

High RIB PBR Panel Metal Roof Assembly

Manufacturer:
Sunward Corporation
6800 E Hampden Ave.
Denver, Colorado 80224

for

Florida Product Approval
FL 41165.1 R1
Florida Building Code 8th Edition (2023)

Method: 1 - D
Category: Structural Components
Sub - Category: Roof Deck

Product: High Rib PBR
Material: Steel

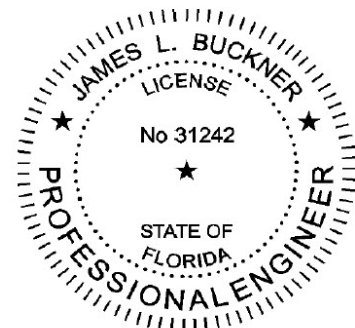
Prepared by:

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Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 23-598.1-Roof-PBR-ER
(Revises Report No. 22-474.1-Roof-PBR-ER, FL41165.1 R0)
Date: 12/26/2023

Contents:

Evaluation Report Pages 1 – 7

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



James L. Buckner, P.E.
FL31242

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Manufacturer: **Sunward Corporation**
6800 E Hampden Ave.
Denver Colorado 80224
www.sunwardsteel.com

Product Name: **High Rib PBR**

Product Category: Structural Components

Product Sub-Category Roof Deck

Compliance Method: State Product Approval Rule 61G20-3.005 (1) (d)

Product/System Description: High Rib PBR is a corrugated steel Roof Panel.
A lapped roof panel fastened to structural steel supports.

Product Assembly as Evaluated: Refer to Page 4 of this report for product assembly components/materials & standards:

1. Roof Panel
2. Fasteners

Support: **Type:**
Steel Supports

(Design of steel support and its attachment to support framing is outside the scope of this evaluation.)

Description:

Material: Steel
Thickness: 16 Gauge minimum
Yield Strength: 50 ksi minimum
Purlin/Support Size: 2" min. flange bearing

Performance: Wind Resistance:
• Design Pressure:
(Refer to "Table A" attachment details herein)

Refer to Table A

- Performance Standards:** The product described herein has demonstrated compliance with:
- **ASTM E 1592-05 (2017)**– *Standard Test Method for Structural Performance of Sheet Metal Roof and Siding Systems.*
- Code Compliance:** The product(s) described herein have demonstrated compliance with the performance standards listed above as referenced in the:
Florida Building Code 8th (2023)
International Building Code 2021
- Evaluation Report Scope:** This product evaluation is limited to compliance with the structural requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.
- Limitations and Conditions of Use:**
- Diaphragm and axial load capacity is outside the scope of this evaluation.
 - Scope of “Limitations and Conditions of Use” for this evaluation:
This evaluation report for “Optional Statewide Approval” contains technical documentation, specifications and installation method(s) which include “Limitations and Conditions of Use” throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under “Optional Statewide Approval”.
 - Option for application outside “Limitations and Conditions of Use”
Rule 61G20-3.005(1)(e) allows engineering analysis for “project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code”. Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.
 - This report is a building code product evaluation per FLPE rule (FAC) 61G15-36 to comply with Florida product approval rule (FAC) 61G20-3. This evaluation report is part of the Florida Building Commission approval for the listed code related criteria. This report by James Buckner, P.E. and CBUCK Engineering is not a design certification of code compliance construction submittal documentation, per FBC section 107, for any individual structure, site specific or permit design.
 - All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC.
 - Design of support system is outside the scope of this report. Support shall be designed by others and shall comply with the FBC Chapters 22 for steel and Chapter 16 for structural loading.
 - Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.
 - This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

Quality Assurance: The manufacturer has demonstrated compliance of wall panel products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through:
Farabaugh Engineering and Testing, Inc
FBC Organization Number QUA7733

**Components/Materials
(by Manufacturer):**

Roof Panel: High Rib PBR
Material: Steel
Thickness: 26 Gauge
Panel Width: 36" Coverage
Rib Height: 1.25"
Yield Strength: 60 ksi minimum
Corrosion Resistance: In compliance with FBC Section 1405.2

Fastener:

FASTENER 1: Panel to Support
Type: Hex-Head Sheet Metal Screw with WSW
Size: #12 – 14 x 1 1/2"
Corrosion Resistance: Per FBC Section 1405.17
Standard: Approved per FBC Section 1405.17

FASTENER 2: Panel to Panel, Stitch Lap
Type: Hex-Head Sheet Metal Screw with WSW
Size: 1/4" – 14 x 7/8"
Corrosion Resistance: Per FBC Section 1405.17
Standard: Approved per FBC Section 1405.17

Installation:

Installation Method:

(Refer to **"TABLE A"** below and drawings at the end of this report.)

- Purlin/Support Spacing: **Refer to Table A Below**
- Fastener spacing: **Refer to Table A Below**
(along the Purlin, in the valley of panel corrugations)
- Side Lap Spacing: **Refer to Table A Below**
(along the length of the side laps and within 3" from each end)
- Rib Interlock: Lapped
- Minimum fastener penetration thru support, 3/4".
(through flange of steel supports)

TABLE "A"					
ALLOWABLE DESIGN PRESSURES					
Maximum Support Spacing:			4 FT- 6 IN	5 FT	6 FT
Positive Design Pressure (PSF)			+52	+46	+34
Negative Design Pressure (PSF)			-52	-46	-34
Span Condition:	Three or More Spans				
Fastener spacing to support:	Refer to Drawing page 7				
Sidelap Spacing:	18" O.C.				
Notes:					
• Positive Pressure Inward/Negative Pressure Outward • Allowable design pressure(s) for allowable stress design (ASD). Factor of Safety 2 : 1 • Fastener Attachment to Steel Supports May Be Designed By A Qualified Design Professional As Required By The Florida Building Code For Site Specific Projects. • Diaphragm and axial load capacity are not included in this evaluation.					

Orientation: Vertical or Horizontal

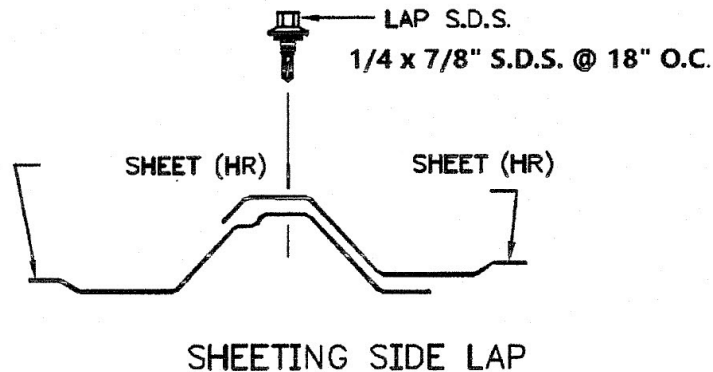
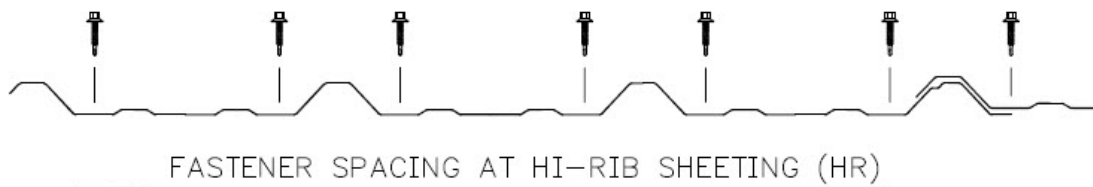
Install the High Rib PBR Roofl panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 8th Edition (2023). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

Referenced Data:

1. ASTM E1592-05
By Farabaugh Engineering and Testing, Inc. (FBC Organization #TST ID:1654)
 - Report # T297-17, Report Date: 12/29/17
2. Engineering Analysis
By CBUCK Engineering
3. Equivalency of Test Standard Certification
By James L. Buckner, P.E. @ CBUCK Engineering
4. Quality Assurance
Farabaugh Engineering and Testing, Inc
Org Type Product Quality Assurance Entity
FBC Organization Number QUA7733
5. Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering

Installation Method Sunward Corporation High Rib PBR Steel Roof Panel attached to Steel Supports

3TYPICAL High Rib PBR FIELD ATTACHMENT TO SUPPORT SECTION VIEW



HI-RIB PANEL SECTION (TYPE HR)

