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Seam Twist in Garments Before and After Home Laundering

Developed in 2017 by AATCC Committee RA42.

Foreword

A preliminary version of this test method was published as TS-004 in the 2004 AATCC/ASTM International (Committee D13) *Concept 2 Consumer Technical Supplement*. It is now being published as a standard test method under the jurisdiction of AATCC Research Committee RA42, Dimensional Changes Test Methods.

Seam twist in garments may be influenced by the direction of the fabric in garment panels, the manner of garment assembly, as well as skewness change of the fabric.

AATCC Test Method (TM) 207 is for evaluation of seam twist *before and after* home laundering. TM179, Skew Change of Fabric or Fabric in Garments After Home Laundering, is to be used to evaluate the *change* in fabric skew *after* home laundering. ASTM D3882, Standard Test Method for Bow and Skew of Woven and Knitted Fabrics is only to be used to evaluate fabric skew in its original state (*before* laundering). The relationship among results of these methods is unknown; results of one method should not be compared to those of another method.

1. Purpose and Scope

1.1 This test method determines the seam twist of garments before, as well as after, home laundering.

1.2 This test procedure is specifically intended for garments with vertical seams, such as tops and pants, but may be applied to other end products such as curtains, drapes, or pillowcases. The method is applicable to garments constructed from knit and/or woven textiles.

2. Principle

2.1 Displacement of seams from their locations along natural folds is measured before and after laundering. Seam twist is calculated as a percentage of original seam length.

3. Terminology

3.1 **laundering, n.**—*of textile materials*, a process intended to remove soils and/or stains by treatment (washing) with an aqueous detergent solution and normally including rinsing, extraction and drying.

3.2 **seam twist, n.**—a rotation, usually lateral, between different panels of a garment connected by a seam.

NOTE: Seam twist may also be referred to as twist, torque or spirality.

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 Detergent may cause irritation. Care should be taken to prevent exposure to skin and eyes.

4.3 Manufacturer's safety recommendations should be followed when operating laboratory testing equipment.

5. Uses and Limitations

5.1 This method is applicable to vertical seams aligned with the side folds of a garment when laid on a flat surface. The folds are used as a reference for seam displacement measurements. The side seams of most garments, and inseams of pants, are typically evaluated.

5.2 This test method is applicable to seams oriented with the vertical direction, regardless of location (e.g., side seams, center seams, inseams, etc.) It is not applicable to seams not oriented with the vertical direction, such as curved seams.

5.3 Seam length, fabric construction, and garment assembly, individually or in combination, influence seam twist. Results obtained from matching seams, with identical seam constructional details (i.e. stitch type, seam shape, stitches/inch, etc.) as, for example, from the left and right sides of an item, may be averaged. However, results obtained from seams with different seam constructional details, even within the same garment, should not be compared, or averaged.

5.4 Different laundering temperatures, machine specifications or load sizes may result in different seam twist results. Use caution in comparing results obtained using different testing parameters.

6. Apparatus and Materials (14.1)

6.1 Conditioning facilities to accommodate hanging garments and/or drying racks with pull-out, perforated shelves for laying garments flat (see 14.2).

6.2 Indelible ink marking pen (see 14.3).

6.3 Tape or rule marked in millimeters, eighths, or tenths of an inch.

6.4 Automatic washing machine (see 14.4), or facilities for hand laundering.

6.5 1993 AATCC Standard Reference Detergent (powder) or AATCC High Efficiency (HE) Standard Reference Liquid Detergent (see 14.3). Detergent with or without optical brightener may be used for this test method.

6.6 Scale with at least 5.0 kg (10.0 lb) capacity.

6.7 Hemmed pieces of bleached cotton sheeting (wash load ballast type 1), or 50/50 polyester/cotton bleached plain weave (wash load ballast type 3), 920 × 920 mm (36 × 36 in.), to be used as ballast making 1.8 ± 0.1 kg (4.00 ± 0.25 lb) or 3.6 ± 0.1 kg (8.00 ± 0.25 lb) wash load weight.

6.8 Automatic tumble dryer (see 14.4), or facilities for drip, screen or line drying.

7. Test Specimens

7.1 Consider individual items as specimens. When available, test three specimens per manufacturing lot.

7.2 The specimens tested by this method may also be tested at the same time for appearance and/or dimensional change in accordance with AATCC TM143, Appearance of Apparel and Other Textile Items After Home Laundering, AATCC TM150, Dimensional Change in Garments Upon Repeated Home Laundering and/or TM179.

8. Conditioning

8.1 Prior to testing, condition test specimens as directed in ASTM D1776, Standard Practice for Conditioning and Testing Textiles. Use conditions indicated in Table 1 for Textiles, general and conditioning time as indicated in Table 2 for the appropriate fiber content.

8.1.1 Lay specimens flat, separately, on a screen or perforated shelf of a conditioning rack. For garments normally stored hung, hang separately on hangers to condition. Allow space for air movement on all sides of the specimens.

8.2 Specimens will be conditioned again after laundering.