Designation: D6012 – 03 (Reapproved 2013)

Standard Test Method for Determination of Resistance of Leather to (Bleeding) Color Stain Transfer[1]

This standard is issued under the fixed designation D6012; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This test method[2] covers the determination of whether leather bleeds (exudes coloring matter) when in intimate contact with wet surfaces, as indicated by staining produced on wet cloth in contact with the leather. This test method does not apply to wet blue.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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.*

2. Referenced Documents

2.1 *ASTM Standards:*[3]

D1610 Practice for Conditioning Leather and Leather Products for Testing

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *bleeding*—the transfer of color from a finished leather sample onto or into another medium.

4. Significance and Use

4.1 Bleed resistance is considered to be an important characteristic in leather used to make lined and unlined items that may come in contact with water.

5. Apparatus

5.1 *One or More Assemblies,* consisting of a flat glass or plastic square, and same size as transfer pad with a suitable weight placed on top of the square. The combined weight shall be 100 ± 5 g. (An assembly consisting of a plastic or glass plate and a 1 fluid oz (29 cc) plastic or glass jar with plastic lid to which the appropriate amount of lead shot or steel balls is added has been found suitable. The plate and jar may be held together by a suitable cement or pressure-sensitive adhesive tape.)

5.2 *Container,* flat-bottomed, heat-resistant plastic or other similar material with cover of sufficient size to accommodate a maximum of 15 specimens. A container 12 in. (300 mm) long, 9 in. (230 mm) wide and 4 in. (100 mm) high has been found suitable.

5.3 *Forced Circulating-Air Oven,* capable of maintaining the required temperature of 38 ± 2°C (100.4 ± 3.6°F).

5.4 *Balance,* single beam or high speed.

5.5 *Bleached Cotton Sheeting,* [4] 2-in. (51.6-mm) squares.

6. Test Specimen

6.1 The specimen shall be a square of leather 1.0 by 1.0 in. (25 by 25 mm).

6.2 *Number of Determinations*—Unless otherwise specified in the material specification, one specimen from each sample unit shall be tested.

7. Procedure

7.1 Bring the leather specimen and the color transfer pad made of 4 layers of cotton sheeting to moisture equilibrium in accordance with standard atmospheric conditions (see Practice D1610). Weigh the conditioned pad to the nearest 0.05 g. After weighing, wet the pad with enough distilled water to double the weight of the conditioned pad.

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[1] This test method is under the jurisdiction of ASTM Committee D31 on Leather and is the direct responsibility of Subcommittee D31.04 on Apparel.

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[2] This test method was developed from Federal Test Method Standard No. 311 Method 3021.2 in cooperation with the U.S. Army Natick Research Development and Engineering Center, Natick, MA, and the Defense Personnel Support Center Directorate of Clothing and Textiles, Philadelphia, PA.

[3] 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.

[4] The sole source of supply of the color transfer cloth known to the committee at this time is Test Fabrics, Inc., P.O. Box 53, 200 Blackford Ave., Middlesex, NJ 08846. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.

NOTE 1—The dry weight of the conditioned pad is usually 1.0 to 1.1 g, and the weight of the wet pad is usually 2.0 to 2.2 g.

If necessary, remove excess water from the pad in order to attain the proper weight. Place the wet pad in the bottom of the plastic container, and place the leather specimen approximately in the center of the pad. Unless otherwise specified, the grain side of the leather shall be in contact with the pad. Immediately place the load assembly on top of the specimen. Care should be taken to ensure the plastic or glass square portion of the load assembly completely covers the specimen and transfer pad. Cover the container and place on a shelf in the circulating-air oven at 38 ± 2°C (100.4± 3.6°F) for 6 h. At the end of the required time, take the container from the oven. Remove the pad and allow it to dry at a temperature of 23 ± 2°C (73.4 ± 3.6°F). Rate the darkest stain on the pad in indirect light by matching it with the color on the AATCC Chromatic Transference Scale[5] that is closest to it in chromaticity and hue.

[5] The sole source of supply of the apparatus known to the committee at this time is AATCC National Headquarters, P.O. Box 12215, Research Triangle Park, NC 22709. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee,[1] which you may attend.

8. Report

8.1 Report the staining result according to the following expanded AATCC ratings:

Comparison of Test Pad Stain with Numerical AATCC Values	Expanded AATCC Rating Value
Stain heavier than 1	0
Stain equivalent to 1	1
Stain lighter than 1 but heavier than 2	+1
Stain equivalent to 2	2
Stain lighter than 2 but heavier than 3	+2
Stain equivalent to 3	3
Stain lighter than 3 but heavier than 4	+3
Stain equivalent to 4	4

9. Precision and Bias

9.1 This test method is adopted from Federal Test Standard No. 311, Method 3021.2 where it has long been in use and was approved for publication before the inclusion of precision and bias statements was mandated. The original interlaboratory test data are no longer available. The user is cautioned to verify by the use of reference materials, if available, that the precision and bias (or reproducibility) of this test method is adequate for the contemplated use.

10. Keywords

10.1 bleed resistance; bleeding; leather; migration