

Product Evaluation

RC436 0320

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-436

Effective Date: March 1, 2020

Re-evaluation Date: March 2024

Product Name: DMC 450 24 Gauge Steel Standing Seam Roofing Panels Installed Over a Plywood Deck

Manufacturer: Drexel Metals Inc
1234 Gardiner Lane
Louisville, KY 40213
(888) 321-9630

General description:

This evaluation report is for the DMC 450 24-gauge steel, preformed, standing seam metal roofing panels installed over a plywood deck. The steel standing seam roofing panels have 16" of coverage. The standing seam metal roof panels have a 1.5" snap lock seam. The metal roofing panels are manufactured from 24-gauge galvalume steel, minimum Fy = 50 ksi min.

Limitations:

Roof Framing: Install the metal roofing panels over a solidly sheathed minimum 15/32" plywood roof deck.

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

Design Wind Pressures: Table 1 specifies the design pressure uplift load resistance.

Limitations (continued):

Roof Slope: Install the metal roofing panels on roofs with a roof slope as low as 2:12.

Table 1. DMC 450 24 Gauge Steel Standing Seam Roofing Panels Installed Over a Plywood Deck

Design Wind Pressure	Clip and Fastener Type	Clip Spacing
-30 psf	24-gauge, 2" x 1.5" DMC 450 clip; and Two (2), No. 10-13 x 1" PHW screw	24" o.c. along the panel seam
-67.5 psf	24-gauge, 2" x 1.5" DMC 450 clip; and Two (2), No. 10-13 x 1" PHW screw	15.5" o.c. along the panel seam
-82.5 psf	24-gauge, 2" x 1.5" DMC 450 clip; and Two (2), No. 10-13 x 1" PHW screw	6" o.c. along the panel seam

Installation:

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

Deck: Solidly sheath the roof deck with minimum 15/32" plywood.

Underlayment: Use a minimum of one layer of No. 30 (Type II) asphalt felt. Use underlayment that complies with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with minimum 4" side laps and 6" end laps. Apply the underlayment with corrosion resistant tin caps and minimum 12-gauge 1-1/4" annular ring shank nails. Space the fasteners 6" on center at all end laps and two staggered rows 12" on center in the field.

Attachment of Metal Roof Panels to the Roof Deck: Secure the panels to the roof deck with the galvanized clips and fastener type as specified in Table 1. Use fasteners long enough to ensure a minimum penetration of 1/4" below the roof deck.

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

Panel Edges: As required by the manufacturer.

Trims, Closures, and Accessories: Install components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim 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.