

## Product Evaluation

RC474 | 0224

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-474

**Effective Date:** February 1, 2024

**Re-evaluation Date:** February 2028

**Product Name:** 26-Gauge Royal Span X Panels Steel Roof Panels Installed Over Steel Purlins

**Manufacturer:** Royal Metal Building Components, Inc.  
2031 Amistad Drive  
San Benito, TX 78586  
(956) 399-2271

### General Description:

The metal panel is used in roof and wall systems. Panels are attached to support structure with exposed fasteners. The panel profile consists of 1-1/4" high ribs spaced 12" on center with panel coverage of 36". Two minor ribs are spaced between the major ribs. Standard panel material consists of minimum 26-gauge steel coated both sides with a layer of (Galvalume) aluminum-zinc alloy applied in a continuous hot dipped method. The metal conforms to ASTM A792, with a minimum yield strength of 80 KSI.

### Limitations:

**Roof Framing:** Install the metal roofing panels over open steel purlins. Use purlins that are a minimum 16-gauge steel (55,000 psi minimum yield strength).

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

**Design Wind Pressures:** Table 1 specifies the design pressure uplift load resistance.

**Roof Slope: Minimum** 1/2:12

**Installation Over an Existing Roof Covering:** Not permitted

**Table 1**

Attachment of Minimum 26-gauge Span X Roofing Panels to Steel Purlins

Design Pressure (psf)	Purlin Spacing Minimum 16 gauge	Attachment of Panels to Steel Purlins
-124.9	2'-0" on center	Fastener pattern 12"-12"-12
-111.9	2'-6" on center	Fastener pattern 12"-12"-12
-98.9	3'-0" on center	Fastener pattern 12"-12"-12
-85.9	3'-6" on center	Fastener pattern 12"-12"-12
-72.9	4'-0" on center	Fastener pattern 12"-12"-12
-59.9	4'-6" on center	Fastener pattern 12"-12"-12
-46.9	5'-0" on center	Fastener pattern 12"-12"-12

**Installation Instructions:**

**General:** Install the metal roofing panels in accordance with the manufacturer's recommended installation instructions and this evaluation report.

**Steel Purlins:** Table 1 specifies the minimum thickness of the steel and maximum spacing of the purlins.

**Underlayment:** NA

**Attachment of Royal Span X Panels to the Steel Purlins:** Secure the metal roof panels to the steel purlins with a minimum No. 12-14 x 1-1/4" ZAC Head Self Drilling Fasteners w/sealer washer. A line of fasteners must be located on each steel purlin.

**Panel Side Laps:** The Royal Span X panels are to be stitched together with a minimum 1/4-14 x 7/8" ZAC Head Lap Tek Screw. The fasteners are spaced 20" on center along the length of the panel side lap. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel framing.

**Panel Ends and End Laps to the Steel Purlins:** The Royal Span X Panel Ends and End Laps must be secured with a minimum No. 12-14 x 1-1/4" ZAC Head Self Drilling Fasteners w/ sealer washer. A line of fasteners must be along the purlin line in a 5"-7"-5"-7"-5" pattern. The fasteners must be long enough to ensure a minimum penetration of three pitches of thread below the steel framing.

**Trims, Closures, and Accessories:** Install the 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