

Product Evaluation

RC685 | 0122

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-685

Effective Date: January 1, 2022

Re-evaluation Date: January 2026

Product Name: KingRib 3 and KingRib 5 Insulated Steel Roofing Panels Installed over Steel Purlins

Manufacturer: Kingspan Insulated Panels
726 Summerhill Drive
Deland, FL 32724
(386) 626-6789

General Description:

The KingRib 3 and KingRib 5 insulated steel roofing panels consist of roll-formed interior and exterior profiles chemically bonded to a continuously, foamed-in-place, polyisocyanurate insulating core. The exterior profile is called the 'Facer' and the interior profile is called the 'Liner.' Both are minimum 26-gauge steel, ASTM A 792 SS GR 33 with an AZ 50 or AZ 55 aluminum zinc alloy coating or ASTM A653, SS GR 33 with a G90 coating. The insulating roofing panels come in a maximum panel width of 40" and a thickness of either 1.5", 2.5", 4", 5", or 6". The exterior profile for the KingRib 3 panel consists of two (2) 1-3/8" high ribs and a 1-7/16" high overlapping rib with ribs spaced at 20" o.c. The exterior profile for the KingRib 5 panel consisted of four (4) 1-3/8" high ribs and a 1-7/16" high overlapping rib with ribs spaced at 10" o.c. The interior profile was 'Mesa' profiles.

Limitations:

General: 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.

Roof Framing: The insulated roofing panels must be installed over minimum 12-gauge steel open purlins.

Roof Slope: The insulating roofing panels may be installed on roofs with a roof slope as low as 1/2:12.

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

Table 1

Attachment of KingRib 3 and King Rib 5 Series Insulating Roofing Panels to Minimum 12-gauge Steel Purlins

Design Wind Pressure	Purlins
-46.0 psf	Minimum 12-gauge @ 8'-0" on center

Installation over Existing Roof Covering: N/A

Installation:

General Installation Requirements: The insulated roofing panels must be installed in accordance with the manufacturer's installation instructions and this product evaluation.

Underlayment: N/A

Steel Purlins: Minimum 12-gauge steel.

Attachment of Insulated Roofing Panels to Steel Framing: Secure the panels to the steel purlins with minimum 1/4"-14 hex head self-drilling screw with washer and SW-01 saddle washer through the ribs. SW-01 washers are 1.5" long, 1.625" wide, 14 gauge bent plate with a 0.125" thick EPDM bonded to underside. A fastener is required at each rib location (line of fasteners 20" on center for the KingRib 3 panel and 10" on center for the KingRib 5 panel along each steel purlin). Table 1 specifies the spacing of the steel purlins. Use fasteners long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlin.

Panel Side Laps: The panels are stitched together with minimum 1/4"-14 x 7/8" long self-drilling lap screws with washers. Space the fasteners a maximum of 16" on center along the length of the side lap.

Panel Ends: As required by the manufacturer.

Panel Edges: As required by the manufacturer.

Trims, Closures and Accessories: Components such as eave, rake rim, rake 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.