

Product Evaluation

RC445 | 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-445

Effective Date: March 1, 2020

Re-evaluation Date: March 2024

Product Name: 26-Gauge M-Loc Steel Roof Panel Installed Over Steel Purlins

Manufacturer: Central States Manufacturing
302 Jane Place
Lowell, AR 72745
(800) 356-2733

General Description:

The M-Loc steel roof panel is a minimum 26-gauge steel panel that has a maximum coverage width of 36". The metal roof panels have a 3/4" rib height. The metal roof panel has a yield strength of 80,000 psi.

Limitations:

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

Roof Slope: The metal roof panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the panel laps. If sealant is not used on the panel laps, then the minimum roof slope is 3:12.

Steel Purlins: Minimum 16-gauge steel purlins.

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

Table 1. 26-gauge M-Loc Steel Roof Panel Installed Over Steel Purlins

Attachment of Panel to Steel Purlins/Girts (Minimum 16-gauge)	Design Wind Pressure (psf) (Uplift)
5'-0" on center	-43.2
4'-6" on center	-55.1
4'-0" on center	-67.0
3'-6" on center	-79.0
3'-0" on center	-90.9
2'-6" on center	-102.8
2'-0" on center	-114.7

Installation:

General Installation Requirements:

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

Underlayment: N/A.

Anchorage of Metal Panels to Steel Purlins: Secure the metal roofing panels to the steel purlins with No. 12-14 x 1-1/4" long SteelBinder HWH self-driller screws with integral washer (Sealtite). Table 1 specifies the fastener pattern and the spacing of the fasteners. Locate a line of fasteners along each steel purlin spaced 12" on center with the fasteners located in the valleys of the panels. Use fasteners long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlin. Refer to Figure 1 in this evaluation report.

Panel Side Laps: The panels must overlap one corrugation. The panels are stitched together with a minimum 1/4"-14 x 7/8" long SteelBinder lap screw with integral washer Self-driller by Sealtite. Space the lap screws 24" on center along the length of the side lap.

Panel Ends and End Laps to Steel Purlins: Secure the metal roofing panels to the steel purlins with No. 12-14 x 1-1/4" long SteelBinder HWH self-driller screws with integral washer (Sealtite). Locate a line of fasteners at panel ends and end laps spaced 6" on center with the fasteners located in the valleys of the panels. Use fasteners long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlin. Refer to Figure 2 in this evaluation report.

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.

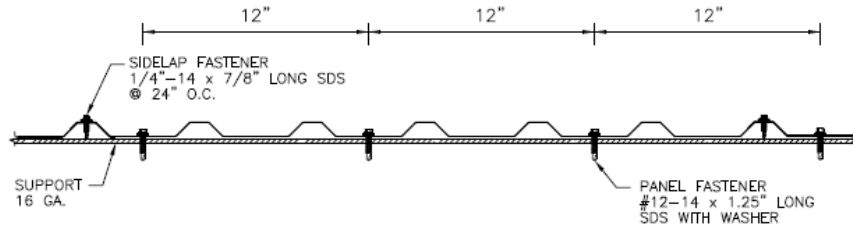


Figure 1. M-Loc Panel Fastening Pattern at interior supports

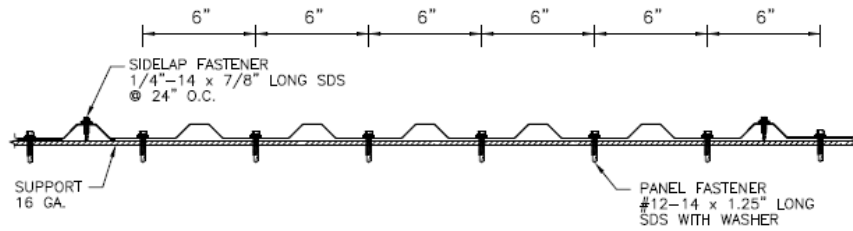


Figure 2. M-Loc Panel Fastening Pattern at panel ends and endlaps