

Product Evaluation

RC615 | 0723

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-615

Effective Date: July 1, 2023

Re-evaluation Date: July 2027

Product name: 3" Rib Mueller Trapezoidal Lock (MTL) 22-gauge and 24-gauge Steel Panels
Installed over Open Steel Purlins

Manufacturer: Mueller, Inc.
1915 Hutchings Avenue
Ballinger, TX 78621
(800)527-1087

General description:

The Mueller Trapezoidal Lock (MTL) metal panels are minimum 24-gauge and 22-gauge coated steel. The metal panels have a 3" rib height. The metal panels conform to ASTM A792, SS Grade 50 Class 1. The metal panels are supplied with an AZ 50 or AZ 55 aluminum zinc alloy coating. The metal panels can be supplied painted with a silicone polyester paint product or with a Fluoropon type paint.

Limitations:

Roof Decking; Roof Framing: The metal panels must be installed over open steel purlins.

New framing attachment: The framing must meet or exceed the wind pressure requirements of the IRC or the IBC and must be installed as required for resistance to wind loads.

Design Wind Pressures: The design pressure negative wind load resistance must be as specified in Tables 1 through 4.

Roof Slope: The metal roof panels may be installed on roofs with a roof slope of 1/4:12. Lap sealant must be applied in accordance with the manufacturer's approved details.

Table 1: Attachment of 24-gauge Mueller Trapezoidal Lock (MTL) Metal Roof Panels to Steel Purlins with TripleLok Seam System

Attachment of Panel to Steel Purlins (minimum 16 gauge).	Design Wind Pressure (psf)
5'-0" on center	-36.0
4'-6" on center	-45.0
4'-0" on center	-54.0
3'-6" on center	-63.0
3'-0" on center	-72.0
2'-6" on center	-81.0
2'-0" on center	-90.0

Table 2: Attachment of 24-gauge Mueller Trapezoidal Lock (MTL) Metal Roof Panels to Steel Purlins with Fastener Pattern QuadLok

Attachment of Panel to Steel Purlins (minimum 16 gauge).	Design Wind Pressure (psf)
5'-0" on center	-45.0
4'-6" on center	-55.5
4'-0" on center	-70.0
3'-6" on center	-82.5
3'-0" on center	-95.0
2'-6" on center	-107.5
2'-0" on center	-120.0

Table 3: Attachment of 22-gauge Mueller Trapezoidal Lock (MTL) Metal Roof Panels to Steel Purlins with TripleLok Seam System

Attachment of Panel to Steel Purlins (minimum 16-gauge).	Design Wind Pressure (psf)
5'-0" on center	-44.0
4'-6" on center	-57.5
4'-0" on center	-70.1
3'-6" on center	-83.2
3'-0" on center	-96.3
2'-6" on center	-109.4
2'-0" on center	-122.5

Table 4: Attachment of 22-gauge Mueller Trapezoidal Lock (MTL) Metal Roof Panels to Steel Purlins with Fastener Pattern QuadLok

Attachment of Panel to Steel Purlins (minimum 16-gauge).	Design Wind Pressure (psf)
5'-0" on center	-56.0
4'-6" on center	-72.9
4'-0" on center	-89.8
3'-6" on center	-106.7
3'-0" on center	-123.6
2'-6" on center	-140.5
2'-0" on center	-157.5

Installation over an existing roof covering: Not permitted.

Installation Instructions

General: The 3" Mueller Trapezoidal Lock (MTL) metal roofing panels must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Steel Purlins: The minimum thickness of steel and the maximum spacing of the purlins must be as specified in Tables 1 through 4.

Underlayment: N/A

Attachment of Metal Roof Panels to the Steel Purlins: For panel to panel attachment must be secured to the steel purlins with MPS-602 standing seam roof clips (4.30" long, two-piece clip; clip tab: 0.031" 50 ksi G90 galvanized steel; clip base: 0.060" 50 ksi G90 galvanized steel) with two (2) 1/4 -14 Hex Washer Head SD screws per clip. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of the thread below the steel purlin. Refer to Figure 1 in this evaluation report.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim shall be installed as required by the manufacturer.

Note: The manufacturer's installation instructions must be available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.

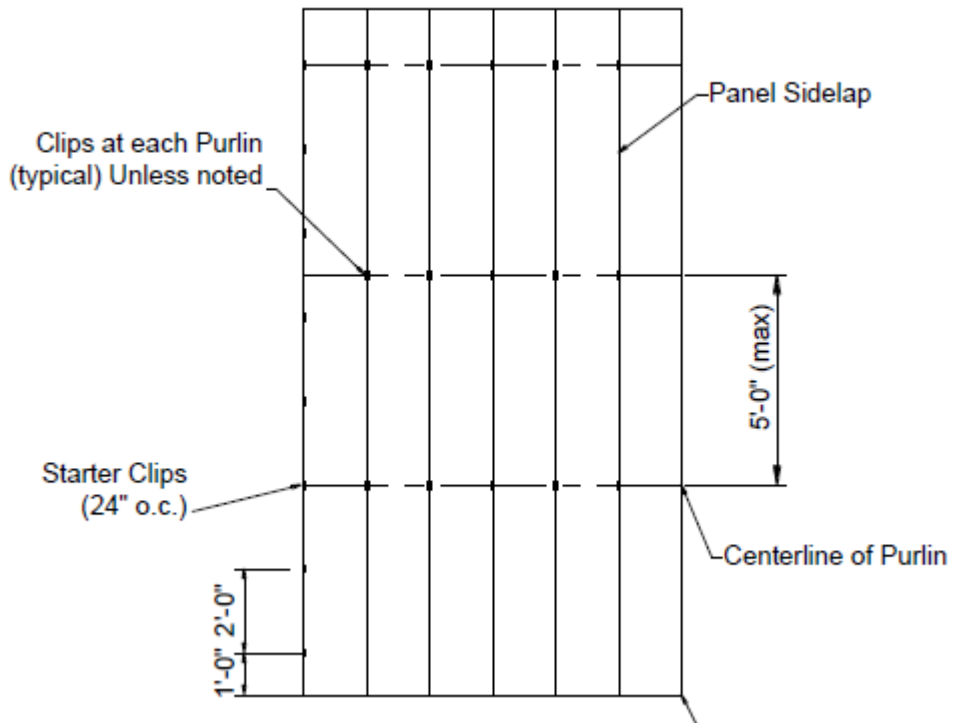


Figure 1 Minimum 24 Gauge Mueller Trapezoidal Lock (MTL) Panel Fastener Pattern