



Standard Test Method for Washability Properties of Interior Architectural Coatings¹

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1. Scope

1.1 This test method covers the determination of the relative ease of removing soilent discolorations from the dried film of an interior coating by washing with either an abrasive or nonabrasive cleaner.

1.2 This test method is limited to coatings having a CIE-Y reflectance of 60 % or more, as measured in accordance with Test Method E 1347.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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:

D 562 Test Method for Consistency of Paints Using the Stormer Viscometer²

D 1193 Specification for Reagent Water³

D 1210 Test Method for Fineness of Dispersion of Pigment-Vehicle Systems²

E 70 Test Method for pH of Aqueous Solutions with the Glass Electrode⁴

E 1347 Test Method for Color and Color-Difference Measurement by Tristimulus (Filter) Colorimetry²

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *soilent*—a discoloring substance that clings to the surface of a coating, whose dispersed color component is not in solution and therefore does not penetrate into the film.

3.1.1.1 *Discussion*—oilant differs from stain in that the colorant of a stain is in solution and, therefore, can penetrate into the film.

4. Summary of Test Method

4.1 The test material is applied to a black plastic panel and allowed to dry for 7 days. The reflectance of the film is measured (R_1) and then a soilent consisting of carbon black dispersed in mineral oil is applied on the film. The panel is placed on a glass plate in a washability machine and the film is washed with either an abrasive or nonabrasive scrub medium for 100 cycles. The panel is rinsed and dried and the reflectance in the stained area is read (R_2). The ratio of the reflectance, R_2/R_1 , is a measure of the degree to which the soilent has been removed.

5. Significance and Use

5.1 Interior architectural paints are often discolored by dirt and other soilent materials. This test method covers the relative ease and completeness of removal of a specific soilent from such a surface by scrubbing. The greater the ease of soil removal with a minimum of film erosion, the greater the useful service life is expected to be.

5.2 Results obtained by this test method do not necessarily correlate with all types of soilent.

5.3 Semigloss finishes generally require only the nonabrasive type cleaner for good soilent removal, whereas flat paints may require the abrasive type.

6. Apparatus

6.1 *Washability Tester*,⁵ also referred to as a straight line washability machine.

6.1.1 Accessory Apparatus:

6.1.1.1 *Glass Plate*, measured to fit, 454 by 165 by 6.3 mm (17 in. $\frac{7}{8}$ by 6 $\frac{1}{2}$ by $\frac{1}{4}$).

6.1.1.2 *Stainless Steel Pan*.

6.1.1.3 *"C" Clamps*.

6.1.1.4 *Scale*, standard.

6.1.1.5 *White Blotter*.

6.1.1.6 *Holder*, brass, measuring 95 by 76 by 25.4 mm (3 $\frac{3}{4}$ by 3 by 1 in.) .

6.2 *U-Shaped Film Caster*,⁶ having both a 0.18-mm (7-mil) clearance by 132 mm width and a 0.25-mm (10-mil)

¹ This test method is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.42 on Architectural Coatings.

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² *Annual Book of ASTM Standards*, Vol 06.01.

³ *Annual Book of ASTM Standards*, Vol 11.01.

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

⁵ Model AG 8100 from BYK-Gardner, Inc., Gardner Laboratory, 2435 Linden Lane, Silver Spring, MD 20910 and Model "D" from Paul N. Gardner Co., Inc., 316 N. E. First St., Pompano Beach, FL 33060 were used originally in this test method. See RR D01-1065. Straight-line washability testers may be adapted to meet the requirements of this method.

⁶ The Dow film caster from BYK-Gardner, was used originally in this test method.