

Subject: Structural Sealants at Plate Glass Corners

The Florida Building Code deleted former Standard Building Code Regulations on design of abutting glass panels but does contain provisions for such in HVHZ part of FBC, Section 2415.4.1.1.

Staff research has determined that at least these two common silicone structural sealants are recommended by manufacturers for 20psi design loads in shear or in tension.

- **SPECTRUM II OF TREMCO**
- **#1200 SEALANT OF GENERAL ELECTRIC**

Palm Beach County maximum design pressure at building corners in 140 mph, Exposure B conditions a sample calculation for a corner of two 6' wide x 8' high glass sheets:

- From 1606.2B or ASCE 7-02, for Enclosed Building of 30' Maximum Roof Height, Zone 5 Edge Strip, Maximum Design Pressure is -48 psf.
- Assume panes are connected along the common vertical edge and supported on the other three edges.
- The maximum design shear is the smaller of :

$$v = w \times \text{Width} = \frac{-48 \times 6}{2 \times 12} = \frac{-48 \times 6}{2 \times 12} = -12 \text{ lb/in} \quad \text{*controls*}$$

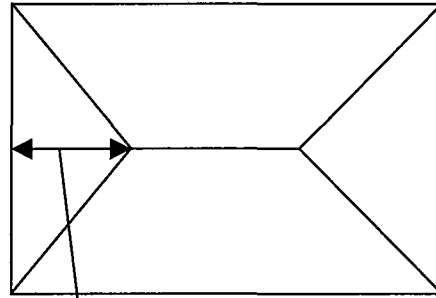
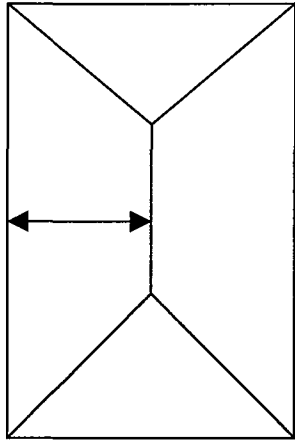
Or

$$v = w \times \text{Height} = \frac{-48 \times 8}{2 \times 12} = \frac{-48 \times 8}{2 \times 12} = -16 \text{ lb/in}$$

- Since the maximum wind load at the vertical corner is 12 pounds per linear inch of height, determine the minimum sealant width:

$$T = \frac{v}{V} = \frac{12}{20} = 0.6 \text{ in}$$

- Using 5/8" thick glass sheets would provide adequate sealant bond area.



Height

Height/2

For Building Code Advisory Board

Robert Lecky, Chairman Date: 05/16/2007