

Product Evaluation

RC613 | 0324

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-613

Effective Date: March 1, 2024

Re-evaluation Date: March 2028

Product Name: 1.5" Standing Seam Steel or Aluminum Roofing Panels Installed over a Plywood Deck

Manufacturer: JC Metal Roofing
101 Tiki Drive, #200-C
Galveston, TX 77554
(409) 457-7737

General Description:

The 1.5" Standing Roofing Panel is either 26-gauge galvalume steel, 24-gauge galvalume steel, or 0.032" aluminum with an optional paint finish. The metal roofing panels have a maximum coverage of 16". The panel has a 1.5" tall mechanical double lock standing seam rib. The 26-gauge and 24-gauge steel material is ASTM A 792 Grade 50, with a 50 ksi yield point. The aluminum panel is 0.032" ASTM B209 H22-3105. Panels must be formed with the panel rollformer specifications and tolerances. The panel rollformer is Englert 1300 series rollformer.

This product evaluation report is for residential metal roofing panels that are secured to nominal 15/32" plywood decks. Thicker plywood deck may be used; however, the design pressure rating for the metal panels shall be as specified in this evaluation report.

Limitations:

Roof Deck: The metal roofing panels must be installed over minimum 15/32" plywood deck.

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

Roof Slope: The metal 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 shall be as specified in Tables 1-3.

Table 1: Attachment of 1.5" Standing Seam 26-gauge Steel Metal Roofing Panels to Minimum 15/32" Plywood Decking

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Panel Clip Spacing	Panel Clip Fasteners
-71.0	Double Lock	2" Fixed Clip	24" on center	Two (2) No. 10-9x1"
-93.5	Double Lock	2" Fixed Clip	18" on center	Two (2) No. 10-9x1"
-116.0	Double Lock	2" Fixed Clip	12" on center	Two (2) No. 10-9x1"
-138.5	Double Lock	2" Fixed Clip	6" on center	Two (2) No. 10-9x1"

Table 2: Attachment of 1.5" Standing Seam 24-gauge Steel Metal Roofing Panels to Minimum 15/32" Plywood Decking

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Panel Clip Spacing	Panel Clip Fasteners
-86.0	Double Lock	2" Fixed Clip	24" on center	Two (2) No. 10-9x1"
-103.5	Double Lock	2" Fixed Clip	18" on center	Two (2) No. 10-9x1"
-121.0	Double Lock	2" Fixed Clip	12" on center	Two (2) No. 10-9x1"
-138.5	Double Lock	2" Fixed Clip	6" on center	Two (2) No. 10-9x1"

Table 3: Attachment of 1.5" Standing Seam 0.032" Aluminum Metal Roofing Panels to Minimum 15/32" Plywood Decking

Design Wind Pressure (psf)	Panel Seam	Panel Clip	Panel Clip Spacing	Panel Clip Fasteners
-123.5	Double Lock	6-1/4" Fixed Clip	24" on center	Four (4) No. 10-9x1"
-127.3	Double Lock	6-1/4" Fixed Clip	18" on center	Four (4) No. 10-9x1"
-131.0	Double Lock	6-1/4" Fixed Clip	12" on center	Four (4) No. 10-9x1"

Installation over Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, wood shingles or shakes, built-up roofing or roll roofing applied over an existing solid roof deck of minimum 15/32" plywood. Note: inspection of existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before roof panel installation can begin.

Installation:

General: The metal roofing panels must be installed in accordance with the manufacturer's installation instructions and this production evaluation.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt or equivalent must be used. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869 or ASTM D 1970. The underlayment must be installed with 6" side laps and 3" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instruction. Fasteners shall be applied along the overlaps not farther apart than 36" on center.

Attachment of Metal Roof Panels to Plywood Deck: The 26-gauge and 24-gauge steel panels must be installed using a 2" long, 24-gauge, fixed clip with two (2) No. 10-9x1" long Pancake Type A fasteners. The 0.032" aluminum panels must be installed using a 6-1/4" long, 22-gauge, fixed clip with four (4) No. 10-9x1" long Pancake Type A fasteners. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: if the metal roofing panels are installed over an existing roof covering, the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing plywood roof decking). The maximum allowable spacing of the clips is specified in Tables 1-3.

Panel Clip:

26-gauge and 24-gauge steel panels: fixed clip, 24-gauge steel (0.0235" thick), 2" long.

0.032" aluminum panel: fixed clip, 22-gauge steel (0.029" thick), 6-1/4" long.

Panel Seam: The panel is seamed to a 180-degree seam (double lock) with a mechanical seamer.

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, and valley trim shall be as required by the manufacturer.

Alternative Fasteners: Alternative fasteners of equal or greater strength may be substituted.

Note: The manufacturer's installation instructions shall be available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC and the IBC.