

## Evaluation Report

**"PBR MAX"**

**Metal Roof Assembly**

**Manufacturer:**

**Extreme Metal Fabricators, LLC.**

2160 SW Poma Drive

Palm City, FL 34990

(772) 872-8034

*for*

**Florida Product Approval**

**# FL 17022.9 R5**

**Florida Building Code 5th Edition (2014)**

**Per Rule 61G20-3**

**Method: 1 - D**

**Category: Roofing**

**Sub - Category: Metal Roofing**

**Product:** *"PBR MAX" Roof Panel*

**Material:** *Steel*

**Panel Thickness:** *26 gauge (min.)*

**Panel Width:** *36" (max.)*

**Support:** *Wood Deck*

### Prepared by:

James L. Buckner, P.E., SECB

Florida Professional Engineer # 31242

Florida Evaluation ANE ID: 1916

Project Manager: Youry Demosthenes

Report No. 16-123-PBR-S6W-ER

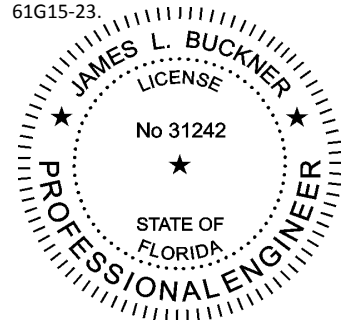
Date: 4 / 18 / 16

### Contents:

Evaluation Report

Pages 1 – 7

Digitally signed by James L. Buckner, P.E.  
Electronically signed and sealed documents  
shall comply with the provisions of FAC Rule  
61G15-23.



A handwritten signature in blue ink, appearing to read "James L. Buckner".

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<b>Manufacturer:</b>	<b>Extreme Metal Fabricators, LLC.</b>
<b>Product Name:</b>	<b>PBR MAX</b>
<b>Product Category:</b>	Roofing
<b>Product Sub-Category</b>	Metal Roofing
<b>Compliance Method:</b>	State Product Approval Rule 61G20-3.005 (1) (d)
<b>Product/System Description:</b>	“PBR MAX” 1-1/4" rib height, 36" wide, 26 gauge steel, panel mechanically attached to Wood Deck with screws.
<b>Product Assembly as Evaluated:</b>	Refer to Page 4 of this report for product assembly components/materials & standards: <ol style="list-style-type: none"><li>1. Roof Panel</li><li>2. Fasteners</li><li>3. Underlayment</li><li>4. Insulation Board (Optional)</li></ol>
<b>Support:</b>	<b>Type:</b> Wood Deck (Design of support and its attachment to support framing is outside the scope of this evaluation.)  <b>Description:</b> <ul style="list-style-type: none"><li>• 15/32" or greater plywood,</li><li>• or Wood plank (min. specific gravity of 0.42)</li></ul>
<b>Slope:</b>	Minimum slope shall be in compliance with FBC Chapter 15 Section 1507.4.2, applicable code sections and in accordance with manufacturer's recommendations.
<b>Performance:</b>	Wind Uplift Resistance: <ul style="list-style-type: none"><li>• Design Uplift Pressure (ASD): <b>Refer to Table A</b> (Refer to "Table A" attachment details herein)</li></ul>

**Performance Standards:**

The product described herein has demonstrated compliance with:

- **UL580-06** – *Test for Uplift Resistance of Roof Assemblies*
- **UL 1897-04** – *Uplift test for roof covering systems*

**Code Compliance:**

The product described herein have demonstrated compliance with the performance standards listed above as referenced in the current Florida Building Code.

**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:**

- 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.
- Deck shall be in compliance with applicable building code.
- Design of support system is outside the scope of this report.
- 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 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 through Keystone Certifications, Inc. (FBC Organization ID# QUA 1824).

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

<b>Roof Panel:</b>	PBR MAX
Material:	Steel
Thickness:	26 gauge (min.)
Panel Widths:	36" (max.) Coverage
Rib Height:	1-1/4"
Yield Strength:	50 ksi min.
Corrosion Resistance:	In compliance with FBC Section 1507.4.3: <ul style="list-style-type: none"><li>• ASTM A792 coated, or</li><li>• ASTM A653 G90 galvanized steel</li></ul>

**Fastener:**

**Panel to Deck:**

Type:	Hex-Washer Head Wood Screw
Size:	#10 × 1-1/2" (min.)
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per ANSI/ASME B18.6.1

**Panel to Panel (Sidelap/Stitch)**

Type:	Hex-Washer Head Self-Drilling Screw
Size:	#14 × 7/8" (min.)
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per ANSI/ASME B18.6.1

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

**Underlayment:** Material and application shall be in compliance with FBC Section 1507.4.5.1 and 1507.4.5.2, applicable codes and in accordance with manufacturer's recommendations.

**Insulation (Optional):**

Type:	Rigid Insulation Board
Thickness:	3" (max.)
Properties:	
Density:	2.25 pcf (lbs/ft <sup>3</sup> ) min.
Or Compressive Strength:	20 psi min.

**Insulation Notes:**

- Rigid Insulation shall meet minimum density OR compressive strength.
- Insulation shall comply with FBC Section 1508. When insulation is incorporated, fastener length shall conform to penetrate thru bottom of support a minimum of 3/16".

**Installation:**

**Installation Method:**

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

- Fastener Spacing: **Refer to "TABLE A" Below**  
(along the row, with fasteners attached in the panel flats)
- Row Spacing: **Refer to "TABLE A" Below**  
(along the length of the panel)
- Side Lap Spacing: 12" o.c.  
(along the length of the panel)
- Rib Interlock: Lapped
- Minimum fastener penetration thru bottom of support, 3/16".
- For panel construction at the end of panels, refer to manufacturer's instructions and any site specific design.

TABLE "A" "PBR MAX" (26 ga. min.) Roof Panel attached to Plywood Deck ALLOWABLE LOADS						
Method	Panel Width (max.)	Deck Thickness (min.)	Row Spacing (max.)	Fastener Spacing Along Row (max.)	Panel Seam (min.)	Design Uplift Pressure
1	36"	15/32" min.	24"	12"	Lapped	- 71 PSF
2	36"	15/32" min.	12"	12"	Lapped	- 119.5 PSF

\* Allowable design pressure(s) for allowable stress design (ASD) with a margin of safety of 2 to 1.

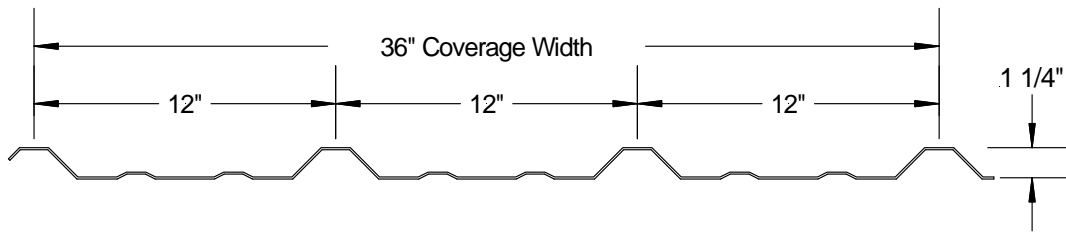
Install the PBR MAX roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 5th Edition (2014). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

**Referenced Data:**

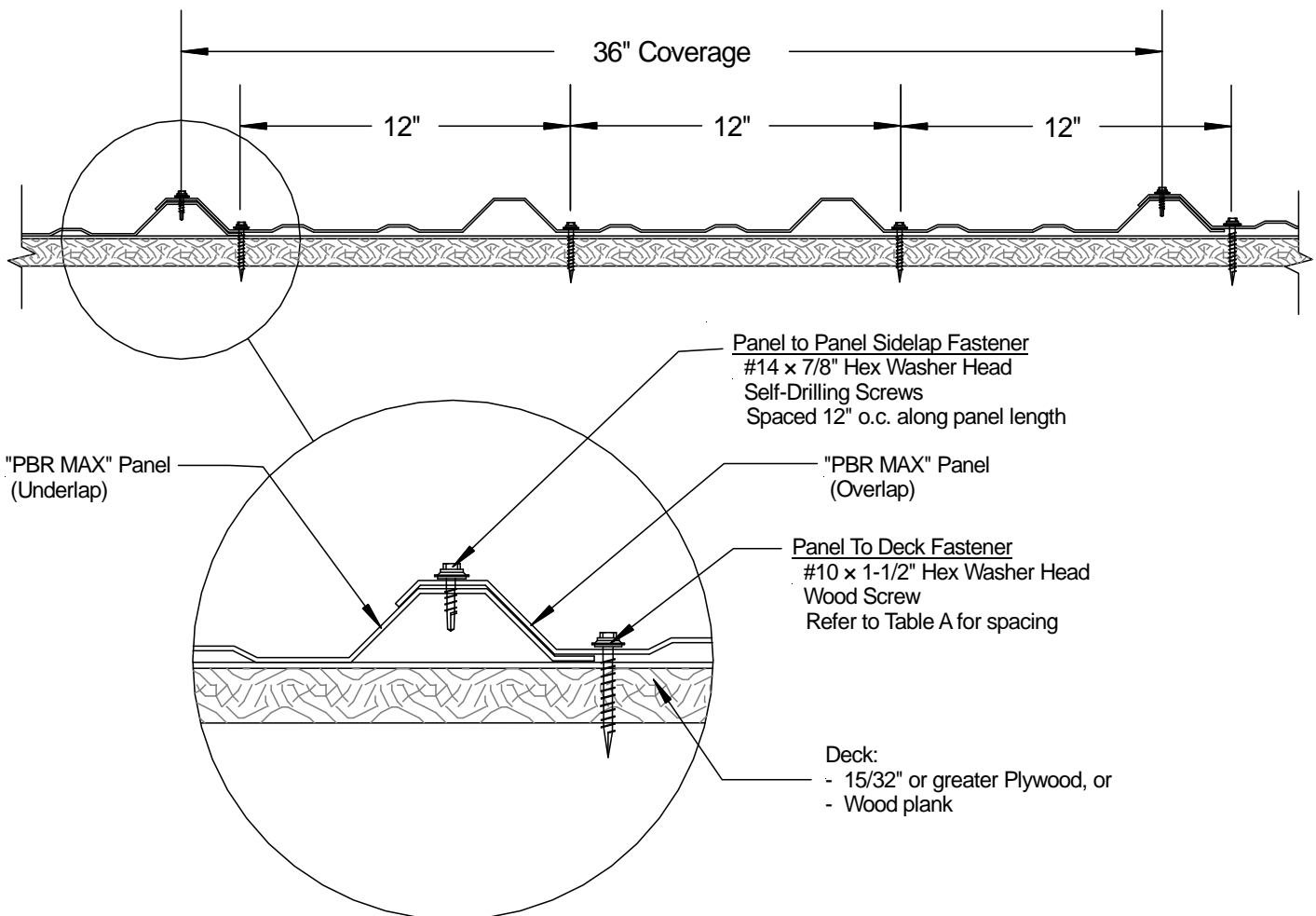
1. UL 580-06 & UL 1897-04 – Uplift Test  
By Architectural Testing, Inc. - West Palm Beach, FL (FBC Organization #TST ID: 1527)  
Report No.: F7247.02-450-44, Date: 04 / 18 / 16
2. Quality Assurance  
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)  
Extreme Metal Fabricators, LLC. Licensee #974
3. Certification of Independence  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)

## Installation Method Extreme Metal Fabricators, LLC. PBR MAX (26 gauge Steel) Roof Panel attached to Wood Deck

### Drawings

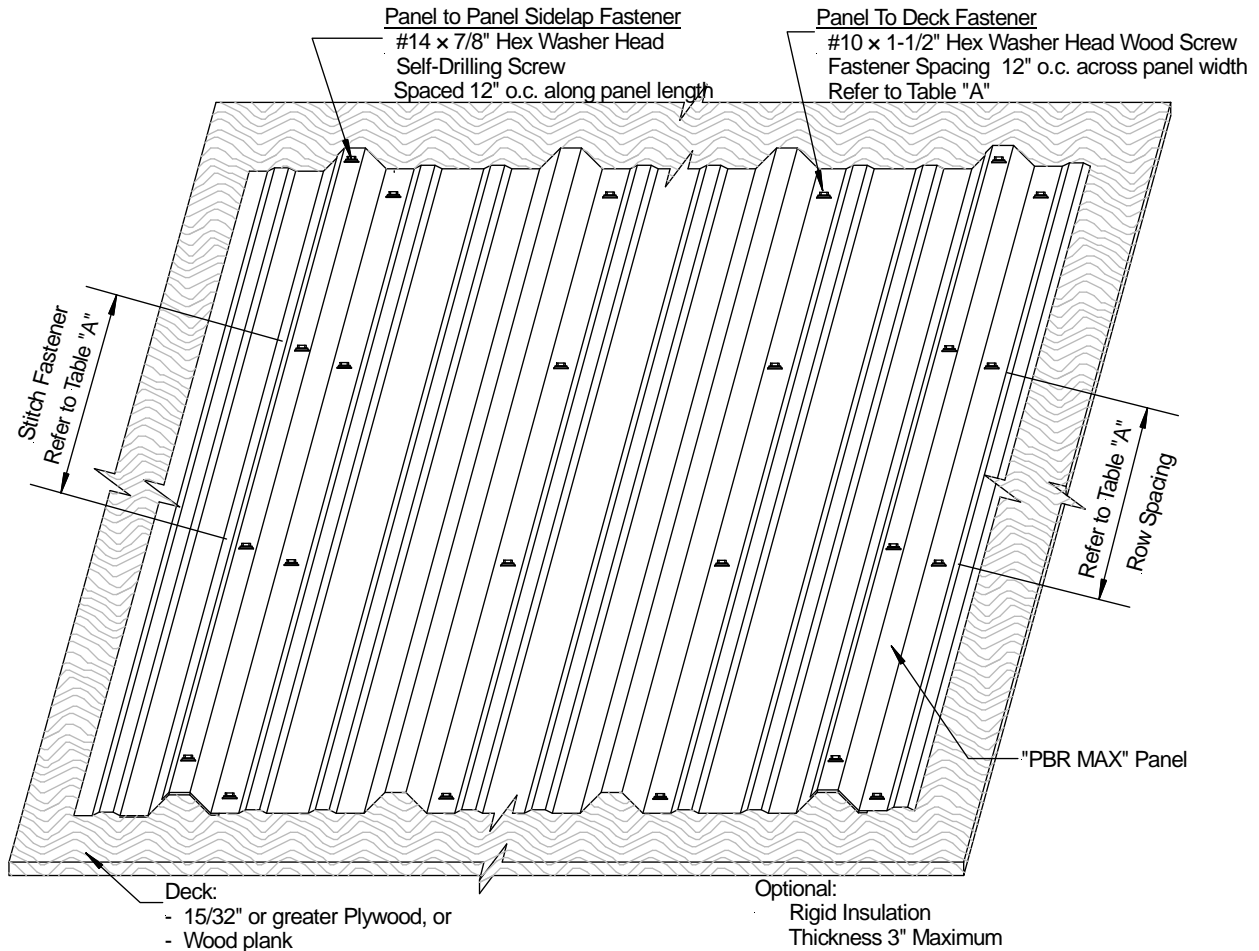


### Panel Profile



Typical Assembly Profile View  
(Typical Fastening Pattern Across Width - Interior)

## Installation Method Extreme Metal Fabricators, LLC. PBR MAX (26 gauge Steel) Roof Panel attached to Wood Deck



**Typical Roof Assembly  
Isometric View**

(Optional) Rigid Insulation Board per Page 4 of this report

TABLE "A"						
"PBR MAX" (26 ga. min.) Roof Panel attached to Plywood Deck						
ALLOWABLE LOADS						
Method	Panel Width (max.)	Deck Thickness (min.)	Row Spacing Along Panel Length (max.)	Fastener Spacing Along Row (max.)	Panel Seam (min.)	Design Uplift Pressure
1	36"	15/32" min.	24"	12"	Lapped	- 71 PSF
2	36"	15/32" min.	12"	12"	Lapped	- 119.5 PSF
* Allowable design pressure(s) for allowable stress design (ASD) with a margin of safety of 2 to 1.						