



**ENGINEERING EXPRESS® EXPERT
PRODUCT EVALUATION REPORT**

June 09, 2020

Application Number: FL17344.2 -R3
EX Project Number: 19-17782

Product Manufacturer: Alutech United, Inc.
Manufacturer Address: 117 Dixon Street
Selbyville, DE 19975

Product Name & Description: Magnum Security Star Roll Down Shutter

Scope of Evaluation:

This Product Evaluation Report is being issued in accordance with the requirements of the Florida Department of Business and Professional Regulation (Florida Building Commission) Rule Chapter 61G20-3.005, F.A.C., for statewide acceptance per Method 1 (d). The product noted above has been tested and/or evaluated as summarized herein to show compliance with standard ASCE 7-10 (ASD) and Florida Building Code Sixth Edition (2017) and is, for the purpose intended, at least equivalent to that required by the Standard and Code. Re-evaluation of this product shall be required following pertinent Florida Building Code or ASCE Standard modifications or revisions.

Substantiating Data:

• **PRODUCT EVALUATION DOCUMENTS**

EX Installation Drawing #19-17782 titled "MAGNUM SECURITY STAR ROLL DOWN SHUTTER", prepared by Engineering Express, Inc., signed & sealed by Frank L. Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 15.

• **TEST REPORS**

Uniform static structural performance has been tested in accordance with TAS 202 testing standards per test report #BT-ATC-19-002 by Blackwater Technical Services Inc.

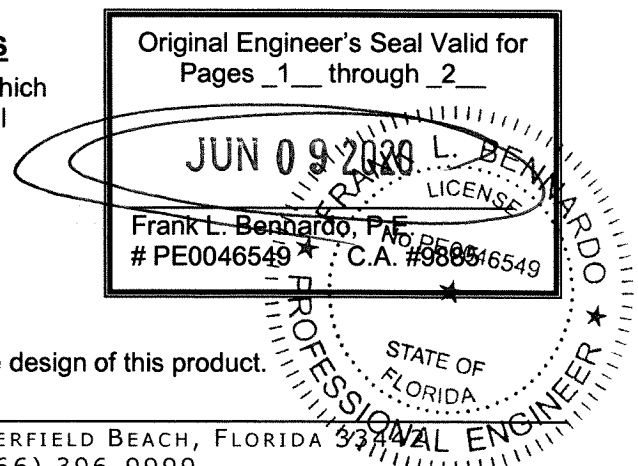
Large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201 and 203 test standards per test report #BT-ATC-19-002 by Blackwater Technical Services Inc.

• **STRUCTURAL ENGINEERING CALCULATIONS**

Structural engineering calculations have been prepared which evaluate the product based on comparative and/or rational analysis to qualify the following design criteria:

1. Maximum Allowable Spans
2. Minimum Glass Separation
3. Anchor Spacing
4. Maximum Allowable Size/Pressure Combinations
5. Anchor Capacity

No 33% increase in allowable stress has been used in the design of this product.



When installed outside ASTM Wind Zone 4 and outside of Essential Facilities, a minimum separation between the shutter and any glazing behind it is NOT required outside ASTM Wind Zone 4 and outside of Essential Facilities.

Impact Resistance:

Large Missile Impact Resistance has been demonstrated as evidenced in previously listed test reports and is accounted for in the engineering design of this product.

Wind Load Resistance

This product has been designed to resist wind loads as indicated on its respective Product Evaluation Document (i.e. engineering document).

Installation

The product listed above shall be installed in strict compliance with the Product Evaluation Document (i.e. engineering document), along with all components noted therein.

The product components shall be of the material specified in the Product Evaluation Document (i.e. engineering document).

Limitations & Conditions of Use:

Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering document) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in each product's respective anchor schedule. Host structure conditions which are not accounted for in each product's respective anchor schedule shall be designed for on a site-specific basis by a registered professional engineer.

All components which are permanently installed shall be protected against corrosion, contamination, and other such damage at all times. Any alteration to the respective Product Evaluation Document will invalidate it. This product has been designed for use inside and outside of the High Velocity Hurricane Zone (HVHZ & NON-HVHZ).