

## Product Evaluation Report

February 22, 2012

Application Number: FL12549-R4  
FLB Project Number: 09-ITI-0001

Product Manufacturer: Impact Technology, Inc.  
Manufacturer Address: 7860 West 25<sup>th</sup> Avenue  
Hialeah, FL 33016

Product Name & Description: Accordion 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 9N-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 2010 Florida Building Code 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**

FLB drawing #09-ITI-0001 titled "Accordion Shutter with Aluminum or Polycarbonate Blades", sheets 1-11, 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 on aluminum and polycarbonate blades in accordance with ASTM E330-02 / TAS 202 test standards per test report(s) #07-013 TAS, 09-001TAS, 09-001 ASTM, 09-018, and 09-021 by Construction Testing Corporation (CTC), as well as test report(s) #AD-11-001 by Blackwater Testing Inc.

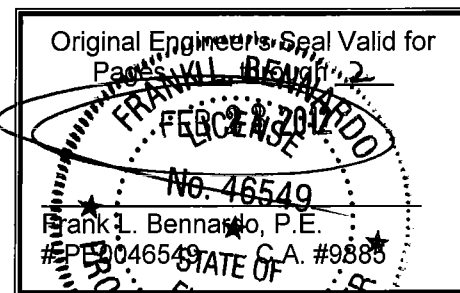
Large missile impact resistance and cyclic loading performance have been tested on aluminum and polycarbonate blades in accordance with ASTM E1886-05 & E1996-05 / TAS 201 & 203 test standards per test report(s) #07-013 TAS, 09-001TAS, 09-001 ASTM, 09-018, and 09-021 by Construction Testing Corporation (CTC), as well as test report(s) #AD-11-001 by Blackwater Testing Inc.

Polycarbonate material has been tested and approved under Miami-Dade County Notice of Acceptance #08-0305.02.

- **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. Minimum Glass Separation
2. Anchor Spacing



3. Maximum Allowable Size/Pressure Combinations
4. Anchor Capacity

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

### ***Impact Resistance:***

Large / Small 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 within the High Velocity Hurricane Zone (HVHZ).