

TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104
Phone No. (512) 322-2212 Fax No. (512) 463-6693

PRODUCT EVALUATION RC-169

Effective Date: June 1, 2013

*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 **April 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.

Spanish Clay Roofing Tiles Installed with Roof Tile Adhesive manufactured by

Claymex Brick and Tile, Inc.
2224 Del Rio Highway
P.O. Box 3398
Eagle Pass, TX 78852
(830) 773-5955

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, the tile manufacturer's installation instructions, and Tile Bond™ Roof Tile Adhesive Operating Instructions and Maintenance Booklet as revised January 2008.

PRODUCT DESCRIPTION

The Spanish clay roofing tiles are interlocking tiles that are machine formed from natural clay. The clay roofing tiles are available in a wide variety of colors. Each clay roofing tile has an interlocking rib along each longitudinal edge to provide a water stop and which will restrict lateral movement.

Adhesive Attachment: The Claymex Spanish roofing tiles are to be installed adhesively with Tile Bond™ Roof Tile Adhesive. The clay roofing tiles are to be adhered to battens and to the roofing tiles themselves with the Tile Bond™ Roof Tile Adhesive.

Tile Bond™ Roof Tile Adhesive: The Tile Bond™ Roof Tile Adhesive is manufactured by Dow Chemical Company. The Tile Bond™ Roof Tile Adhesive is a single component polyurethane foam adhesive for adhering the clay roofing tiles to the wood battens and to the adjacent clay roofing tiles. The Tile Bond™ Roof Tile Adhesive is dispensed from a 23 lb portable canister using a Tile Bond™ gun dispenser. The adhesive is dispensed in the form of paddies. The Tile Bond™ Roof Tile Adhesive shall be used as specified in the Tile Bond™ Roof Tile Adhesive Operating Instructions and Maintenance Booklet as revised 2/2002 and referred to as the TILE Bond™ Booklet in this evaluation report. A copy of the Tile Bond™ Booklet shall be available at the job site.

Roofing Tile Dimensions: The dimensions of the Claymex Spanish roofing tiles that apply to this product evaluation report are specified in Table 1.

Table 1
Roofing Tile Dimensions

Tile Designation	Width (in.)	Length (in.)	thickness (in.)
Spanish	9 $\frac{1}{4}$	15 $\frac{7}{8}$	$\frac{1}{2}$

INSTALLATION INSTRUCTIONS and LIMITATIONS

Roof Framing and Roof Deck: 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.

The roof deck shall be solidly sheathed with minimum $\frac{7}{16}$ " wood structural panels (plywood or OSB). The roof deck shall be fastened to the roof framing members in accordance with either the International Residential Code or the International Building Code.

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 a minimum $\frac{7}{16}$ " thickness, or (2) the spaced boards shall be covered with a wood structural panel deck (plywood or OSB) with a minimum $\frac{7}{16}$ " thickness. The wood structural panel deck shall be installed over the spaced boards in accordance with either the International Residential Code or the International Building Code.

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 inches at the head laps and a minimum of 6 inches 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.

Battens: The roofing tiles shall be installed over battens. As a minimum, the battens shall be nominal 1x2 Southern Yellow Pine wood members. The battens shall be installed over the underlayment. The battens shall be spaced a maximum of 13 $\frac{3}{8}$ inches on center (space battens to allow for a 2 $\frac{1}{2}$ inch headlap of the roofing tiles). The battens shall be fastened to the roof deck with minimum No. 8 x 2 $\frac{1}{2}$ " screws. The fasteners shall be located at each end and spaced a maximum of 8 inches on center. The fastener shall be long enough to penetrate a minimum of $\frac{3}{4}$ " into or through the roof deck. Batten ends shall be separated a minimum of 1 $\frac{1}{2}$ inch every 4 feet to allow for drainage.

INSTALLATION INSTRUCTIONS and LIMITATIONS (Continued)

Roof Slope and Mean Roof Height Limitations: The limitations on mean roof height and roof slope for installing the roofing tiles shall be in accordance with the following guidelines:

Roof Slope Limitations: 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 40 feet.

Table 2
Mean Roof Height Limitations²

Gable and Hip Roofs - Roof Slope: $\geq 3:12$ and $\leq 12:12$

Mean Roof Height Limitation					
Inland II		Inland I		Seaward	
Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹	Exposure B ¹	Exposure C ¹
40 ft	40 ft	40 ft	40 ft	40 ft	40 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

Roof Tile Installation: The roofing tiles shall be installed using the TILE Bond™ Roof Tile Adhesive as specified in the TILE Bond™ Booklet and this evaluation report.

Certified Applicators: Installation of the TILE Bond™ Roof Tile Adhesive shall be by qualified applicators that have been trained and certified by Dow Chemical Company.

General: The roofing tiles and the underlayment system shall be clean and dry at the time of their application.

The TILE Bond™ Roof Tile Adhesive shall only be applied to the wood battens and to the roofing tiles themselves. Application of the TILE Bond™ Roof Tile Adhesive to the underlayment is not required.

The roofing tiles shall be installed with a 2 ½ inch headlap.

Eave Tiles: For the first tile, apply an adhesive paddy directly to the batten at the head of the tile. The adhesive paddy shall be minimum 1 ½" wide x 1" deep x 6" long. Install the tile. For subsequent tiles, apply an adhesive paddy directly to the batten at the head of the tile. The adhesive paddy shall be 1 ½" wide x 1" deep x 6" long. Apply an adhesive paddy to the longitudinal exposed edge of the previous adjacent tile at a location near the nose of the tile to be installed. The adhesive paddy shall be 1 ½" wide x 1" deep x 4" long. Install the tile. When the adhesive paddies are compressed, the contact area shall be a minimum of 10 square inches per paddy. Install the remaining tiles in a similar manner. At least one tile per square shall be pulled up to confirm contact area.

INSTALLATION INSTRUCTIONS and LIMITATIONS (Continued)

Nose Clips: Custom-shaped nose clip. The nose clip is 3" in length and is $\frac{1}{2}$ " in width. They are manufactured of either galvanized steel or Type 304 stainless steel. The nose clip is required for the first course (starter course) of roofing tiles only. The nose clip is hooked over the left side of the roofing tile. The nose clip shall be secured to the roof deck with one fastener. The fastener shall be a smooth shank nail (minimum 3" long; minimum shank diameter of 0.120", minimum $\frac{3}{8}$ " diameter). Refer to the manufacturer's installation instructions for nose clip installation details.

Field Tiles: A total of three (3) adhesive paddies are required. First, apply an adhesive paddy directly to the batten at the head of the tile. The adhesive paddy shall be minimum $1\frac{1}{2}$ " wide x 1" deep x 6" long. Second, apply an adhesive paddy along the flat edge of the head of the previous course tile located below the nose of the tile to be installed. The adhesive paddy shall be $1\frac{1}{2}$ " wide x 1" deep x 4" long. Third, apply an adhesive paddy to the longitudinal exposed edge of the previous adjacent tile at a location near the nose of the tile to be installed. The adhesive paddy shall be $1\frac{1}{2}$ " wide x 1" deep x 4" long. Install the tile. When the adhesive paddies are compressed, the contact area shall be a minimum of 10 square inches per paddy. Install the remaining tiles in a similar manner. At least one tile per square shall be pulled up to confirm contact area.

Hip, Ridge, and Rake Tiles: Refer to the TILE Bond™ Booklet for the installation requirements.

Note: The TILE Bond™ Booklet 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.