



# Product Evaluation

RC505 | 1117

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-505

**Effective Date:** November 1, 2017

**Re-evaluation Date:** November 2021

**Product Name:** Double Lock Zee-Lock 0.032" Aluminum Standing Seam Roof Panels Installed over an Insulated Steel Deck

**Manufacturer:** Berridge Manufacturing Company  
6515 Fratt Road  
San Antonio, TX 78218  
(210) 650-3050

## General Description:

The Double-Lock Zee-Lock metal roofing panels are aluminum standing seam roofing panels. The metal roofing panels have a maximum 16" of coverage. The metal roof panels have a 2" rib height. The metal roofing panels are manufactured from 0.032", 3105-H14 aluminum with a minimum yield strength of 18,000 psi.

## Limitations:

**Roof Framing:** The metal 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 a 98 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 metal roofing panels may be installed on roofs with a roof slope as low as 1/2:12.

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

**Table 1**

Attachment of minimum 0.032" Aluminum Double-Lock Zee-Lock standing seam roofing panels to steel deck

Design Wind Pressure	Purlins	Deck	Attachment of Panel to Deck
-123.5 psf	12-Gauge Steel; 5'-0" on center	Minimum 22-Gauge Steel B Deck	Two Fasteners at 24" o.c.
-236.0 psf	12-Gauge Steel; 5'-0" on center	Minimum 22-Gauge Steel B Deck	Two Fasteners at 6" o.c.

**Installation:**

**General:** The metal 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 with two 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 polyisocynurate 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 fastened to the roof deck with corrosion resistant fasteners in accordance with the manufacturer’s installation instructions. Fasteners to be applied along the overlaps a maximum of 36" on center.

**Attachment of Metal Roof Panels to the Steel Deck:** The metal roofing panels must be secured to the steel deck with Zee-Lock floating clips (22-gauge, stainless steel top (4.313" long x 0.620" wide x 2.230" high); 16-gauge, galvanized steel bottom (2.00" long x 1.150" wide x 0.565" high)). Each clip is secured to the steel deck with two #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 installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.