

## Product Evaluation

RC159 | 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-159

**Effective Date:** February 1, 2020

**Re-evaluation Date:** February 2024

**Product Name:** 2.5" Corrugated Steel Roof Panel Installed over a Plywood Deck

**Manufacturer:** Metal Sales Manufacturing Corporation  
3838 North General Bruce Dr.  
Temple, TX 76501  
(254) 791-6650

**General Description:**

2.5" Corrugated Roof Panels are minimum 26-gauge (0.019" thick) aluminum-zinc alloy-coated steel with a Galvalume or painted finish. The panel width is 24" and covers 21-2/3". Corrugations are 1/2" high and are spaced 2-2/3" on center.

**Limitations:**

**Design Wind Pressures:** For installation to nominal 5/8" plywood roof decks. Design wind pressure limitations are specified in Table 1.

**Roof Slope:** 2.5" Corrugated Roof Panels must not be installed on roofs with a roof slope less than 3:12, unless sealant is applied at the panel side laps in accordance with the 2.5" Corrugated Metal Roof Panel Details

**Table 1.** 2.5" Corrugated Steel Roof Panel Installed over a Plywood Deck

| Design Wind Pressure | Fasteners                         | Fastener Spacing |
|----------------------|-----------------------------------|------------------|
| -86 psf              | No. 9 x 1-1/2" Type A wood screws | 3'-0" o.c.       |
| -88 psf              | No. 9 x 1-1/2" Type A wood screws | 2'-6" o.c.       |
| -89 psf              | No. 9 x 1-1/2" Type A wood screws | 2'-0" o.c.       |
| -91 psf              | No. 9 x 1-1/2" Type A wood screws | 1'-6" o.c.       |
| -93 psf              | No. 9 x 1-1/2" Type A wood screws | 1'-0" o.c.       |

**Installation:****General:**

The installation of the panels must be limited to extending one- to two-inches beyond the plane of the fascia board.

All IRC and IBC requirements must be satisfied and the 2.5" Corrugated Metal Roof Panel Details followed unless otherwise specified by this product evaluation.

**Roof Deck:** The roof deck must be minimum 5/8" plywood.

**Underlayment:**

A minimum of one layer of No. 30 (Type II) asphalt felt underlayment must be used. The underlayment must comply with one or more of the following: ASTM D 226 or ASTM D 4869 if used over the field or perimeter of the roof, or ASTM D 1970 if used as a self-adhered ice and water shield. The felt must be installed with minimum 2" side laps and minimum 4" end laps. The nailable felt must be fastened to the roof deck with corrosion resistant fasteners in accordance with the 2.5" Corrugated Metal Roof Panel Details. Fasteners must be applied along the overlaps not farther apart than 36" on center.

**Anchorage:**

The panels must be fastened in accordance with Table 1 with No. 9-15 x 1-1/2", wood grip HWH sharp point 1/4" hex washer head screws to nominal (minimum) 5/8" plywood roof decking. The panels must be fastened along the rake at 6" on center with the No. 9-15 x 1-1/2" wood grip screws. The panel side overlaps must be fastened with 1/4"-14 x 7/8" Impax Lap 5/16" AF hex washer head stitch screws spaced at 18" on center. Panel wood grip screws and stitch screws 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.

**Ridge Cap and Rake Trim:**

The ridge cap and the rake trim must be attached to the panels with the 1/4"-14 x 7/8" stitch screws at 8" on center as indicated in the 2.5" Corrugated Metal Roof Panel Details. Elastic butyl tape sealant is required at the panel end laps and trim, and in addition, an inside closure is required where the panel end is fastened to a flat surface.

**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.