

Product Evaluation

RC735 | 1123

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-735

Effective Date: November 1, 2023

Re-evaluation Date: November 2027

Product Name: PBR Steel Panels Installed over Plywood Deck

Manufacturer: MetalMax Roofing and Siding
900 Cpt Joe Fulghum Drive
Murfreesboro, TN 37129
(615) 295-2561

General Description:

This evaluation report is for PBR metal panels installed over plywood deck. The metal panels are minimum 26-gauge galvalume or galvanized coated steel with painted finish. The metal panels have 36" of coverage. The metal panels have a 1-1/4" rib height. The metal panels conform to ASTM A792, SS Grade 80 for 26-gauge or SS Grade 50 for 24-gauge with an AZ 50 or AZ55 aluminum zinc alloy coating. The metal panels conform to ASTM A653, SS Grade 80 for 26-gauge or SS Grade 50 for 24-gauge with G90 coating.

This evaluation report is for residential steel roofing panels that are secured to nominal 15/32" plywood roof decks. Thicker plywood may be used; however, the design pressure rating for the metal panels must be as specified in this evaluation report.

Limitations:

Roof Decking: Install metal roof panels with exposed fasteners over a minimum 15/32" thick plywood wood structural panel decking.

New Framing Attachment: The framing must meet or exceed the wind pressure requirements of the IRC or IBC and must be installed as required for resistance to wind loads.

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

Table 1: Attachment of 26-gauge PBR Metal Panels to Minimum 15/32" Plywood Deck. Fastener Pattern: 12"-12"-12"

Fastener Spacing	Design Wind Pressure (psf)
3'-0" on center	-41.6
2'-6" on center	-65.7
2'-0" on center	-89.8
1'-6" on center	-113.8
1'-0" on center	-137.9
0'-6" on center	-162.0

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 existing roof deck must be made prior to the installation of the roofing panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before roof panel installation can begin.

Roof Slope: If using sealant on the panel side laps, install the metal panels on roofs with a roof slope as low as 1/2:12. If sealant is not used on the panel side laps, then the minimum slope is 3:12.

Installation:

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

Roof Framing Members: Space the roof-framing members at maximum of 24" on center.

Underlayment: Use a minimum of one layer of No. 30 (Type II) asphalt felt. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with 6" side laps and 3" end laps. The underlayment must be applied with corrosion resistant fasteners in accordance with the manufacturer's installation instructions, the IRC, or the IBC.

Attachment of Roof Panels to Plywood Deck: The panels are secured to the deck with #14-10 x 1" long Type 17 Pt., hex head wood screws with sealed washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. Table 1 specifies the fasteners pattern. (Note: If the metal 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 decking).

Panel Side Laps: The panels are stitched together with minimum 1/4"-14 x 7/8" hex head lap screws with a sealing washer. Space the fasteners 18" on center along the length of the side lap.

Panel Ends and End Laps to Plywood Deck: The panels are secured to the deck with #14-10 x 1" long Type 17 Pt., hex head wood screws with sealed washer. Locate a line of fasteners (7"-5"-7") along panel ends and end lap. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck.

Panel Edges to Plywood Deck: As required by the manufacturer.

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