

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION

Effective August 1, 2013

SHU-109

*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 **August 2014**.*

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.

24 Gauge Galvanized Bertha Steel corrugated panel shutter systems that are manufactured by:

Eastern Metal Supply, Inc.
9400 Telge Road
Houston, Texas 77095
(800) 996-6061

will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation, and Drawing No. 08-006, dated 1/23/2008, sheets 1 through 10, signed by Walter A. Tillit, Jr., P.E. on October 20, 2008. The stated drawings will be referred to as the approved drawings in the report.

PRODUCT DESCRIPTION

The 24 gauge galvanized Bertha steel panels are 0.026" thick 2" deep raised galvanized steel panels (Grade 80). The non-hemmed edge panels are rolled formed, having a nominal width of 12" and a total width of 14 $\frac{3}{8}$ ", forming 2" deep ribs. The hemmed edge panels are rolled formed, having a nominal width of 12" and a total width of 14 $\frac{9}{64}$ ", forming 2" deep ribs. All aluminum components for mounting panels are 6063-T6 aluminum alloy with thickness as shown in the approved drawings with standard tolerances in accordance with the "Aluminum Standards and Data 2006 Edition." Panels are overlapped to provide an unlimited width of opening perpendicular to the panel span. The 24 gauge galvanized steel corrugated shutters in this report are not a permanently mounted shutter system.

Product Identification: The shutter assemblies shall have a label that identifies the manufacturer, the name of the product, compliance with ASTM E330, and compliance with ASTM E 1886 and ASTM E 1996.

LIMITATIONS

Maximum Allowable Design Pressure:

The maximum allowable design pressures could be ± 35 psf, ± 45 psf, or up to ± 58 psf. The maximum positive (+) and negative (-) design pressure ratings for poured concrete, concrete block, and wood substrate installations is listed for various panel lengths on Sheet 2 of 10 of the approved drawings. The pressure rating varies based on span distance, shutter height, substrate, and anchor spacing. For maximum allowable pressure based on anchor spacing into concrete or concrete block refer to Sheet 7 of 10 of the approved drawings. For maximum allowable pressure based on anchor spacing into wood refer to Sheet 10 of 10 of the approved drawings.

Wall Framing Construction: The storm panel may be mounted to several types of wall framing construction (refer to page 4, 5, 6, 8, and 9 of the approved design drawings). The types of wall framing construction allowed included concrete, hollow concrete block, and wood dimension lumber (minimum Southern Yellow Pine).

Maximum allowable shutter span: 9'-10"

The maximum shutter span (panel length) shall be no greater than 9'-10" and the span is limited to the specifications shown on Sheets 2 of 10, 7 of 10, and 10 of 10 of the approved drawings, depending on the framing material.

Minimum separation from glass: In all installations, there will be a minimum separation from the glass of one (1) inch.

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 specified ASTM E 1996. 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 manufacturer's installation instructions, the approved drawings and this evaluation report. For installation instructions for the anchors, refer to the approved drawings. The anchors shall penetrate beyond any wall coverings into the wall framing for a minimum depth as specified in the notes on Page 1 of the approved drawings. The minimum penetration shall depend on the anchor type.

Anchorage:

The shutters shall be anchored in accordance with the spacing and the anchor schedules on Page 7 of the approved drawings for concrete and concrete block construction and Page 10 for wood framing.

Note: The manufacturer's installation instructions and 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.