



Association of Textile, Apparel & Materials Professionals

AATCC takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this test method. Users of this test method are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This test method is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reaffirmed or withdrawn. Your comments are invited either for revision of this test method or for additional procedures and should be addressed to the AATCC Technical Center. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing, you should make your views known to Diana A. Wyman, Technical Director, at the address shown below.

This test method is copyrighted by AATCC, PO Box 12215, Research Triangle Park, NC 27709 USA. Individual reprints (single or multiple copies) of this method may be obtained by contacting AATCC at the above address or tel: 919-549-3526; fax: 919-549-8933, or e-mail: orders@aatcc.org.

AATCC License Agreement: This test method is copyrighted by the American Association of Textile Chemists and Colorists (AATCC), PO Box 12215, 1 Davis Drive, Research Triangle Park, NC USA. All rights reserved.

AATCC grants you a license as follows: The right to download one electronic file of this AATCC test method for temporary storage on one computer for purposes of viewing, and/or printing one copy of the AATCC test method for individual use. Neither the electronic file nor the hard copy print may be reproduced in any way. In addition, the electronic file may not be distributed elsewhere over computer networks or otherwise. The hard copy print may only be distributed to other employees for their internal use within your organization.

This test method is not for resale.

Colorfastness to Water Spotting

Developed in 1962 by AATCC Committee RA23; reaffirmed 1966, 1969, 1972, 1975, 1978, 1988, 1989, 1999; editorially revised and reaffirmed 1981, 1983, 1994, 2004, 2014; revised 2010. Technically equivalent to ISO 105-E07.

1. Purpose and Scope

1.1 This test method is designed to evaluate the resistance to water spotting of dyed, printed or otherwise colored textile fabrics. Whites can also exhibit color change, such as yellowing.

1.2 The test method does not determine whether the discoloration is removable.

2. Principle

2.1 The test specimen is spotted with distilled or deionized water and evaluation is made of change of color, after wetting and after drying.

3. Terminology

3.1 **colorfastness**, *n.*—the resistance of a material to change in any of its color characteristics, to transfer of its colorant(s) to adjacent materials or both, as a result of the exposure of the material to any environment that might be encountered during the processing, testing, storage or use of the material.

4. Safety Precautions

NOTE: These safety precautions are for information purposes only. The precautions are ancillary to the testing procedures and are not intended to be all inclu-

sive. It is the user's responsibility to use safe and proper techniques in handling materials in this test method. Manufacturers MUST be consulted for specific details such as material safety data sheets and other manufacturer's recommendations. All OSHA standards and rules must also be consulted and followed.

4.1 Good laboratory practices should be followed. Wear safety glasses in all laboratory areas.

5. Apparatus and Materials

5.1 Glass rod.

5.2 Gray Scale for Color Change (AATCC Evaluation Procedure 1) (see 11.1).

5.3 Pipette, graduated, 1 mL.

5.4 Distilled or deionized water.

6. Test Specimens

6.1 Colored cloth specimen, approximately $15.2 \times 15.2 \pm 0.4$ cm ($6 \times 6 \pm 0.16$ in.).

7. Procedure

7.1 With tip of pipette in contact with cloth, run onto the specimen 0.15 mL water at room temperature. If necessary, work water in with a rounded glass rod to assist penetration.

7.2 Evaluate the change in color in the periphery of the spot after 2 min wetting and after drying at room temperature by use of the Gray Scale for Color Change [AATCC Evaluation Procedure (EP) 1, or using EP7, Instrumental Assessment of the Change in Color of a Test Specimen.

8. Evaluation

8.1 Rate the effect on the color of the test specimens by the Gray Scale for Color Change (EP1), or using EP7, Instrumental Assessment of the Change in Color of a Test Specimen, and record the numerical rating that corresponds to the appropriate one on the Gray Scale (see 11.1).

9. Report

9.1 Report type of water and pH of water used for the test.

9.2 Report the grade for change in color after 2 min and after drying at room temperature.

10. Precision and Bias

10.1 *Precision.* Precision for this test method has not been established. Until a precision statement is generated for this test method, use standard statistical techniques in making any comparisons of test results for either *within-laboratory* or *between-laboratory* averages.

10.2 *Bias.* Colorfastness to water spotting can be defined only in terms of a test method. There is no independent method for determining the true value. As a means of estimating this property, the method has no known bias.

11. Note

11.1 Available from AATCC, P.O. Box 12215, Research Triangle Park NC 27709; tel: +1.919.549.8141; fax: +1.919.549.8933; e-mail: orders@aatcc.org; web site: www.aatcc.org.