



Standard Guide for Evaluating Cleaning Performance of Ceramic Tile Cleaners¹

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^{ε1} NOTE—Editorial updates were made in March 2012.

1. Scope*

1.1 This guide covers the evaluation of the cleaning performance of products intended for use on ceramic tiles. This guide provides techniques for soiling, cleaning, and evaluating performance of detergent systems under controlled, but practical, hard-surface cleaning conditions.

NOTE 1—The soils described in this guide are known in the industry as “soap scum.”

1.2 Such systems include any detergent, cleaner, or abrasive cleanser intended for cleaning hard surfaces composed of ceramic tile. This guide is not appropriate for evaluating performance on grout. This guide also excludes other surfaces such as glass, resilient flooring, synthetic countertop surfaces or washable wall surfaces. The products for which this guide is intended include solutions of soluble powdered detergent, dilutions of concentrated liquid detergent, or products intended to be used full strength, for example, foams, sprays, liquid, wipes, powders, or paste.

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 and health practices and determine the applicability of regulatory limitations prior to use.* Material Safety Data Sheets are available for reagents. Review them for hazards prior to usage.

2. Referenced Documents

2.1 ASTM Standards:²

- D1729 Practice for Visual Appraisal of Colors and Color Differences of Diffusely-Illuminated Opaque Materials
- D2960 Guide for Controlled Laundering Test Using Natu-

rally Soiled Fabrics and Household Appliances (Withdrawn 2013)³

3. Terminology

3.1 Definitions of Terms Specific to This Standard:

3.1.1 *bathroom soil*—the soil composed of materials present on typical bathroom surfaces.

3.1.2 *cycle*—a cycle is defined as being both the back and forth strokes on the scrubbing apparatus.

3.1.3 *soil*—in hard surface cleaning, foreign matter on a hard surface such as a ceramic tile.

3.1.4 *substrate*—the soiled surface that is being cleaned.

4. Summary of Guide

4.1 Soils are artificially applied in a standardized manner to a ceramic tile surface. The soiled surfaces are cleaned using a straight-line washability apparatus, and the cleaned substrates are evaluated using reflectance measurements, or visually by a panel of judges. A schematic diagram of the soil composition is summarized in Fig. 1.

5. Significance and Use

5.1 This guide suggests methodology for cleaning tests. This methodology can only be applied to assess product performance on typical bathroom soils and is not inclusive of all potential soils present on ceramic tiles or other bathroom surfaces. An assessment of cleaning performance on surfaces other than ceramic tile cannot be presumed since there is no confirmed basis for correlation for this soil on other surface or substrate types.

5.2 The results of tests based on this guide are regarded as diagnostic screening values useful in formulation studies, quality control, and ingredient raw material qualification. The results of this guide should be compared to control treatments, which are incorporated into each performance evaluation. These results should be considered to be relative to **all** other treatments in the study and are not absolute values. For interlaboratory comparisons, exact treatment conditions must

¹ This guide is under the jurisdiction of ASTM Committee D12 on Soaps and Other Detergents and is the direct responsibility of Subcommittee D12.16 on Hard Surface Cleaning.

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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 last approved version of this historical standard is referenced on www.astm.org.