

Product Evaluation

RC176 | 1221

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-176

Effective Date: December 1, 2021

Re-evaluation Date: December 2025

Product Name: Minimum 26-Gauge PBR Steel Roofing Panels Installed Over Steel Purlins

Manufacturer: Triple S Steel
6000 Jensen Drive
Houston, TX 77026
(713) 697-7105

General Description:

The PBR steel roofing panels are minimum 26-gauge galvalume steel with an optional paint finish. The 26-gauge panel has an actual coverage of 36". The steel roofing panels have a 1-1/4" rib height. The steel roofing panels conform to ASTM A792, with an 80,000 psi yield point. The steel roofing panels can be painted with CERAM-A-STAR 950 by Akzo Nobel.

Limitations:

Roof Framing: The steel roofing 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 be installed as required for resistance to wind loads.

Roof Slope: The panels may be installed on roofs with slopes 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 slope is 3:12.

Installation Over an Existing Roof Covering: Not permitted.

Design Wind Pressures: The design pressure uplift load resistance is specified in Table 1.

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

Design Wind Pressure (psf)	Purlins	Attachment of Panels to Steel Purlins
-132.6	Minimum 16 gauge; 2'-0" on center	Fasteners at 12"-12"-12"; 2'-0" on center
-118.8	Minimum 16 gauge; 2'-6" on center	Fasteners at 12"-12"-12"; 2'-6" on center
-105.1	Minimum 16 gauge; 3'-0" on center	Fasteners at 12"-12"-12"; 3'-0" on center
-91.3	Minimum 16 gauge; 3'-6" on center	Fasteners at 12"-12"-12"; 3'-6" on center
-77.5	Minimum 16 gauge; 4'-0" on center	Fasteners at 12"-12"-12"; 4'-0" on center
-63.8	Minimum 16 gauge; 4'-6" on center	Fasteners at 12"-12"-12"; 4'-6" on center
-50	Minimum 16 gauge; 5'-0" on center	Fasteners at 12"-12"-12"; 5'-0" on center

Installation:

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

Steel Purlins: The minimum thickness of the steel and maximum on center spacing of the purlins is specified in Table 1.

Underlayment: NA.

Attachment of Steel Roofing Panels to the Steel Purlins: The PBR steel roofing panels are secured to the steel purlins with No. 12-14 x 1-1/4" long HWH self-drilling screw with an integral washer. A line of fasteners is located along each purlin. The fastener pattern and the spacing of the fasteners are 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 are stitched together with minimum 1/4"-14 x 7/8" Lap Tek screws with a sealing washer. The fasteners are spaced at 20" on center along the length of the side lap.

Panel Ends and Edges to the Steel Purlins: Minimum No. 12-14 x 1-1/4" long HWH self-drilling screws with an integral washer. A line of fasteners in a 5"-7"-5"-7"-5" pattern is located along the steel purlin. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlin.

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