

Product Evaluation

RC314 | 0820

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-314

Effective Date: August 1, 2020

Re-evaluation Date: August 2024

Product Name: 26-gauge PBR Steel Roof Panels Installed Over Steel Purlins

Manufacturer: Schulte Building Systems, Inc.
17600 Badtke Road
Hockley, TX 77447
(281) 304-6111

General Description:

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

Limitations:

Roof Framing: The metal roof panels must be installed over open steel purlins.

New Roof Framing Attachment: The roof framing must meet or exceed the uplift requirements of the IRC or IBC and must be installed in a manner to resist wind loads as required.

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

Roof Slope: The metal roof 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 an Existing Roof Covering: Not permitted.

Table 1 Attachment of Minimum 26-gauge PBR Steel Roof Panels to Steel Purlins

Design Wind Pressure (psf)	Purlins	Attachment of Panel to Steel Purlins
-135.1	Minimum 16-gauge; 2'-0" on center	Fasteners @ 12"-12"-12"; 2'-0" on center
-120.4	Minimum 16-gauge; 2'-6" on center	Fasteners @ 12"-12"-12"; 2'-6" on center
-105.7	Minimum 16-gauge; 3'-0" on center	Fasteners @ 12"-12"-12"; 3'-0" on center
-91.0	Minimum 16-gauge; 3'-6" on center	Fasteners @ 12"-12"-12"; 3'-6" on center
-76.2	Minimum 16-gauge; 4'-0" on center	Fasteners @ 12"-12"-12"; 4'-0" on center
-61.5	Minimum 16-gauge; 4'-6" on center	Fasteners @ 12"-12"-12"; 4'-6" on center
-46.8	Minimum 16-gauge; 5'-0" on center	Fasteners @ 12"-12"-12"; 5'-0" on center

Installation:

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

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

Underlayment: N/A.

Attachment of Metal Roof Panels to the Steel Purlins: The metal roof panels must be secured to the steel purlins with No. 12-14 x 1-1/4" long HWH self-driller screws integral washer. A line of fasteners must be located along each steel 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 3 pitches of thread below the steel purlin.

Panel Side Laps: The panels must overlap at least one corrugation. The panels are stitched together with a minimum 1/4"-14 x 7/8" lap Tek screw with a sealing washer. The lap screws must be spaced a maximum 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-driller screws with integral washer. 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 3 pitches of thread below the steel deck. Refer to Figure 1 for an illustration of the fastener pattern.

Panel Edges to Steel Purlins: Minimum No. 12-14 x 1-1/4" long HWH self-driller screws with integral washer. 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 3 pitches of thread below the steel deck. Refer to Figure 1 for an illustration of the fastener pattern.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim must be installed 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.

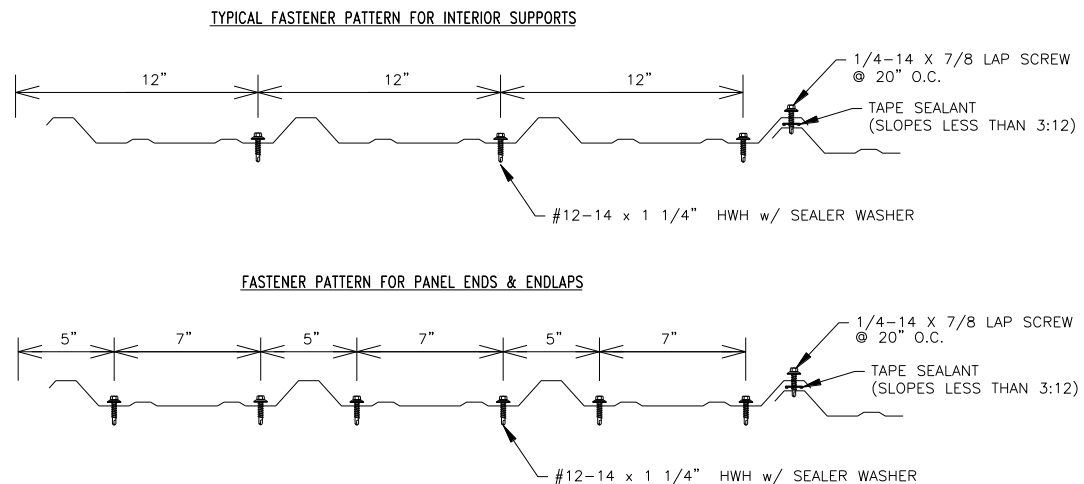


Figure 1: Minimum 26-gauge PBR Steel Panel Fastener Patterns