

ENGINEERING EXPRESS® (EX) PRODUCT EVALUATION REPORT

June 12, 2026

Application Number: FL 6417.1
EX Project Number: 26-100135

Product Manufacturer: Transparent Protection Systems, Inc.
Manufacturer Address: 25 Wann Circle Road
Pisgah, AL 35765

Product Name & Description: ClearGuard Polycarbonate Storm Panels

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 7-22 (ASD) and the Florida Building Code Ninth Edition (2026) 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 Performance Evaluation document # 26-100135 titled "ClearGuard Polycarbonate Storm Panels", prepared by Engineering Express, Inc., signed & sealed by Frank 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) #04-009-FE-ASTM & #04-009-LE-ASTM by Construction Testing Corporation (CTC) and test report(s) #0239-0312-06, #0239-0813-06, #0239-0110-07 & #0239-1013-07 by Hurricane Test Laboratory (HTL).

Large missile impact resistance and cyclic loading performance have been tested in accordance with ASTM E1886-02, ASTM E1886-05, ASTM E1996-02 and ASTM E1996-05 test standards per test report(s) #04-009-FE-ASTM & #04-009-LE-ASTM by Construction Testing Corporation (CTC) and per test report(s) #0239-0813-06, #0239-0110-07 & #0239-1013-07 by Hurricane Test Laboratory (HTL).

Self-ignition temperature, Rate of Burning, and Smoke Density have been tested in accordance with ASTM D1929-96 (equivalent to ASTM D1929-16), ASTM D635-98 (equivalent to ASTM D635-14), & ASTM D2843-99 (equivalent to ASTM D2843-16) standards (respectively) per test report #ETC-01-753-10724.1 by ETC Laboratories (ETC).

UV weathering resistance has been tested in accordance with ASTM G26 (equivalent to ASTM G155-13) and ASTM D638 standards per test report #TPI-001-02-01 by PRI Asphalt Technologies (PRI) signed by Charles L. Thomas, P.E.

Transparent Protection Systems, Inc. – ClearGuard Polycarbonate Storm Panels

- **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

When installed outside ASTM Wind Zone 4 and Essential Facilities, this system has been designed as a non-porous assembly as defined in the ASTM E1996 standard. Therefore, a minimum separation between the shutter and any glazing behind it is NOT required outside ASTM Wind Zone 4 and 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 Performance Evaluation document (i.e. engineering document).

Installation:

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

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

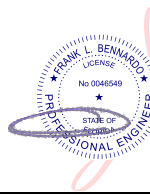
Limitations & Conditions of Use:

Use of each product shall be in strict accordance with its respective Performance 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 Performance Evaluation document will invalidate it. This product has been designed for use outside of the High Velocity Hurricane Zone (HVHZ & NON-HVHZ) only.

Respectfully,



Digitally signed

by Frank
Bennardo

Date:

2026.07.28

15:54:52 -04'00'

Frank Bennardo, P.E.

ENGINEERING EXPRESS®

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