



Standard Specification for Clay Roof Tiles¹

This standard is issued under the fixed designation C1167; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

1. Scope

1.1 This specification covers clay tiles intended for use as roof covering where durability and appearance are required to provide a weather-resistant surface of specified design.

1.2 Tiles are manufactured from clay, shale, or similar naturally occurring earthy substances and subjected to heat treatment at elevated temperatures (firing). The heat treatment must develop a fired bond between the particulate constituents to provide the strength and durability requirements of this specification (see *firing* and *fired bond* in Terminology C1232).

1.3 Tiles are shaped during manufacture by molding, pressing, or extrusion and it is permitted to use the shaping method to describe the tiles.

1.4 Tiles are generally planar or undulating rectangular shapes available in a variety of cross-sectional profiles, shapes, sizes, surface textures, and colors.

1.5 Three grades of tile having various degrees of resistance to weathering are covered in this specification. Three types of tile are defined to cover the features that influence appearance.

1.6 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.7 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

- 2.1 *ASTM Standards*:²
C1232 Terminology of Masonry

¹ This specification is under the jurisdiction of ASTM Committee C15 on Manufactured Masonry Units and is the direct responsibility of Subcommittee C15.06 on Roofing Tile.

Current edition approved June 1, 2011. Published June 2011. Originally approved in 1990. Last previous edition approved in 2009 as C1167 – 03 (2009). DOI: 10.1520/C1167-11.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

- C67 Test Methods for Sampling and Testing Brick and Structural Clay Tile
C297/C297M Test Method for Flatwise Tensile Strength of Sandwich Constructions
C554 Test Method for Craze Resistance of Fired Glazed Ceramic Whitewares by a Thermal Shock Method

3. Terminology

3.1 *Definitions*—For definitions of terms relating to structural clay products, and clay roof tiles, see Terminology C1232.

4. Classification

4.1 Clay roof tiles covered by this specification are classified by grade for durability and type for appearance as follows:

4.1.1 *Grades*:

4.1.1.1 *Grade 1*—Providing resistance to severe frost action.

4.1.1.2 *Grade 2*—Providing resistance to moderate frost action.

4.1.1.3 *Grade 3*—Providing negligible resistance to any frost action.

4.1.1.4 Grades relate to exposure to weather as defined in Table 1.

4.2 *Types*:

4.2.1 *Type I*—High-profile tiles—tiles having a rise-to-width ratio greater than 1:5.

4.2.2 *Type II*—Low-profile tiles—tiles having a rise-to-width ratio equal to, or less than 1:5.

4.2.3 *Type III*—All other tiles, including flat.

5. Material and Finish

5.1 Colors and textures produced by application of inorganic coatings to the faces of the tiles are not prohibited provided that evidence satisfactory to the purchaser is furnished regarding the durability of the coatings. Tiles that are colored by flashing or textured by sanding, where the sand does not form a continuous coating, are not considered as surface-colored tiles for the purpose of this specification.

NOTE 1—When surface colored tiles (other than sanded or flashed) are specified, data satisfactory to the purchaser shall be submitted showing that after 50 cycles of freezing-thawing (5.2) there is no observable difference in the applied finish when viewed from a distance of 40 ft (12 m) under an illumination of not less than 50 fc (538 lm/m²) by an observer with normal vision. It is not prohibited to present service records of the