

Product Evaluation

RC576 | 0922

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: September 1, 2022

Re-evaluation Date: September 2026

Product Name: R-Loc Steel Roofing 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 roofing panels are steel roofing panels. The steel roofing panels have a maximum 36" of coverage. The steel roofing panel have 1-1/4" tall ribs spaced 12" on center. The steel roofing panels 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 steel roofing panels must be installed over one of the following types of solid 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: For solid roof decks, 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, the IRC, and the IBC.

New Roof Deck Attachment: The roof deck 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: For solid roof decks, 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 or 7/16" OSB. Note: Inspection of the existing roof deck must be made prior to the installation of the roofing panels. The condition of the existing roof deck must be acceptable to receive the steel roofing panels before the steel roofing panel installation proceeds. Note: Underlayment is not required to be installed.

Roof Slope: The steel roofing panels may be installed on roofs with a roof slope as low as 1/2:12 if the steel roofing panels have an applied lap sealant. The steel 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 steel roofing panels must be installed in accordance with the manufacturer's recommended installation instructions and this product evaluation report.

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

- **Steel 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 steel 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.
- **Steel 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 Steel Panels to Minimum 7/16" OSB Roof Deck

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 Steel Panels to Minimum 15/32" Plywood Roof Deck

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 Steel Panels to Minimum 1" x 4" No. 2 SYP Purlins

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 steel 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 to ensure a minimum penetration of 1/4" below the wood deck. (Note: if the steel 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 and the IBC.

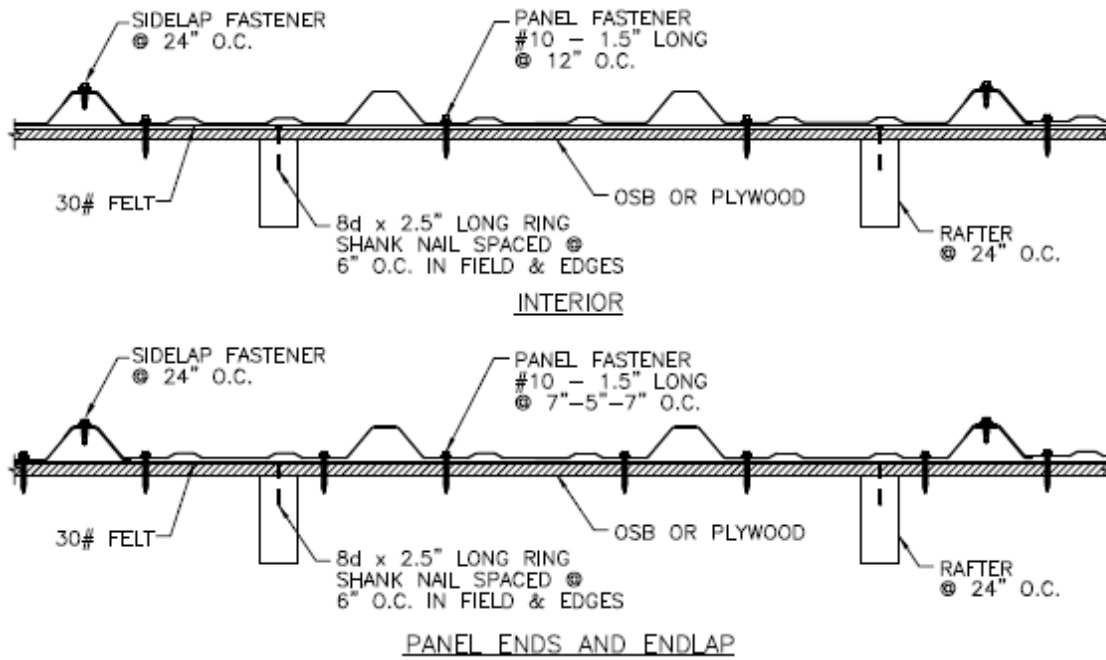


FIGURE 1

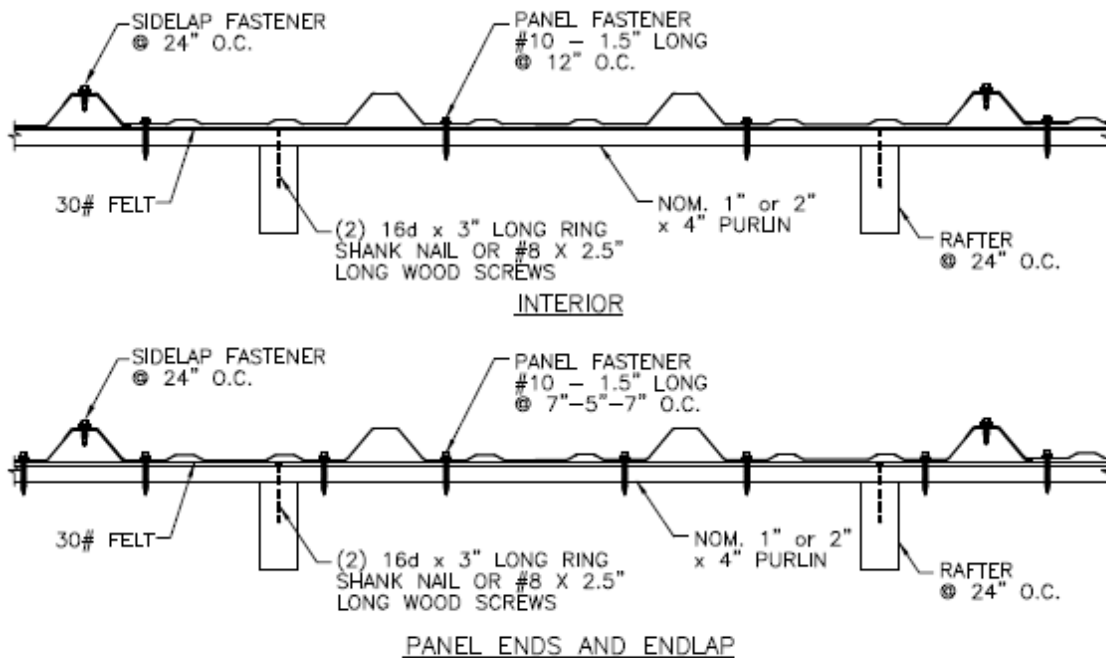


FIGURE 2