

## Product Evaluation

RC686 | 0422

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-686

**Effective Date:** April 1, 2022

**Re-evaluation Date:** April 2026

**Product Name:** KingSeam Insulated Steel Roofing Panels Installed over Steel Purlins

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

### General Description:

The KingSeam 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 3.25", 4", 5", or 6". The exterior profile consists of two (2) partial 1" high ribs with a 1" high corrugation along the two sides. The interior profile was 'Mesa' profiles. The panels are mechanically seamed with steel clips.

### 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 steel roofing panels must be installed over minimum 12-gauge steel open purlins.

**Roof Slope:** The insulated steel roofing panels may be installed on roofs with a roof slope as low as 1/4:12.

**Design Pressure:** The design pressure uplift load resistance must be as specified in Table 1 and 2.

**Table 1**

Attachment of KingSeam Insulated Steel Roofing Panels with Standard and EC-01 Clips to Minimum 12-gauge Steel Purlins

Design Wind Pressure (psf)		12-Gauge Steel Purlins
With STD Clip	With STD Clip and EC-01	
-50.8	-55.8	5'-0" on center
-48.0	-53.0	5'-6" on center
-45.3	-50.3	6'-0" on center
-42.1	-47.5	6'-6" on center
-39.1	-44.7	7'-0" on center
-36.5	-41.8	7'-6" on center
-34.2	-39.2	8'-0" on center

**Table 2**

Attachment of KingSeam Insulated Steel Roofing Panels with Standard Clips to Minimum 12-gauge Steel Purlins

Design Wind Pressure (psf)			12-Gauge Steel Purlins
3.25" KingSeam	4" KingSeam	5" or 6" KingSeam	
-78.1	-83.2	-90.0	2'-0" on center
-73.6	-77.8	-83.5	2'-6" on center
-69.0	-72.4	-76.9	3'-0" on center
-64.5	-67.0	-70.4	3'-6" on center
-59.9	-61.4	-63.5	4'-0" on center
-55.4	-55.8	-56.4	4'-6" on center
-50.8	-50.8	-50.8	5'-0" on center
-48.0	-48.0	-48.0	5'-6" on center
-45.3	-45.3	-45.3	6'-0" on center
-42.1	-42.1	-42.1	6'-6" on center
-39.1	-39.1	-39.1	7'-0" on center
-36.5	-36.5	-36.5	7'-6" on center
-34.2	-34.2	-34.2	8'-0" on center

**Installation over Existing Roof Covering:** N/A

**Installation:**

**General Installation Requirements:** The insulated steel 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 Steel Roofing Panels to Steel Framing:** Secure the panels to the steel purlins at the panel sidelaps using 24-gauge stainless steel SR-325 clips (4" long x 4.4" high (minimum) x 1-5/16" wide). Secure each clip to the steel purlins with three (3) 1/4"-14 x 2" long self-driller screws. The height of the clip varies for different panel thickness. A clip is required at each purlin location. The female rib is hooked into the male rib to form the panel sidelap which is mechanically seamed. Use fasteners long enough to ensure a minimum penetration of 3 pitches of thread below the steel purlin.

For additional uplift loads, EC-01 enhancement clips (6" long, 20-gauge steel) are installed over the seamed panel sidelap at all clip locations and seamed with hand seamer.

**Panel Ends:** As required by the manufacturer.

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**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.