

The Committee for Conformity Assessment of Accreditation and Certification on
Functional and Technical Textiles

Specified Requirement of Stain Release Textiles

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Document Version Resume

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1.0	Newly issued		
2.0	Revise according to the decision of the Review Committee on 2011/12/29:		2011/12/29

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1. Purpose and Scope

This criterion defines the evaluation and testing of stain release textiles. It is applicable to measure the ability of textiles to release stain after home laundering.

2. Terminology

- 2.1 Stain release: the degree to which a stained substrate compares to its original unstained appearance as a result of laundering procedure.
- 2.2 Present situation: indicates a sample that did not underwent durability laundering.

3. Classification

	Qualified
Present situation	Above grade 3.5
Durability	Above grade 3

4. Equipment and instruments:

- 4.1 AATCC White Textile Blotting Paper
- 4.2 Corn Oil: Manzola⁽¹⁾ (Best Foods, CPC International Inc.)
- 4.3 Glassine Paper: Rhineland “Blu-White”25#/500
- 4.4 Weights: cylindrical, 6.4cm diameter, weight (2.268±0.045) kg.
- 4.5 1993 AATCC Standard Reference Detergent
- 4.6 Ballast: (92×92) cm hemmed bleached cotton sheeting (Sheeting, Type 1), 50/50 polyester/cotton bleached mercerized poplin (Poplin, Type 2) or 50/50 polyester/cotton bleached mercerized plain weave cloth (Plain weave, Type 3).
- 4.7 Rating table: (61×92) cm non-glare black table top, height (89±3) cm
- 4.8 Rating area: refer to AATCC 124
- 4.9 Stain Release Replica⁽¹⁾
- 4.10 Home automatic washer: comply with AATCC requirements or equivalent.
- 4.11 Automatic dryer: comply with AATCC requirements or equivalent.

Remark⁽¹⁾: according to AATCC 130

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5. Testing Method

5.1 Sample preparation: sample is cut into two $(38 \times 38) \pm 1$ cm size samples, placed in a R.H. environment with conditioning temperature $(20 \pm 2)^\circ\text{C}$ and relative humidity $(65 \pm 2)\%$ for at least 4h, then proceed with the test.

5.2 Test procedures:

5.2.1 Staining operation:

- (1) Place a single layer AATCC White Textile Blotting Paper on a smooth, horizontal surface, then place the sample flatly over it.
- (2) Use a dropper to draw the Corn Oil, drip 5 drops (about 0.2 mL) on the center of the sample, then place a (7.6×7.6) cm Glassine paper flat on the oil stain.
- (3) Place the weight directly on the Glassine paper covering the stain, let it rest for (60 ± 5) s, remove the weight, and then discard the Glassine paper.
- (4) After completing the staining operation, the sample must be washed within (20 ± 5) min. Before laundering, contact between stained samples must be avoided, in order to prevent cross contamination of oil stains.

5.2.2 Washing operation:

- (1) Fill the home automatic washer with water until high water level, and adjust the water temperature. Select different washing temperature according to different textile materials: for natural and recycled fibers choose V (603), for synthetic fiber choose III (413), for mixed or interwoven, select according to fiber composition category greater than 50%. (Refer to the table below).
- (2) Add (100 ± 1) g Standard Reference Detergent and stir, then put the samples and ballast (making a total weight 1.80 ± 0.07 kg), but there can be only 30 stained samples per loading.
- (3) Set up the Normal Wash procedure, washing time 12min (Normal/Cotton Sturdy). After the automatic washing is completed, put all the samples and ballast inside the automatic dryer, and set it to hi-temperature drying 45min or until dry (Normal/Cotton Sturdy), and then blow cold wind 5min.
- (4) After drying is completed, get immediately all the samples out from the dryer and lay them all flat, then complete the grading within 4h after drying.

Washing process	Washing temperature	Drying method
(1) Normal/Cotton Sturdy	(III) $41 \pm 3^\circ\text{C}$ ($105 \pm 5^\circ\text{F}$) (Synthetic fiber)	(A) Tumble i. Cotton Sturdy
	(V) $60 \pm 3^\circ\text{C}$ ($140 \pm 5^\circ\text{F}$) (Natural and recycled fiber)	iii. Permanent Press

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<p>5.2.3 Rating:</p> <p>(1) Mount the Stain Release Replica on the rating board, the distance of its center is about (114 ± 3) cm from the ground; one side of the rating table touches the rating board vertically, and place the sample flat on the center of the rating table.</p> <p>(2) The rating staff stands directly in front of the sample and rates the samples, viewing distance from rating board is (76 ± 3) cm, distance from the floor is (157 ± 3) cm.</p> <p>(3) Compare the residual oil stain on the washed samples with the Stain Release Replica for rating, respectively grade 1, 2, 3, 4, and 5, with 5 being the best, and 1 being the worst. Grading results can have 0.5 grading (grade 1.5, 2.5, 3.5 and 4.5). Samples must be rotated to record the lowest observed grade point.</p> <p>5.2.4 Test results: calculate the average grade of the 4 data (2 samples, 2 rating staff) to the nearest 0.1.</p> <p>5.3 Durability: process the samples in accordance with CNS 15140, B washing method⁽¹⁾ of home laundering and drying procedure for textile tests 20 times before proceeding with the Stain Release test from 5.2 to 5.3; results must conform to the requirement of Stain Release rating of 3 or higher.</p> <p>Note⁽¹⁾: detergent used is 1993 AATCC Standard Reference Detergent.</p> <p>6. References</p> <p>AATCC 130 Soil Release: Oily Stain Release Method</p> <p>AATCC 135 Dimensional Changes in Home Launderings</p> <p>AATCC 124 Appearance of Fabrics after Repeated Home Launderings</p> <p>CNS 15140 L3263 Home Laundering and drying procedures for Textile Testing</p> <p>7. Supplement</p> <p>This standard has been reviewed by the convener of the Normative Validation Implementation Group, presented to the chairman of the Committee for approval then issuing, to be implemented from announcement day.</p>	
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