

## Product Evaluation

RC451 | 0320

Engineering Services Program

The following product has been evaluated for compliance with the wind loads specified in the International Residential Code (IRC) and the International Building Code (IBC).

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

For more information, contact TDI Engineering Services Program at (800) 248-6032.

**Evaluation ID:** RC-451

**Effective Date:** March 1, 2020

**Re-evaluation Date:** March 2024

**Product Name:** 26-Gauge Steel PBR Panel Roofing Panels Installed on Wood Purlins

**Manufacturer:** Building Components, Inc.  
11919 North Garden  
Houston, TX 77071  
(713) 995-9224

### General Description:

The PBR Panel is a minimum 26-gauge galvalume steel with an optional paint finish. The 26-gauge metal roofing panels have an actual coverage of 36". Each metal panel has ribs that are 1-1/4" deep. The metal roofing panels conform to ASTM A792, with an 80,000 psi yield point.

This product evaluation report is for PBR panel metal roofing panels that are secured to nominal 1x4 wood purlins. Thicker wood purlins may be used; however; the design pressure rating for the metal panels must be as specified in this evaluation report

### Limitations:

**Roof Framing:** The metal roofing panels must be installed over nominal 1x4 No. 2 Southern Yellow pine wood purlins. The wood purlins must be secured to minimum Southern Yellow Pine roof framing (rafters or trusses). The roof framing must not exceed 24" on center. A solid roof deck is not required.

**New Roof Framing Attachment:** The roof framing must meet or exceed the uplift requirements of the International Residential Code or the International Building Code and must be as required for resistance for wind loads.

**Roof Slope:** The metal roofing panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the panel side laps. If sealant is not used on the panel side laps, then the minimum roof slope is 3:12.

**Design Pressure:** The design pressure uplift load resistance must be as specified in Table 1.

**Table 1.** 26-Gauge Steel PBR Panel Roofing Panels Installed on Wood Purlins

Design Wind Pressure	Steel Purlin Spacing
-116.0 psf	Fasteners @ 7"-5"-7"-5"-7" 12" o.c.
-63.5 psf	Fasteners @ 12"-12"-12" 24" o.c.

**Installation over Existing Roof Covering:** Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing or roll roofing applied over an existing solid roof deck. The wood purlins must be secured to the wood rafters or trusses. Note: Inspection of existing roof framing must be made. The condition of the existing roof framing must be acceptable to receive the roof panels before roof panel installation can begin.

**Installation:**

**General:** The metal roofing panels must be installed in accordance with the manufacturer's installation instructions and this product evaluation.

**Attachment of Metal Roof Panels to 1" x 4" Wood Purlins:** The metal roofing panels must be secured to minimum 1" x 4" wood purlins with No. 10 x 1-1/2" long HWH Woodbinder with sealing washer manufactured by Sealtite or equal. A line of fasteners must be located along each wood purlin. The fastener pattern and the spacing of the fasteners must be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood purlin.

**Panel Side Laps:** The panel side laps are stitched together with minimum 1/4-14 x 7/8" Lap Tek screws with a sealing washer. The fasteners must be spaced 20" on center along the length of the side lap.

**Panel Ends and End Laps to the Wood Purlins:** Minimum No. 10 x 1-1/2" long HWH Woodbinder with sealing washer manufactured by Sealtite or equal. A line of fasteners in a 5"-7"-5"-7"-5" pattern must be located along the wood purlins. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood purlin.

**Panel Edges to Wood Purlins:** Minimum No. 10 x 1-1/2" long HWH Woodbinder with sealing washer manufactured by Sealtite or equal. A line of fasteners in a 5"-7"-5"-7"-5" pattern must be located along the wood purlin. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood purlin.

**Trims, Closures and Accessories:** Components such as eave, rake rim, rake trim, hip trim, and valley trim must be as required by the manufacturer.

**Wood Purlins:** The 1" x 4" wood purlins must be secured to wood rafters or wood roof trusses with two #9 x 3" Deck screws. The fasteners must be long enough to ensure a minimum penetration of 2-1/4" into the roof framing. Roof framing (rafters and trusses) must not exceed 24" on center.

**Note:** Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.