

Product Evaluation

RC728 | 0823

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-728

Effective Date: September 1, 2023

Re-evaluation Date: August 2027

Product Name: STMR 150 Steel and Aluminum Panels Installed Over Plywood Deck

Manufacturer: South Texas Metal Roofing, Inc.
2217 Flour Bluff Dr.
Corpus Christi, TX 78418
(361) 937-4600

General Description:

The STMR 150 standing seam roofing panels are either minimum 24-gauge galvalume steel panels or minimum 0.032" aluminum panels with an optional paint finish. The metal roofing panels have a maximum coverage of 16" for the aluminum panels and 17" for the steel panels. The roof panels have a 1.5" tall mechanical double lock standing seam rib. The steel roofing panels are manufactured from minimum 24-gauge steel that conform to ASTM A792, AZ55, Grade 50, with a yield strength of 50,000 psi. The aluminum material conforms to ASTM B 209 with 25 ksi yield strength. The panels must be formed within the panel rollformer specifications and tolerances. The rollformer is a Panel Rollformer New Tech Machinery Corp., SS150 Profile.

This evaluation report is for residential steel or aluminum roofing panels that are secured to nominal 15/32" plywood roof decks. Thicker plywood may be used; however, the design pressure rating for the metal panels must be as specified in this evaluation report.

Limitations:

Roof Deck: Install the metal roof panels with clips over a minimum 15/32" thick plywood wood structural panel decking.

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

Roof Slope: The metal roofing panels may be installed on roofs with a roof slope as low as 1/4:12.

Design Wind Pressures: The design pressure uplift load resistance must be as specified in Table 1 and 2.

Table 1. Minimum 24-Gauge STMR 150 Steel Panels to Minimum 15/32" Plywood Deck

Panel Clip Spacing	Design Wind Pressure (psf)
30" on center	-71.0
27" on center	-80.4
24" on center	-89.8
21" on center	-99.1
18" on center	-108.5
15" on center	-117.9
12" on center	-127.3
9" on center	-136.6
6" on center	-146.0

Table 2. Minimum 0.032" Aluminum STMR 150 Panels to Minimum 15/32" Plywood Deck

Panel Clip Spacing	Design Wind Pressure (psf)
24" on center	-56.0
21" on center	-71.0
18" on center	-86.0
15" on center	-101.0
12" on center	-116.0
9" on center	-131.0
6" on center	-146.0

Installation over 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 15/32" plywood. Note: Inspection of existing roof deck must be made prior to the installation of the roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before roof panel installation can begin.

Installation Instructions:

General: The metal roofing panels must be installed in accordance with the manufacturer's installation instructions and this product evaluation report.

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

Underlayment: Use a minimum of one layer of No. 30 (Type II) asphalt felt. The underlayment 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 and the IRC and the IBC.

Attachment of Metal Roof Panels to the Roof Deck: Secure the roofing panels to the wood roof deck with clips. The clips are secured to the roof deck with two No. 10-12 x 1" long Pancake Type 17 screws. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: if the roof panels are installed over an existing roof covering, then the fastener length must be increased so that the fasteners are long enough to ensure a minimum penetration of 1/4" below the existing roof deck). Tables 1 or 2 specifies the spacing of the clips.

Panel Clip: A one-piece fixed clip. 26-gauge (0.021" thick) stainless steel; 2" long, 1.625" tall for aluminum panels. 24-gauge (0.0255" thick) galvanized steel; 2" long, 1.625" tall for steel panels.

Panel Seam: The panel is seamed to a 180-degree seam (double lock) with a mechanical seamer.

Panel ends and Edges: As required by the manufacturer.

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.

Alternative Fasteners: Alternative fasteners of the same diameter that have equal or greater strength may be substituted.

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.