

WALTER A. TILLIT, JR., P.E.

PRODUCT EVALUATION REPORT

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REPORT NO.: 12-1207.06
DATE: December 7, 2011
PRODUCT CATEGORY: Hurricane Shutters
PRODUCT SUB-CATEGORY: Storm Panels
PRODUCT NAME: 24 Gage Bertha Galvanized Steel Storm Panel
(2" deep)
MANUFACTURER: Eastern Metal Supply, Inc.
4268 Westroads Drive
West Palm Beach, Florida 33407

1. PURPOSE OF EVALUATION:

This is a Product Evaluation Report (revises FL 5351-R1 with Report # 06-0815.01) issued by **Walter A. Tillit, Jr., P.E.** (System ID # 1906) to **Eastern Metal Supply, Inc.**, manufacturer, based on Rule Chapter No. 9B-72.070, Method 1d of the State of Florida Product Approval, Department of Community Affairs-Florida Building Commission.

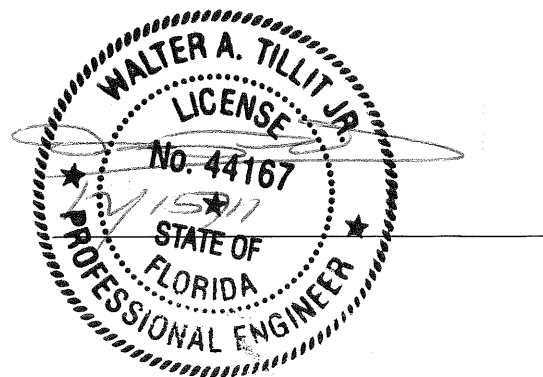
This product is being issued an Evaluation Report as described herein, and has been verified for compliance in accordance with the 2010 edition of the Florida Building Code, and to verify that the product is for the purpose intended at least equivalent to that required by the Code.

This Product Evaluation Report shall be subject to review and revision in case of a Building Code Change that may affect its limitations and conditions.

2. EVIDENCE SUBMITTED:

2.1. PRODUCT EVALUATION DOCUMENT (P.E.D.):

Drawing No. 11-226, titled "24 GAGE BERTHA GALVANIZED STEEL STORM PANEL (2" DEEP)", sheets 1 thru 10 of 10, prepared by Tilteco, Inc.; signed and sealed by Walter A. Tillit, Jr., P.E.; dated 12/06/11. This drawing is an integral part of this Evaluation Report.



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2.2. TEST REPORTS:

Large missile impact and cyclic load tests were performed under ASTM E-1886, E-1996 standard as per section 1609.1.2 of the Florida Building Code. Uniform Static Load Tests as per Section 1714.5.3, ASTM E-330. Test reports prepared by American Testing Lab of South Florida, Report No. 0304.01-08, dated May 12, 2008, and signed and sealed by William R. Mehner, P.E. and Henry Hattem P.E., Report No. 1220.01-05, dated July 16, 2007, signed and sealed by William R. Mehner, P.E., and Henry Hattem, P.E., Report No. 0926.01-03, dated January 15, 2004, signed and sealed by William R. Mehner, P.E. and Henry Hattem, P.E.

Tensile test reports # 8CM-256, by QC Metallurgical Inc. Laboratory, dated March 21, 2008 and signed and sealed by Frank E. Grate, Jr. P.E., as per ASTM E 8.

2.3. STRUCTURAL ENGINEERING CALCULATIONS:

This revision includes new calculations to verify the moment of inertia of storm panel where its end lips include now hemmed edges. Comparison is made in relation to panel with non-hemmed edges.

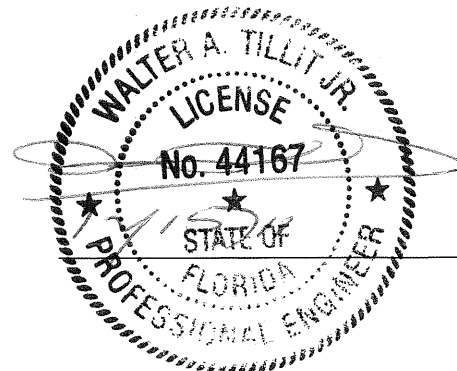
On 24 Gage Bertha Galvanized Steel Storm Panel (2" Deep) for maximum panel length vs. design wind load, as well as maximum anchor spacing vs. design wind load and panel length based on rational and comparative analysis, and in accordance with section 1604 of the Florida Building Code. Calculations prepared by Tilteco, Inc., dated May 12, 2008, signed and sealed by Walter A. Tillit, Jr., P.E.

3. MISSILE IMPACT RESISTANCE:

Based on new calculations explained on item 2.3 above, we have concluded that storm panels with hemmed edges comply also with large missile impact under section 1609.1.2 of the Florida Building Code, as per ASTM E-1886, E-1996 Standard. Large missile impact under section 1609.1.2 of the Florida Building Code, as per ASTM E-1886, E-1996 Standards, with missile level "D" (basic protection).

4. WIND LOADS RESISTANCE:

24 Gage Bertha Galvanized Steel Storm Panel (2" Deep) has been verified to sustain wind pressures. Maximum panel length shall be as indicated on sheet 2 of 10 of Product Evaluation Document (P.E.D.), drawing No. 11-226. Maximum Anchor Spacing shall be as indicated on sheets 6, 7 and 10 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226. 24 Gage Bertha Galvanized Steel Storm Panel (2" Deep) has been verified for code compliance to work as a non-porous storm shutter assembly, as per ASTM E-1996 Standard.



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5. INSTALLATION:

Installation shall be performed strictly in accordance with the details indicated on sheets 4 thru 6 and 8 and 9 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226. Minimum separation to glass shall be as indicated on sheets 4 thru 6, 8 and 9 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226.

6. MATERIAL CHARACTERISTICS AND SPECIFICATIONS:

Shall be strictly in accordance with General Notes and Components indicated on sheets 1, 2 and 3 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226.

Anchor specifications shall be as indicated on sheets 1, 5, 6, 8 and 9 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226..

7. LIMITATIONS AND CONDITIONS OF USE:

7.1. Shall be strictly in compliance with General Notes No. 1 and 7 thru 12, indicated on sheet 1 of 10, of Product Evaluation Document (P.E.D.), drawing No. 11-226 prepared by Tilteco, Inc. and signed and sealed by Walter A. Tillit, Jr., P.E.

7.2. Product **shall not** be installed within HIGH VELOCITY HURRICANE ZONES as defined on section 1620.2 of the Florida Building Code.

7.3. Product shall only be installed into poured concrete, concrete block, and wood frame structures.

Product Evaluation Report prepared by Walter A. Tillit, Jr., P.E. (Florida License No. 44167), President of ~~Tilteco~~ Inc. (Florida EB-0006719).

