Engineering Express®
Product Evaluation Report

June 4, 2020

Application Number: FL 15491.1-R5
FLB Project Number: 20-26243

Product Manufacturer: Structall Building Systems
Manufacturer Address: 350 Burbank Road
Oldsmar, FL 34677

Product Name & Description: EPS Foam Core Roof Panels – Metal Skin
(HVHZ and Non-HVHZ)

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 Florida Building Code Seventh Edition (2020) and is, for the purpose intended, at least equivalent to that required by the Code. Re-evaluation of this product shall be required following pertinent Florida Building Code modifications or revisions.

Substantiating Data:

- **PRODUCT EVALUATION DOCUMENTS**

FLB drawing #20-26243 titled “EPS Foam Core Roof Panels - Metal Skin”, sheets 1-2, prepared by Frank L. Bennardo, P.E., Inc., signed & sealed by Frank L. Bennardo, P.E. is an integral part of this Evaluation Report.

- **TEST REPORTS**

Uniform static structural performance has been tested in accordance with ASTM E72-98 & E72-05 test standard per test report(s) #506027-B, 506027-C, 506027-D, 509014-A, 509014-B (signed by Rick Cavanagh) by Terrapin Testing, Inc., in addition to test report(s) #ESP012351P-1, #ESP012351P-2, #ESP012351P-3, #ESP012351P-3A, #ESP012351P-4, #ESP012351P-5, #ESP012351P-6, #ESP012351P-6A, #ESP012351P-7, #ESP012351P-8, #ESP012351P-9, #ESP012351P-9A (signed by Remesh Patel, PE) by Element Materials Technology.

Thermoplastic structural performance for self-ignition temperature has been tested in accordance with ASTM D 1929 per test report VTEC# 100-1137-1 (signed by Neil Schultz) by VTEC Laboratories Inc., with an approved self-ignition temperature greater than 650°F as required per FBC Section 2606.4.

Thermoplastic structural performance for surface burning characteristics have been tested in accordance with ASTM E-84 per test reports 15328-97939 (aluminum skin EPS panels) and 15328-97938 (steel skin) 1 (signed by William E. Fitch, PE) by Omega Point Laboratories. The roof assembly was tested as a

3” thick panel (for aluminum skin) and as a 4” thick panel (for steel skin EPS panels) with an approved smoke developed index not greater than 450 and a flame spread index of 75 or less as required per FBC Section 2603.3.

- **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. Maximum Allowable Spans
2. Maximum Allowable Deflections

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

Impact Resistance:

Impact Resistance has not been demonstrated.

Wind Load Resistance

Each product has been designed to resist wind loads as indicated in the span schedule(s) on its respective Product Evaluation Document (i.e. engineering drawing).

Installation

Each product listed above shall be installed in accordance with separate engineering documents. This Product Evaluation Document (i.e. engineering drawing) provides no instructions for installation, only that the product has been designed to perform under load as shown with all components noted therein.

Each product component shall be of the material specified in that product's respective Product Evaluation Document (i.e. engineering drawing).

Limitations & Conditions of Use:

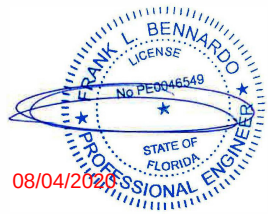
Use of each product shall be in strict accordance with its respective Product Evaluation Document (i.e. engineering drawing) as noted herein.

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.

This product has been designed for use **inside and outside** of the High Velocity Hurricane Zone (HVHZ).

Respectfully,



Frank Bennardo, PE
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