

**DIVISION: 07 00 00—THERMAL AND MOISTURE PROTECTION**

**Section: 07 32 16—Concrete Roof Tiles**

**REPORT HOLDER:**

**VANDE HEY RALEIGH ROOF TILE MFG LLC**

**EVALUATION SUBJECT:**

**SPANISH, RIVIERA AND FLAT CONCRETE ROOF TILES**

**1.0 EVALUATION SCOPE**

**1.1 Compliance with the following codes:**

- 2018, 2015, 2012, 2009 and 2006 *International Building Code*® (IBC)
- 2018, 2015, 2012, 2009 and 2006 *International Residential Code*® (IRC)

**Properties evaluated:**

- Roof covering
- Fire classification
- Wind resistance

**1.2 Evaluation to the following green code:**

2019 California Green Building Standards Code (CALGreen), Title 24, Part 11

**Attributes verified:**

See Section 3.1

**2.0 USES**

The concrete tiles, when installed in accordance with this report, are Class A roof coverings in accordance with the IBC and the IRC.

**3.0 DESCRIPTION**

**3.1 General:**

The Spanish concrete tile, classified as Type I (high profile), Grade 1, and the Riviera and Flat concrete tiles, classified as Type III (low profile), comply with ASTM C1492. All tiles have interlocking sides, lugs at the top to support tiles from battens, and a nail hole at the center of the upper end.

The attributes of the roof tiles have been verified as conforming to the provisions of CALGreen Section A5.406.1.2 for reduced maintenance. Note that decisions on compliance for those areas rest with the user of this

report. The user is advised of the project-specific provisions that may be contingent upon meeting specific conditions, and the verification of those conditions is outside the scope of this report. These codes or standards often provide supplemental information as guidance.

**3.2 Spanish:**

The Spanish concrete tile is a barrel shape tile measuring 17<sup>1</sup>/<sub>4</sub> inches long (438 mm) and 13 inches wide (330 mm), with a nominal thickness of <sup>7</sup>/<sub>8</sub> inch at the nose and a nominal weight of 11.2 pounds each. The tiles have an installed weight of 9.75 pounds per square foot (47.6 kg/m<sup>2</sup>) when installed with a 3-inch (76 mm) headlap. See Figure 1 for additional details.

**3.3 Riviera:**

The Riviera concrete tile is a fluted shape tile measuring 15<sup>3</sup>/<sub>8</sub> inches long (390 mm) and 10<sup>1</sup>/<sub>4</sub> inches wide (260 mm), with a nominal thickness of <sup>13</sup>/<sub>16</sub> inch at the nose and a nominal weight of 7.1 pounds each. The tiles have an installed weight of 9.0 pounds per square foot (43.9 kg/m<sup>2</sup>) when installed with a 3-inch (76 mm) headlap. See Figure 1 for additional details.

**3.4 Flat:**

The Flat concrete tile measures 15<sup>3</sup>/<sub>8</sub> inches long (390 mm) and 10<sup>1</sup>/<sub>4</sub> inches wide (260 mm), with a nominal thickness of <sup>15</sup>/<sub>16</sub> inch at the nose and a nominal weight of 8.1 pounds each. The tiles have an installed weight of 9.9 pounds per square foot (48.3 kg/m<sup>2</sup>) when installed with a 3-inch (76 mm) headlap. Flat tiles are available in four styles: slate, shake, custom brushed and Cotswold stone. The slate tile is smooth-surfaced; the shake tile surface simulates wood shakes; the custom-brushed tile has a hand-brushed finish; and the Cotswold stone tile has a surface made to look like an antique roof. See Figure 1 for additional details.

**3.5 Trim:**

The Trim tiles for the Spanish, Riviera, and Flat concrete tiles include starter, hip, ridge, rake, and end cap. See Figure 2 for additional details.

**4.0 INSTALLATION**

**4.1 General:**

Installation of the roof tiles must be in accordance with IBC Section 1507.3 or IRC Section R905.3 and the Concrete and Clay Roof Tile Installation Manual for Moderate Climate Regions, dated March 2010, published by the Tile Roofing Institute Inc. and the Western States Roofing Contractors Association (hereinafter referred to as the TRI/WSRCA installation manual), except as noted in this report. This report and the TRI/WSRCA installation manual

must be available at the jobsite at all times during installation.

Flashing must be in accordance with IBC Sections 1503.2 and 1507.3.9, or IRC Sections R903.2 and R905.3.8, as applicable.

#### 4.2 Roof Slope Limitations:

Spanish, Riviera, and Flat concrete tiles, with a minimum headlap of 3 inches (76.2 mm), must be installed on roofs having a minimum roof slope of 2½ to 12 (21-percent slope) or greater in accordance with IBC Section 1507.3.2 and IRC Section R905.3.2.

#### 4.3 Underlayment:

Underlayment must comply with, and be installed in accordance with, 2018 IBC Sections 1507.1.1 and 1507.3.3, 2015, 2012, 2009 or 2006 IBC Section 1507.3.3, 2018 and 2015 IRC Sections R905.1.1 and R905.3.3, or 2012, 2009 or 2006 IRC Section R905.3.3, as applicable.

#### 4.4 Fire Classification:

**4.4.1 2018, 2015, 2012 and 2009 IBC and IRC:** The concrete roof tiles installed in accordance with this report over one layer of ASTM D226 Type II (No. 30) underlayment are Class A roof coverings in accordance with 2018, 2015, 2012 and 2009 IBC Section 1505.2 and 2018, 2015, 2012 and 2009 IRC Section R902.1.

**4.4.2 2006 IBC and IRC:** The concrete roof tiles installed in accordance with this report are Class A roof coverings in accordance with the exception to 2006 IBC Section 1505.2 and 2006 IRC Section R902.1.

#### 4.5 Reroofing Applications:

**4.5.1 2018, 2015, 2012 and 2009 IBC and IRC:** When installation is over existing roofs, the existing roof covering and underlayment must be removed and the new roof tiles and new underlayment must be installed in accordance with the requirements of 2018 and 2015 IBC Section 1511 (2012, 2009 or 2006 IBC Section 1510) or 2018 and 2015 IRC Section R908 (2012, 2009 and 2006 IRC Section R907), as applicable. The roof classification is as noted in Section 4.4.1.

**4.5.2 2006 IBC and IRC:** The tiles are permitted to be installed over existing roofs, provided the requirements of IBC Section 1510 or IRC Section R907, as applicable, are met. The roof classification is as noted in Section 4.4.2.

#### 4.6 Tile Replacement:

Damaged tile must be completely removed. Existing fasteners must be removed and the resulting hole must be cleaned and patched with a sealant specified by the manufacturer. The replacement tile must be set into place maintaining the required head and side lap. The new tile must be secured using a roof tile adhesive recognized in a current ICC-ES evaluation report, applied to the bottom half of the replacement tile.

#### 4.7 Wind Resistance:

**4.7.1 2018 IBC and 2018 IRC:** When installed in accordance with this report, the concrete tiles are limited to areas subject to a maximum basic design wind speed (V) of 130 mph (209 km/h) on structures having a maximum mean roof height of 60 feet (18.3 m) for the IBC or a maximum ultimate design wind speed (V<sub>ult</sub>) of 130 mph (209 km/h) and a maximum mean roof height of 40 feet (12.2 m) for the IRC.

**4.7.2 2015 IBC, 2015 IRC and 2012 IBC:** When installed in accordance with this report, the concrete tiles are limited to areas subject to a maximum ultimate design wind speed (V<sub>ult</sub>) of 130 mph (209 km/h) on structures having a maximum mean roof height of 60 feet (18.3 m) for the IBC and a maximum mean roof height of 40 feet (12.2 m) for the IRC.

**4.7.3 2009 and 2006 IBC:** When installed in accordance with this report, the concrete tiles are limited to areas subject to a maximum basic wind speed of 100 mph (161 km/h)], on structures having a maximum mean roof height of 60 feet (18.3 m).

**4.7.4 2012, 2009 and 2006 IRC:** When installed in accordance with this report, the concrete tiles are limited to areas subject to a maximum basic wind speed of 100 mph (161 km/h) on structures having a maximum mean roof height 40 feet (12.2 m).

### 5.0 CONDITIONS OF USE

The Vande Hey Raleigh Spanish, Riviera and Flat concrete tiles described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in Section 1.0 of this report, subject to the following conditions:

- 5.1 The roof tiles must be manufactured, identified and installed in accordance with this report, the TRI/WSRCA installation manual, dated March 2010, and the applicable code. If there is a conflict between this report and the installation manual, this report governs.
- 5.2 The roof sheathing and roof framing system must be designed for the appropriate loads determined in accordance with the applicable code, subject to the approval of the code official.
- 5.3 The tiles are manufactured in Little Chute, Wisconsin, under a quality-control program with inspections by ICC-ES.

### 6.0 EVIDENCE SUBMITTED

Data in accordance with the ICC-ES Acceptance Criteria for Clay and Concrete Tiles (AC180), dated February 2012 (Editorially revised March 2018).

### 7.0 IDENTIFICATION

- 7.1 Each flat concrete tile is embossed with the letters "VHR". Each Spanish concrete tile is embossed with the letters "LA CASA." The Riviera concrete tiles are not individually identified. In addition, each pallet contains one to eight cardboard sleeves of roof tiles. The sleeves are identified with the manufacturer's name (Vande Hey Raleigh Roof Tile MFG LLC) and address, the product name (Spanish, Riviera, or Flat), the installed weight, and the evaluation report number (ESR-1759).
- 7.2 The report holder's contact information is the following:

**VANDE HEY RALEIGH ROOF TILE MFG LLC**  
**1665 BOHM DRIVE**  
**LITTLE CHUTE, WISCONSIN 54140-2529**  
**(920) 766-0156**  
[www.vhrtile.com](http://www.vhrtile.com)

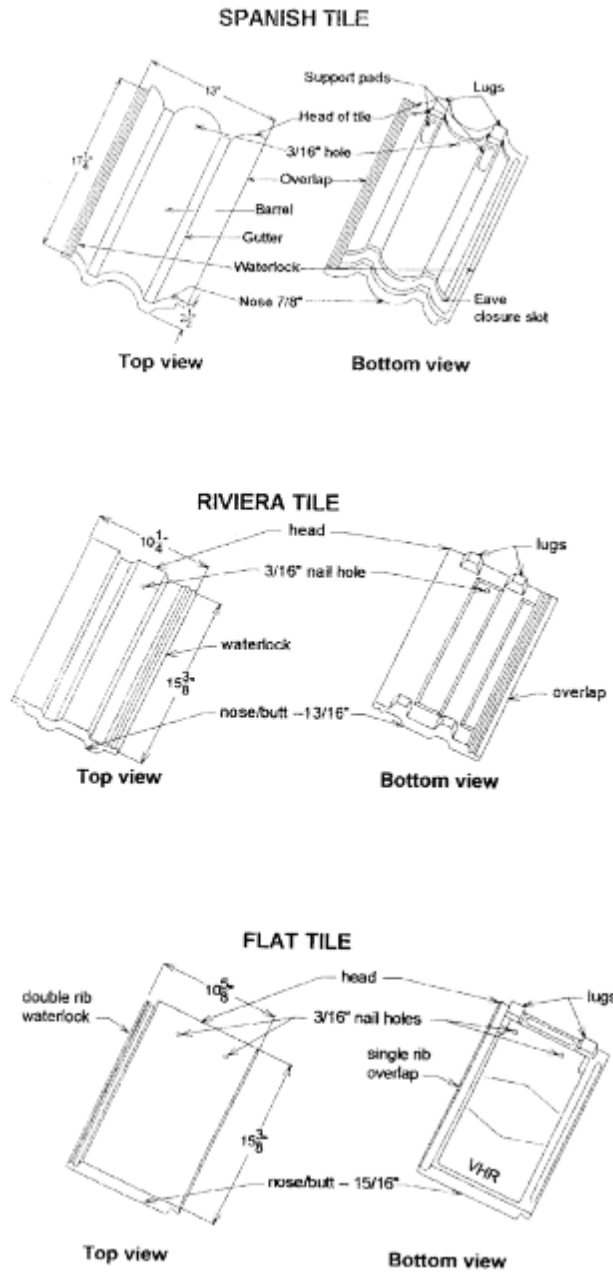


FIGURE 1—TILE PROFILES

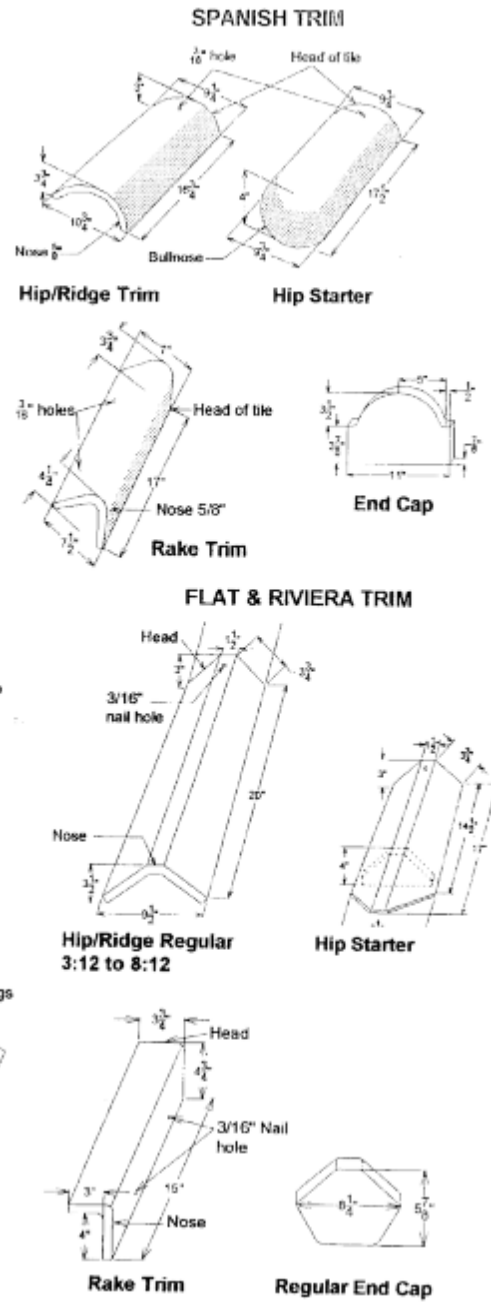


FIGURE 2—TRIM TILE PROFILES

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**1.0 REPORT PURPOSE AND SCOPE****Purpose:**

The purpose of this evaluation report supplement is to indicate that the Spanish, Riviera and Flat Concrete Roof Tiles, recognized in ICC-ES evaluation report ESR-1759, have also been evaluated for compliance with the codes noted below.

**Applicable code editions:**

- 2017 *Florida Building Code—Building*
- 2017 *Florida Building Code—Residential*

**2.0 CONCLUSIONS**

The Spanish, Riviera and Flat concrete roof tiles, described in Sections 2.0 through 7.0 of the ICC-ES evaluation report ESR-1759, is a component of a Class A roof covering assembly, in compliance with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, provided the design requirements are determined in accordance with the *Florida Building Code—Building* and the *Florida Building Code—Residential*, as applicable. The installation requirements noted in ICC-ES evaluation report ESR-1759 for the 2015 *International Building Code*® meet the requirements of the *Florida Building Code—Building* or the *Florida Building Code—Residential*, as applicable, when the extruded concrete roof tiles are installed in accordance with the recommendations of the FRSA/TRI 07320 installation manual.

Use of the Spanish, Riviera and Flat concrete roof tiles for compliance with the High-Velocity Hurricane Zone provisions of the *Florida Building Code—Building* and the *Florida Building Code—Residential* has not been evaluated, and is outside the scope of this supplement.

For products falling under Florida Rule 61G20-3, verification that the report holder's quality-assurance program is audited by a quality-assurance entity approved by the Florida Building Commission for the type of inspections being conducted is the responsibility of an approved validation entity (or the code official, when the report holder does not possess an approval by the Commission).

This supplement expires concurrently with the evaluation report, reissued June 2020.