



## Equivalency Evaluation Report

Date:	July 16, 2020
PTC Report No.:	2210
Report Revision No.:	2
PTC Project No.:	419-1103
Product Mfg.:	Hurricane Storm Panel Mfg. Inc. 1720 Main St. NE. Unit 1 Palm Bay, FL 32905
Product Name:	HVHZ Impact Storm Panel
Product Category/ Sub-Category:	Shutters / Storm Panels
Code:	Current Edition FBC including 7 <sup>th</sup> Edition (2020) FBC
Compliance Method:	Product Approval Rule 61G20-3.015(4)(d) – Equivalence of Standards
Prepared By:	Robert J. Amoruso, P.E. Florida P.E. License Number 49752 PTC Product Design Group, LLC FBPE Certification of Authorization No. 25935

### CERTIFICATE OF INDEPENDENCE

PTC Product Design Group, LLC and Robert J. Amoruso, P.E. do not have, nor will acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report. PTC Product Design Group, LLC and Robert J. Amoruso, P.E. do not have, nor will acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.

Evaluated By:  
Robert J. Amoruso, P.E.  
Florida P.E. License Number 49752

# Scope

Evaluate equivalency of testing standards used for the performance testing of Hurricane Storm Panel Mfg. Inc.'s HVHZ Impact Storm Panel for conformance to the Current Edition of the Florida Building Code – Building and Residential Volumes including the High Velocity Hurricane Zone (HVHZ).

## Description of Product – Installation Requirements

See Reference 1.a for a description of the product, its installation and other pertinent data related to its approved use.

## Performance and Testing Standards

Reference 2 conducted testing to the following standard(s). See Reference 3.b for Code Conformance Evaluation to the Current Edition of the FBC for these testing standards.

- 1) ASTM E330-97, Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- 2) ASTM E330-02, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- 3) ASTM E1886-02, Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
- 4) ASTM E1886-97, Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Storm Shutters Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials
- 5) ASTM E1996-02, Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Storm Shutters Impacted by Windborne Debris in Hurricanes
- 6) TAS201-94, Impact Test Procedures.
- 7) TAS202-94, Criteria for Testing Impact & Non-Impact Resistant Building Envelope Components Using Uniform Static Air Pressure.
- 8) TAS203-94, Criteria for Testing Products Subjected to Cyclic Wind Pressure Loading.

## Equivalency Evaluation

The changes in revision level of the ASTM Standard Test Methods and Practices as part of the Current Edition of the FBC/FRC have been reviewed and found not to affect the method of testing, acceptance criteria, or reporting criteria in such a manner as to result in any change in the performance of the aforementioned product. As such, test results obtained from testing to these standards are valid for demonstrating compliance to the Current Edition of the FBC/FRC. The following table compares the revision levels of the Standards used in testing vs. those required by the Current Edition of the FBC/FRC and older versions of the FBC/FRC. It has been

determined that Standards used in testing are equivalent to those in the Current Edition of the FBC/FRC in accordance with Product Approval Rule 61G20-3.015(4)(d) – Equivalence of Standards.

PERFORMANCE TESTING		Revision Level used in Testing	Current Edition Code		Comments
Organization	Document		FBC	FRC	
ASTM	E330	97	02	---	Older Revision level used in testing from that required by Current Code
	E330	02	02	---	Same Revision level used in testing as required by Current Code
	E1886	97	12	12	Older Revision level used in testing from that required by Current Code
	E1886	02	12	12	Older Revision level used in testing as required by Current Code
	E1996	02	12a	02 & 12a	Same and older Revision level used in testing as required by Current Code

Changes, if applicable, to TAS 201, TAS 202 and TAS 203 have been reviewed and found not to affect the method of testing, acceptance criteria, or reporting criteria in such a manner as to result in any change in the performance of the aforementioned product. As such, test results obtained from testing to these standards are valid for demonstrating compliance to the Current Edition of the FBC/FRC.

The ASTM standards listed above and used in testing have been compared to their current revision levels in the current Florida Building & Residential Codes and found to be acceptable.

See Reference 3.a Product Evaluation Report for additional details.

## References and Supporting Documents

### 1) Drawings

- a. HSPM0001, Rev. C, dated 7/16/20, signed and sealed by Robert J. Amoruso, P.E., *Hurricane Storm Panel Manufacturing, HVHZ Impact Storm Panel, Installation Anchorage Details.*

### 2) Tests

- a. ATLNC 0428.01-04, KD Manufacturing Storm Panels, 0.050" Aluminum Corrugated. Dated 5/28/04, Signed and Sealed by David Johnson, P.E.

- b. ATLNC 0428.03-04, KD Manufacturing Storm Panels, 24 GA Steel Corrugated. Dated 5/28/04, Signed and Sealed by David Johnson, P.E.
- c. ATLNC 0224.01-09, KD Manufacturing Storm Panels, 24 GA Steel Corrugated. Dated 2/25/09, Signed and Sealed by David Johnson, P.E.
- d. ATLNC 0224.02-09, KD Manufacturing Storm Panels, 0.050" Aluminum Corrugated. Dated 2/25/09, Signed and Sealed by David Johnson, P.E.

3) Reports

- a. PTC Report No. 2210, Rev. 2, *Hurricane Storm Panel Manufacturing, HVHZ Impact Storm Panel, Product Evaluation to the Current Edition FBC*, Dated 7/16/20, signed and sealed by Robert J. Amoruso, P.E.