SAE International

SURFACE VEHICLE STANDARD

SAE J861 AUG2012

Issued 1963-06
Reaffirmed 2012-08

Superseding J861 DEC2003

Method of Testing Resistance to Crocking of Organic Trim Materials

RATIONALE

J861 has been reaffirmed to comply with the SAE five-year review policy.

1. Scope

This test can be used to determine the resistance to crocking (color rub-off) of organic trim materials such as fabrics, vinyl coated fabrics, leather, coated fiberboard and carpet.

This method is similar to AATCC Method 8 –Colorfastness to Crocking.

2. References

2.1 Applicable Publications

The following publications form a part of this specification to the extent specified herein. Unless otherwise indicated, the latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J361—Visual Color Match to Master Specimen for Fabrics
SAE J1767—Instrumental Color Difference Measurement for Colorfastness of Automotive Interior Trim Materials

2.1.2 AATCC PUBLICATIONS

Available from American Associations of Textile Chemist and Colorists, 1 Davis Drive, PO Box 12215, Research Triangle Park, NC 27709-2215, 919-549-8141, Fax 919-549-8933.

AATCC Method 8—Colorfastness to Crocking
AATCC Method 110—Whiteness of Textiles
AATCC Chromatic Transfer Scale, AATCC Gray Scale to Staining, and Blotting Paper

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
SAE WEB ADDRESS: http://www.sae.org

2.2 Related Publications

The following publications are provided for information purposes only and are not a required part of this document.

2.2.1 ASTM PUBLICATIONS

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM D 2645—Standard Tolerances of Yarns Spun on the Cotton or Worsted System

2.2.2 TESTFABRICS INC.

Available from Testfabric, Inc., 415 Delaware Avenue, P.O. Box 26, West Pittston, PA 18643, 570-603-0432, Fax: 570-603-0433.

2.2.3 SDL ATLAS, (TEXTILE INNOVATORS CORPORATION)

Available from SDL Atlas, 1813A Associates Lane, Charlotte, NC, 28217, 704-329-0911

3. Materials and Equipment

3.1 AATCC Crockmeter

A device which has a 16 mm ± 1 mm diameter rubbing peg, reciprocating in a straight line rubbing motion, to and fro along a 104 mm ± 3 mm track, with a downward force of 9 N ± 0.9 N.

3.2 Crockmeter Test Cloth

Plain weave 80x84 greige (32 ends/cm ± 3 ends/cm and 33 picks/cm ± 3 picks/cm.) 15 Tex ± 4% yarn size, 5.9 turns/cm, Z ± 10% twist, combed cotton, desized, bleached, without finish, and cut into nominal 50 X 50 mm squares. Cloth should have a whiteness rating of 80 or above per AATCC Method 110.

3.3 AATCC Textile Blotting Paper

3.4 AATCC Chromatic Transfer Scale

3.5 AATCC Gray Scale to Staining

3.6 Distilled Water

pH of 6.5 to 7.5

3.7 Transparent Adhesive Tape

(optional)

4. Test Specimen

4.1 A minimum of two specimens are required, one for a dry crock test and one for a wet crock test. Specimen shall be cut 51 X 127 mm with the long dimension 45° nominal, to the machine or cross machine (warp and fill) direction. Additional specimens may be used when higher precision is needed.

4.2 In addition, materials with directional patterns (color, texture, nap) should be cut in machine, cross-machine and 45°, two specimens (one dry and one wet) in each direction.

4.3 Specimen should be as flat as possible.

5. Conditioning

5.1 Prior to testing, condition the test specimens and the crock squares for at least 4 h in an atmosphere of 21 °C ± 2 °C and 50%R.H. ± 5% R.H. by laying each test specimen or crock square separately on a screen or perforated shelf of a conditioning rack.

5.2 Alternate parameters for conditioning may be specified such as 21 °C ± 2 °C and 65% R.H. ± 5% R.H. or as agreed upon by contractual parties. Results may differ from items conditioned in parameters of 5.1 above.

6. Procedures

6.1 Dry Crock Test

6.1.1 Place the test specimen with the long dimension in the direction of the rubbing on the base of the Crockmeter and so that it is flat and uniformly in contact with the abrasive cloth mount.

6.1.2 Fasten a dry crock cloth over the end of the peg with the weave parallel to the direction of the rubbing. Use the spiral wire clip to hold the test square in place.

6.1.3 Lower the peg into contact with the test specimen and turn the crank at a rate of one turn per second so that the peg moves 10 cycles, (10 times to and 10 times fro) on the test specimen. If the crockmeter is motorized, set the counter for 10 cycles and turn on the machine making sure that the peg is positioned to give a complete 10 cycles. Contracting parties may specify other test duration's.

6.1.4 Remove the crock square from the peg and condition per Section 5. In the case of napped, brushed, sanded or flocked material with loose fibers that might interfere with the rating, remove extraneous material by pressing lightly on the crock square with the sticky side of transparent adhesive tape before evaluating.

6.2 Wet Crock Test

6.2.1 Establish a technique for preparing wet crock cloth squares by weighing a preconditioned square, then thoroughly wet out in distilled water. Prepare one square at a time.

6.2.2 Bring wet pickup to 65% ± 5% (or as agreed upon by contractual agreement) by squeezing wet testing square between blotting paper.

6.2.3 Using the prepared wet testing square, continue as directed in 6.1.1 through 6.1.3.

6.2.4 Air dry the crock cloth square, then condition per Section 5 before evaluating. In the case of napped, brushed, sanded or flocked material with loose fibers that might interfere with rating, remove the extraneous material by pressing lightly on the crock square with the sticky side of transparent adhesive tape before evaluating.

7. Evaluation

7.1 Back each test square with three layers of white crocking cloth during the evaluating process.

7.2 Assess visually or instrumentally the color transfer from the specimen to the crock square.

7.2.1 For visually assessing the color transfer, use suitable illumination (SAE J361, Section 4) and either AATCC Gray Scale to Staining or AATCC Chromatic Transfer Scale.

7.2.2 For instrumentally assessing the color transfer, SAE J1767 should be used as a guide. The instrument port size must be less than 15 mm.

7.2.3 Halo effect color change shall not be measured or reported.

8. Report

Should include the following:

8.1 Test description, whether dry and/or wet crocking test.

8.2 Evaluation results per Section 7.

8.3 Number of cycles.

8.4 Conditioning of specimen and crock cloth.

8.5 Material description.

8.6 Equipment used - Instrument, make and model, port size, and viewing geometry if instrumental color difference is used for rating.