

TEXAS DEPARTMENT OF INSURANCE

Engineering Services / 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-137

Effective June 1, 2006

*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.

Extruded Aluminum Accordion Shutters, Impact Resistant, manufactured by

**Croci North America
6360 Topaz Court
Fort Myers, Florida 33912
(800) 951-1195**

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

PRODUCT DESCRIPTION

The accordion shutters are manufactured from extruded aluminum. The accordion shutters are assembled using interlocking extruded aluminum accordion blades. The components of the accordion shutter system are as follows:

Accordion blades: Manufactured from extruded aluminum, 6063-T6 aluminum alloy; thickness of 0.052"; overall length of 4.578".

Wall mount track: Manufactured from 6063-T6 aluminum alloy; thickness range of 0.085"-0.110"; depth of 2.60"; widths of 3.115", 4.115", and 5.115".

Ceiling track: Manufactured from 6063-T6 aluminum alloy; thickness of 0.110"; depth of 1.960"; width of 3.115".

Built-out angles: Manufactured from 6063-T6 aluminum alloy; thickness of 0.125"; 2.0" wall mounting leg; 2", 3", 4", or 5" ceiling track mounting leg.

Male lock stile: Manufactured from 6063-T6 aluminum alloy; thickness of 0.062"; depth of 2.126"; width of 2.256".

Female lock stile: Manufactured from 6063-T6 aluminum alloy; thickness of 0.062"; depth of 2.126"; width of 2.225".

Adjustable sill track: Manufactured from 6063-T6 aluminum alloy; thickness of 0.070"; depth of 1.375"; width of 3.115".

PRODUCT DESCRIPTION (Continued)

Adjustable sill channel: Manufactured from 6063-T6 aluminum alloy; thickness range of 0.070"-0.085"; depth of 1.297"; width of 2.825".

LIMITATIONS

Design Drawings: The accordion shutters shall be installed in accordance with Drawing No. 05-271, sheets 1 through 6 of 6, dated August 21, 2005, and signed and sealed by Pedro De Figueiredo, P.E. on November 17, 2005. The stated drawings will be referred to as "approved drawings" in this report. A copy of the approved drawings shall be available at the job site.

Wall Framing Construction: The accordion shutters may be mounted to concrete (minimum compressive strength specified on approved design drawings); hollow concrete block or Southern Yellow Pine dimension lumber. The mounting options specified in the approved drawings shall be followed.

Mounting Configurations: The accordion shutters may be mounted directly to the wall system using wall mount tracks, built out from the wall system using extruded aluminum angles and ceiling tracks, or inset from the wall system using ceiling tracks.

Design Pressure Rating: The design pressure rating for the accordion shutters is dependant on blade size (vertical span of the blades). Refer to the approved drawings to determine the allowable design pressure rating for the accordion shutter assembly based on the blade size.

Shutter Width: There is no limitation on the shutter width.

Separation Distance from Glazed Openings: This product has a required minimum separation distance from glazed openings. Refer to page 1 of 6 of the approved drawings for the appropriate separation distance.

Maximum Blade Spans: The maximum allowable vertical blade spans for a given design pressure are specified in Table 1 on page 1 of 6 of the approved drawings.

Product Identification: The shutters shall be labeled with the manufacturer's name, large missile impact resistant shutter, and 'Croci Extruded Aluminum Accordion Shutter.'

Impact Resistance: These accordion shutter assemblies satisfy 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 in ASTM E 1996-01. 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: The accordion shutters shall be installed in accordance with manufacturer's installation instructions, the approved drawings, and this product evaluation report.

Wall Framing Construction: The accordion shutters may be mounted to concrete (minimum compressive strength specified on approved design drawings); hollow concrete block or Southern Yellow Pine dimension lumber. The mounting options specified in the approved drawings shall be followed.

INSTALLATION INSTRUCTIONS (Continued)

Mounting Configurations: The accordion shutters may be mounted directly to the wall system using wall mount tracks, built out from the wall system using extruded aluminum angles and ceiling tracks, or inset from the wall system using ceiling tracks. Follow the anchor size, type, and spacing requirements specified on pages 2 of 6, 3 of 6, and 4 of 6 of the approved drawings. The anchor spacing is a function of the mounting method, the type of anchor used, the blade size (vertical span), and the design pressure.

Closures: Each vertical end of the accordion shutter is secured to the wall framing to form a closure. Pages 4 of 6 and 5 of 6 of the approved drawings show closure options. The closures shall be mounted to the wall framing as shown on the approved drawings.

Note: All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions. A copy of the approved drawings shall be available at the job site.