



Product Evaluation

RC455 | 0815

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-455

Effective Date: August 1, 2015

Re-evaluation Date: August 2017

Product Name: CM175S .040 Aluminum Standing Seam Metal Roofing Panels Installed over a Plywood Deck

Manufacturer: Carlisle Metal Products
P.O. Box 7000
Carlisle, PA 17013
800-479-6832

General Description:

This evaluation report is for the CM 175S .040 aluminum standing seam metal roofing panels installed over a plywood deck. The aluminum standing seam metal roofing panels have 17" of coverage. The standing seam metal roof panels have a 1" rib height and a female rib that snaps over the male rib locking the panels together. The metal roofing panels are manufactured from .040" thick aluminum. Refer to Figure 1 for an illustration of the CM 175S standing seam panel.

Limitations:

- **Roof Framing:** Install the metal roofing panels over a solidly sheathed minimum 15/32" plywood roof deck.
- **New Roof Framing Attachment:** The roof framing must meet or exceed the uplift requirements of the IRC or IBC. Install the roof framing as required for resistance to wind loads.
- **Design Wind Pressures:** Table 1 specifies the design pressure uplift load resistance.
- **Roof Slope:** Install the metal roofing panels on roofs with a roof slope as low as 2:12.

Table 1**Attachment of CM 175S minimum 0.040" aluminum standing seam metal roofing panels to minimum 15/32" plywood roof deck**

Design Pressure (psf)	Clip and Fastener Type	Clip Spacing (inches)
-106.75 psf	Two No. 10 x 1"	18" on center

Installation Over an 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 the 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 the metal roofing panel installation proceeds. NOTE: Underlayment is required to be installed.

Installation:

- **General:** Install the metal roofing panels in accordance with the manufacturer's recommended installation instructions and this evaluation report.
- **Deck:** Solidly sheath the roof deck with minimum 15/32" plywood.
- **Underlayment:** Use a minimum of one layer of No. 30 (Type II) asphalt felt. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with minimum 4" side laps and 6" end laps. Apply the underlayment with corrosion resistant tin caps and minimum 12-gauge 1-1/4" annular ring shank nails. Space the fasteners 6" on center at all end laps and two staggered rows 12" on center in the field.
- **Alternative Underlayment:** Either a synthetic underlayment or a peel and stick ice and water shield that complies with the requirements for underlayment as specified in the IRC and the IBC. The underlayment shall be installed per the manufacturer's installation instructions.
- **Attachment of Metal Roof Panels to the Roof Deck:** The metal roofing panels shall be secured to the roof deck with CM 175S snap lock fixed clips. Refer to Figure 1 for an illustration of the snap lock fixed clip. The snap lock fixed clip is 18 gauge L-shaped galvanized steel that is 2" wide, 1" high, and 3" long. Each CM 175S snap lock fixed clip is secured to the roof deck with two minimum No. 10 x 1" long pancake head screws as indicated in Table 1. The fasteners shall 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, then the fastener length shall be increased so that the fasteners are long enough to ensure a minimum penetration of below the existing plywood roof decking.) The snap lock fixed clips shall be located approximately 3" from each end and 18" on center as indicated in Table 1. The adjoining panels are snap locked into place. Panel Ends and End Laps: As required by the manufacturer.
- **Panel Edges:** As required by the manufacturer.
- **Trims, Closures, and Accessories:** Install components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim as required by the manufacturer.

Note: Keep the manufacturer's installation instructions at the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.