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Rug Back Staining on Vinyl Tile

Developed in 1972 by AATCC Committee RA57; reaffirmed 1973, 1989, 2000, 2007, 2012; editorially revised 1974, 1986, 1991, 2001, 2010, 2013; revised 1983, 2002; editorially revised and reaffirmed 1995.

1. Purpose and Scope

1.1 This test method determines the degree of color transferred from the back or face surface of colored rugs to vinyl tile.

1.2 The wet testing in this method is a means of acceleration and has been found to correlate with both dry and wet in-service use.

2. Principle

2.1 A rug specimen is wet out and placed between two pieces of tile and subjected to a weighted load for 24 h at room temperature.

2.2 Color transferred to the tile is assessed by a comparison with the AATCC 9-Step Chromatic Transference Scale or Gray Scale for Staining.

3. Terminology

3.1 **colorant staining**, *n.*—the unintended pickup of colorant by a substrate due to (1) exposure to a colored or contaminated liquid medium, or (2) direct contact with dyed or pigmented material, from which colorant transfers by sublimation or mechanical action (as in crocking).

3.2 **rug**, *n.*—a textile floor covering of limited area which is complete in itself and is intended for use as a partial covering of a floor or another floor covering.

3.3 **rug back**, *n.*—(1) that part of a rug normally in contact with the floor; (2) the underside of a rug as opposed to the use surface.

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 inclusive. 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.

4.2 Observe wringer safety, especially at the nip point. The safety recommendations provided by the wringer manufacturer should be followed.

5. Apparatus and Materials

5.1 Two 76 × 76 mm (3 × 3 in.) 100% vinyl tiles, solid white and smooth surfaced (see 11.1).

5.2 Laboratory wringer.

5.3 Weight, with mass of 0.91 kg (2.0 lb) (see 11.2).

5.4 Rating Scales.

5.4.1 AATCC 9-Step Chromatic Transference Scale (AATCC Evaluation Procedure 8) (see 11.3).

5.4.2 Gray Scale for Staining (AATCC Evaluation Procedure 2) (see 11.3).

5.5 Distilled water.

5.6 AATCC Detergent #171 (see 11.5).

6. Test Specimens

6.1 A 51 × 51 mm (2 × 2 in.) specimen is cut from a representative sample of the rug, binding tape or fringe. It is recommended that rugs having multiple colors or fibers be tested in areas representative of each.

7. Procedure

7.1 Prewash tile with AATCC Detergent #171 prepared according to the directions supplied (see 11.5.1). Dry with toweling.

7.2 Completely wet out the test specimen with distilled water.

7.3 Pass the test specimen between squeeze rolls (wringer) such that a pickup of 40-60% is obtained.

7.4 Place the rug specimen back side down on the face side of one of the tiles.

7.5 Cover the test specimen with the other tile, face side down on rug face pile.

7.6 Apply a 0.91 kg (2.0 lb) mass to sandwiched test assembly (see 11.2).

7.7 Allow test assembly to remain

fixed for 24 h at room temperature.

7.8 Do not permit movement of rug specimen or tile after applying weight as it can affect test results.

7.9 Remove weight and rug specimen and let tiles condition at room temperature face up for 30 min.

7.10 Wash tile with AATCC Detergent #171 solution. Dry with toweling.

8. Evaluation

8.1 Evaluate the degree of color transferred from the rug backing or face fiber on to the face of the vinyl tile by comparison with the Gray Scale for Staining (AATCC Evaluation Procedure 2), the AATCC 9-Step Chromatic Transference Scale (AATCC Evaluation Procedure 8), or Instrumental Assessment of Degree of Staining (AATCC Evaluation Procedure 12), and record the numerical rating that corresponds to the appropriate one on either of them (see 11.3).

8.1.1 Where fringe or binding tape is a factor, color transference to the vinyl tile can also be evaluated from the tile which was used as the cover in the test assembly.

8.2 Evaluate the color transfer at the most severe area on the tile.

9. Report

9.1 Report the grade determined in 8.1.

9.2 Report the color transference determined for rug back and face. As an option, the color transference may be reported for fringe or binding tape.

9.3 Report whether Gray Scale for Staining or AATCC 9-Step Chromatic Transference Scale was used for evaluating staining (see 11.4).

10. Precision and Bias (see 11.6)

10.1 *Precision.* A preliminary intra-laboratory study was run in 1999 with a single laboratory with four materials, with a total of eight test results for each

Table I—Summary of Precision Parameters

Material*	Observations Each Average	Overall Average	Repeatability Standard Deviation (<i>within-laboratory</i>)	95% Repeatability Limit (<i>within-laboratory</i>)
A	8	3.4	0.42	0.35
B	8	4.1	0.35	0.30
C	8	3.4	0.32	0.27
D	8	2.9	0.32	0.27

*Material A-Tan Cotton Rug; Material B-Pink Cotton Rug; Material C-Blue Nylon Rug; Material D-Red Nylon Rug