

QUALITY STANDARD
FOR TRICOT FABRICS

I. PURPOSE

To establish a uniform method for determining, quantifying and measuring the quality of tricot knitted fabrics; and a method for measuring length and width; and to promote uniform understanding of certain technical terms by establishing definitions.

II. APPLICABILITY

This standard applies to:

- A. Plain, flat finished tricot fabrics without raised fiber surfaces.
- B. Tricot fabrics having a raised fiber surface produced either in knitting or by finishing procedures.

III. METHOD

- A. Ten point system -- penalty points are attributed to a piece of fabric according to the length of its defects measured in inches. The following schedule of penalty points is based on fabrics 60/62 inches in width for defects visible when inspected on face side of fabric only:

LENGTH OF DEFECTS	NUMBER OF PENALTY POINTS
3 inches or less	1
Over 3 but not over 9 inches	5
Over 9 inches	10

1. Ten penalty points per linear yard are the maximum assessable for fabrics up to 60/62 inches in width.
2. For fabrics over 60/62 inches in width, maximum penalty points are to be increased in proportion as the width exceeds 60 inches, but a linear yard has a maximum assessable penalty point of ten.

B. Identification and rating of defects.

1. The types of defects in evaluating quality are only these:
 - a. Knitting defects, including holes other than pin holes
 - b. Grease-oil spots
 - c. Dye spots
 - d. Stains
 - e. Slubs - except where they are an inherent part of the yarn
 - f. picks
2. Bowing and skewing (bias); bowing may not exceed 3 inches and skewing may not exceed 3 inches per 60-inch width and any yard containing bowing or skewing in excess of these limits shall be penalized points.
3. Fabrics are to be examined for these defects only on the face side unless prior agreement made between buyer and seller expressly provides otherwise.

IV. EXCLUSIONS

In evaluating quality the following conditions are to be excluded in determining points:

- A. General aesthetic fabric characteristics.
- B. Pin holes (whether caused by knitting or tenter frame pins); they shall be judged by the extent and degree to which they occur and their probable effect on the type of garment or other end use.
- C. Defects appearing outside the selling width, the selling width being centered in the total width of the fabric.
- D. Defects resulting from napping shearing and other surface treatments (which shall be otherwise evaluated).
- E. Irregularities normal to the existing state of the art or beyond reasonable control of the manufacturer, or inherent in tricot knitted fabrics.
- F. Course and wale count shall not be considered.

V. QUALITY DETERMINATION

Determining first quality tricot fabrics shall be done as follows:

- A. Plain flat tricot shall be classified as first quality if the number of penalty points are not equal to or greater than yardage length.
- B. Fabrics with any raised fiber surface shall be classified as first quality if the number of penalty points does not exceed 20 percent of the length.
- C. No major defect shall appear in first 10 yards or last 10 yards of any piece.

NOTE: Laps: No more than two lapped pieces in 100 yards. The shortest unlapped portion of a piece shall not be less than 10 yards.

VI. LENGTH, WIDTH, WEIGHT--MEASUREMENT AND TOLERANCES

- A. Length - length shall be measured with any surface contact device (preferred calibration method: measure a known length of canvas or other stable, low elongation fabric--less than 2% in either direction--through the measuring device. Reference: ASTM D1910-64 hand method.) Actual yardage of each piece shall be accurate to within plus or minus 2% when measured by the above method.
- B. Width--Width shall be measured with an accurate tape after laying tricot fabric flat on a table without tension or elongation. (Reference: ASTM 3887-80).
 1. Conformity to the selling width of tricot fabric shall be determined on the basis of one of the three following methods:
 - a. Width between bunned edges of gummed fabrics.
 - b. Width between tenter frame pin marks when pin marks remain in shipped fabric.
 - c. Overall width of tricot fabric when neither of the criteria in (a) and (b) exists.

NOTE: If width is stated in a range such as 60/62 inches, the lower figure governs.

C. Tolerances

1. Weight -- weight of tricot fabrics per linear yard may not vary more than 5% (plus or minus) from the weight stated in the contract.
2. Wales -- variation in wales per inch may not exceed the values as stated below:
 - a. Plain, flat fabrics -- five wales across the actual width of the fabric.
 - b. Fabrics with a raised fiber surface -- seven wales across the actual width of the fabric.

VII. BOW AND SKEW (BIAS) -- DEFINITION AND MEASUREMENTS

A. Definitions

1. Bow -- a fabric condition resulting when knitted courses are displaced from a line perpendicular to the selvages and form one or more arcs across the width of the fabric.
2. Skewness (bias) -- a fabric condition resulting when knitted courses are angularly displaced from a line perpendicular to the edge or side of the fabric.

B. Measurement method

1. Bow -- a straightedge is placed across the fabric between the points at which a marked filling yarn of knitting course meets the two selvages or edges. The greatest distance between the straightedge and the marked filling yarn or course is measured parallel to the selvages.
2. Skewness or bias -- measure the skewness in three places spaced as widely as possible along the length of the fabric or along a minimum of 1 linear M (1 yard). If possible, make no measurement closer to the ends of the roll or piece of fabric than 1 m. Draw a line perpendicular to the selvage across the fabric from a point C where the marked yarn or course meets one selvage, meeting the other selvage at point B. Measure the distance between points A and B or D and B, and B and C. Record the three or more skewness or bias measurements. Calculate the maximum skewness or bias as a percentage of the fabric width using the following equation:

Skewness (bias), %

= (distance AB or DB X 100)/(width BC)

VIII. PHYSICAL PROPERTIES

- A. Basic fabrics -- ASTM standard performance specification for textile fabrics.
- B. Novelty fabric properties must be agreed between buyer and seller.
- C. Buyer agrees that the seller makes no warranty in fact or in law that the fabric is suitable for any particular use or purpose.