



Equivalency of Standards Evaluation

Date:	May 31, 2023
Code:	Current Edition of the Florida Building Code including 8 th Edition (2023) FBC
Report #:	2108-EER
Report Revision No.:	4
Project #:	422-0613
Product Mfg.:	Storm Depot of America, Inc. DBA Storm Busters® 720 N. Harbor City Blvd. Melbourne, FL 32925
Product Description:	16MM Clearview® Polycarbonate Storm Panels – HVHZ and Non-HVHZ
Product Category:	Shutters
Product Sub-Category:	Storm Panels
Compliance Method:	Product Approval Rule 61G20-3.015 – Equivalency of Standards
Prepared By:	Robert J. Amoruso, P.E. Florida P.E. No. 49752 PTC Product Design Group, LLC, PO Box 520775, Longwood, FL 32752-0775 Florida C of A 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.
FL PE License No. 49752



SCOPE

Evaluate equivalency of testing standards used for the performance testing of Storm Depot of America, Inc. DBA Storm Busters® 16MM Clearview® Polycarbonate Storm Panels for conformance to the current edition of the Florida Building Code – Building and Residential Volumes for the following:

- Drawing No. STB0022 for use in Wind Borne Debris Regions **excluding** the High Velocity Hurricane Zone (HVHZ)
- Drawing No. STB0013 for use in Wind Borne Debris Regions **including** the High Velocity Hurricane Zone (HVHZ)

DESCRIPTION OF PRODUCT – INSTALLATION REQUIREMENTS

See PTC Product Evaluation Report No. 2108 (Reference 3) for a full description of the product including testing standards used.

PERFORMANCE AND TESTING STANDARDS SUMMARY

Reference 2 conducted testing to the following standard(s).

1. Structural Testing for non-HVHZ to:
 - a. ASTM E330-02
 - b. ASTM E1886-02
 - c. ASTM E1996-02
2. Structural Testing for HVHZ to:
 - a. TAS 201-94
 - b. TAS 202-94
 - c. TAS 203-94
3. Material testing to:
 - a. ASTM D638-03
 - b. ASTM D1929-96 (Reapproved 2001e1)
 - c. ASTM D2843-99 (Reapproved 2004e1)
 - d. ASTM D635-03
 - e. ASTM G26-96 (withdrawn in 2000 and replaced by ASTM G155)
 - f. ASTM G155-00a, 04a, 05

REFERENCES & SUPPORTING DOCUMENTS

1. Drawings:
 - a. STB0022, Rev. B, dated October 1, 2015, signed and sealed by Robert J. Amoruso, Storm Depot of America, Inc. DBA Storm Busters® 16MM Clearview® Polycarbonate Storm Panels for Non-HVHZ – Installation Anchorage Details



- b. STB0013, Rev. C, dated October 1, 2015, signed and sealed by Robert J. Amoruso, Storm Depot of America, Inc. DBA Storm Busters® 16MM Clearview® Polycarbonate Storm Panel for HVHZ – Installation Anchorage Details

2. Test Reports:

- a. Testing by Certified Testing Laboratories for non-HVHZ to ASTM E330-02, ASTM E1886-02 and ASTM E1996-02 – applicable to Drawing No. STB0022
 - i. CTLA-1570W-1, dated September 11, 2006
 - ii. CTLA-1632W, dated February 9, 2007
 - iii. CTLA-1632W-1, dated February 9, 2007
 - iv. Revisions to CTLA-1632W and CTLA-1632W-1, dated March 12, 2007
- b. Testing by Certified Testing Laboratories for HVHZ to TAS 201-94, TAS 202-94 (Structural Loads only) and TAS 203-94
 - i. CTLA-1570W, dated 9/11/2006, signed and sealed by Ramesh Patel, FL PE License No. 20224 on 9/14/06 – applicable to Drawing No. STB0013
- c. Brett Martin Ltd. Marlon ST Longlife 16mm Triplewall Polycarbonate Sheet Material testing to the following – applicable to Drawing No. STB0013 and STB0022
 - i. ATI Test Report Number ATI 67803.01-106-18, dated 11/28/2006
 - 1. ASTM D638-03 Testing
 - 2. ASTM D1929-96 (Reapproved 2001e1)
 - 3. ASTM D2843-99 (Reapproved 2004e1)
 - 4. ASTM D635-03
 - ii. PRI Construction Materials Test Report Number BML-001-02-01, dated July 23, 2007
 - 1. ASTM D638 (revision not recorded in report)
 - 2. ASTM G26-96 (withdrawn in 2000 and replaced by ASTM G155)
 - 3. ASTM G155-00a, 04a, 05

- 3. PTC Report No. 2108-PER, Rev. 4, Product Evaluation Report for Storm Depot of America, Inc. DBA Storm Busters® 16MM Clearview® Polycarbonate Storm Panels for conformance to the current edition of the Florida Building Code – Building and Residential Volumes, signed and sealed by Robert J. Amoruso.

4. Current Edition of the Florida Building Code & Current Edition of the Florida Residential Code.

- a. 8th Edition (2023) Florida Building Code
- b. 8th Edition (2023) Florida Residential Code



Product Conformance Evaluation to current edition of the FBC/FRC

HVHZ Performance testing (Reference 2.b) was conducted to the following standards.

HVHZ Testing	
Standard Used in Testing	Standard as Listed in Current FBC edition (including 7 th Edition (2023) FBC) – Test Protocols
TAS 201-1994	TAS 201-1994
TAS 202-1994	TAS 202-1994
TAS 203-1994	TAS 203-1994

Testing standards review conclusion:

- The testing standard revision levels listed above and used for testing of product(s) included in this evaluation have been compared to those listed in the current edition of the Florida Building Code. Based upon that review, it was determined that the test results documented in Reference 2.b test reports demonstrate code compliance to the current edition of the FBC regarding testing requirements, results reporting and results interpretation. No changes exist in the listed testing standards that would necessitate re-testing of the product(s) included in this evaluation.
- The testing requirements in the current edition of the Florida Building Code – Testing Protocols TAS 201, TAS 202 and TAS 203 have been met.

Non-HVHZ Performance testing (Reference 2.a) was conducted to the following standards.

PERFORMANCE TESTING			Current FBC edition (including 7 th Edition (2020) FBC)	
Organization	Document	Rev. Level	FBC	FRC
ASTM	E330	02	14	14
	E1886	02	13a	13a
	E1996	02	14a	14a

Testing standards review conclusion:

- Wind Zone 4 testing
 - ASTM E1996-14 moved Wind Zone 4 criteria to the non-mandatory appendix. As indicated in Appendix X4.1, ASTM E1996-14a the Wind Zone 4 requirement, though non-mandatory, is still present and may be specified when needed to meet specific building codes requirements. Those



requirements are detailed in Sections 1609.1.2.2, 1609.1.2.4 and 1609.3 of the Florida Building Code. Based on a review of the test reports (Reference 2), those parameters are met.

- Missile level and Impact Speed used in testing are consistent with those currently required by the Florida Building Code (Reference 4).
- Static load (ASTM E330) and cyclic load (ASTM E1886/E1996) parameters used in testing are consistent with those currently required by the Florida Building Code (Reference 4).
- The testing standard revision levels listed above and used for testing of product(s) included in this evaluation have been compared to those listed in the current edition of the Florida Building Code. Based upon that review, it was determined that the test results documented in Reference 2.a test reports demonstrate code compliance to the current edition of the FBC regarding testing requirements, results reporting and results interpretation. No changes exist in the listed testing standards that would necessitate re-testing of the product(s) included in this evaluation.
- Therefore, all test standards listed above, and test results associated with this product are valid for and demonstrate compliance to the current edition of the Florida Building Code.

Materials testing (Reference 2.c) was conducted to the following.

PLASTICS TESTING			Current FBC edition (including 8 th Edition (2023) FBC)	
Organization	Document	Rev. Level	FBC	FRC
ASTM	D635	03	14	n/a
	D1929	96(2001)e1	16	n/a
	D2843	99(2004)e1	16	n/a
	D638	03	03	n/a
	G155	05	13	n/a

Testing standards review conclusion:

- The testing standard revision levels listed above and used for testing of product(s) included in this evaluation have been compared to those listed in the current edition of the Florida Building Code. Based upon that review, it was determined that the test results documented in Reference 2.c test reports demonstrate code compliance to the current edition of the FBC with regard to testing requirements, results reporting and results interpretation. No changes exist in the listed testing standards that would necessitate re-testing of the product(s) included in this evaluation.
- Therefore, all test standards listed above and test results associated with this product are valid for and demonstrate compliance to the current edition of the Florida Building Code.