



Designation: E3162 – 18

Standard Practice Measuring the Durability of Antibacterial Agents Applied to Textiles under Simulated Home Laundering Conditions¹

This standard is issued under the fixed designation E3162; 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 To determine the durability of standard antibacterial treatments on textile products such as apparel, piece goods, household articles, hereinafter referred to as “textile” or “textile products” to multiple home launderings.

1.2 This practice subjects textile products treated with antimicrobial agents to multiple simulated and accelerated home launderings under defined parameters such that reproducible and reliable antimicrobial analysis can be performed using standard industry accepted protocols.

1.3 For some antimicrobial agents, the durability of antibacterial properties resulting from exposure to detergent solution and abrasive action of multiple home launderings has been shown to be approximated by one 45-minute laundering cycle. The exact correlation between expressed laundry care instructions and exposure conditions identified in the practice should be determined separately for every antimicrobial agent.

1.4 The subsequent microbiological methods shall be performed by individuals experienced and adept in microbiological procedures and in facilities suitable for the handling of the microorganisms under test.

1.5 This standard may involve hazardous materials, operation, and equipment. *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.*

1.6 *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.*

¹ This practice is under the jurisdiction of ASTM Committee E35 on Pesticides, Antimicrobials, and Alternative Control Agents and is the direct responsibility of Subcommittee E35.15 on Antimicrobial Agents.

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2. Referenced Documents

2.1 ASTM Standards:²

D123 Terminology Relating to Textiles

E2756 Terminology Relating to Antimicrobial and Antiviral Agents

E2922 Guide for The Use of Standard Test Methods and Practices for Evaluating Antibacterial Activity on Textiles

2.2 AATCC Standards:³

AATCC TM 61 : Colorfastness to Laundering: Accelerated
AATCC TM135 : Dimensional Changes of Fabrics after Home Laundering

AATCC Monograph M6 : Standardization of Home Laundry Test Conditions

2.3 ISO Standard:⁴

ISO 6330 Textiles – Domestic washing and drying procedures for textile testing

3. Terminology

3.1 *Definitions*—For definition of terms used in this test method, refer to: E2756 Standard Terminology Relating to Antimicrobial and Antiviral Agents and D123: Standard Terminology Relating to Textiles.

4. Summary of Practice

4.1 Fabrics are washed under conditions of temperature, detergent solution, and abrasive action similar to that occurring in standard home laundering conditions using industry standard equipment and parameters.

4.2 Singular samples are placed in defined canisters with detergents and steel balls to represent typical exposures, liquor to goods ratios and abrasions experienced in the home laundering situation. The abrasive action is the result of steel balls

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 Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research Triangle Park, NC 27709-2215, http://www.aatcc.org.

⁴ Available from International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, http://www.iso.org.