

**Petition for Declaratory Statement from the Florida Building Commission with regard to FL10348 and compliance with 1613.1.9 and a 2" deflection limit L/30. Declaratory Statements are requested to clarify ambiguous elements of 1613.1.9 and amend the rule to comply with Florida Statute 553.842(1)(a).**

**Summary:**

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).

**Background:**

Code section 1613.1.9 was written prior to the development of Fabric Storm Panels and was intended for the traditional metal shutter systems - principally of aluminum - performing work as a beam, a material and type of use well known to suffer from deflection induced fatigue failure. 1613.1.9 does not address, anticipate, or allow for new technology such as fabric storm panels - flexible panels working as a catenary - a material and type of use not subject to deflection induced fatigue failure.

Fabric storm panels typically have deflection values where a 96" length would deflect 8", L/12. This compares to what the code section alleges to require where 96" length would have a max 3.2" deflection, L/30. The physical properties of a fabric storm panel are such that no plastic range exists and deflection values greater than 2" at L/30 will not lead to fatigue failure. In fact, the opposite is true; a fabric panel is a catenary, when deflection is increased, shear loads decrease at anchor connections, the panel becomes more impact resistant, and the result is a safer storm panel. If a fabric storm panel were installed per L/30, the safety and performance would be compromised.

Manufacturers of fabric storm panels obtain statewide product approvals based on the shutter subcategory of "Fabric Storm Panels" and/or "Products Introduced as a Result of New Technology". Prior to public comments earlier this year concerning a deflection limit to fabric storm panels within the HVHZ, the common and accepted practice in a product approval was to allow 1" of minimum separation after max deflection between the fabric panel and the glass.<sup>1</sup> This is in

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<sup>1</sup> A review of the public records and HVHZ applications will overwhelmingly support the finding that 1" min. separation from glass after max deflection has been the standard for fabric storm panels inside HVHZ applications since the statewide product approval system was initiated.

keeping with 1613.1.9 intending to maintain a minimum separation from glass after max deflection and in keeping with the spirit of the rule to ensure safe and reliable storm shutters. It is only by a new and questionable interpretation of 1613.1.9, which exploits the shortcomings of the section that did not include language anticipating the development of alternate materials and systems not prone to fatigue failure, that this rule is alleged to apply to fabric storm panels.

Arguments have been made by representatives of local jurisdictions in public comments that the term "shutter" in 1619.1.3 is a cause for the noncompliance and that the alternate term "flexible wind abatement system" provided by the local approval for use inside the HVHZ makes the local approval valid or exempt from 1613.1.9. "Flexible wind abatement system" is a synonym for "fabric storm panel", the contention that the switch in terminology forms a basis for code compliance is simply unfounded. Further, it should be strenuously noted that the party that initiated the objection to product approvals alleged to be nonconforming to L/30 inside the HVHZ under a statewide product approval is the same party that, for a \$5,000 fee, will issue a local approval for use inside their jurisdiction of the HVHZ with the same product and the same alleged nonconforming deflection. Further still, the local approval would only be valid for the single jurisdiction issuing the approval; other jurisdictions within the HVHZ that rely on the statewide product approval system would be abandoned.

**Questions:**

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?
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?
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?
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?
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

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Interpretation that L/30 would apply to fabric storm panels is "new" introduced in the June 2010 POC meeting by public comment.

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?

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?

**Conclusion:**

The POC must rule that 1613.1.9 does not apply to Fabric Storm Panels, and overrule public comments that have suggested it does, it cannot be shown that fabric storm panels are subject to the fatigue failure intended to be prevented by this code section. The previous interpretation requiring 1" of separation from glazing at maximum deflection should continue to be applied to products seeking approval within the HVHZ allowing them, per Florida Statute 553.842, a means other than a local approval to demonstrate compliance with the HVHZ code.

Florida Statute 552.842(1)(a) calls for the commission to *adopt* rules to develop and implement a product approval system that *applies statewide* in coordination with the Florida Building Code and *to provide appropriate promotion of innovation and new technologies*. It is appropriate and necessary for the POC to amend 1613.1.9 by way of a Declaratory Statement to serve as a bridge and pathway for fabric storm panels to be allowed inside the HVHZ under the statewide product approval system, free of deflection limits, until the POC can adopt new rules in a code revision cycle to ensure the statute is followed.

Thank you,

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DCA10-DEC-209  
FILING AND ACKNOWLEDGEMENT  
FILED, on this date, with the designated  
Clerk, receipt of which is hereby  
acknowledged.

*Paula P. Ford* 10/26/10  
Paula P. Ford Date  
Commission Clerk