

Product Evaluation

RC197 | 0522

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-197

Effective Date: May 1, 2022

Re-evaluation Date: May 2026

Product Name: Magna-Loc Steel Standing Seam Roofing Panels Installed Over a Plywood Roof Deck

Manufacturer: Metal Sales Manufacturing Corporation
3838 North General Bruce Dr.
Temple, TX 76501
(254) 791-6550

General Description:

Magna-Loc standing seam roof panels are minimum 24-gauge (0.024" thick) aluminum-zinc alloy-coated steel with a galvalume or painted finish. The nominal panel width is 16" and covers 16". Panel side lap ribs are 2" high and are spaced approximately 6" on center.

Limitations:

Roof Framing: The metal roofing panels must be installed over a nominal 5/8" plywood deck. Roof framing (rafters and trusses) must not exceed 24" on center.

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

Design Wind Pressure: For installation to minimum nominal 5/8" plywood roof decks, design wind pressure limitations are specified in Table 1.

Roof Slope: The metal roof panel must not be installed on roofs with a roof slope greater than 1/2:12, unless minimum No. 30 (Type II) asphalt felt underlayment is installed under the panels. The metal roof panel must not be installed on roofs with a roof slope less than 1/2:12 and greater than or equal to 1/4:12 unless Metal Sales Hi-Temp (MS-HT) underlayment is installed under the panels. The metal roof panel must not be installed on roofs with a roof slope less than 1/4:12.

Installation Over an Existing Roof Covering: Not permitted

Table 1

Attachment of Minimum 24-gauge, 16" Magna-Loc Roofing Panels to Minimum 5/8" Plywood Deck

Design Wind Pressure (psf)	Attachment of Roof Panel to Plywood Deck
-99.0	Clips spaced 2'-6" on center
-104.0	Clips spaced 1'-3" on center
-114.0	Clips spaced 1'-0" on center
-127.0	Clips spaced 0'-8" on center

Installation:

General: The metal roofing panels must be installed in accordance with the manufacturer's recommended installation instructions, this evaluation report, and the Metal Sales Magna-Loc Roof Panel Details.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt underlayment must be used. The underlayment must comply with one or more of the following: ASTM D 226 or ASTM D 4869 if used over the field or perimeter of the roof, or ASTM D 1970 if Metal Sales Hi-Temp (MS-HT) underlayment is used. The felt must be installed with 6" side laps and 3" end laps. The nailable felt must be fastened to the roof deck with corrosion resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart than 36" on center.

Attachment of Metal Roofing Panels to Wood Deck: The metal roof panels must be secured to the wood deck as follows:

Anchorage: The panels must be fastened with clips (floating clips; two-piece assembly; 16-gauge steel base, 2" wide; 22-gauge steel top, 4-5/16" wide; 2-3/8" high) and two No. 12-11 x 1-1/2" square drive, low profile, wood screws spaced in accordance with Table 1 to nominal (minimum) 5/8" plywood roof decking. The panels must be fastened along the rake at 6" on center with the No. 9-15 x 1-1/2" wood screws. The panel side overlaps must be mechanically seamed to 90 degrees. Panel wood screws and clip wood screws must be corrosion resistant, with a painted or plated finish, and must be properly driven, so that the sealing material is slightly visible at the edge of the washer. The panels are seamed with a mechanical seamer to form a 90-degree seam.

Ridge Cap and Rake Trim: The ridge cap and the rake trim must be attached to the panels with the 1/4"-14 x 7/8" stitch screws at 12" on center as indicated in the Magna-Loc Metal Roof Panel Details. Elastic butyl tape sealant is required at the panel end laps and trim.

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.