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DIVISION: 07 – THERMAL AND MOISTURE PROTECTION
Section: 07 32 00 – Roof Tiles

REPORT HOLDER:
Dal Tile Distribution Inc.
7834 CF Hawn Frwy
Dallas, TX 75217
www.dal-tile.com

REPORT SUBJECT:
Perennial HD Porcelain Roof Tile

1.0 SCOPE OF EVALUATION

1.1 This Research Report addresses compliance with the following Codes:

- 2018 and 2015 *International Building Code*® (IBC)
- 2018 and 2015 *International Residential Code*® (IRC)
- 2020 Florida Building Code (FBC) (excluding High-velocity Hurricane Zones) (see Section 9)

NOTE: This report references 2018 Code sections. Section numbers in earlier versions of the Code may differ.

1.2 The Perennial HD Porcelain Roof Tiles have been evaluated for the following properties (see Table 1):

- Physical properties
- Roof classification
- Wind resistance

1.3 The Perennial HD Porcelain Roof Tiles have been evaluated for the following uses (see Table 1):

- Class A roof coverings

2.0 STATEMENT OF COMPLIANCE

The Perennial HD Porcelain Roof Tiles comply with the Codes listed in Section 1.1, for the properties stated in Section 1.2, and uses stated in Section 1.3, when installed as described in this report, including the Conditions of Use stated in Section 6.0.

3.0 DESCRIPTION

3.1 General: The Perennial HD Porcelain Roof Tiles comply with ASTM C1167. The tiles are 11-1/4 inches by 22-1/2 inches and are provided in two thicknesses, 9.5 mm and 12.5 mm. Four equally spaced nail holes are located 2 inches from the top edge of the tile.

Accessory tiles for hips and ridges are provided by Dal-Tile of the same material as the roof tiles.

3.2 Interlayment: The interlayment is identified as GSE HD smooth, high-density polyethylene geomembrane, and is supplied by Dal-Tile.

4.0 PERFORMANCE CHARACTERISTICS

4.1 Roof Classification: When installed as described in this report, the roof tiles are a Class A roof covering complying with IBC Section 1505 and IRC Section R902.

4.2 Physical Properties: The roof tiles comply with ASTM C1167, in accordance with IBC Section 1507.3.4 and IRC Section R905.3.4. The tiles are classified as Grade 1, Type III.

5.0 INSTALLATION

5.1 General: The roof tiles must be installed in accordance with the manufacturer's published installation instructions, the applicable Code, and this Research Report. A copy of the manufacturer's instructions must be available on the jobsite during installation.

5.2 Installation: The roof tiles must be installed over wood sheathing complying with the applicable Code. The tiles are installed horizontally with a minimum 3 inch overlap between courses; vertical edges are butted together. The tiles must be installed with both interlayment and underlayment. The Dal-Tile-supplied interlayment must be used between each layer of tiles. Minimum roof slope is 4:12.



When installed between 4:12 and 5:12, the underlayment must be listed as complying with ASTM D1970 and must be installed in accordance with the manufacturer's instructions. At roof slopes of 5:12 and above, the underlayment must be listed as complying with ASTM D226 Type II (No. 30 felt), ASTM D4869 Type IV, or ASTM D1970 (self-adhering). At valleys, ridges, and hips, and in areas where there has been a history of ice forming along the eaves causing a backup of water, a membrane complying with ASTM D1970 must be applied. Attachment of the underlayment must be in accordance with IBC Section 1507.1.1 or IRC Section R905.1.1.

The tiles must be attached to the roof deck with fasteners described in Section 5.3.

Flashing must comply with IBC Section 1507.3.9 or IRC Section R905.3.8.

5.3 Wind Resistance: When installed with No. 8 by 2-1/2 inch long bugle-head screws, the allowable overturning moment determined by testing in accordance with SSTD 11-99, is 60.36 ft-lb for the 9.5 mm tile and 78.19 ft-lb for the 12.5 mm tile. The Aerodynamic Uplift Moment must be determined for the jobsite conditions using Equation 16-34 in IBC Section 1609.5.3, except that C_L shall be 1.0. The allowable overturning moment must be equal to or greater than the calculated Aerodynamic Uplift Moment.

When installed with No. 11 gage electrogalvanized roofing nails, having minimum 3/8 inch diameter flat heads long enough to penetrate the deck a minimum of 3/4 inch or through the thickness of the sheathing (15/32 inch minimum), whichever is less, the tiles are limited to use on roofs where the design wind pressure, calculated in accordance with the applicable Code, is no greater than 22.5 psf.

6.0 CONDITIONS OF USE

6.1 Installation must comply with this Research Report, the manufacturer's published installation instructions, and the applicable Code. In the event of a conflict, this report governs.

6.2 Design of the roof sheathing and framing is outside the scope of this report.

6.3 The Dal-Tile Perennial HD Porcelain Roof Tiles are manufactured under a quality control program with inspections by Intertek Testing Services NA, Inc.

7.0 SUPPORTING EVIDENCE

7.1 Reports of tests in accordance with ASTM C1167-11 (2017), SSTD 11-99, UL 1897, and ASTM E108-17.

7.2 Manufacturer's installation instructions.

7.3 Quality control documentation.

7.4 Intertek Listing Report "[Dal-Tile Perennial HD Porcelain Roof Tile](#)", on the [Intertek Directory of Building Products](#).

8.0 IDENTIFICATION

The Perennial HD Porcelain Roof Tiles are identified with the manufacturer's name (Dal-Tile Distribution, Inc.) and address, the product name, the Intertek Mark as shown below, and the Code Compliance Research Report number (CCRR-0359).



9.0 OTHER CODES

9.1 Florida Building Code:

9.1.1 Scope of the Evaluation: The Perennial HD Porcelain Roof Tiles were evaluated for compliance with the 2020 *Florida Building Code – Building* and the 2020 *Florida Building Code – Residential*.

9.1.2 Conclusion: The Perennial HD Porcelain Roof Tiles described in Sections 2.0 through 7.0 of this report comply with the 2020 *Florida Building Code – Building* and the 2020 *Florida Building Code – Residential*, excluding High-velocity Hurricane Zones (HVHZ), subject to the following conditions:

- The roof tile must be installed in accordance with FRSA/TRI *Florida High Wind Concrete and Clay Roof Tile Installation Manual, Sixth Edition*
- Intertek is an approved evaluation entity and quality assurance entity pursuant to Florida Statute 553.842 – *Product Evaluation and Approval*





10.0 CODE COMPLIANCE RESEARCH REPORT USE

10.1 Approval of building products and/or materials can only be granted by a building official having legal authority in the specific jurisdiction where approval is sought.

10.2 Code Compliance Research Reports shall not be used in any manner that implies an endorsement of the product by Intertek.

10.3 Reference to the <https://bpdirectory.intertek.com> is recommended to ascertain the current version and status of this report.

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TABLE 1 - PROPERTIES EVALUATED

PROPERTY	2018 IBC and 2020 FBC - Building ¹	2018 IRC and 2020 FBC - Residential ¹
Physical Properties	1507.3.4	R905.3.4
Wind Resistance	1504.2 1507.3.7	R905.3.7
Roof Classification	1505	R902

¹ Section numbers may be different for earlier versions of the International Codes.

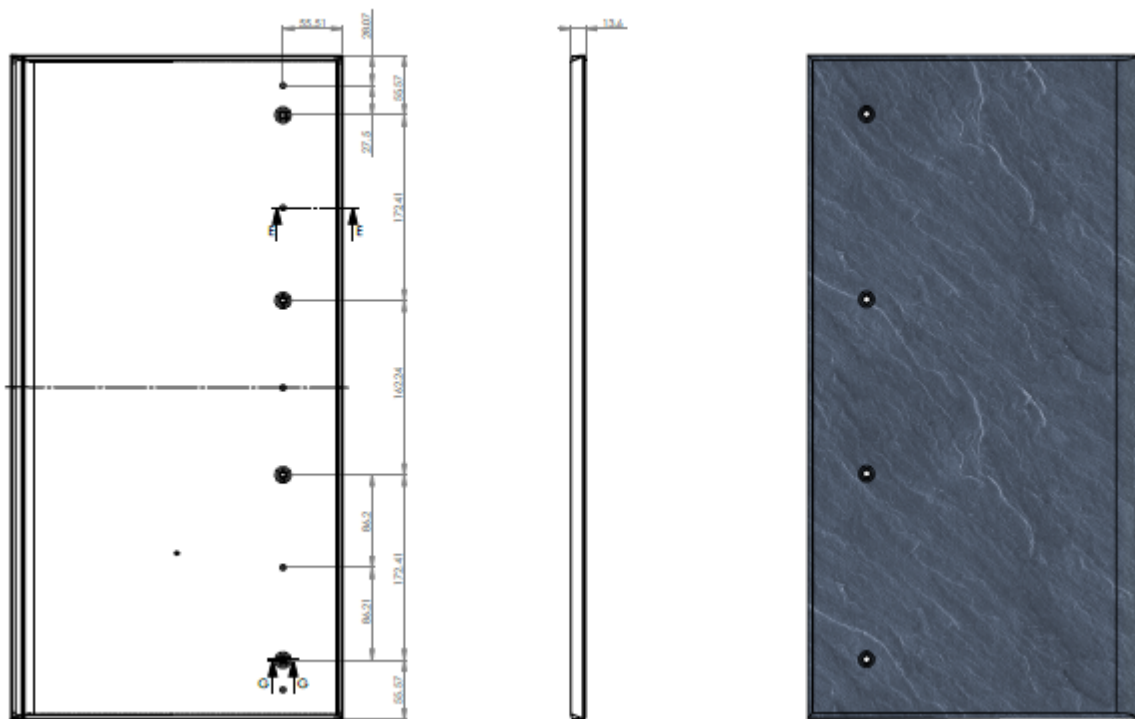


Figure 1 – Perennial HD Roof Tile

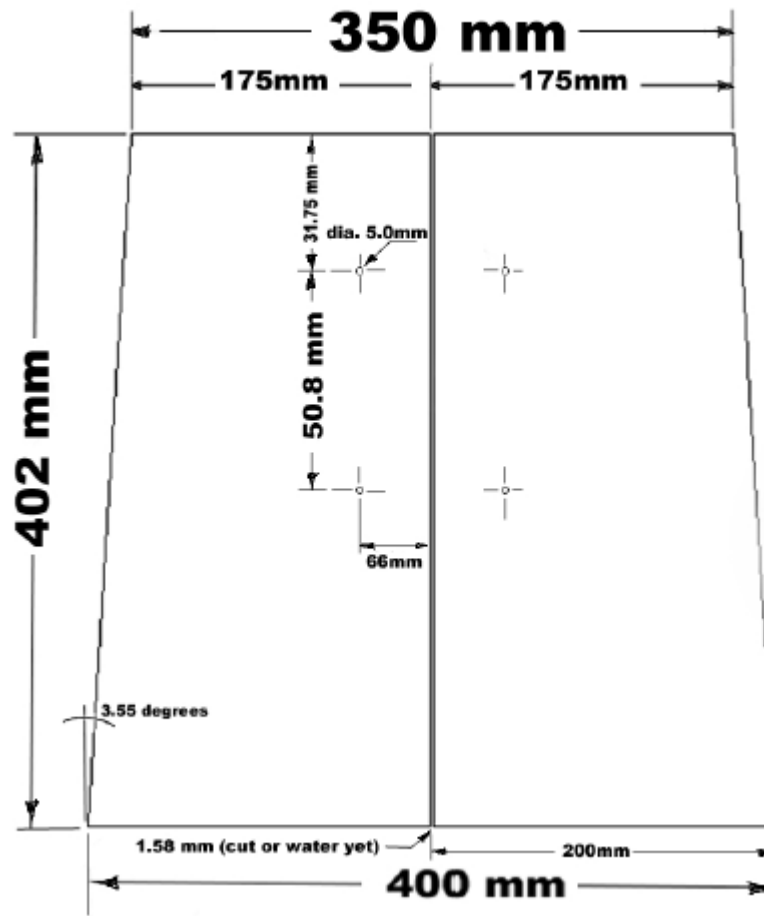


Figure 2 – Ridge Tile