Force Engineering & Testing
19530 Ramblewood Drive
Humble, Texas 77338
Phone: (281) 540-6603, Fax: (281) 540-9966
Website: forceengineeringtesting.com

Product Evaluation Report

ENDURO COMPOSITES, INC.

4.2x1.06 Corrugated Series 250 Wall Panel

Florida Product Approval # 32007.1 R2

Florida Building Code 2023
Per Rule 61G20-3
Method: 2 –B

Category: Structural Components
Subcategory: Structural Wall
Compliance Method: 61G20-3.005(2)(b)
NON HVHZ

Product Manufacturer:
Enduro Composites, Inc.
16602 Central Green Blvd.
Houston, Texas 77032

Engineer Evaluator:
Johnathan Green, P.E. # 88223
Florida Evaluation ANE ID: 12901

Contents:

Evaluation Report: Pages 1 - 4
Details: Pages 5

OCT 18 2023

JOHNATHAN GREEN
LICENSE
No. 88223
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHNATHAN GREEN ON THE DATE ADJACENT TO THE SEAL.

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Compliance Statement: The product as described in this report has demonstrated compliance with the Florida Building Code 2023, Sections 1709.2, 2606, 2607.

Product Description: Tuff Span, 4.2x1.06 Corrugated Series 250 glass fiber reinforced wall panels, 1 1/16" tall major ribs at 4.2" O.C., 37.8" coverage, through fastened structural wall panel. Structural Application.

Panel Material/Standards:
Material: Nominal 0.065" thick glass fiber reinforced plastic.
Nominal Weight: 10.5 oz/sf.
Nominal Glass Content: 48% by weight.
Resin: PFR Iso-Polyester resin system.
Panel Finish: Acrylic polymer exterior UV coating, minimum 0.4mil dry thickness.

Panel Dimension(s):
Width: 37.8" maximum coverage
Rib Height: 1-1/16" major rib at 4.2" O.C

Panel Fastener: #14-x 2" Type B 304 Stainless Steel Hex head with 0.729" O.D. Sealing Washer approved equal on the high corrugation at 4.2"-8.4"-8.4"-8.4"-8.4" fastener pattern. Panel side laps fastened together w/ 3/8" x 1 ¼" Grommet at 18" O.C.
Corrosion Resistance: Per Florida Building Code 2023.

Substrate Description: Min. 16 Ga. Steel Framing. Framing must be designed in accordance w/ Florida Building Code 2023.

Allowable Design Pressures:

Table "A"

Maximum Design Pressure:	-20.0 psf	+60.0 psf	-57.5 psf
Fastener Pattern:	4.2"-8.4"-8.4"-8.4"-8.4"	4.2"-8.4"-8.4"-8.4"-8.4"	4.2"-8.4"-8.4"-8.4"-8.4"
Fastener Spacing:	5'-0" O.C.	5'-0" O.C.	2'-0" O.C.

*Design Pressure includes a Safety Factor = 2.0.

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Code Compliance:

The product described herein has demonstrated compliance with The Florida Building Code 2023, Section 1709.2, 2606, 2607.

Evaluation Report Scope:

The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2023, as relates to Rule 61G20-3.

Performance Standards:

The product described herein has demonstrated compliance with:

- ASTM E 1592-05 (2017)
- ASTM D 635-14
- ASTM D 1929-16
- ASTM E 84-18b

Reference Data:

1. ASTM E 1592-01
   Force Engineering & Testing, Inc. (FBC Organization # TST-5328)
   Report No. 314-0345T-08
3. ASTM D 635-10
   Fenestration Testing Laboratory (FTL)-Miami, FL
   Report No. 12086
   Test Results: Class CC1
4. ASTM D 1929-12
   Fenestration Testing Laboratory (FTL)-Miami, FL
   Report No. 12086
   Test Results: Self-Ignition 779º F
4. ASTM E 84-08A
   Southwest Research Institute
   Report No. 01.14430.01.018d
   Test Results: Smoke Developed Index 250 & Flame Spread Index 20.
5. Certificate of Independence
   By Johnathan Green, P.E. #88223

Test Standard Equivalency:

1. The ASTM E 1592-01 test standard is equivalent to the ASTM E 1592-05 (2017) test standard.
2. Letter of Equivalency for ASTM D635 & ASTM D1929 from Fenestration Testing Laboratory (FTL), dated 01/04/2021.
3. Letter of Equivalency for ASTM E84 from Intertek, dated 10/13/2023.

Quality Assurance Entity:

The manufacturer has established compliance of wall panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

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Installation:	Install per manufacturer's recommended details.
Height Limitation:	No more than 75 feet above grade plane.
Area Limitations & Separation Requirements:	Class CC1: See Table 2607.4 (FBC 2023)
Panels Shall NOT be Installed in:	Groups A-1, A-2, H, I-2, I-3 (FBC 2023, Section 2607.1).
Shear Diaphragm:	Shear diaphragm values are outside the scope of this report.
Design Procedure:	Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2023 for wall cladding wind loads. These component wind loads for wall cladding are compared to the allowable pressure listed above. The design professional shall select the appropriate erection details to reference in his drawings for proper fastener attachment to his structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with Florida Building Code 2023 Chapter 22 for steel, and Chapter 16 for structural loading.

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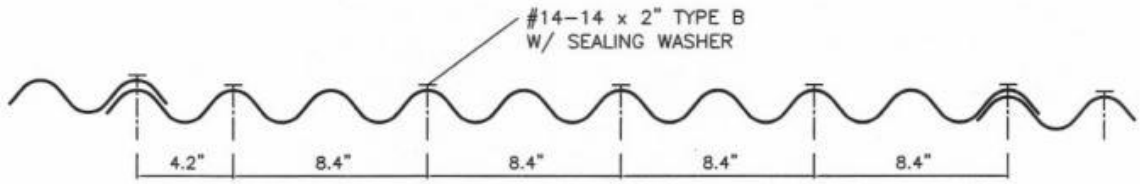
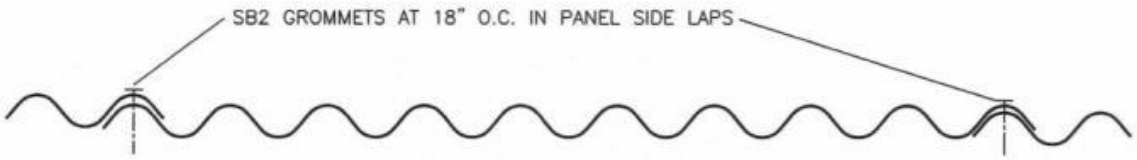


4.2x1.06 CORRUGATED FASTENER PATTERN AT SUPPORTS



4.2x1.06 CORRUGATED FASTENER PATTERN IN BETWEEN SUPPORTS