

Product Evaluation

RC230 | 0322

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-230

Effective Date: March 1, 2022

Re-evaluation Date: March 2026

Product Name: S-Tile Steel Roofing Panels installed over a Plywood Deck

Manufacturer: Berridge Manufacturing Co.
6515 Fratt Rd.
San Antonio, TX 78218
(210) 650-3050

General Description:

The S-Tiles are a pre-finished steel panel roofing system that provides a simulated tile appearance to the roof. The S-Tile steel roofing system is comprised of minimum 24-gauge galvanized or galvalume steel complying with ASTM A972, AZ-55. The S-Tiles are 38-3/8" wide with a 32-11/16" wide coverage. The S-Tiles have a 1-1/2" rib height with 14" wide steps that simulate the tile appearance. The S-Tiles are comprised of minimum 24-gauge prepainted G-90 galvanized, prepainted 24-gauge galvalume ASTM A792, AZ55, or 24-gauge Satin Finish galvalume ASTM A792, AZ55.

Limitations:

Roof Framing: The S-Tiles steel roofing panels must be installed over a minimum 15/32" plywood roof deck.

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 is -84.3 psf.

Roof Slope: The steel roofing panels must be installed on roofs with a roof slope as low as 3:12.

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 15/32" plywood.

NOTE: Inspection of the existing roof deck must be made prior to the installation of roof panels. The condition of the existing roof deck must be acceptable to receive the metal roofing panels before the metal roofing panel installation process. **NOTE:** Underlayment is required to the installed.

Installation:

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

Underlayment: Minimum 30-pound resin-bound chopped-glass fiber substrate (Elk Versashield™) by Elk Corporation, with 2" side laps and 4" end laps, fastened to the roof deck with galvanized roofing nails and tin caps. The Elk Versashield™ underlayment must be fastened to the roof deck with fasteners spaced 12" on center in the field (one row) and 6" on center at the side laps.

Alternative Underlayment: 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 felt must be installed in accordance with the manufacturer's installation instructions, the IRC, and the IBC.

Attachment of Metal Roof Panels to the Plywood Deck: The steel roofing panels must be secured to the roof framing with minimum No. 9-15 x 1-1/2" long, Trugrip screws. The fasteners are in rows, beginning 4-1/2" from the top pf the panel and one fastener located at each step thereafter, across the length of the panel. The row of fasteners must be in the first valley of the panel and spaced approximately 13" on center across the width of the panel. The fasteners must be long enough to ensure a minimum penetration of 1/4" below the roof deck. (Note: If the steel roofing 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 plywood roof decking).

Adjacent Panels: Adjacent panels are overlapped 4" and secured together using a row of No. 12 x 3/4" screws with washers. The fasteners must be located at each step.

Trims, Closures, and Accessories: Components, such as eave trim, rake trim, ridge trim, hip trim, and valley trim, must be installed 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.