

## ENGINEERING EXPRESS® PRODUCT EVALUATION REPORT

October 18, 2023

Application Number: FL 16355.4  
EX Project Number: 23-68038

Product Manufacturer: Ceco Door Products  
Division of ASSA ABLOY Door Group, Inc.  
Manufacturer Address: 9159 Telecom Drive  
Milan, TN 38358

Product Name & Description: Ceco Glazed Single Doors – Large Missile Impact (LMI) - Level "D"-  
HVHZ FL #16355.4 – EX 23-68038d

### **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 Florida Building Code Eighth Edition (2023) 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 #23-68038d titled "Ceco Glazed Single Doors – Large Missile Impact (LMI) - Level "D"-HVHZ", prepared by Engineering Express, Inc., signed & sealed by Frank Bennardo, P.E. is an integral part of this Evaluation Report, pages 1 through 16.

- **TEST REPORTS**

Uniform static structural performance has been tested in accordance with TAS 202 test standards per test report(s) #57807.01-201-18, 51287.05-201-18, 60259.03-201-18, 60259.02-201-18, 67011.01-201-18, 98743.01-201-44, 02-44412.01, B0127.01-201-18, B0126.01-201-18, B0127.01-201-18, A4870.01-201-18, A4872.01-201-18, 80333.01-201-18 signed and sealed by Joseph Reed, P.E; C0757.01-201-18, C5148.01-201-18 signed and sealed by Shawn Collins, P.E; A2211.01-201-18, A0408.01-201-18, 70601.01-201-18, A0509.01-201-18, 69698.01-201-44, signed and sealed by Eric J Schoenthaler and Architectural Testing Inc. (ATI), #3037990-2 signed and sealed Leo Schlimge, P.E and by Intertek Testing Services (ITS), 0096-0121-02, 0096-1102-01 signed and sealed by Vinu Abraham, P.E, and 0096-0709-96 signed and sealed by Timothy Marshall by Hurricane Test laboratory (HTL).

Large missile impact resistance and cyclic loading performance have been tested in accordance with TAS 201 & 203 test standards per test report(s) 57807.01-201-18, 51287.05-201-18, 60259.03-201-18, 60259.02-201-18, 67011.01-201-18, 98743.01-201-44, 02-44412.01, C0757.01-201-18, B0127.01-201-18, B0126.01-201-18, B0127.01-201-18, A4872.01-201-18, A2211.01-201-18, A4870.01-201-18, A0408.01-201-18, 80333.01-201-18, 70601.01-201-18, A0509.01-201-18, 69698.01-201-44 by Architectural Testing Inc. (ATI), #3037990-2 by Intertek Testing Services (ITS), 0096-0121-02, 0096-1102-01, and 0096-0709-96 by Hurricane Test laboratory (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. Anchor Spacing
2. Maximum Allowable Size/Pressure Combinations

Ceco Glazed Single Doors – Large Missile Impact (LMI) - Level "D"- HVHZ

### 3. Anchor Capacity

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

The following are approved for use in the HVHZ as specified in their corresponding NOA's:

- MAKROLON Polycarbonate by Covestro, LLC (NOA #'s: 18-0918.06).
- SentryGlas interlayer by Kuraray America, Inc. (NOA #20-9015.19).
- PVB interlayer by Kuraray America, Inc. (NOA ##20-9015.22).
- Glasslam Safety Plus II Glass interlayer by Polymer Extrusion Technology, Inc. (NOA #18-0619.01)

### **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:**

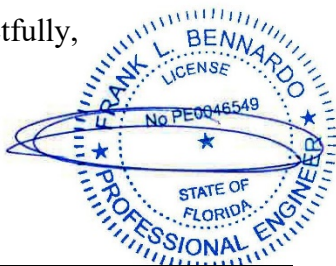
Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering document) as noted herein.

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).

Respectfully,

10/18/23



Frank Bennardo, PE

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