

Product Evaluation

RC116 | 1020

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-116

Effective Date: October 1, 2020

Re-evaluation Date: October 2024

Product Name: MasterRib Steel Roof Panels Installed Over an OSB Roof Deck

Manufacturer: Union Corrugating Company
701 South King Street
Fayetteville, NC 28301
(502) 645-2480

General Description:

The MasterRib metal roof panels are minimum 29-gauge steel roof panels. The metal roof panels are manufactured from steel with an aluminum, zinc, and silicon anti-corrosion coating (Galvalume®). The metal roof panels are available with a paint finish in a variety of colors. The metal roof panels are 36" in width. The metal roof panels have 5 ribs that are 1-7/8" in width, 3/4" in height, and are 9" on center.

Limitations:

Roof Decking Thickness:

The minimum 29-gauge metal roof panels must be installed over a minimum 7/16" OSB roof deck.

New Roof Deck Attachment: The roof deck must be installed to meet or exceed the uplift requirements of the IRC or IBC and must be installed in a manner to resist wind loads as required.

Installation Over an Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing, or roll roofing applied over an existing, solid roof deck. The minimum thickness of the roof deck must be as required for a new metal roof installation. Note: Inspection of the existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the roof panels before the roof panel installation proceeds. A layer of underlayment over the existing roof covering is not required.

Roof Slope: The metal roof panels must not be installed on roofs with a roof slope less than 3:12.

Design Wind Pressures: The design pressure uplift load resistance for the metal roof panels must be as specified in Table 1.

Table 1 Attachment of Minimum 29-gauge MasterRib Steel Roof Panels to a Minimum 7/16" OSB roof deck

Fastener Spacing (Line of Fasteners) Along Panel Length	Allowable Wind Uplift Pressure (psf)
6" o.c.	-124.0
8" o.c.	-116.4
10" o.c.	-108.9
12" o.c.	-101.3
14" o.c.	-93.8
16" o.c.	-84.0
18" o.c.	-74.7
20" o.c.	-67.2
22" o.c.	-61.1
24" o.c.	-56.0

Installation:

General: The MasterRib metal roof panels must be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

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 6" side laps and 3" end laps. The underlayment must be applied with corrosion resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart the 36" on center.

Attachment of Metal Roof Panels to Roof Deck: The MasterRib metal roof panels must be secured to the roof deck as follows:

Roof Panels:

Minimum No. 10-15 x 2" long, Woodtite screws with a sealing washer. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the metal panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing OSB or plywood roof deck.) A line of fasteners are to be installed on one side of each rib across the width of the panel. The spacing of the line of fasteners along the length of the panel must be as specified in Table 1. Refer to Figure 1 of this evaluation report.

Panel Ends:

Refer to Figure 1 of this evaluation report for fasteners required along panel ends.

Panel Edges:

As required by the manufacturer.

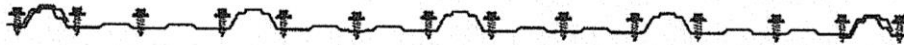
Trims, Closures, and Accessories: Component details, such as the vented ridge, high side peak, eave trim, endwall, sidewall, rake, transition, and valley must be installed as specified in the Trim Installation Details document by Union Corrugating Company and the installation instructions available from 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.



#10-15 X 2" LONG WOODSCREWS WITH WASHERS

FASTENER LINE PATTERN AT PANEL INTERIOR



#10-15 X 2" LONG WOODSCREWS WITH WASHERS

FASTENER PATTERN AT PANEL ENDS

Figure 1. MasterRib Panel Detail (Minimum 29-Gauge)