



Product Evaluation

SHU219 | 0815

Engineering Services Program

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 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.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

Evaluation ID: SHU-219

Effective Date: August 1, 2015

Re-evaluation Date: August 2019

Product Name: Eyewall Armor Hurricane Protection 44mm Roll-Up Shutters-Large Missile Impact

Manufacturer: Town & Country Industries
400 West McNab Road
Fort Lauderdale, FL 33309
(561) 512-9702

General Description:

The roll-up shutters are manufactured of extruded aluminum and are assembled using extruded aluminum interlocking slats measuring 1.732" x 0.428". The major components of this product are:

End retention side rail

Wall mounted stop

Aluminum angle (either 6061-T6 or 6005-T5)

Aluminum bottom slat

Nylon end retention clip

Storm bars, headers, and mullions comprised of aluminum tubes of various sizes and alloys

Steel reinforcement

Shutters may be constructed with storm bars or with mullions to increase the overall width of the shutter. The shutters may be wall mounted, interior mounted, or built-out mounted. The shutters shall be installed in accordance with design drawings referenced in this evaluation report.

Limitations:**Design Drawings:**

- “Eyewall Armor 44mm Aluminum Roll-Up Shutter with End Retention Slats and Rails,” manufactured by Town and Country Industries, Drawing No. 14-1627a, Sheets 1–15 of 15, dated April 25, 2014, revised June 4, 2014, signed, sealed, and dated July 17, 2015 by Frank L. Bennardo, P.E.. The stated drawings will be referred to as approved drawings in this report.
- “Aluminum Storm Bars and Headers Addendum Installation Instructions for Roll-Up Shutter,” manufactured by Town and Country Industries, Drawing No. 14-1627b, Sheets 1–14 of 14, dated April 25, 2014, revised June 4, 2014, signed, sealed, and dated July 17, 2015 by Frank L. Bennardo, P.E.. The stated drawings will be referred to as approved drawings in this report.

Roll-up Shutter Configurations: The roll-up shutters may be installed as single span units or as multi-span assemblies using storm bars. Refer to the approved drawings for the specific types of configurations.

Mounting Conditions: The roll-up shutters may be wall mounted, interior mounted, or built-out mounted. Refer to the approved drawings for specific 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 compressive strength required specified in drawings)
- Grout-filled concrete masonry units (CMU)
- Hollow concrete masonry units (CMU). NOTE: Installation will require a combination of grout-filled CMU and hollow CMU. The requirement for either grout-filled CMU or hollow CMU depends on the anchor location. Refer to the approved drawings to determine where grout-filled CMU or hollow CMU is required.
- Wood (minimum Spruce-Pine-Fir dimension lumber, S.G. = 0.42).

Allowable Design Pressure: The allowable design pressure is a function of slat span, end retention, mounting condition, anchors, minimum glazing separation, storm bars, and mullions. Refer to the approved drawings for the allowable design pressure. The maximum allowable design pressure is +/-93.0 psf.

Maximum Span:

- The maximum allowable slat span (distance between end retention side rails) without storm bars is 146.5".
- The maximum allowable slat span (distance between end retention side rails) for multi-span assemblies using storm bars is 146.5". The maximum allowable intermediate slat span (distance between storm bars and distance between storm bars and end retention rails) is 80". Refer to the approved drawings for specific slat span requirements.
- The maximum allowable slat span (distance between end retention side rails) for multi-span assemblies using mullions is 146.5".

NOTE: Refer to the approved drawings for allowable slat spans for specific configurations.

Maximum Height: The maximum allowable assembly height is 252".

Minimum Separation from Glass: The minimum glazing separation as a function of slat span and design pressure is specified in Table 2 on Sheet 1 of 15 and Table 3 on sheet 8 of 15 of the approved drawing 14-1627a. **NOTE:** The minimum glazing separation is only required when the roll-up shutters are used in essential facilities as defined in ASCE 7.

Product Identification: The roll-up shutter assemblies must have a manufacturer-produced label that indicates the manufacturer: Town & Country Industries Ft. Lauderdale, FL; the name of the product: EA 44mm Roll Shutter; the missile Level: Missile Level D, and compliance with ASTM E 330, ASTM E 1886, and ASTM E 1996.

Impact Resistance: This roll-up 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 assembly passed Missile Level D specified in ASTM E 1996. The assembly may be installed at any height on the structure as long as the design pressure rating for the assembly is not exceeded.

Installation Instructions:

General Installation Requirements: The roll-up shutters must be installed in accordance with the manufacturer's installation instructions, the approved drawings, and this product evaluation report. Copies of the approved drawings must be available on the jobsite during inspection of the shutter assembly.

Anchorage: The roll-up shutters must be anchored to the structure in accordance with the approved drawings. Anchorage of the roll-up shutters to concrete, grout-filled concrete masonry units (CMU), hollow CMU, and wood wall framing must follow the mounting conditions and fastener options specified on the approved drawings and the Wall Construction requirements in this evaluation report.

Storm Bars: Anchorage and installation requirements for storm bars must be as specified on the approved drawings.

Note: Keep the manufacturer's installation instructions available on the job site during installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.