

Product Evaluation

RC423 | 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-423

Effective Date: September 1, 2022

Re-evaluation Date: September 2026

Product Name: Horizon-Loc Steel Roofing Panels Installed Over a Plywood or OSB Roof Deck

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

General Description:

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The Horizon-Loc steel roofing panel is a minimum 26-gauge, 50 ksi steel panel that has an effective width of 16". The panel has a yield strength of 66,000 psi.

Limitations:

Roof Deck: Install the steel roofing panels over a minimum of 7/16" thick OSB or 15/32" thick plywood wood structural panel decking as specified in Table 1.

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

Design Wind Pressure: Refer to Table 1 for the design wind pressure limitations.

Installation over an Existing Roof Covering: Installation over an existing roof covering is not permitted.

Roof Slope: The steel roofing panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the panel laps. If sealant is not used on the panel laps, then the minimum roof slope is 3:12.

Table 1: Design Wind Pressures

| System | Roof Deck | Design Pressure (psf) | Panel Fasteners |
|--------|----------------------|-----------------------|--|
| 1 | 7/16" thick OSB | -56.0 | One, No. 10 x 1" Wafer Head Sharp Point Type A in the male rib slots spaced at 4.75" on center. |
| 2 | 7/16" thick OSB | -78.5 | One, No. 10 x 1" Wafer Head Sharp Point Type A in the male rib slots spaced at 4.75" on center. Apply 3/8" diameter bead of Weathermaster metal roof sealant or equivalent to the panel male rib. |
| 3 | 15/32" thick plywood | -138.5 | One, No. 10 x 1" Wafer Head Sharp Point Type A in the male rib slots spaced at 4.75" on center. Two, No. 10 x 1" Woodbinder Kwikseal II or equivalent in the pan located 1.25" from each side of the ribs spaced 12" on center along the length of the panel. Apply 3/16" diameter bead of Novaflex silicone metal roof sealant or equivalent to the panel male rib. |

Installation:

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

Roof Framing Members: Space the roof-framing members a maximum of 24" on center.

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, the IRC, and the IBC.

Alternative Underlayment: Use a minimum of one layer of self-adhering underlayment that complies with ASTM D 1970. Install the underlayment in accordance with the manufacturer's installation instructions.

Anchorage to Roof Deck:

System 1: Fasten the steel roofing panels to the roof deck with a No. 10 x 1" Wafer Head Sharp Point Type A fastener located in the male rib slots spaced at 6.5" on center as shown on System 1 drawing.

System 2: Fasten the steel roofing panels to the roof deck with a No. 10 x 1" Wafer Head Sharp Point Type A fastener located in the male rib slots spaced at 4.75" on center. Apply a 3/8" diameter bead of Weathermaster metal roof sealant or equivalent to the panel male rib as shown on System 2 drawing.

System 3: Fasten the steel roofing panels to the roof deck with a No. 10 x 1" Wafer Head Sharp Point Type A fastener in the male rib slots spaced at 4.75" on center. Additionally, place a No. 10 x 1" Woodbinder Kwikseal II fastener or equivalent in the pan located 1.25 from each side of the ribs spaced 12" on center along the length of the panel. Apply a 3/16" diameter bead of Novaflex silicone metal roof sealant or equivalent to the panel male rib as shown on System 3 drawing.

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 Ends and End Laps: As required by the manufacturer.

Panel Edges: 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.

