Roof and vertical members, wall members and panels of carports, canopies, marquees, patio covers, utility sheds and similar minor structures not to be considered living areas, where the roof projection is greater than 12 feet (3.7 m) in the direction of the span, for free-standing roofs and roofs supported by existing structures. Existing structures supporting such roofs shall be capable of supporting the additional loading L/180
7. For Group R3 occupancies only, roof and vertical members, wall members and panels of carports, canopies, marquees, patio covers, utility sheds and similar minor structures not to be considered living areas, where the roof projection is 12 feet (3.7 m) or less in the direction of the span and for free standing roofs and roofs supported by existing structures L/80

8. Members supporting screens only L/80

9. Storm shutters and fold-down awnings, which in the closed position shall provide a minimum clear separation from the glass of 1 inch (25 mm) but not to exceed 2 inches (51 mm) when the shutter or awning is at its maximum point of permissible deflection L/30

10. Roofs and exterior walls of utility sheds having maximum dimensions of 10 feet (3 m) length, 10 feet (3 m) width, and 7 feet (2.1 m) height L/80

11. Roofs and exterior walls of storage buildings larger than utility sheds L/180

Section 553.842, Florida Statutes

Product evaluation and approval.

(1) The commission shall adopt rules under ss. [120.536\(1\)](#) and [120.54](#) to develop and implement a product evaluation and approval system that applies statewide to operate in coordination with the Florida Building Code. The commission may enter into contracts to provide for administration of the product evaluation and approval system. The commission's rules and any applicable contract may provide that the payment of fees related to approvals be made directly to the administrator. Any fee paid by a product manufacturer shall be used only for funding the product evaluation and approval system. The product evaluation and approval system shall provide:

(a) Appropriate promotion of innovation and new technologies.

Staff recommendation:

Question #. 1.

Is 1613.1.9 intended to mitigate fatigue failure, "entering the plastic range", of metal storm shutters and/or metal shutter supporting structures and components
By limiting the deflection to 2" based on a length to deflection formula of L/30?

Answer: Section 1613.1.9, Item (9), applies to all storm shutters regardless of the products' materials or physical properties.

Question #. 2.

Has it been determined that "Fabric Storm Panels" or fabric shutters have a "plastic range" or that they suffer from fatigue failure induced by deflections greater than 2" based on a length to deflection formula of L/30 or any other?

Answer: Not possible. Determination of specific product strength and material is subject to testing and evaluation as determined through the product approval process.

Question #. 3.

1613.1.9 Specifically and only refers to a minimum separation from the glass. Has it been determined that openings or areas that have no glass are subject to 1613.1.9?

Answer:

Section 1613.1.9, Item (9), is applicable to an opening regardless of whether it is a glazed opening or not.

Question #. 4. The language of 1613.1.9 specifically requires a storm shutter to be installed in such a manner that after maximum permissible deflection the shutter would have a separation from the glass within the precise range of 1-2" from the glass. Will storm shutters be required to be installed to deflect into this narrow range of Separation? Will storm shutters be permitted to be more than 2" from the glass after maximum deflection?

Answer:

Will storm shutters be required to be installed to deflect into this narrow range of separation?

Answer: Storm shutters must provide a minimum clear separation from the glass a minimum of 1 inch and the deflection limit of the shutter fabric must not exceed 2 inches.

Will storm shutters be permitted to be more than 2" from the glass after maximum deflection?

Answer is "Yes" as long as the deflection limit of the product does not exceed 2 inches.

Question #. 5.

The relationship between L/30 and the 2" deflection limit is not directly indicated as a requirement by the language of 1613.1.9, but inferred from the language. Statements have been made in POC meetings that what is in the code is the rule and no interpretation as to intent of the rule can be allowed. Is it not the case that the relationship between the 2" deflection and L/30 is in itself an interpretation to clarify the intent of the rule, and if the rule can be interpreted to clarify intent to one end, it can be interpreted to clarify the intent to another end, such that 1613.1.9 is only intended to apply to metal shutters preventing excessive deflection which would lead to fatigue failure and being that fabric storm panels and some other shutter types that are designed to bend and do not suffer from deflection induced fatigue failure would not be subject to 1613.1.9 and be exempt from L/30?

Answer: See answer to Question #1.

Question #. 6. Florida Statute 553.842 provides that manufactures have the option of receiving a state or local approval. If 1613.1.9 is intended to prevent deflection induced fatigue failure of metal components and the code section continues to be applied to products that are not subject to

this type of failure how are manufacturers guaranteed a means other than a local approval to demonstrate compliance within the HVHZ?

Answer: See answer to Question #1.