

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-407

Effective June 1, 2014

*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 shall be subject to reevaluation **August 2017**.*

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 shall not exceed the allowable wind loads shown in 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.

Half Barrel Clay Roofing Tiles manufactured by

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will be accepted for use in designated catastrophe areas along the Texas Gulf Coast when installed in accordance with this product evaluation report, the building specifications adopted by the Texas Department of Insurance, and the manufacturer's installation instructions.

PRODUCT DESCRIPTION

Half Barrel Roof Tiles are machine formed tiles made from natural clay which are available in a wide variety of colors. The tile is half barrel shaped. On the backside of the tile are four raised pads. The tile has one nail hole located at the center point of the tile, 1-1/8" on center from the top edge.

Roof Tile Dimensions: The dimensions of the Half Barrel Roof Tiles are specified in Table 1.

Table 1
Roofing Tile Dimensions

Tile Designation	Width (in.)	Length	Thickness
Half Barrel Tile	7-3/4" to 6-5/8"	15-3/4"	1/2"

LIMITATIONS

Roof Framing: Roof framing members shall be in accordance with either the International Residential Code or the International Building Code. The roof framing members shall not be spaced greater than 24 inches on center.

Roof Deck: The roof deck shall be solidly sheathed with minimum 7/16" wood structural panels (plywood or OSB). The roof deck shall be fastened to the roof framing members to resist the required design pressures.

If the existing roof deck is a spaced board deck, then a solid deck shall be created using one of the following two options: (1) the spaced boards shall be removed and replaced with a wood structural panel deck (plywood or OSB) with minimum 7/16" thickness, or (2) the spaced boards shall be covered with a wood structural panel deck (plywood or OSB) with a minimum 7/16" thickness. The wood structural panel deck shall be installed over the spaced boards to resist the required design pressures.

Metal drip edge: A metal drip edge shall be fastened to the roof deck with either 11 gauge or 12 gauge roofing nails spaced a maximum of 10 inches on center. Note: The underlayment and the drip edge may be fastened with the same fastener as long as the more stringent fastener pattern is used.

At the eaves, the drip edge shall be fastened directly to the deck and the underlayment applied over the drip edge. At the gable ends, the drip edge shall be applied over the underlayment.

Roof underlayment:

3:12 roof slope to under 4:12 roof slope: Two layers of underlayment complying with ASTM D 226, Type II (No. 30 asphalt felt) or equivalent. The underlayment shall be installed as specified in either the International Residential Code or the International Building Code and in the manufacturer's installation instructions.

4:12 roof slope and greater: One layer of underlayment complying with ASTM D 226, Type II (No. 30 asphalt felt) or equivalent. The underlayment shall be lapped a minimum of 2" at the head laps and a minimum of 6" at the side laps. The underlayment shall be installed as specified in either the International Residential Code or the International Building Code and in the manufacturer's installation instructions.

Stringers: The roofing tiles shall be installed over wood stringers if required by code or local building officials. As a minimum, the stringers shall be of 2" thickness and of suitable height to properly support the cover tiles. The stringers shall be installed over the underlayment. The stringers shall be fastened to the roof deck with stainless steel screws minimum No. 8 x 2" 1/2. The fasteners shall be long enough to penetrate a minimum of 3/4" into or through the deck thickness.

Roof Slope: The roofing tiles shall only be installed on buildings with a roof slope greater than or equal to 3:12, but not exceeding 12:12.

Mean Roof Height Limitations: The mean roof height limitations shall be as specified in Table 2. The roofing tiles shall not be installed on structures with a mean roof height greater than 60 feet.

Table 2
Mean Roof Height Limitations²

Gable Roof - Roof Slope: $\theta \leq 7^\circ$

Mean Roof Height Limitation					
Inland		Inland I		Seaward	
Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹
60 t	60 ft	60 ft	60 ft	60 ft	60 ft

Gable and Hip Roofs - Roof Slope: $7^\circ < \theta \leq 27^\circ$

Mean Roof Height Limitation					
Inland		Inland I		Seaward	
Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹
60 ft	60 ft	60 ft	60 ft	60 ft	60 ft

Gable Roof - Roof Slope: $27^\circ < \theta \leq 45^\circ$

Mean Roof Height Limitation					
Inland		Inland I		Seaward	
Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹
60 ft	60 ft	60 ft	60 ft	60 ft	60 ft

Hip Roof - Roof Slope: $\theta \leq 25^\circ$

Mean Roof Height Limitation					
Inland		Inland I		Seaward	
Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹
60 ft	60 ft	60 ft	60 ft	60 ft	60 ft

Note:

- 1 The Exposure category for the structure location shall be as defined in either the International Residential Code or the International Building Code.
- 2 Table is based on an Importance factor of 1.0

INSTALLATION INSTRUCTIONS

General: The roofing tiles and the underlayment system shall be clean and dry at the time of their application. The roofing tiles must be installed in accordance with this product evaluation report and the manufacturer's installation instructions.

The roofing tiles shall be laid out from the right to the left. The roof tiles shall be installed with a headlap of 3".

Fasteners: Use at a minimum Stainless Steel ring shank nails or screws #8 or #9 of sufficient length to penetrate at least $\frac{3}{4}$ " into the deck thickness or into the battens. Other fastening systems may be used when approved by code or local building officials. Do not over tighten the screws.

Clips: The clip is 2-1/4" tall and is 0.103" in diameter. They are manufactured of either galvanized steel or stainless steel. The clips are secured to each stringer tile with one No. 8 x 2" $\frac{1}{2}$ screws through the U-shaped portion at the top of the clip. Clips are positioned over the nail hole in the tiles. The screw used for the clip installation is the same screw used to fasten the tile to the stringer.

Hip, Ridge, and Rake Tiles: Refer to the tile manufacturer's instructions manual for the installation requirements.

Note: All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.

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