

Product Evaluation

RC558 | 0321

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-558

Effective Date: March 1, 2021

Re-evaluation Date: March 2025

Product Name: Deep Deck Steel Roof Panels Installed over Steel Purlins

Manufacturer: Berridge Manufacturing Company
6515 Fratt Road
San Antonio, TX 78218
(210) 650-3050

General Description:

The Deep Deck steel roof panels are formed steel roof panels. The roof panels have 36" of coverage. The roof panels have a 1-1/2" rib height. The roof panels are manufactured from minimum 24-gauge steel with a minimum yield strength of 40 ksi. The steel panels conform to ASTM A792.

Limitations:

Roof Framing: The roof panels must be installed over open steel purlins.

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

Design Wind Pressures: The design pressure uplift load resistance must be as specified in Table 1.

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as 3:12.

Installation Over an Existing Roof Covering: Not permitted.

Table 1

Attachment of Deep Deck Steel Roof Panels to Steel Purlins

Design Wind Pressure	Purlins	Panel Thickness	Attachment of Panel to Steel Purlins
-100.0 psf	Minimum 16 gauge; 5'-0" on center	Minimum 24-gauge	One fastener at 7.2" on center
-110.0 psf	Minimum 16 gauge; 5'-0" on center	Minimum 24-gauge	Two fasteners at 7.2" on center
-182.0 psf	Minimum 16 gauge; 2'-6" on center	Minimum 24-gauge	One fastener at 7.2" on center
-160.0 psf	Minimum 16 gauge; 5'-0" on center	Minimum 22-gauge	Two fasteners at 7.2" on center

Installation:

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

Steel Purlins: Berridge Manufacturing Company steel "CEE" or "ZEE" purlins. The minimum thickness of the steel and the maximum spacing of the purlins must be as specified in Table 1.

Attachment of Roof Panels to the Steel Purlins: The roof panels must be secured to the steel purlins with 1/4-14 x 1" HWH #3 point screws with sealing washer manufactured by SFS. A line of fasteners must be located along each steel purlin. The spacing and quantity of the fasteners must be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlins.

Panel Side Laps: The panels must overlap one corrugation. The panels are stitched together with minimum 1/4-14 x 7/8" HWH #3 point screws with sealing washer manufactured by SFS. The fasteners must be spaced 18" on center along the length of the side lap.

Panel Ends: Minimum 1/4-14 x 1" HWH #3 point screws with sealing washer manufactured by SFS. A line of fasteners must be located along the steel purlin. The spacing and quantity of the fasteners must be as specified in Table 1. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlins.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim must be installed 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.