

Product Evaluation

RC707 | 1022

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-707

Effective Date: October 1, 2022

Re-evaluation Date: October 2026

Product Name: SMI 1.5 MS Minimum 0.029" Mechanical Standing Seam Aluminum Roofing Panel Installed Over an Insulated Steel Roof Deck

Manufacturer: Sheffield Metals International
5467 Evergreen Parkway
Sheffield Village, OH 44054
(800) 283-5262

General Description:

The SMI 1.5 MS is a mechanically seamed standing seam aluminum roofing system. The panel is made of minimum 0.029" 3105 H24M aluminum ($F_y = 22.9$ ksi). The vertical leg of the panel measures 1-1/2" in height. The panel has a maximum exposure of 16". The panel can be formed in continuous lengths and interlocks to adjoining panels by field seaming the panels to a 180-degree seam.

Limitations:

Roof Framing: The aluminum roofing panels must be installed over a 22-gauge steel B-deck with insulation that is loose-laid over the top of the steel deck. The steel deck is secured to 12-gauge, A36 structural steel frame members spaced a maximum of 5'-0" on center.

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 lateral loads if required.

Design Wind Pressures: Design wind pressure limitations are specified in Table 1.

Installation Over an Existing Roof Covering: Installation over an existing roof covering is not covered in this product evaluation report.

Roof Slope: The aluminum roofing panels may be installed on roofs with a roof slope as low as 2:12. The minimum roof slope may be 1:12 with approval from the SMI Technical Department and the roofing panels will need to be installed per ASTM E 2140 to comply with water penetration requirements.

Table 1. Attachment of SMI 1.5 MS Minimum 0.029" Aluminum Standing Seam Roofing Panel to an Insulated Steel Deck

System	Design Pressure (psf)	Panel Clip	Clip Spacing	Clip Fastener
1	-97.5	Clip Base: 18-gauge steel, 6" long x 2-1/8" wide x 7/8" high; Clip Top: 24-gauge steel, 1-3/4" long x 1/2" wide x 1-1/2" high	18" on center	Two (2) No. 14-13 x 3" pancake head DP1 screws

Installation:

General Installation Requirements:

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

Roof Deck: 22-gauge steel B-deck attached to 12-gauge steel purlins spaced a maximum of 5'-0" on center.

Insulation: 1" thick polyisocyanurate board. Loose laid over the steel deck.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt 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 felt must be installed with 4" laps. The felt must be fastened to the roof deck with corrosion resistant fasteners in accordance with the IRC, the IBC, and the manufacturer's installation instructions.

Anchorage to Roof Deck: The aluminum roofing panels must be fastened in accordance with Table 1. The aluminum roofing panels must be secured to the roof deck with the clip specified in Table 1 and are spaced a maximum of 7" from the panel ends and a maximum of 18" on center. The clips are secured with two (2) No. 14-13 x 3" long pancake head DP1 screws. The fasteners must be long enough to penetrate through the insulation and ensure a minimum penetration of 3 pitches of thread below the steel deck.

Seam: The legs are mechanically seamed 180-degrees after the clips are installed.

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.

Panel Ends and End Laps: As required by the manufacturer.

Panel Edges: 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.