

Product Evaluation

RC147 | 1022

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-147

Effective Date: October 1, 2022

Re-evaluation Date: October 2026

Product Name: Concrete Ridge Tiles

Manufacturer: Hecker Ridge Tiles, LLC
47177 Conrad Anderson
Hammond, LA 70401
(800) 248-4537

General Description:

The concrete ridge tiles are manufactured from cement, sand, and proprietary additives. The concrete ridge tiles are used as a decorative feature along the hips and ridges of roofs that are covered with asphalt shingles. The concrete ridge tiles are available in several colors.

The following concrete ridge tiles are covered in this evaluation report:

115⁰ V-Tile

90⁰ Lap Tile

The dimensions of the concrete ridge tiles are specified in Table 1.

Table 1: Concrete Ridge Tile Dimensions

Tile	Length	Width	Height	Thickness
115 ⁰ V-Tile	17-7/8"	8-7/8"	3-3/4"	5/8"
90 ⁰ Lap Tile	18"	8-5/8" at tail 6-1/4" at nose	4-1/2" at tail 3-1/4" at nose	3/4"

The 115⁰ V-Tile has an average weight of 8-1/4 lbs. The 90⁰ Lap Tile has an average weight of 8-1/2 lbs.

Moment of Resistance: The overturning resistance (moment of resistance) due to wind of the roof tiles based on the installation method for the roof tiles is shown in Table 2.

Table 2: Moment of Resistance Based on Roof Tile Installation Method

Tile Designation	Moment of Resistance
115 ⁰ V-Tile	128 ft-lbs.
90 ⁰ Lap Tile	152 ft-lbs

Aerodynamic Uplift Moment: The aerodynamic uplift moment for the roof tile is calculated using Equation 16-34 from the 2018 IBC. The aerodynamic uplift moment is calculated based on the mean roof height for the installation and the required wind speed and Exposure condition for the installation location using ASCE 7-16.

Permissible Tile Installation: The roof tiles may be installed if the Moment of Resistance for the roof tile specified Table 2 in this evaluation report is greater than the Aerodynamic Uplift Moment for the roof tile calculated for the structure location.

Installation Instructions and Limitations:

Roof Framing and Roof Deck: Roof framing members must be in accordance with either the IRC or the IBC. Ridge boards and hip rafters must be minimum 2x Southern Yellow Pine dimension lumber. The roof framing members must not be spaced greater than 24" on center. The roof deck must be solidly sheathed with minimum 15/32" plywood. The roof deck must be fastened to the roof framing members in accordance with either the IRC or the IBC.

If the existing roof deck is a board roof deck, then the boards must be nominal 1" in thickness and either Southern Yellow Pine or Douglas Fir-Larch lumber.

Roof Slope Limitations: The 115⁰ V-Tile and the 90⁰ Lap Tile must be installed on buildings with a roof slope between 3:12 and 12:12.

Roofing Tile Installation:

General: The concrete ridge tiles must be clean and dry at the time of their application.

The concrete ridge tiles must be installed in accordance with this product evaluation report and the manufacturer's installation instructions.

90⁰ Lap Tile Installation: The tiles are laid out along the ridge or hip line with an overlap of 3". The tiles must be mechanically fastened to the 2x dimensional lumber ridge board or hip rafter (minimum Southern Yellow Pine). One 30d nail (0.331" head diameter, 0.148" smooth shank diameter, and 4.50" length) is used to secure the lap tile to the roof framing using the nail hole in the tile located 1-1/4" from the nose of the tile. Structural adhesive (NP1) is installed between the nose of the secured tile and the tail of the next tile to be installed. The fasteners must be long enough to penetrate through the tile, the roof covering and a minimum of 1-1/2" into the roof framing (ridge board or hip rafter).

115⁰ V-Tile Installation: The tiles are laid out along the ridge or hip line end-to end. Two (2) copper nails (minimum head diameter of 0.372"; minimum smooth shank diameter of 0.122"; and minimum length of 3") are installed on each side of the ridge located 3-1/2" from the top of the tile (two (2) nails per tile). The fasteners must penetrate a minimum of 1-1/2" into the 2x dimensional lumber ridge board or hip rafter (minimum Southern Yellow Pine). The fasteners must be installed in such a manner that they extend approximately 3/4" above the existing asphalt shingle roof covering. Mortar (composed of equal parts of Type I Portland cement and sand) is installed between the tiles and around and over the nail heads. The mortar joint is approximately 1" in width.

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.