

TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION SHU-209

Effective August 1, 2012

*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 **May 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.

Series 200-12 and 200-13 Side Pivot Aluminum Hurricane Screen manufactured by:

Tapco Incorporated
1815 McCullough Blvd.
Tupelo, MS 38801
Telephone: (800) 737-8272

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation report and with the design drawings that are referenced in this evaluation report.

PRODUCT DESCRIPTION

The 200-12 and the 200-13 series side pivot aluminum hurricane impact screen is a permanently mounted impact protective screen that is secured to an aluminum frame and mounted over exterior openings. The 200-12 aluminum hurricane screen is an individual unit with an operable sash and the 200-13 aluminum hurricane screen is an individual unit with a fixed sash on top and an operable sash on the bottom. The units shall not exceed the overall sash size shown on the approved drawings. The horizontal mullion shall not exceed 51 ¼" in length. The aluminum frame impact screen consists of the following components:

Frame: The main frame, sub frame and mullions are constructed from 6005-T5 extruded aluminum. The corners of the main frame employ gussets constructed from 6063-T6 extruded aluminum. Each gusset is inserted into the corners of the main frame and pinned into place.

Screen: The screen is constructed with minimum 0.035" stainless steel powdered coated wire with 12 strands by 12 strands per square inch. The screen is secured to the flat bar using #8 x ½" long square drive Tek screws.

Horizontal Mullion: Aluminum tubes are constructed of 6063-T5 extruded aluminum. The horizontal aluminum tubes shall be minimum 2.50" x 1.473" x .092" wall thickness. The tubes are reinforced with I-beam reinforcement. The horizontal mullions shall not exceed 51 ¼" in length.

Hardware: The units employed a SPR-200 single point release latch.

LIMITATIONS

Design Drawings: The 200-12 and 200-13 series side pivot aluminum hurricane impact screen shall be installed in accordance with 200 Series Side Pivot Aluminum Hurricane drawing no. 08-01322, sheets 1 of 6 thru 6, dated August 3, 2011, revision A dated July 9, 2012, signed and sealed by Luis R. Lomas, P.E. on July 9, 2012. The referenced drawings will be referred to as the "approved drawings" in this product evaluation report.

Product Identification: A certification program label (NAMI) will be affixed to the impact screen. The certification program label includes the manufacturer's name; product name (**Series 200-12** or **Series 200-13**); performance characteristics; the maximum size tested; the approved inspection agency (NAMI); and the applicable standards: TAS 201/202/203-94, ASTM E 330-02, ASTM E 1886-05, and ASTM E 1996-05.

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 1996-05. 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.

Maximum Sash Size: The active sash on the individual (non-mulled) unit shall not exceed 81" x 49". The active and inactive sashes on the mulled unit shall not exceed 49" x 39 $\frac{3}{4}$ ".

Horizontal Mullion: The horizontal mullions shall not exceed 51 $\frac{1}{4}$ " in length.

Allowable Design Pressure: ± 50 psf

Separation Distance from Glazed Openings: The screen shall be separated a minimum of 1 $\frac{3}{4}$ inches from the glazed opening at its closest point.

Wall Construction: The impact screen may be mounted to the following types of wall framing:

- Pre-cast concrete, cast-in-place concrete (minimum compressive strength 3,200 psi)
- Grout-filled concrete masonry units (CMU), C-90, Grade N, Type 1 (or greater)
- Wood (minimum Spruce-Pine-Fir dimension lumber)
- Steel, minimum 18 gauge
- Aluminum, minimum 6063-T5, $\frac{1}{8}$ " thick

INSTALLATION INSTRUCTIONS

General Installation Requirements:

The shutter assembly shall be installed in accordance with this evaluation report and the approved drawings referenced in this product evaluation report.

Anchorage:

The shutter assembly shall be mounted to the wall framing in accordance with the mounting details on the approved drawings.

The aluminum frame shall be secured to either concrete, hollow concrete block, steel, aluminum or wood substrate.

Attachment to Concrete or Hollow Concrete Block Structures: Concrete shall have a minimum compressive strength of 3,200 psi. Concrete block shall have a minimum compressive strength of 1,500 psi. The aluminum frame shall be secured to the concrete or to the concrete block substrate with minimum $\frac{3}{16}$ " diameter ITW Ultracon Tapcon fasteners. The fasteners shall have a minimum embedment depth of $1\frac{1}{4}$ inches and a minimum edge distance of $1\frac{3}{4}$ inches. Refer to Sheets 3 and 4 of the approved drawings.

Attachment to Wood Frame Structures: The wall framing shall be minimum Spruce-Pine-Fir dimension lumber. The aluminum frame shall be secured to wood framing with a minimum No. 8 wood screws. The fasteners shall have a minimum embedment depth of $1\frac{1}{2}$ inches. Refer to Sheet 3 of the approved drawings.

Attachment to Steel or Aluminum Frame Structures: For steel framing, minimum 18 gauge 33 ksi steel is required. For aluminum framing, minimum $\frac{1}{8}$ " thick 6063-T5 aluminum is required. The aluminum framing shall be secured to the wall framing with minimum No. 8 Tek screws. The fasteners shall penetrate a minimum of 3-thread pitch beyond substrate. Refer to Sheet 3 and 5 of 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.