

## Product Evaluation

RC325 | 0220

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-325

**Effective Date:** February 1, 2020

**Re-evaluation Date:** February 2024

**Product Name:** Panel-Loc Plus Minimum 29-Gauge Steel Roofing Panels Installed Over Wood Purlins

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

**General description:**

The Panel-Loc Plus metal roofing panel is a minimum 29-gauge steel panel that has a coverage width of 36". The metal roofing panels have a 3/4" rib height. The metal roofing panel has a yield strength of 80,000 psi.

**Limitations:**

**Wood Purlins:** Install the metal roofing panels over nominal 2x4 Southern Yellow Pine No. 2 lumber purlins as specified in Table 1.

**Roof Deck:** A solid deck is optional. If a solid deck is used, then the roof deck must be minimum 5/8" plywood.

**Roof Framing:** Roof framing must be minimum Southern Yellow Pine. If a plywood deck is used, then the roof framing must be spaced a maximum of 24" on center. Wood purlins are secured

through the deck and into the roof framing. If no solid deck is used, then the roof framing must be spaced a maximum of 48" on center and the wood purlins are secured to the roof framing.

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

**Design Wind Pressures:** Table 1 specifies installation to minimum nominal 2x4 Southern Yellow Pine No. 2 lumber wood purlins and design wind pressure limitations.

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

**Roof Slope:** The metal roof 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.** Attachment of Minimum 29-Gauge Panel-Loc Plus Metal Roofing Panels to Wood Purlins

Design Wind Pressure	Purlins	Wood Purlins to Roof Framing	Panels to Purlins
-52.5 psf	Nominal 2x4 SYP No. 2	Two (2) No. 8 x 3" Bugle Head screws per framing member	1/4-14 x 1-1/2 Type AB; 14 x 1-1/2 Type AB; or No. 10 x 1-1/2 Woodgrip screws

**Installation:**

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

**Wood Purlins:** Minimum nominal 2x4 SYP No. 2. The maximum purlin spacing is 24" on center.

**Underlayment (If a solid Deck is used):** Use a minimum of one layer of No. 30 (Type II) asphalt felt. Use underlayment that complies with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. Install the underlayment with 4" side laps and 6" end laps. Apply the underlayment with corrosion resistant fasteners in accordance with the manufacturer's installation instructions and the IRC or the IBC.

**Anchorage of Metal Panels to the Wood Purlins:** Secure the metal roofing panels to the wood purlins in accordance with Table 1. The line of screws are to be located along each wood purlin a maximum of 24" on center along the length of the panel. The fastener spacing across the width of the panel must be 9" on center beginning 1-3/4" from the centerline on one side of each major rib.

**Panel Side Laps:** As required by the manufacturer.

**Panel Edges:** The screws are to be located a maximum of 24" on center.

**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:** Fastener spacing at panel ends to be 1-3/4", 5-1/2", 3-3/4", 5-1/2", 3-3/4", 5-1/2", 3-3/4", 5-1/2".

**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.