

PRODUCT EVALUATION REPORT

Ideal Steel, LLC.

24 Gauge PBR Through Fastened Roof Panel Over Open Framing

Florida Product Approval Number FL8889.2

Category: Structural Components

Sub-Category: Roof Deck

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

NON-HVHZ

Manufacturing Location

**Ideal Steel, LLC
1289 Smede Hwy
Broussard, Louisiana 70518**

Engineer Evaluator

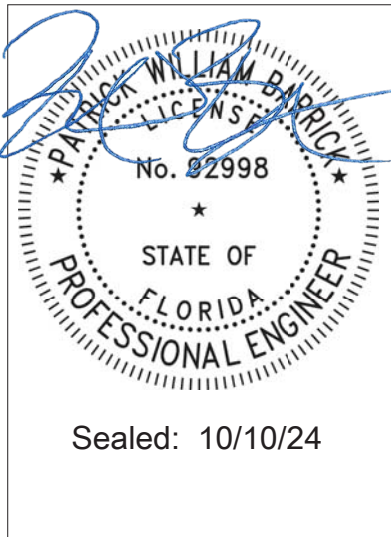
Patrick Barrick, P.E., Florida 92998

Validator

**Dennis Johnson, P.E. Florida 54340
Florida C.O.A. 30308**

Contents

Evaluation Report Pages 1-4 Dated 10-08-2024



Compliance Statement

The product described in this report has demonstrated compliance with the 2023 (8th Edition) Florida Building Code Sections 1504.3.2, 1504.7, 1507.4 and 2210.1.

Product Description

PBR Through Fastened structural roof panels applied over open framing:

1. PBR 24 Gauge
(0.0232 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 12-12 Fastener Spacing
2. PBR 24 Gauge
(0.0232 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 5-7-5 Fastener Spacing

Panel Fastener

Corrosion Resistant 1/4 – 14 HWH SD as indicated in the **Load Tables** of this Evaluation Report

Substrate Description

Minimum 16 gauge (0.0557 steel thickness) open framing.

Framing must be designed in accordance with the 2023 (8th Edition) Florida Building Code

Quality Assurance Entity

The manufacturer has established compliance of products in accordance with the 2023 (8th Edition) Florida Building Code as relates to Rule 61G20-3.005(3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

Minimum Roof Slope

Minimum roof slope of ½:12 shall comply with the 2023 (8th Edition) Florida Building Code, Including Section 1507.4.2 and in accordance with the Manufacturers recommendations. For slopes less than 3:12 lap sealant must be used at all side laps.

Insulation

Manufacturer's approved products (optional)

Fire Classification

Fire Classification is outside the scope of this evaluation

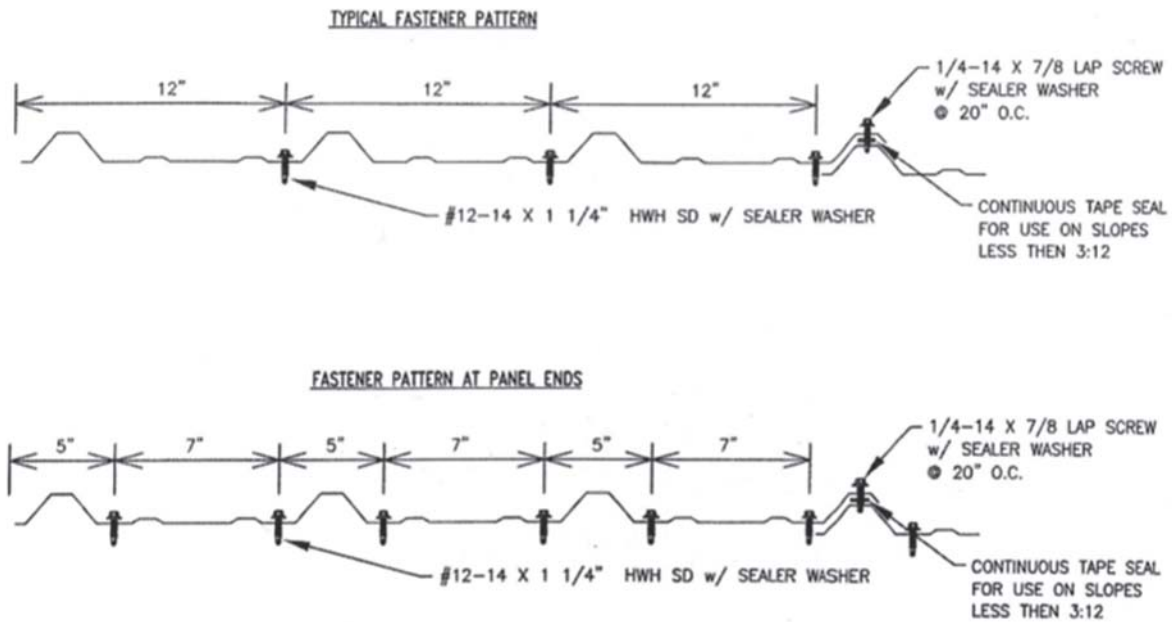
Shear Diaphragm

Shear Diaphragm is outside the scope of this evaluation

Design Procedure

Based on dimensions of the structure, appropriate wind loads are determined using chapter 16 of the 2023 (8th Edition) Florida Building Code for component loading of roof cladding. These component wind loads are compared to the allowable load listed in the **Load Tables** of this evaluation report. The design professional shall select appropriate fastener pattern and panel gauge to reference in the construction documents for proper installation. Design of support framing must be in compliance with the 2023 (8th Edition) Florida Building Code.

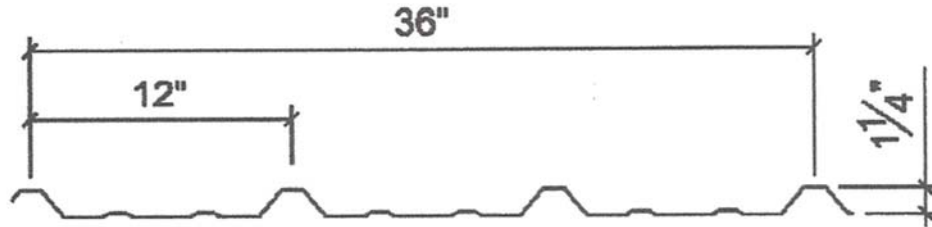
R or PBR Panel Fastener Patterns



Notes:

1. Fastener Pattern 5-7-5 is to be used at the ends of all panels
2. Fastener Pattern 12-12 and 5-7-5 are to be used at the intermediate supports as indicated in the span load tables to achieve the required uplift load capacity.

Ideal Steel (PBR)



Ideal Steel (PBR) Panel (24 Gauge)				Section Properties					
Panel Gauge	Fy	Fu	Weight	Negative Bending			Positive Bending		
	ksi	Ksi	Psf	I _{xe}	S _{xe}	Maxo	I _{xe}	S _{xe}	Maxo
24	50	60	1.13	0.0517	0.0658	1.970	0.0623	0.0646	1.933

24 gauge (Fy = 50 ksi) #12-14 Fasteners on 12" centers for attachment to all supporting members (16 gauge minimum)**											
Span Type	Load Type	Span in Feet									
		3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"
Single	Negative Wind Load	145.9	107.2	82.1	64.9	52.5	43.4	36.5	31.3	26.8	23.3
	Live Load / Deflection	143.2	105.2	80.6	63.6	51.6	42.6	35.8	30.5	26.3	22.9
2-Span	Negative Wind Load	63.6	54.5	47.7	42.4	38.2	34.7	31.8	29.9	26.1	22.7
	Live Load / Deflection	139.5	103.7	80.0	63.5	51.7	42.8	36.1	30.8	26.6	23.2
3-Span	Negative Wind Load	72.3	62.0	54.2	48.2	43.4	39.4	36.2	33.4	31.0	28.3
	Live Load / Deflection	171.1	127.7	98.9	78.7	64.1	53.2	44.8	38.3	33.1	28.9

** Fasteners shall be ½" minimum head diameter

24 gauge (Fy = 50 ksi) #12-14 Fasteners on 5'-7"-5" centers for attachment to all supporting members (16 gauge minimum)**											
Span Type	Load Type	Span in Feet									
		3'-0"	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"	6'-0"	6'-6"	7'-0"	7'-6"
Single	Negative Wind Load	145.9	107.2	82.1	64.9	52.5	43.4	36.5	31.1	26.8	23.3
	Live Load / Deflection	143.2	105.2	80.6	63.6	51.6	42.6	35.8	30.5	26.8	23.3
2-Span	Negative Wind Load	127.3	101.8	78.6	62.4	50.7	42.0	35.4	30.2	26.1	22.7
	Live Load / Deflection	139.5	103.7	80.0	63.5	51.7	42.8	36.1	30.8	26.6	23.2
3-Span	Negative Wind Load	144.6	123.9	97.2	77.3	63.0	52.2	44.0	37.6	32.5	28.3
	Live Load / Deflection	171.1	127.7	98.9	78.7	64.1	53.2	44.8	38.3	33.1	28.9

Notes:

1. Allowable loads are based on uniform span length and uniformly distributed load.
2. Allowable gravity load is limited by bending, shear or deflection.
3. Allowable gravity loads are computed for a maximum total load deflection of L/60.
4. Weight of the panel must be included with gravity load combinations as appropriate.
5. This material is subject to change without notice
6. This material has been developed in accordance with the 2016 North American Specification for Cold-Formed Structural Steel Members with Supplement 2 (2020).

The engineering data contained herein is for the express use of the customers of Ideal Steel and qualified design professionals.