

TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
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PRODUCT EVALUATION

Effective February 1, 2014

SHU-116

*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 **January 2015**.*

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.

Clear Polycarbonate Storm Panels manufactured by:

Transparent Protection Systems, Inc.
6643 42nd Terrace North
West Palm Beach, FL 33407
Telephone: (888) 447-8320

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation report.

PRODUCT DESCRIPTION

General: Clear Polycarbonate Storm Panels are corrugated 0.100 inches thick (± 0.010). The polycarbonate panels are extruded from 100 percent synthetic thermoplastic polymer resin (UV stabilized). The typical synthetic thermoplastic polymer tensile strength is $F_y=8.908$ ksi, the Flexural Strength is $F_{by}=12.90$ ksi, and the Flexural Modulus is 328.7 ksi.

The panels are offered in full panel profiles, half panel profiles, Clearmax double wide panel profile, and alternative Clearmax double wide panel profile with a depth of 2 inches in the corrugations.

All aluminum extrusions shall be 6063-T6 aluminum alloy unless otherwise noted on the drawings.

The mounting extrusions are closure angle, Stud Angle, Reverse F Angle, Build-Out F-track, F track, U header and H header.

These panels may be mounted vertically or horizontally as applicable. The span direction is perpendicular to the line of anchorage.

Product Identification: The shutters shall have a label that identifies the product manufacturer (Transparent Protection Systems, Inc.), the name of the product, and compliance with ASTM E-330, ASTM E 1886, and ASTM E 1996.

LIMITATIONS

Design Drawings: The storm panels shall be installed in accordance with Drawing No. 08-TPS-0008, titled "Clearguard Polycarbonate Storm Panels," Sheets 1 through 6 of 6, with latest revision November 13, 2009, signed and sealed by Frank L. Bernardo, P.E. on November 23, 2009. The stated drawings will be referred to as the approved drawings in this evaluation report. A copy of the design drawings shall be available at the job site during the installation and inspection process.

Maximum Allowable Design Wind Pressure: ± 120 psf (3'-10" span for installations not including the "H" header), ± 104 psf (4'-0" span using the "H" header)

Maximum Panel Span: 12'-0" (38 psf for installations not including the "H" header), 8'-7" (17.3 psf for mounting with "H" header)

Wall Construction: The storm panels may be mounted to the following types of wall framing:

- Concrete (minimum compressive strength 3,000 psi)
- Grout-filled concrete masonry units (CMU), C-90, Grade N, Type 1 (or greater)
- Wood (minimum Spruce-Pine-Fire dimension lumber or Southern Yellow Pine) as specified in anchor tables

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 Missile Level D 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 shutters shall be installed in accordance with the approved drawings and this product evaluation report.

Mounting Conditions: The shutters shall be mounted in accordance with the mounting details shown on the approved drawings. The panels may be mounted vertically or horizontally.

Anchorage: The shutter panels shall be anchored to the wall using the anchor schedules shown on the approved drawings. For attachment to concrete or masonry, anchors shall have a minimum edge distance of 2 inches. For attachment to wood wall framing, the anchors shall have a minimum edge distance of $\frac{3}{4}$ inch. All fasteners shall have a minimum penetration into the wall framing in accordance with the anchor schedule in the approved drawings.

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), the International Building Code (IBC), and the Texas Revisions.