

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-200

Effective June 1, 2009

*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 shall be subject to reevaluation in **September 2012**.*

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.

PBR Metal Roofing Panels Over 1x4 Wood Purlins manufactured by

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5000 Highway 87 South
Orange, Texas 77630
Telephone: (409) 886-1636

will be accepted for use in areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

This evaluation report is for PBR metal roofing panels that are secured to nominal 1x4 wood purlins. Thicker wood purlins may be used; however, the design pressure rating for the metal roofing panels shall be as specified in this evaluation report.

The PBR metal roofing panels have a 36" coverage. The metal roof panels have a 1 ¼" rib height. The ribs are spaced 12 inches on center. The metal roof panels are manufactured from minimum 26 gauge steel that conform to ASTM A792 with a minimum yield strength of 85,000 psi.

LIMITATIONS

Roof Framing: The metal roofing panels shall be installed over nominal 1x 4 No. 2 Southern Yellow Pine wood purlins. The wood purlins shall be secured to minimum Southern Yellow Pine roof framing (rafters or trusses). The roof framing shall not exceed 24 inches on center. A solid roof deck is not required.

New Roof Framing Attachment: The roof framing shall meet or exceed the uplift requirements of the International Residential Code or International Building Code and shall be installed as required for resistance to wind loads.

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

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as 3:12. If the laps are sealed with a lap sealant, then the minimum roof slope shall be ½ :12.

Table 1

Attachment of minimum 26 gauge PBR metal roofing panels to
Minimum 1x4 No. 2 Southern Yellow Pine wood purlins

Design Wind Pressure	Fastener Pattern	Panel Fastener Spacing	1x4 Wood Purlin Spacing
-78.5 psf	12"-12"-12"	24" o.c.	24"
-116.0 psf	12"-12"-12"	12" o.c.	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. The wood purlins shall be secured to the wood rafters or trusses using two (2) minimum No. 8 wood screws. The fasteners shall be long enough to penetrate a minimum of $1\frac{3}{4}$ inches into the roof framing. The roof framing shall be minimum Southern Yellow Pine dimension lumber. NOTE: Underlayment is not required to be installed.

INSTALLATION INSTRUCTIONS

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

Underlayment: For installations over a solid deck. If used, then 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 roofing nails spaced a maximum of 36 inches on center along the side laps.

Wood Purlins: The wood purlins shall be secured to wood rafters or roof trusses using two (2) minimum No. 8 x $2\frac{1}{2}$ " long wood screws. The fasteners shall be long enough to penetrate a minimum of $1\frac{3}{4}$ inches into the roof framing. Roof framing (rafters or trusses) shall not exceed 24 inches on center.

Attachment of Metal Roofing Panels to the 1x4 Wood Purlins: The PBR metal roofing panels shall be secured to the wood purlins as follows:

Roofing Panels to Wood Purlins: Minimum No. 10-15 x $1\frac{1}{2}$ " long, HWH HiLo Woodgrip screws with a sealing washer, manufactured by SFS. The required fastener pattern and spacing of the fasteners is specified in Table 1 and are shown in Figure 1.

Panel Ends and End Laps: Minimum No. 10-15 x $1\frac{1}{2}$ " long, HWH HiLo Woodgrip screws with a sealing washer, manufactured by SFS. A 7"-5"-7"-5"-7"-5" fastener pattern shall be used.

Panel Side Laps: Minimum $\frac{1}{4}$ "-14 x $\frac{7}{8}$ " Lap Tek screws with a sealing washer. The fasteners shall be spaced at 20 inches on center along the length of the side lap.

Wood Purlins: The wood purlins shall be secured to wood rafters or roof trusses using minimum No. 8 x $2\frac{1}{2}$ " long wood screws. The fasteners shall be long enough to penetrate a minimum of $1\frac{3}{4}$ inches into the roof framing.

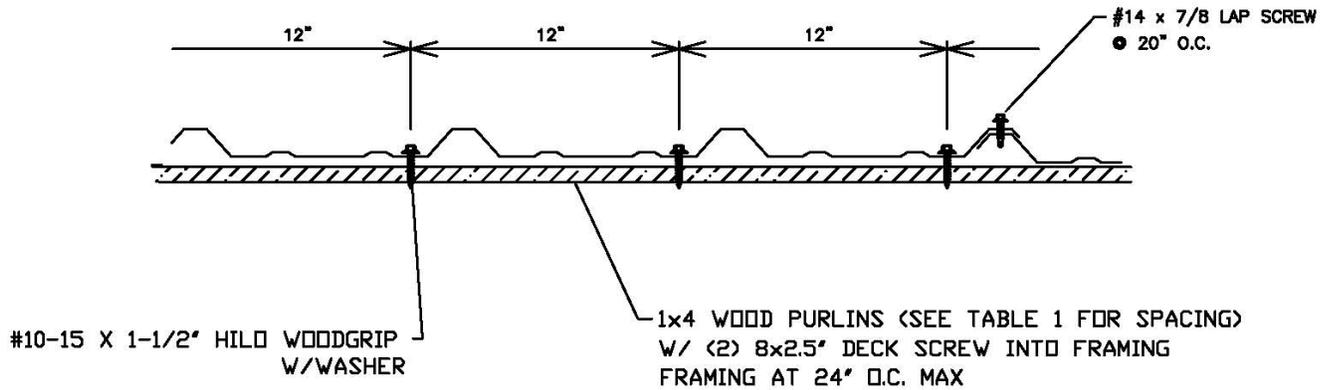
Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim shall be installed as required by the manufacturer.

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

- No. 10-15 HiLo Woodgrip screws with a sealing washer, manufactured by SFS
- Ultimate withdrawal (pullout) \geq 524 lbs. in 1" Southern Yellow Pine

Note: The manufacturer's installation instructions shall be available on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.

TYPICAL FASTENER PATTERN



FASTENER PATTERN AT PANEL LAPS/ENDS

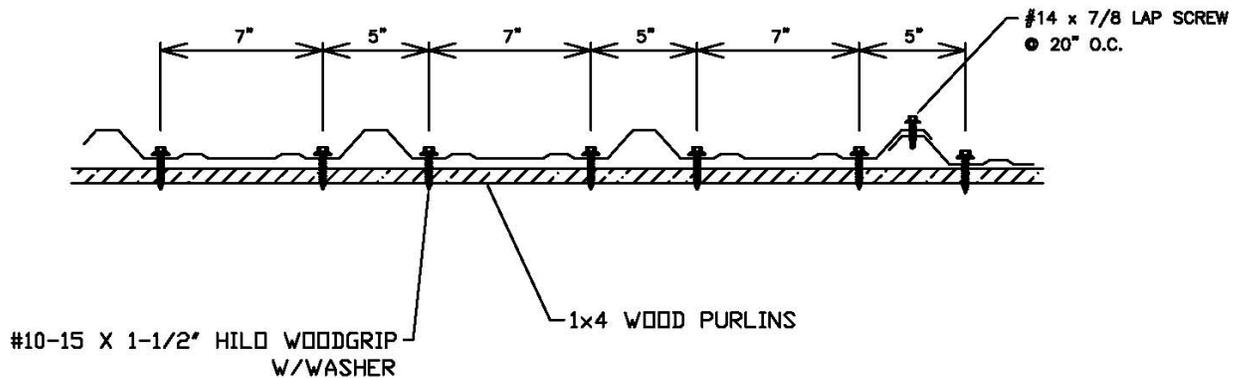


Figure 1. Fastener Pattern – Minimum 26 Gauge PBR Metal Roofing Panels