

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION SHU-75

Effective November 1, 2009

*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 2010**.*

*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.*

### **AL2-E 40mm Extruded Aluminum Roll-Up Shutters, manufactured by**

**Roll-a-way by QMI (QMI Security Solutions)**  
**1661 Glenlake Avenue**  
**Itasca, IL 60143**  
**(630) 529-7111**

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

## PRODUCT DESCRIPTION

The AL2-E 40mm extruded aluminum roll-up shutter is manufactured of 6005-T5 aluminum alloy. The roll-up shutters are designed as a permanently mounted impact protective system. The extruded aluminum slats measure 1.875" in width and 0.365" in depth and have a typical wall thickness of 0.040". The slats are mounted with the following components: header, storm bars, center mullions, end mullions, track, and reel box assembly. The overall span of the assembly can be increased using storm bars. The overall width of the assembly can be increased using center and end mullions.

## LIMITATIONS

**Design Drawings:** The roll-up shutters shall be installed in accordance with AL2-E 40MM Slat Product Approval, Roll-a-way by QMI Drawing No. 3-01-036, Sheets 1–19 of 19, dated February 28, 2009, with each sheet signed and sealed by Donald L. Fowler, P.E. on September 9, 2009. 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.

**Shutter Configurations:** The roll-up shutters may be installed as a single span unit or as either two-span or three span assemblies with the use of storm bars, center mullions, and end mullions.

**Mounting Conditions:** The shutters may be wall mounted, inside mounted, build-out, mullion mounted, or any combination thereof. Refer to the approved drawings for the mounting conditions.

**Wall Construction:** The roll-up shutters may be mounted to the following types of wall framing:

- Pre-cast concrete, cast-in-place concrete (minimum 2,000 psi)
- Grout-filled concrete masonry units (CMU), minimum 1,500 psi,
- Wood (minimum Southern Yellow Pine dimension lumber).

**Allowable Design Pressure:** The allowable design pressure is a function of the slat span, anchor spacing, mounting condition, and the minimum separation from the glass. Refer to the approved drawings for the allowable design pressure. The maximum allowable design pressure is  $\pm 120$  psf.

**Anchorage:** The roll up shutters shall be anchored to the structure in accordance with the approved drawings. Anchorage of shutters to concrete, grout-filled concrete masonry units (CMU), or wood framing shall follow the mounting details on the drawings and the fasteners specified in the mounting details.

**Maximum Slat Span:** The maximum allowable slat span for single span, two span, and three span assemblies is specified on Sheet 1 of 19 of the approved drawings.

**Shutter Height:** The allowable shutter height varies. The maximum allowable shutter height is 230 inches. Refer to the approved drawings for the allowable shutter height for single span, two span, and three span shutters.

**Minimum Separation from Glass:** The minimum separation distance to the glass is detailed on Sheet 6 of 19 of the approved drawings.

**Product Identification:** The shutter assemblies shall have a label that identifies the manufacturer, the name of the product, compliance with ASTM E-330, and compliance with ASTM E 1886, and ASTM E 1996.

**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 in ASTM E 1996-04. 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 roll up shutters shall be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this product evaluation report. During a high wind event, the shutters shall be locked and in the closed position.

**Wall Construction:** The roll-up shutters may be mounted to the following types of wall framing:

- Pre-cast concrete, cast-in-place concrete (minimum 2,000 psi)
- Grout-filled concrete masonry units (CMU), minimum 1,500 psi,
- Wood (minimum Southern Yellow Pine dimension lumber).

**Anchorage:** The shutters shall be anchored to the structure in accordance with the approved drawings. Anchorage of shutters to concrete, grout-filled concrete masonry units (CMU), or wood framing shall follow the mounting details on the drawings and the fasteners specified in the mounting details.

**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.