

Product Evaluation

RC562 | 0322

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-562

Effective Date: March 1, 2022

Re-evaluation Date: March 2026

Product Name: Tee-Lock Aluminum Standing Seam Roofing Panels installed over an Insulated Steel Deck

Manufacturer: Berridge Manufacturing Co.
6515 Fratt Rd.
San Antonio, TX 78218
(210) 650-3050

General Description:

The Tee-Lock aluminum roofing panels are aluminum standing seam roofing panels. The aluminum roofing panels have a maximum 18" of coverage. The aluminum roofing panels have a 2-3/8" rib height. The aluminum roofing panels are manufactured from 0.032" thick 3105 H14 aluminum.

Limitations:

Roof Framing: The aluminum roofing panels must be installed over a minimum 22-gauge, 1-1/2" B-deck. Panel design pressures are based on a steel deck with an 89.2 ksi yield strength.

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 aluminum roofing panels may be installed on roofs with a roof slope as low as 2:12.

Installation Over an Existing Roof Covering: Not permitted.

Table 1. Attachment of 18" wide, Minimum 0.032" Aluminum Tee-Lock standing Seam Roofing Panels to Steel Deck

System	Design Wind Pressure	Purlins	Deck	Attachment of Panel to Deck
1	-78.5 psf	12-Gauge Steel; 5'-0" on center	Minimum 22-Gauge Steel B-Deck	Two Fasteners at 36" o.c.
2	-183.5 psf	12-Gauge Steel; 5'-0" on center	Minimum 22-Gauge Steel B-Deck	Two Fasteners at 12" o.c.

Installation:

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

Steel Purlins: Berridge Manufacturing Company steel "CEE," "ZEE," or "Hat Section" purlins. The minimum thickness of the steel and the maximum spacing of the purlins must be as specified in Table 1.

Structural Steel Deck: Minimum 22-gauge steel B-deck. The steel deck is secured to the steel purlins as follows:

System 1: One (1) 1/4-14 x 1-1/4" HWH fastener located in each valley of the steel deck

System 2: Two (2) 1/4-14 x 1-1/4" HWH fasteners located in each valley of the steel deck

Insulation: Maximum two layers of 3" thick rigid insulation with polyisocyanurate foam core with fiber reinforced facers laid on top of the steel deck. Minimum 20 psi compressive strength. Secured to the steel deck with minimum five #14-13 x 9" DP1 Concealor screws with 3" diameter steel disks per sheet. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel deck.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt must be used. The underlayment must comply with one of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt must be installed with minimum 2" side laps and minimum 2" end laps. The felt must be in accordance with the manufacturer's installation instructions, the IRC, and the IBC.

Attachment of Aluminum Roofing Panels to the Steel Deck: The aluminum roofing panels must be secured to the steel deck with 6" long, 16-gauge, 304 stainless steel, one-piece, low Tee-Lock clips. The clips are placed over a 6" x 6" 24-gauge steel bearing plate. Each clip is secured to the steel deck with two (2) #14-13 x 9" DP1 Concealor screws manufactured by Triangle Fastener Corporation. The fasteners must be long enough to ensure a minimum penetration of 3 pitches of thread below the steel deck.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge 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.