Product Evaluation

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-99

Effective Date: February 1, 2017
Re-evaluation Date: February 2021

Product Name: Metro-Shake, Metro-Shake II, Metro-Settler, Metro-Roman Tile, Metro-Tile, Metro-Tile II, Metro-Shingle, Pacific Shake, Pacific-Tile, and Pacific Roman Villa Tile

Manufacturer: Metro Roof Products
3093 'A' Industry Street
Oceanside, CA 92054
(866) 638-7648

The following products are marketed under the 'Metro' brand name:

- Metro-Shake
- Metro-Shake II
- Metro-Settler
- Metro-Roman Tile
- Metro-Tile
- Metro-Tile II
- Metro-Shingle
- Pacific Shake

The following products are marketed under the 'SteelROCK' brand name:

- Pacific-Shake
- Pacific Tile
- Pacific Roman Villa Tile

These products are distributed by:

SteelROCK Roof Products
2438 East Chapman Avenue
Suite 24
Fullerton, CA 92831
(800) 987-3199

General Description:
Metro manufactured metal roofing shingles, shakes, and tiles are pressure formed from structural-quality sheet metal complying with ASTM A 792-94, Grade 33, with an AZ-50 aluminum-zinc alloy coating. The base metal thickness is 0.015". The metal roofing products are coated with a baked-on primer on both sides. On the exposed surface, crushed stone chips are embedded in an acrylic resin adhesive on the products. The stone surface is finished with a clear acrylic overglaze. The metal roof products may be installed directly to the roof deck or on a batten system. The metal roof product profiles, dimensions, and fastening methods are specified in Table 1.

Table 1

Profile	Overall Length	Installed Cover and Pitch	Fastening Method
Metro-Shake	52"	49-1/2" x 14-1/2"	Exposed
Metro-Shake II	52"	49-1/2" x 14-1/2"	Exposed
Metro-Settler	52"	49-1/2" x 14-1/2"	Exposed
Pacific Shake	49-3/4"	47-1/4" x 14-1/2"	Exposed
Metro Tile	52"	49-1/2" x 14-1/2"	Exposed
Metro-Tile II	52"	49-1/2" x 14-1/2"	Exposed
Metro-Roman Tile	50-1/2"	48" x 14-1/2"	Exposed
Pacific Tile	52"	50" x 14-1/2"	Exposed
Pacific Roman Villa Tile	48"	45-1/2" x 14-1/2"	Exposed
Metro-Shingle	52"	49-1/2" x 9-3/4"	Concealed

Limitations:
Roof Decking Thickness: The metal roof products must be installed over either minimum 15/32" plywood or minimum 19/32" plywood decking. Refer to the assemblies in the Installation section of this evaluation report for specific deck thickness requirements.

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

Installation Over an Existing Roof Covering: Installation over an existing roof covering is limited to a maximum of one existing layer of composition shingles, built-up roofing, or roll roofing applied over an existing, solid roof deck. The minimum thickness of the roof deck must be as required for a new metal roof installation. Note: Inspection of the 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 roof panels before the roof panel installation proceeds. A layer of underlayment over the existing roof covering is not required.

Roof Slope: The metal roof panels shall not be installed on roofs with a roof slope less than 2-1/2:12.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt or two layers of No. 15 (Type 1) 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 with 6" side laps and 3" end laps. The underlayment must be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners must be applied along the overlaps not farther apart than 36" on center.

Design Wind Pressures: The design pressure uplift load resistance for the metal roof products must be as specified in the assemblies in the Installation section of this evaluation report

Installation:
General: The metal roof products specified in this evaluation report must be installed in accordance with the manufacturer's installation instructions and this evaluation report.

Assembly No. 1
Design Pressure Rating: -45 psf
Roof Deck: Minimum nominal 15/32" thick plywood.
Underlayment: As specified in the Limitations section.
Battens: N/A
Panels: Metro-Shingle
Anchorage: The panels are fastened to the roof deck with minimum four 8d x 1" long galvanized ring shank nails across the back fastening flange of each panel.

Assembly No. 2
Design Pressure Rating: -72.5 psf
Roof Deck: Minimum nominal 15/32" plywood.
Underlayment: As specified in the Limitations section.
Battens: N/A
Panels: Metro-Shingle
Anchorage: The panels are fastened to the roof deck with minimum six No. 10 x 1" long coarse thread screws across the back fastening flange of each panel.

Assembly No. 3
Design Pressure Rating: -47.5 psf
Roof Deck: Minimum nominal 15/32" plywood.
Underlayment: As specified in the Limitations section.
Battens: N/A
Panels: Metro-Shake, Metro-Shake II, Metro-Settler, Metro-Tile, Metro-Tile II, Metro-Roman Tile, Pacific-Shake, Pacific-Tile, Pacific-Roman Villa Tile
Anchorage: The panels are fastened to the roof deck with minimum five 8d x 1-3/4" galvanized ring shank nails across the back shelf of the panel and minimum five 8d x 1-3/4" galvanized ring shank nails through the front nose of the panel.

Assembly No. 4
Design Pressure Rating: -153.5 psf
Roof Deck: Minimum nominal 19/32" plywood.
Underlayment: As specified in the Limitations section.
Panels: Metro-Shake, Metro-Shake II, Metro-Settler, Metro-Tile, Metro-Tile II, Metro-Roman Tile, Pacific-Shake, Pacific-Tile, Pacific-Roman Villa Tile
Anchorage: The panels are fastened to the roof deck with minimum six No. 10 x 2" hex head screws across the back shelf of the panel and minimum six No. 10 x 2" hex head screws through the front nose of the panel.

Assembly No. 5
Design Pressure Rating: -50 psf
Roof Deck: Minimum nominal 15/32" plywood.
Underlayment: As specified in the Limitations section.
Battens: 1" x 4" Douglas Fir-Larch lumber spaced a maximum of 14-1/2" on center laid perpendicular to the roof framing members. The battens must be fastened through the roof sheathing into each roof framing member with two 3-1/4" x 0.131" diameter ring shank nails and one No. 10-16 x 3" screw. The roof framing members must be spaced a maximum of 24" on center.
Panels: Metro-Shake, Metro-Shake II, Metro-Settler, Metro-Tile, Metro-Tile II, Metro-Roman Tile, Pacific-Shake, Pacific-Tile, Pacific-Roman Villa Tile
Anchorage: The panels are fastened to the battens with minimum six 0.113" shank diameter x 2" long ring shank nails evenly spaced through the front nose of each panel.

Assembly No. 6
Design Pressure Rating: -145 psf
Roof Deck: Minimum nominal 19/32" plywood.
Underlayment (Optional): As specified in the Limitations section.
Battens: 1" x 4" Douglas Fir-Larch lumber spaced a maximum of 14-1/2" on center laid perpendicular to the roof framing members. The battens must be fastened through the roof sheathing into each roof framing member with two 3-1/4" x 0.131" diameter ring shank nails and one No. 10-16 x 3" screw. The roof framing members must be spaced a maximum of 24" on center.
Panels: Metro-Shake, Metro-Shake II, Metro-Settler, Metro-Tile, Metro-Tile II, Metro-Roman Tile, Pacific-Shake, Pacific-Tile, Pacific-Roman Villa Tile
Anchorage: The panels are fastened to the battens with minimum ten No. 10-16 x 2" long hex head screws through the front nose of each panel.

Note: Keep the manufacturer's installation instructions available on the job site during the installation. Use corrosion resistant fasteners as specified in the IRC, the IBC, and the Texas Revisions.