

Product Evaluation

RC406 | 0522

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-406

Effective Date: May 1, 2022

Re-evaluation Date: May 2026

Product Name: 29-gauge Steel Strongpanel Roofing Panels Installed Over an OSB Roof Deck

Manufacturer: Metal Sales Manufacturing Corporation
3838 North General Bruce Dr.
Temple, TX 76501
(254) 791-6550

General Description:

The Strongpanel metal roof panels have a 36" coverage. The metal roof panels have ribs 5/8" high and spaced 9" on center. The metal roof panels are manufactured from minimum 29-gauge (0.0134" thick) steel with a minimum yield strength of 80 ksi and a Galvalume or galvanized coating. The metal roof panels conform to ASTM A 792 or ASTM A 653 and may be pre-painted.

Limitations:

Roof Framing: The metal roofing panels must be installed over a solid minimum 7/16" thick OSB deck. Roof framing (rafters or trusses) must not exceed 24" on center.

New Roof Framing Attachment: The roof framing must meet or exceed the uplift requirements of the IRC or IBC and must be installed as required for resistance to wind loads.

Design Wind Pressure: The design pressure uplift load resistance must be as specified in Table 1.

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as 1/2:12 if sealant is used on the side laps. If sealant is not used on the panel side laps, the minimum roof slope is 3:12. Application of the sealant must be in accordance with the manufacturer's instructions and the Strongpanel Metal Roof Panel Details.

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 7/16" OSB. Inspection 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.

Table 1

Attachment of Minimum 29-gauge Strongpanel Roofing Panels to Minimum 7/16" OSB Roof Deck

Design Wind Pressure (psf)	Attachment of Roof Panel to OSB Deck
-112.5	No. 10-14 x 1-1/2" HWH screws with 1/2" bonding washer @ 9" on center in the center of each pan.

Installation:

General: The metal roofing panels must be installed in accordance with the manufacturer's recommended installation instructions, this evaluation report, and the Metal Sales Strongpanel Metal Roof Panel Details.

Underlayment: For installations over a solid deck. If used, then a minimum of one layer of No. 30 (Type II) asphalt felt must be used. The underlayment used must comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The underlayment must be installed with 6" side laps and 3" end laps. The underlayment must be applied with corrosion-resistant roofing nails spaced a maximum of 36" on center along the side laps.

Attachment of Metal Roofing Panels to Wood Deck: The panels must be fastened in the center of the panel flat in accordance with Table 1 with No. 10-14 x 1-1/2" HWH screws to a minimum 7/16" OSB wood deck. The panel must be fastened along the rake at 6" on center with No. 10-14 x 1-1/2" HWH screws. The panel must be fastened along the ends at 9" on center with No. 10-14 x 1-1/2" HWH screws. The fasteners must be corrosion resistant, with a painted or plated finish, and must be properly driven so that the sealing material is slightly visible at the edge of the washer.

Panel Ends and End Laps: Minimum No. 10-14 x 1-1/2" long HWH screws with a sealing washer, manufactured by Atlas. The fasteners are spaced as specified in Table 1.

Panel Side Laps: Minimum 1/4"-14 x 7/8" long HWH screws with a sealing washer. The fasteners must be spaced at 12" on center along the length of the side lap.

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 and as shown in the Metal Sales Strongpanel Metal Roof Panel Details.

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.