

Product Evaluation

RC561 | 0422

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-561

Effective Date: April 1, 2022

Re-evaluation Date: April 2026

Product Name: SMI 1.5 450 24-Gauge Snap Lock Standing Seam Steel Roofing Panels installed over a Plywood Deck

Manufacturer: Sheffield Metal International
5647 Evergreen Parkway
Sheffield Village, OH 44054
(800) 283-5262

General Description:

The SMI 1.5 450 is a snap lock standing seam steel roofing panel. The panel is 24-gauge galvalume. The maximum height of the female rib is 1-1/2". The panel has a maximum width of 20". The panel can be formed in continuous lengths and interlocks to adjoining panels by snapping male and female legs together and affixing the panel to the deck using a concealed fastener system (clips with screws).

Limitations:

Roof Decking: The SMI 1.5 450 roofing panels must be installed over a minimum 19/32" plywood roof deck. A thicker roof deck may be used; however, the design pressure rating for the roofing panels will be as specified in this evaluation report.

New Roof Deck Attachment: The roof deck must meet or exceed the uplift requirements of the IRC or the IBC and must be installed as required for resistance to wind loads.

Roof Slope: The steel roofing panels must not be installed on roofs with a roof slope less than 2:12.

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

Table 1

Attachment of SMI 1.5 450 24-Gauge Snap Lock Standing Seam Steel Roofing Panels to a Plywood Deck

Design Wind Pressure	Panel Clip Fasteners	Clip Spacing
-52.5 psf	No. 10-12 x 1" No. 2 Phillips Drive, Pancake Head Screws; One per clip	18" on center

Installation over an Existing Roof Covering: Installation over an existing roof covering is not permitted.

Installation:

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

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

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt or equivalent must be used. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The underlayment must be installed with minimum 2" side laps and 2" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instruction. Fasteners must be applied along the overlaps not farther apart than 36" on center.

Attachment of Steel Roofing Panels to the Roof Deck: The steel roofing panels must be secured to the roof deck as follows:

Roofing Panels: The panels are secured to the deck with one-piece, 24-gauge, galvanized steel clips. The clips are 1-3/4" wide and 1-1/4" high. Each clip is secured to the roof deck using one, No. 10-12 x 1" long, No. 2 Phillips Drive, Pancake Head screw. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. Clips are spaced as specified in Table 1.

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.

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.