



Standard Test Method for Measuring Anti-Soil Deposition Properties of Laundry Detergents (Not Suitable for Detergent Ranking)¹

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1. Scope

1.1 This test method provides guidelines for measuring the ability of detergents to prevent the deposition of soils from detergent solutions onto fabrics. It is intended as a laboratory screening test to aid in the formulation of detergent products, for quality control, and as a basis between the purchaser and seller in standardizing specific products' performance.

1.2 The anti-soil deposition performance of detergent products will vary greatly depending on the type of soils and fabrics used in the test. Therefore, selection of the soils, fabrics, reference detergents, and test conditions shall be made by agreement between the interested parties on the basis of experience.

1.3 The values stated in either inch-pound or SI units are to be regarded separately 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.* Material safety data sheets are available for reagents and materials. Review them for hazards prior to usage.

2. Referenced Documents

2.1 ASTM Standards:

D 1193 Specification for Reagent Water²

D 2960 Method for Controlled Laundering Test Using Naturally Soiled Fabrics and Household Appliances³

E 97 Test Method for Directional Reflectance Factor, 45-deg, 0-deg, of Opaque Specimens by Broad-Band Filter Reflectometry⁴

E 313 Test Method for Indexes of Whiteness and Yellowness of Near-White Opaque Materials⁴

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *reflectance retention*—the change in reflectance between clean fabric and the same fabric after laundering.

3.1.2 *soil deposition*—the soiling of clean fabrics by soil that has been added to the wash bath rather than by soil removed from another fabric.

3.1.3 *soil redeposition*—the soiling of clean, or relatively clean, fabrics during the laundering process by soil that has been removed from another fabric.

4. Summary of Test Method

4.1 Swatches of clean fabrics are washed, a minimum of three times, in solutions of the test detergent prepared to contain known amounts of particulate and oily soils.

4.1.1 Identical clean swatches are similarly exposed to prepared solutions of a suitable reference detergent containing an identical soil load. The ability of the test detergent to prevent soil deposition is estimated by comparing the reflectance retention of the swatches washed in the test detergent to the reflectance retention of those washed in the reference detergent.

5. Significance and Use

5.1 The test as now constituted is not suitable for ranking of detergent products, since no basis is available at this time for correlation of the anti-deposition performance of detergents using any particular combination of soils and fabrics with anti-redeposition performance during washing of naturally soiled articles.

5.2 A suggested procedure for comparing the performance of any two laundry detergents or naturally soiled family items in home laundry equipment, under controlled conditions on a paired comparison basis, is described in Method D 2960.

6. Apparatus

6.1 *Laboratory Washer*—A laboratory-scale, agitator-type washing machine.⁵

6.2 *Reflectometer*, calibrated by means of standard vitreous enamel plaques having reflectances in the range of the fabric or swatch samples being measured.

⁵ The Terg-o-tometer, obtainable from the United States Testing Co., 1415 Park Ave., Hoboken, NJ, has been found satisfactory.

¹ This test method is under the jurisdiction of ASTM Committee D-12 on Soaps and Other Detergents and is the direct responsibility of Subcommittee D12.15 on Physical Testing.

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² *Annual Book of ASTM Standards*, Vol 11.01.

³ *Annual Book of ASTM Standards*, Vol 15.04.

⁴ *Annual Book of ASTM Standards*, Vol 06.01.