

Technical Tuesdays

REF:TT/ August 2012/ WK 4

Measurement of Spirality in Knitted Fabrics and Garments

What is spirality?

- Change in skewness in knitted fabrics or twist in garments when subjected to repeated automatic laundering procedures commonly used in the home
- spirality is a very common inherent problem in plain knitted fabrics.
- Spirality occurs in fabric because of asymmetric loops.
- Spirality affects the aesthetic and functional performance.

Evaluation of Spirality:

Standard Test Method-AATCC-179:2004

- This test method determines change in skewness in woven and knitted fabrics or twist in garments when subjected to repeated automatic laundering procedures commonly used in the home.
- Washing and drying procedures used for shrinkage tests and other home laundering tests are specified for this method.

For some fabrics the degree of twist of fabric in garments is not solely dependent on its behavior in the unsewn state; it also may be dependent on the manner of garment assembly.

This method is based on the following principle:

- Change in skewness in fabric or twist in garment specimens resulting from procedures typical of home laundering practices is measured using bench marks applied to the specimens before laundering.
- Fabrics or garments that are distorted in their unlaundered state due to faulty finishing of the fabric or faulty assembly of garments may give deceptive results when laundered by any procedure.

In such cases, it is recommended that specimens not be used, or if used, the results be considered as indicative of those specimens only.

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Practical way of measurement:

Determination of spirality in percentage:

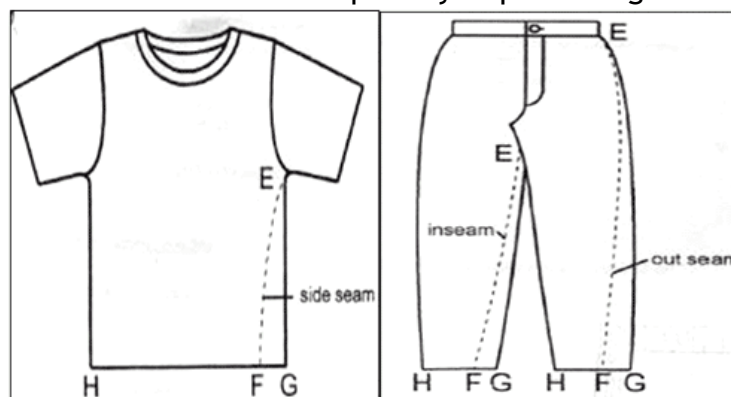


Figure 2: Measurement of tops

Figure 3: Measurement of bottoms

- Align the shoulder of the top (Figure 2) or the waist of the bottom (Figure 3) and lay it flat without tension on the table.
- Gently remove large wrinkles and creases. Begin smoothing at point E working down the garment body.
- Using marking pen, one spirality mark should be placed at uppermost of the garment folded edge (point E) and the other spirality mark should be placed at the lower most point of the same folded edge (Point F).
- Measure and record the distance from point F to point G and measure and record the distance from point H and point G.
- Then, wash and dry the specimen according to care label as per the recommended procedure.
- Condition the specimen after washing.
- Align again the shoulder of the top or the waist of the bottom and lay it flat without tension on the table.
- Gently remove large wrinkles and creases. Begin smoothing at point E working down the garment body.
- Measure and record the distance from point E to point G.
- Measure and record the distance from point F to point G.

Calculate spirality of garments before and after washing using the following formula-

$$\% \text{ Spirality} = \frac{FG}{EG} \times 100$$

As per the experience of world renowned retailers in the globe, seam twisting / shape distortion/spirality greater than 6% in tops and shorts and 4% in skirts, pants, dresses, and sleepwear detracts from the appearance of the garment.

Have a Happy Week Ahead”

To be Continued...

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