

# TEXAS DEPARTMENT OF INSURANCE

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## PRODUCT EVALUATION RC-99

Effective September 1, 2010

*The following product has been evaluated to withstand the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation **September 2014**.*

*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.*

**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** manufactured by

**Metro Roof Products**  
3093 'A' Industry Street  
Oceanside, California 92054  
Telephone: (866) 638-7648  
[www.metroroofs.com](http://www.metroroofs.com)

are acceptable for roofing applications in designated catastrophe zones along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

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** and are distributed by the following company:

**SteelROCK Roof Products**  
2438 East Chapman Avenue  
Suite 24  
Fullerton, California 92831  
Telephone: (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 inches. 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  
Metal Roof Product Profiles, Dimensions, and Fastening Method**

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
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
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 shall be installed over either minimum 15/32" APA rated plywood or minimum 19/32" APA rated 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 shall be installed to meet or exceed the uplift requirements of the International Residential Code or the International Building Code and shall 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 shall 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 shall be used. The underlayment used shall comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt shall be installed with 6-inch side laps and 3-inch end laps. The underlayment shall be applied with corrosion-resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners shall be applied along the overlaps not farther apart the 36 inches on center.

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

## INSTALLATION INSTRUCTIONS

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

### Assembly No. 1

**Design Pressure Rating:** -45 psf

**Roof Deck:** Minimum nominal  $\frac{15}{32}$  inch thick APA rated 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 (4) 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  $\frac{15}{32}$  inch thick APA rated 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 (6) No. 10 x 1 inch 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  $\frac{15}{32}$  inch thick APA rated 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 (5) 8d x  $1\frac{3}{4}$ " galvanized ring shank nails across the back shelf of the panel and minimum five (5) 8d x  $1\frac{3}{4}$ " galvanized ring shank nails through the front nose of the panel.

### Assembly No. 4

**Design Pressure Rating:** -153.5 psf

**Roof Deck:** Minimum nominal  $\frac{19}{32}$  inch thick APA rated 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 (6) No. 10 x 2" hex head screws across the back shelf of the panel and minimum six (6) 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  $\frac{15}{32}$  inch thick APA rated plywood.

**Underlayment:** As specified in the Limitations section.

**Battens:** 1" x 4" Douglas Fir-Larch lumber spaced a maximum of 14  $\frac{1}{2}$ " on center laid perpendicular to the roof framing members. The battens shall be fastened through the roof sheathing into each roof framing member with two (2)  $3\frac{1}{4}$ " x 0.131" diameter ring shank nails and one (1) No. 10-16 x 3" screw. The roof framing members shall be spaced a maximum of 24 inches 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 (6) 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  $\frac{19}{32}$  inch thick APA rated plywood.

**Underlayment (Optional):** As specified in the Limitations section.

**Battens:** 1" x 4" Douglas Fir-Larch lumber spaced a maximum of 14  $\frac{1}{2}$ " on center laid perpendicular to the roof framing members. The battens shall be fastened through the roof sheathing into each roof framing member with two (2)  $3\frac{1}{4}$ " x 0.131" diameter ring shank nails and one (1) No. 10-16 x 3" screw. The roof framing members shall be spaced a maximum of 24 inches 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 (10) No. 10-16 x 2" long hex head screws through the front nose of each panel.

**Note:** The manufacturer's installation instructions shall be on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC); the International Building Code (IBC); and the Texas Revisions.