

Product Evaluation

RC450 | 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-450

Effective Date: March 1, 2020

Re-evaluation Date: March 2024

Product Name: 26-Gauge Steel PBR Panel Roofing Panels Installed on Steel 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.

Limitations:

Roof Framing: The metal roofing panels must be installed over minimum 16-gauge open steel purlin.

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 shall be as required for resistance to wind loads.

Design Pressure: The design pressure must be as specified in Table 1.

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.

Installation over Existing Roof Coverings: Not Permitted

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

Design Wind Pressure (psf)	Purlins	Attachment of Panels to Steel Purlins
-109.2	Minimum 16-gauge 2'-0" on center	Fasteners @ 12"-12"-12" 2'-0" on center
-98.4	Minimum 16-gauge 2'-6" on center	Fasteners @ 12"-12"-12" 2'-6" on center
-87.5	Minimum 16-gauge 3'-0" on center	Fasteners @ 12"-12"-12" 3'-0" on center
-76.7	Minimum 16-gauge 3'-6" on center	Fasteners @ 12"-12"-12" 3'-6" on center
-65.9	Minimum 16-gauge 4'-0" on center	Fasteners @ 12"-12"-12" 4'-0" on center
-55.0	Minimum 16-gauge 4'-6" on center	Fasteners @ 12"-12"-12" 4'-6" on center
-44.2	Minimum 16-gauge 5'-0" on center	Fasteners @ 12"-12"-12" 5'-0" on center

Installation:

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

Steel Purlins: The minimum thickness of the steel and maximum spacing of purlins must be as specified in Table 1.

Underlayment: N/A

Attachment of Metal Roof Panels to Steel Purlins: The metal roofing panels must be secured to the steel purlins with No. 12-14 x 1-1/4" long HWH self-driller with integral washer manufactured by Sealtite or equal. A line of fasteners must be located along each steel purlin. The fasteners shall be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel 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 Steel Purlins: Minimum No. 12-14 x 1-1/4" long HWH self-drilling with integral washer manufactured by Sealtite or equal. A line of fasteners in a 5"-7"-5"-7"-5" pattern must be located along the steel purlins. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel deck.

Panel Edges to Steel Purlins: Minimum No. 12-14 x 1-1/4" long HWH self-driller with integral washer manufactured by Sealtite or equal. A line of fasteners in a 5"-7"-5"-7"-5" pattern must be located along the steel purlin. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel deck.

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

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.