

Product Evaluation

RC175 | 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-175

Effective Date: December 1, 2021

Re-evaluation Date: December 2025

Product Name: Minimum 26-Gauge PBR Steel Roofing Panels Installed Over a Plywood Deck

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 steel roofing panels have an actual coverage of 36". Each steel roofing panel has ribs that are 1-1/4" deep. 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 minimum 15/32" plywood.

New Roof Framing Attachment: The roof framing and roof deck 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: 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 of minimum 15/32" plywood. Note: Inspection of the existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before the metal roofing panel installation proceeds. NOTE: Underlayment is not required to be installed.

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 Plywood Roof Deck

Design Wind Pressure (psf)	Fastener Pattern	Fastener Spacing
-52.5 psf	12"-12"-12"	24" on center
-123.5 psf	7"-5"-7"-5"-7"	18" on center

Installation:

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

Panels: The PBR metal roofing panels shall be secured to the roof deck as specified in Table 1 and in accordance with this section. Refer to Figure 1 for an illustration of the required fastener pattern.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt shall be used. The underlayment used shall comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The underlayment shall be installed with 6-inch side laps and 3-inch end laps. The underlayment shall be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners shall be applied along the overlaps not farther apart than 36 inches on center.

Attachment of Steel Roof Panels to Roof Deck: The PBR steel roofing panels are secured to the roof deck with minimum No. 9-15 x 1-1/2" long, HWH Woodgrip screws with a sealing washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the steel roofing panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof deck). A line of fasteners is installed as specified in Table 1. The spacing of the line of fasteners along the length of the panel is specified in Table 1. Refer to Figure 1 of this evaluation report for an illustration of a fastener pattern (the illustration shows the 12"-12"-12" pattern).

Panel Side Laps: Minimum 1/4-14 x 7/8" Lap Tek screws with a sealing washer. The fasteners are spaced 20" on center along the length of the side lap.

Panel Ends and End Laps: Minimum No. 9-15 x 1-1/2" long HWH Woodgrip screws with a sealing washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the steel roofing panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof deck). A line of fasteners in a 7"-5"-7"-5"-7" pattern is installed. Refer to Figure 1 of this evaluation report for an illustration of the fastener pattern.

Panel Edges: Minimum No. 9-15 x 1-1/2" long HWH Woodgrip screws with a sealing washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the steel roofing panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof deck). Along the edge of a panel, the fasteners must be spaced the same spacing as for the line of fasteners in Table 1.

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.

Alternative Fasteners: Substitution of equivalent fasteners shall meet the following requirements:

No. 9-15 Woodgrip with a sealing washer, manufactured by SFS

- Ultimate withdrawal (pullout) \geq 326 lbs. in minimum 15/32" plywood.

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.

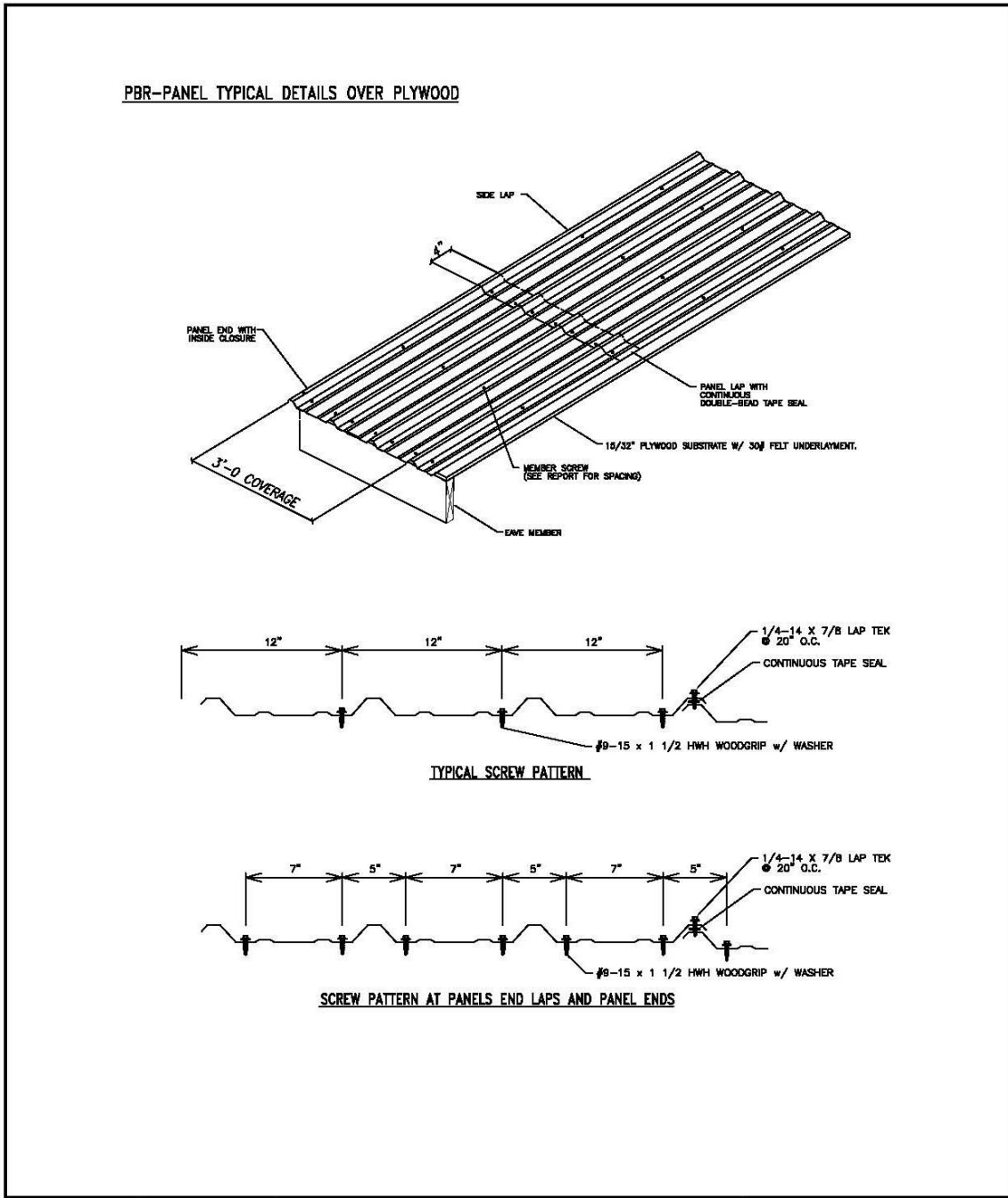


Figure 1. PBR Panel Detail (Minimum 26 Gauge)