

Product Evaluation

RC494 | 0720

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-494

Effective Date: July 1, 2020

Re-evaluation Date: July 2024

Product Name: 1-3/4" Snap Lock 24-Gauge Steel Roof Panels Installed on 1" x 4" Wood Purlins over a 15/32" Plywood Deck

Manufacturer: Mueller, Inc.
Metal Roofing, Roofing and Components
1913 Hutchins Avenue
Ballinger, TX 76821
(800) 527-1087

General Description:

The 1-3/4" Snap Lock metal roof panels are minimum 24-gauge galvalume steel panels with an optional paint finish. The metal roof panels have a maximum coverage of 14-3/4". The panel has a 1-3/4" tall snap lock standing seam rib. The 24-gauge steel material is ASTM A792 AZ55, Grade 50, with a minimum 50 ksi yield point with optional painted finishes. The panels are made using a Schleich Quadro-Plus Rollformer.

Limitations:

Roof Decking/Framing: The 1-3/4" Snap Lock metal roof panels must be installed over minimum nominal 1" x 4" No. 2 Southern Yellow Pine wood purlins. The wood purlins must be attached to a minimum 15/32" plywood deck.

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 must not be installed on roofs with a roof slope less than 3:12.

Table 1 Attachment of Minimum 24-gauge 1-3/4" Snap Lock Metal Roof Panels to Minimum 1x4 Wood Purlins.

Design Wind Pressure (psf)	Panel Gauge	Clip Fastener	Panel Clip & Wood Purlin Spacing	Wood Purlin Fastener Spacing
-41.7	24-Ga. Steel	Two #10-12 Type A	24"	12"
-52.5	24-Ga. Steel	Two #10-12 Type A	12"	6"

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. 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.

Installation:

General: The 1-3/4" Snap Lock metal roof panels must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Panels: The metal roof panels must be secured to the roof covering as specified in Table 1 and in accordance with this section.

Attachment of Metal Roof Panels to the 1" x 4" Wood Purlins: The 1-3/4" Snap Lock metal roof panels must be secured to the 1" x 4" Wood Purlins as follows:

Roofing Panels to 1" x 4" Wood Purlins: The panels must be installed using a fixed clip with two (2) No. 10-12 x 1" long Pancake Type A. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood purlin. (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.) The required size and quantity of fasteners as well as the maximum allowable spacing of the fasteners is specified in Table 1.

Panel Clip: One-piece fixed clip. 18-gauge x 3-1/2" long, galvanized steel.

Panel Seam: The panel is a snap lock seam.

Panel Ends and Edges: As required by the manufacturer.

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.

Wood Purlins: The 1" x 4" wood purlins must be secured to minimum 15/32" plywood decking with one (1) #8 x 2" deck screw (See Table 1 for spacing). The fasteners must be long enough to ensure a minimum penetration of 1-1/4" into the plywood. Roof Framing (rafters or trusses) must not exceed 24" on center.

Alternative Fasteners: Alternative fasteners of equal or greater strength may be substituted.

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.