



Designation: D3207 – 17

Standard Test Method for Detergent Resistance of Floor Polish Films¹

This standard is issued under the fixed designation D3207; 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 test method covers a bench procedure for measuring the detergent resistance properties of floor polishes.

1.2 *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.*

1.3 *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 *ASTM Standards:*²

D1436 Test Methods for Application of Emulsion Floor Polishes to Substrates for Testing Purposes

3. Significance and Use

3.1 This test method is used to determine the relative resistance of floor polishes to detergent scrubbing using the Gardner Straight Line Washability Meter and to separate polishes with poor detergent resistance from those with good detergent resistance. Results are duplicative between laboratories.

4. Apparatus

4.1 *Washability Apparatus*—The Gardner straight line washability machine.³

¹ This test method is under the jurisdiction of ASTM Committee D21 on Polishes and is the direct responsibility of Subcommittee D21.04 on Performance Tests.

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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 The sole source of supply of the apparatus known to the committee at this time is Gardner Laboratory, Inc., P. O. Box 5758, Bethesda, MD. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

4.2 *Applicator*—Doctor blade, 50 mm (2-in.) wide and having a 0.203-mm (0.008-in.) clearance along the bottom edge (see Test Methods D1436).

4.3 *Test Flooring Substrates*—Official Vinyl Composition Tile (OVCT),⁴ Black, 304.8 by 304.8 mm (12 by 12 in.).

4.4 *Volumetric Pipet*—A 1-mL pipet graduated in 0.2-mL units.

4.5 *Hog Bristle Brush*—Aluminum block, 89 by 38-mm (3½ by 1½-in.) hog bristle brush with 19-mm (¾-in.) bristles. Soak in detergent solution (see 5.1) for a minimum of 1 h prior to test.

4.6 *Cellulose Sponge*—Cut to fit the Gardner brush holder. The sponge is to be used for household floor polishes only.

5. Reagent

5.1 *Detergent Solution at Use Concentration:*

Tetrasodium pyrophosphate (TSPP)	0.25 %
Tetrapotassium pyrophosphate (TKPP)	0.25 %
Octyl phenol + 10 moles ethylene oxide (OPE ₁₀)	0.38 %
Sodium hydroxide	0.03 %
Surfactant QS44 (80 %) ⁵ or equivalent	0.15 %
Distilled or deionized water	98.94 %

6. Sample

6.1 The sample used for test purposes shall be completely representative of the material in question.

7. Procedure

7.1 *Preparation of Test Surface*—Clean the test tiles with a good polish stripper and steel wool. Rinse thoroughly with water and dry at room temperature.

7.2 *Floor Finish Application*—Apply in duplicate as shown in the template in 6.3, 0.8 mL of test polish A to a 2 by 8-in. section of OVCT (tile must be level to obtain uniform film

⁴ OVCT tile may be obtained through Armstrong Flooring from various home improvement stores. The following Armstrong tile substrates have been found to perform adequately for this test method: Armstrong Excelon Feature Tile: Black (56790), http://www.armstrong.com/commflooringna/product_details_toolbox_magnify.jsp?item_id=47394.

⁵ The sole source of supply of the apparatus known to the committee at this time is Union Carbide, 39 Old Ridgebury Rd., Danbury, CT 06817-0001. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.