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Standard Specification for Polyester Composition Floor Tile[1]

This standard is issued under the fixed designation F2982; 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 reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers polyester composition floor tile for use in commercial, light commercial or residential flooring applications. The tile may be either smooth or embossed.

1.2 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.

1.3 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 The following documents of the issue in effect on the date of material purchase form a part of this specification to the extent referenced herein:

2.2 *ASTM Standards:*[2]

F141 Terminology Relating to Resilient Floor Coverings
F386 Test Method for Thickness of Resilient Flooring Materials Having Flat Surfaces
F925 Test Method for Resistance to Chemicals of Resilient Flooring
F970 Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading
F1066 Specification for Vinyl Composition Floor Tile
F1265 Test Method for Resistance to Impact for Resilient Floor Tile
F1304 Test Method for Deflection of Resilient Floor Tile
F1514 Test Method for Measuring Heat Stability of Resilient Flooring by Color Change
F1515 Test Method for Measuring Light Stability of Resilient Flooring by Color Change
F1914 Test Methods for Short-Term Indentation and Residual Indentation of Resilient Floor Covering
F2055 Test Method for Size and Squareness of Resilient Floor Tile by Dial Gage Method
F2199 Test Method for Determining Dimensional Stability of Resilient Floor Tile after Exposure to Heat

2.3 *Other Standards:*

ANSI/ASQC Z1.4–1993 Sampling Procedures and Tables for Inspection by Attributes[3]

3. Terminology

3.1 For definitions refer to Terminology F141.

4. Ordering Information

4.1 The purchaser shall state whether this specification is to be used, select the preferred options permitted herein, and include the following information in the invitation to bid and purchase order:

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[1] This test method is under the jurisdiction of ASTM Committee F06 on Resilient Floor Coverings and is the direct responsibility of Subcommittee F06.80 on Specifications.

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[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.

[3] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

4.1.1 Title, number, and date of this specification,
4.1.2 Color and pattern,
4.1.3 Quantity in square feet or cartons,
4.1.4 Thickness required, (see 8.1),
4.1.5 Size required (see 8.2),
4.1.6 Lot formation if other than as specified in ANSI/ASQC Z1.4–1993 (see Sections 10 and 11),
4.1.7 Sampling, if other than as specified in ANSI/ASQC Z1.4–1993 (see Sections 10 and 11),
4.1.8 Packing requirements if other than as specified (see 14.1),
4.1.9 Palletization, if required (agreed upon between the manufacturer and the purchaser),
4.1.10 Marking, if other than specified (agreed upon between the manufacturer and the purchaser), (see 13.1), and
4.1.11 Other requirements (agreed upon between the manufacturer and the purchaser).

5. Materials and Manufacture

5.1 *Materials*—The tile shall be composed of binder, fillers, and pigments.
5.1.1 The binder shall consist of one or more resins of polyester.
5.1.1.1 The polyester resin may be thermoplastic or thermoset.
5.1.2 The filler may be limestone or other suitable inorganic filler.
5.1.3 Floor tiles may have a clear specialty performance top layer which does not delaminate under normal use and is not removable by normal maintenance procedures.
5.1.3.1 The clear specialty performance top layer may constitute part of the total thickness up to a maximum 0.002 in. (0.051 mm).

5.2 *Color and Pattern*—The color and pattern, as applicable shall be as specified in the contract or order (see 4.1).
NOTE 1—The colors and patterns that are available are indicated in individual manufacturer's current catalogs. As manufactured, colors vary somewhat in hue and shade.

5.3 *Through Pattern Tile*—In through pattern tile, either the pattern and colors on the surface of the tile extend entirely through the thickness of the tile without significant change, or the colors appearing on the surface shall extend throughout the entire thickness of the tile, although the appearance of the pattern created by these colors will change throughout the thickness.

6. Mechanical Properties

6.1 *Indentation:*
6.1.1 When the tile is tested in accordance with Test Method F1914 ~~per the test parameters listed in Table 1 for the~~ , the ~~F1066 specification but at a conditioning and testing temperature of 73.4°F (23.0°C), the~~ indentation at the end of 1 min shall not exceed 0.012 in. (0.305 mm).
6.1.2 When the tile is tested in accordance with Test Method F1914 ~~per the test parameters listed in Table 1 for the~~ , the ~~F1066 specification but at a conditioning and testing temperature of 73.4°F (23.0°C), the~~ indentation at the end of 10 min shall not exceed 0.015 in. (0.356 mm).

6.2 *Impact:*
6.2.1 When the tile is tested in accordance with Test Method F1265, the tile shall not break or crack beyond the prescribed circle of zinc oxide paste after 12 drops.
6.2.2 For ⅛-in. (3.175-mm) tile the 0.143-lb (0.065-kg) steel ball weight shall be dropped from a drop height of 20 in. (508 mm).

7. Performance Requirements

7.1 *Deflection*—The tile, when tested in accordance with Test Method F1304, shall deflect not less than 1.0 in. (25.4 mm) both across and with the grain, without breaking.

7.2 *Dimensional Stability:*
7.2.1 When tested in accordance with Test Method F2199 the linear dimensions shall not change more than 0.028 in. (0.71 mm) per linear foot.

7.3 *Resistance to Chemicals:*
7.3.1 The chemical resistance of the tile shall be determined in accordance with Test Method F925. Polyester composition floor tile shall have no more than a slight change in surface dulling, surface attack, or staining when exposed to the following chemicals:
7.3.1.1 White vinegar (5 % acetic acid),
7.3.1.2 Rubbing alcohol (70 % isopropyl alcohol),
7.3.1.3 White mineral oil (medicinal grade),
7.3.1.4 Sodium hydroxide solution (5 % NaOH),
7.3.1.5 Household ammonia solution (5 % NH_4OH),
7.3.1.6 Household bleach (5.25 % NaOCl),