

Product Evaluation

RC587 | 0623

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-587

Effective Date: June 1, 2023

Re-evaluation Date: June 2027

Product Name: U or PBU Steel Roofing Panels Installed Over Steel Purlins

Manufacturer: Quality Metals
2707 Castroville Rd.
San Antonio, TX 78237
(210) 227-7276

General Description:

This evaluation report is for U or PBU steel roofing panels installed over steel purlins. The metal roofing panels are a minimum 26-gauge galvalume steel with an optional paint finish. The panels have a coverage of 36". Major ribs are spaced 6" on center and are 3/4" deep. The panels conform to ASTM A792, with an 80,000 psi yield point.

Limitations:

Roof Framing: The U or PBR metal 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 roof panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the panel side laps. Quality Metals recommends that sealant be used on the panel side laps for roof slopes less than 3:12. If sealant is not used on the panel side laps, then the minimum roof slope is 3:12.

Installation Over an Existing Roof Covering: Not permitted.

Table 1. Attachment of minimum 26-gauge steel U or PBU panels to 16-gauge steel purlins

Design Wind Pressure	Purlins	Attachment of Panels to Steel Purlins
-52.5 psf	Minimum 16-Gauge 5'-0" on center	6" on center

Installation:

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

Purlins: The U or PBU metal roof panels must be secured to the 16-gauge steel purlins as specified in Table 1 and in this section.

Underlayment: N/A

Anchorage:

Fastener Type: The panels must be fastened to the purlins with either minimum No. 14 x 3/4" long self-tapping, hex head steel screws with a separate 5/8" outside diameter steel or aluminum washer or No. 12-14 x 1" self-drilling, self-tapping, hex head, Type B steel screws with a neoprene washer. The fasteners must be long enough to penetrate a minimum of 3 pitches below the purlin.

Fastener Spacing: A line of fasteners 6" on center adjacent to the major ribs.

Panel Side Laps: The panels are stitched together with minimum 1/4-14 x 7/8" Lap Tek screws with a separate EPDM rubber washer. The fasteners must be spaced at 20" on center along the length of the side lap.

Panel Ends and End Laps to the Steel Purlins: The panels must be fastened to the purlins with either minimum No. 14 x 3/4" long self-tapping, hex head steel screws with a separate 5/8" outside diameter steel or aluminum washer or No. 12-14 x 1" self-drilling, self-tapping, hex head, Type B steel screws with a neoprene washer. The fasteners must be long enough to penetrate a minimum of 3 pitches below the purlin.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, rake tie-in, ridge flashing, high-side trim, high-side tie-in, hip flashing, and valley flashing 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.