

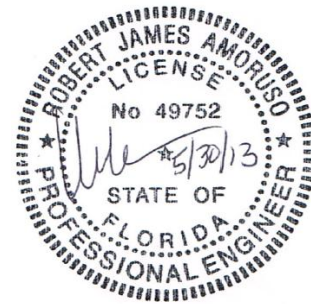


## Equivalency Evaluation to 2010 FBC

Date:	May 30, 2013
PTC Report No.:	2210
Report Revision No.:	0
PTC Project No.:	413-0303
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:	Shutters
Product Sub-Category:	Storm Panels
Compliance Method:	Product Approval Rule 9N-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

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# 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 2010 Florida Building Code – Building and Residential Volumes excluding 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 2010 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 2010 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 2010 FBC/FRC. The following table compares the revision levels of the Standards used in testing vs. those required by the 2010

FBC/FRC and the 2007 FBC/FRC. It has been determined that Standards used in testing are equivalent to those in the 2010 FBC/FRC in accordance with Product Approval Rule 9N-3.015(4)(d) – Equivalence of Standards.

PERFORMANCE TESTING		Revision Level used in Testing	2010 Code		Comments
Organization	Document		FBC	FRC	
ASTM	E330	97	02	02	Older Revision level used in testing from that required by 2010 Code
	E330	02	02	02	Same Revision level used in testing as required by 2010 Code
	E1886	97	02	02	Older Revision level used in testing from that required by 2010 Code
	E1886	02	02	02	Same Revision level used in testing as required by 2010 Code
	E1996	02	02	02	Same Revision level used in testing as required by 2010 Code

The changes 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 2010 FBC/FRC.

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

## References and Supporting Documents

### 1) Drawings

- a. HSPM0001, Rev. 0, dated 5/30/13, *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., NC License No. 005655.
- 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., NC License No. 005655.
- 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., NC License No. 00061915.

- 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., NC License No. 00061915.

3) Reports

- a. PTC Report No. 2210, Rev. 0, *Hurricane Storm Panel Manufacturing, HVHZ Impact Storm Panel, Product Evaluation to the 2010 FBC*, Dated 5/30/13, signed and sealed by Robert J. Amoruso, P.E.