



Product Evaluation

RC576 | 0818

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-576

Effective Date: August 1, 2018

Re-evaluation Date: August 2022

Product Name: R-Loc Steel Roof Panels Installed Over a Plywood Deck, OSB Deck or Wood Purlins

Manufacturer: Central States Manufacturing
302 Jane Place
Lowell, Arkansas 72745
(800) 356-2733

GENERAL DESCRIPTION:

The R-Loc metal roofing panels are steel roofing panels. The metal roofing panels have a maximum 36" of coverage. The metal roof panel have 1-1/4 tall ribs spaced 12" on center. The metal roofing panel are manufactured from minimum 26-gauge galvalume steel that conforms to ASTM A792 AZ50, with a minimum yield strength of 80,000 psi.

Limitations:

Roof Framing: The metal roofing panels must be installed over one of the following types of roof decks or purlins:

- Minimum 7/16" OSB
- Minimum 15/32" plywood
- Minimum 1" x 4" No. 2 Southern Pine Wood Purlins
- Minimum 2" x 4" No. 2 Southern Pine Wood Purlins

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 6" side laps and 3" end laps. Apply the underlayment with corrosion-resistant

fasteners in accordance with the manufacturer's installation instructions. Apply fasteners along the overlaps not farther apart than 36" on center.

New Roof Deck Attachment: The roof decking must meet or exceed the uplift requirements of the IRC and IBC. Install the decking in a manner to resist lateral loads.

Installation over an Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingle, 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 not required to be installed.

Roof Slope: The metal roof panels may be installed on roofs with a roof slope as low as 1/2:12 if the metal roofing panels have an applied lap sealant. The metal roofing panels may be installed on roofs with a roof slope as low as 3:12 without the use of an applied lap sealant

Installation:

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

Attachment of Metal Roofing Panels: The metal roof panels must be secured to the roof framing in one of the following ways:

- **Metal Roofing Panels to OSB OR Plywood Deck:** Minimum #10-16 1-1/2" Kwikseal MB Woodbinder screws, manufactured by Sealtite. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood deck. (Note: If the metal roofing panels are installed over existing roof covering, then the fastener length must be increased so that the fasteners are long enough to have a minimum penetration of 1/4" below the existing roof deck). The required fastener pattern must be as specified in Tables 1 & 2. An illustration of the fastener pattern is shown in Figure 1.
- **Metal Roofing Panels to Nominal 1" x 4" or 2" x 4" Purlins:** Minimum #10-16 X 1-1/2" Kwikseal MB Woodbinder screws, manufactured by Sealtite. The required fastener pattern must be as specified in Table 3. An illustration of the fastener pattern is shown in Figure 2.

Table 1. Attachment of Minimum 26-gauge R-Loc Metal Panels to Min 7/16" OSB Panel

Attachment of Panel to OSB	Design Wind Pressure (psf)
42" on center	25.0
36" on center	34.8
30" on center	44.6
24" on center	54.4
18" on center	64.2
12" on center	74.0

Table 2. Attachment of Minimum 26-gauge R-Loc Metal Panels to Min 15/32" Plywood

Attachment of Panel to Plywood	Design Wind Pressure (psf)
42" on center	25.0
36" on center	41.1
30" on center	57.2
24" on center	73.3
18" on center	89.4
12" on center	105.5

Table 3. Attachment of Minimum 26-gauge R-Loc Metal Panels to Min. 1" x 4" No. 2 Southern

Purlin Spacing	Design Wind Pressure (psf)	Number of Screws Per Purlin to Truss/Rafter
42" on center	25.0	Two (2) No. 8 x 2.5" for Minimum 1" x 4" purlins or Two (2) No. 8 x 3" for 2" x 4" purlins
36" on center	41.1	
30" on center	57.2	
24" on center	73.3	
18" on center	89.4	
12" on center	105.5	

- **Roof Framing Members:** Space the roof-framing members a maximum of 24" on center.
- **Alternative Underlayment:** Use minimum of one layer of self-adhering underlayment that complies with ASTM D 1970. Install the underlayment per the manufacturer's installation instructions.
- **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.
- **Panel Side Laps:** Minimum 1/4-14 x 7/8" Lap Tek screws with a sealing washer. The fasteners must be spaced a maximum of 24" on center along the length of the side lap.

- **Panel Ends and End Laps:** Minimum No. 10-16 x 1-1/2" Kwikseal MB Woodbinder screws manufactured by Sealtite. Refer to Figure 1 and Figure 2. For solid wood decks, the fasteners must be long enough to ensure a minimum penetration of 1/4" below the wood deck. (Note if the metal roofing panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to have a minimum penetration of 1/4" below the existing roof deck.
- **Panel Edges:** Minimum No. 10-16 x 1-1/2" Kwikseal II Woodbinder screws, manufactured by Sealtite. Along the edge of the panel, the fasteners must be spaced the same spacing as for the line of fasteners in Tables 1-3. For solid wood decks, the fasteners must be long enough ensure a minimum penetration of 1/4" below the wood deck. (Note: if the metal roofing panels are installed over an existing roof covering, then the fasteners length must be increased so that the fasteners are long enough to have a minimum penetration of 1/4" below the existing 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.

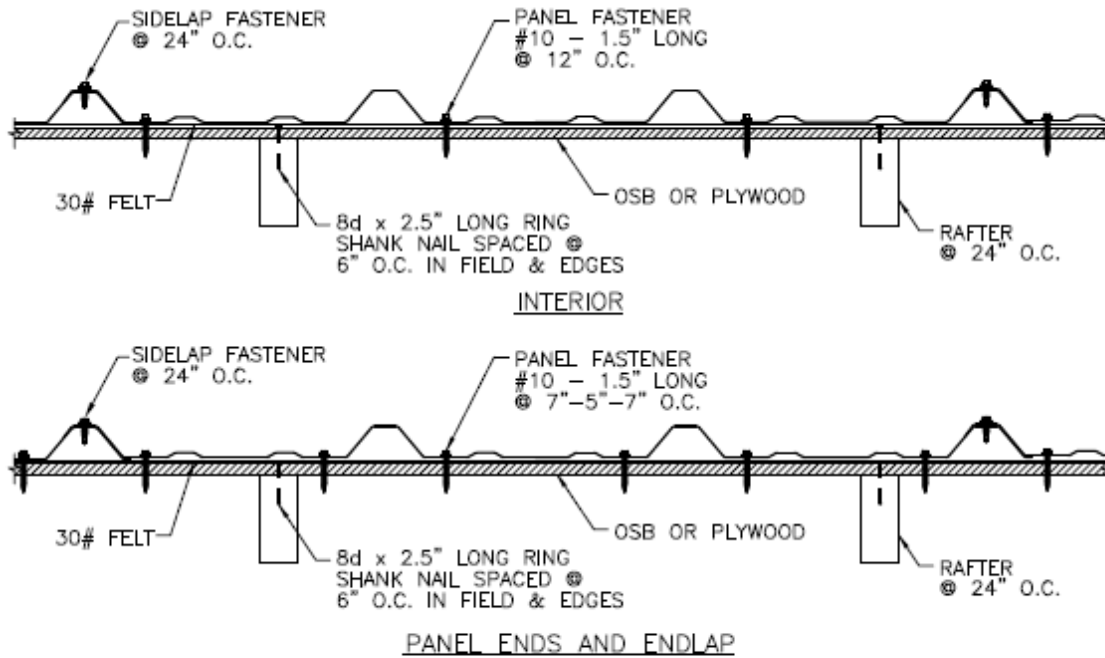


FIGURE 1

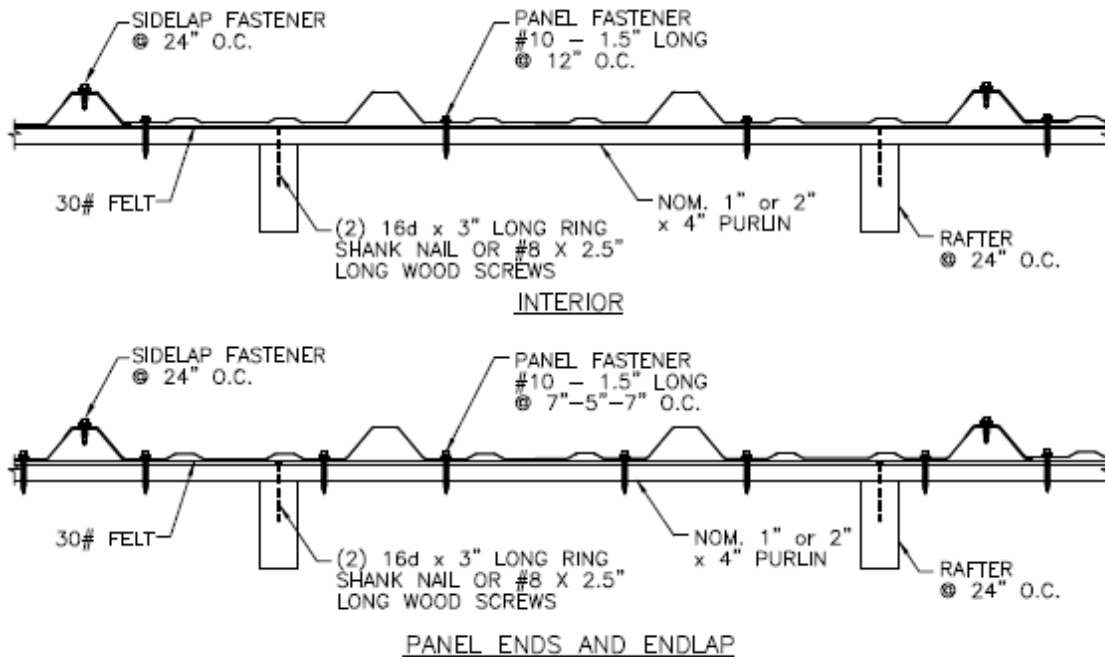


FIGURE 2