

Issue: DCA10-DEC-219 by David G. Karins, P.E. of Karins Engineering Group, Inc. The Petitioner is requesting clarification with regard to Section 1613.1.9 of the FBC, Building.

Background:

Situation:

Karins Engineering Group, Inc. is representing custom Hurricane products, manufacturer of Florida Product Approval FL # 10654-R1 – Fabric Storm Panel.

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

Staff recommendation:

Question #. 1: Does the deflection and L/30 apply to positive pressures only or does L/30 apply to negative pressure as well?

Answer: The deflection and L/30 apply to both positive and negative pressure.

Question #2: Does the deflection criteria and L/30 apply to flexible materials such as shutters fabricated from screen materials unlike a rigid material such as plastic or aluminum?

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

Question #. 3: How is the L/30 deflection limit applied? Does it apply to overall system or to individual components?

Answer: As per Section 1613.1, the L/30 deflection limit applies to both "system" and component.

Question #4: Does the L/30 apply to two-way systems or one-way systems?

Answer: The L/30 applies to both systems "one-way and two-way systems".

Question #5: If the clear separation of the glass is limited to maximum of 2 inch (negative pressure) and a minimum of 1 inch (positive pressure), does this mean the system can only deflect a maximum of 1/2 inch in each direction with the system being placed at 1-1/2 inch away from the glass?

Answer: No, the clear separation must be a minimum of 1 inch and the deflection limit of the shutter "fabric" must not exceed 2 inches...