TRIDENT
BUILDING SYSTEMS, LLC
A BEHLEN GROUP COMPANY

Product Evaluation Report for

26 Ga. PBR Roof Panel over open framing

Florida Product Approval # 6617.1

Florida Building Code 2023
Per Rule 61G20-3
Method: 1-D

Category: Structural Components

Subcategory: Roof Deck

Compliance Method: 61G20-3.005(1)(d)

Non-HVHZ

Product Manufacturer:
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1/2/2024, 8:15:53 AM

This document has been electronically sealed and digitally signed by Scott D. Close, P.E., using my digital signature. Printed copies are not considered signed and sealed. The signature must be verified on any electronic document.

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MBMA METAL BUILDING MANUFACTURERS ASSOCIATION MEMBER

IAS ACCREDITED Metal Building Systems AC 472

Compliance Statement:	The product as described in this report has demonstrated compliance with the FBC 2023, Sections 1504.3.2, 1504.7, 1507.1.1.1 (chart).
Product Description:	PBR Roof Panel, Minimum 26 Ga. Steel, 36” wide, through fastened structural roof panel. Structural Application.
Panel Materials/Standards:	Material: Minimum 26 Ga. Steel. ASTM A792 or ASTM A653 conforming to FBC 2023 Section 1507.4.3. Paint finish optional. Yield Strength: Min. 80.0 ksi Corrosion Resistance: Panel Material shall comply with FBC 2023, Section 1507.4.3.
Panel Dimensions:	Thickness: 0.0185” min. Width: 36” coverage Rib Height: 1-1/4” major rib at 12” O.C.
Panel Fastener:	#12-14 x 1-1/4” HWH SD with sealing washer at 12”-12”-12” fastener pattern. Panel side laps fastened together with ¼-14 x 7/8” HWH SD with sealing washer at 18” O.C.
Substrate Description:	Min. 16 Ga. Steel Framing. Framing must be designed in accordance with FBC 2023.
Design Pressures:	*****see roof panel uplift load table
Code Compliance:	The product described herein has demonstrated compliance with the FBC 2023, Section 1504.3.2, 1504.7, 1507.1.1.1 (chart).
Evaluation Report Scope:	The product evaluation is limited to compliance with the structural wind load requirements of the FBC 2023, as relates to Rule 61G20-3.
Performance Standards:	The product described herein has demonstrated compliance with: 1. ASTM E1592-05 (2012) Test method for structural performance of sheet metal and siding systems by uniform static air pressure difference.
Reference Data:	1. ASTM E1592-01 Test report 34-0241T-06A dated 9-19-06 and 34-0241T-06B dated 9-19-06 by Force Engineering & Testing, Inc.
Test Standard Equivalency:	1. The ASTM E1592-01 test standard is equivalent to the ASTME 1592-05 (2012) test standard.
Quality Assurance Entity:	The manufacturer has established compliance of roof 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.
Minimum Slope Range:	Minimum slope shall comply with FBC 2023, including Section 1507.4.2 and in accordance with Manufacturers recommendations. For slopes less than 3:12, lap sealant must be used in the panel side laps.

Installation:	Install per manufacturer's recommended details.
Insulation:	Manufacturer's approved product (Optional).
Roof Panel Fire Classification:	Fire classification is not part of this acceptance.
Shear Diaphragm:	Roof Shear Diaphragm values are outside the scope of this report.
Design Procedure:	Design wind loads shall be determined for each project in accordance with FBC 2023 Section 1609 or ASCE 7-22 using allowable stress design. These design wind loads for roof cladding are compared to the allowable pressures shown below. 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 FBC 2023 Chapter 22 for steel and Chapter 16 for structural loading.

Panel Load Span Table

Panel Type= **Trident Building Systems 26ga PBR Roof Panel**

SECTION PROPERTIES					TOP IN COMPRESSION				BOTTOM IN COMPRESSION		
Gauge	F_y (ksi)	Weight (psf)	V_a kip/ft	P_{a_end} lbs/ft	P_{a_int} lbs/ft	I_x in^4/ft	S_e in^3/ft	M_a kip-in/ft	I_x in^4/ft	S_e in^3/ft	M_a kip-in/ft
26	80.0	0.94	0.5882	123.42	255.66	0.0382	0.0381	1.676	0.0309	0.0449	1.802

1. Section properties are calculated in accordance with the 2012 AISI North American Specification for the Design of Cold-Formed Steel Structural Members.
2. Va is the allowable shear.
3. Pa is the allowable load for web crippling on end & interior supports.
4. Ix is for deflection determination.
5. Se is for bending.
6. Ma is the allowable bending moment.
7. All values are for one foot of panel width.

Allowable Uniform Loads (psf)

		Span in Feet								
	Load Type	1.50	2.00	2.50	3.00	3.50	4.00	4.50	5.00	5.50
Single	Positive Wind	497	279	179	124	91	70	55	45	37
	Negative Wind	534	300	192	133	98	75	59	48	40
4 Span	Positive Wind	580	326	209	145	107	82	64	52	43
	Negative Wind	624	351	225	156	115	88	69	56	46

Notes:

1. Allowable uniform loads are based upon equal span lengths.
2. Positive Wind is wind pressure and is NOT increased by 33 1/3 %.
3. Negative Wind is wind suction or uplift and is NOT increased by 33 1/3 %.
4. The weight of the panel has NOT been deducted from the allowable loads.
5. Positive Wind and Negative Wind values are limited to combined shear & bending using Eq. C3.3.1-1 of the AISI Specification.
6. Positive Wind values are limited by web crippling using a bearing length of 2".
7. Web crippling values are determined using a ratio of the uniform load actually supported by the top flanges of the section.