



# ENGINEERING EXPRESS® PRODUCT EVALUATION REPORT

June 9<sup>th</sup>, 2020

Application Number: FL13757.3-R7

EX Project Number: 20-26164

Product Manufacturer: Town & Country Industries  
Manufacturer Address: 400 West McNab Road  
Ft. Lauderdale, FL 33309

Product Name & Description: E. A. Essential Facilities Accordion Shutter  
Large Missile Impact Resistant Accordion Shutter for Essential Facilities

## ***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 the Florida Building Code Seventh Edition (2020) and is, for the purpose intended, at least equivalent to that required by the Code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

## ***Substantiating Data:***

- **PRODUCT EVALUATION DOCUMENTS**

EX drawing #20-26164 titled "EA Essential Facilities Accordion", sheets 1-7, prepared by Engineering Express, signed & sealed by Frank L. Bennardo, P.E. is an integral part of this Evaluation Report.

- **TEST REPORTS**

Uniform static structural performance has been tested in accordance with ASTM E330-02 test standards per test report(s) #C7542.01-450-44 (signed and sealed by Vinu J. Abraham, PE) by Architectural Testing, Inc.

Large missile impact resistance and cyclic loading performance have been tested in accordance with ASTM E1886-06 & E1996-09 (signed and sealed by per test report #0353-0709-06 (signed and sealed by Vinu J. Abraham, PE) by Hurricane Test Laboratory LLC (HTL).

- **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. Maximum Allowable Design Pressures
3. Minimum Glass Separation
4. Anchor Spacing
5. Anchor Capacity

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

Separation from glazing is required for use within essential facilities.

TOWN & COUNTRY INDUSTRIES —  
EA ESSENTIAL FACILITIES ACCORDION SHUTTER

### **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 in the span schedule(s) on the Product Evaluation Document (i.e. engineering drawing).

### **Installation**

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

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

### **Limitations & Conditions of Use:**

Use of this product shall be in strict accordance with the Product Evaluation Document (i.e. engineering drawing) as noted herein.

All supporting host structures shall be designed to resist all superimposed loads and shall be of a material listed in this product's respective anchor schedule. Host structure conditions which are not accounted for in this 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.

This product has been designed for use with missile level "E" requirements and includes wind zone 4 & essential facilities as defined in ASTM E1996-09 for use outside the HVHZ only.

Respectfully,



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Frank Bennardo, PE  
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