# *TEXAS DEPARTMENT OF INSURANCE*

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**PRODUCT EVALUATION** Effective December 1, 2007
SHU-156

*The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC). This product shall be subject to reevaluation 3 years after the effective date.*

*This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.*

*This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code and the Texas Engineering Practice Act.*

**Titan Sky 16mm Polycarbonate Direct Mount Hurricane Storm Panels** manufactured by:

**Polygal Inc.**
**9405A D. Ducks Lane**
**Charlotte, NC 28273**
**(800) 537-0095**

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation along with Polygal, Inc. drawing no. FL 00282, sheets 1-2 of 2, dated October 11, 2007, signed and sealed by L. Roberto Lomas, P.E. on November 7, 2007. The stated drawings will be referred to as the approved drawings in this report.

## PRODUCT DESCRIPTION

The 16mm hurricane storm panels consists of one (1) sheet of 16mm thick triple wall Titan Sky polycarbonate sheets. The overall dimensions of the panel are 48” wide by 96” high.

## LIMITATIONS

| System | Maximum Width (inches) | Maximum Height (inches) | Allowable Design Pressure Rating (psf) |
|---|---|---|---|
| 16mm | 48 | 96 | ±45 |

**Impact Resistance:** This shutter assembly satisfies the Texas Department of Insurance’s criteria for protection from windborne debris in both the Inland I zone and the Seaward zone. The shutter assemblies passed an impact-resisting standard equivalent to Missile Level D specified in ASTM E 1996-02. The shutter assemblies may be installed at any height on the structure as long as the design pressure rating for the assemblies is not exceeded.

## INSTALLATION INSTRUCTIONS

**General Installation Requirements:**
All units shall be installed in accordance with this product evaluation report and the manufacturer's installation instructions. All bolts, washers and wing nuts shall be galvanized or stainless steel.

**Anchorage:**
The units shall be direct mounted to wood wall framing or concrete in accordance with the mounting details in the manufacturer's installation instructions. The panels are secured to the structure along the head, jambs and sill with either a ¼-20 Elco PanelMate Plus stainless steel fastener or ¼ Tapcon Storm Guard fastener. The fasteners shall be located a maximum of 3" from each end of the panel and spaced a maximum of 12" o.c. thereafter.

The panels are held in place with a ¼-20 16 stainless steel wing nut and ¼" flat stainless steel washer.

**Attachment to Wood Frame Structures:**
The wall framing shall be minimum Southern Yellow Pine lumber (G≥0.55). The fasteners shall penetrate into the wall framing a minimum of 1 ½".

**Attachment to Concrete Structures:**
Concrete shall have a minimum compressive strength of 3000 psi. The fasteners shall penetrate into the concrete a minimum of 1 ¼".

**Minimum Glass Separation:**
The panels shall have a minimum separation from glass of 5 1/16 inches.

**Note:** The manufacturer's installation instructions and the approved drawings shall be available on the job site during installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC) and the International Building Code (IBC).