QUALITY STANDARD
FOR RASCHEL KNITTED FABRICS

I. PURPOSE:

To establish the uniform method for determining, quantifying and measuring the quality of Raschel 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:

Fabrics for apparel and apparel accessories of the following types:

A. Basic, flat finished Raschel fabrics.

B. Fabrics with a textured (raised) surface produced either in knitting or by finishing procedures.

C. Novelty fabrics.

NOTE: Fabrics for other end uses made subject hereto by express agreement between Buyer and Seller.

III. METHOD:

A. Four-Point System -- Penalty points are attributed to a piece of fabric according to the length of the 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 6 inches	2
Over 6 inches but not over 9 inches	3
Over 9 inches	4

1. Four 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.

3. Regardless of the length of the fabric, the quality shall be expressed in the number of penalty points per 100 yard length. (Example: A 40 yard piece with six penalty points is to be rated as 15 points per 100 yards.)

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 per 60 inch width and any yard containing bias or bowing in excess of these limits shall be penalized four points.

3. Fabrics are to 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. Pinholes (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, selling width being centered in the total width of the fabric.

D. Defects resulting form 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 Raschel knitted fabrics.

V. QUALITY DETERMINATION

Determining first quality Raschel knitted fabrics shall be done as follows:

A. Basic fabrics shall be classified as first quality if the number of penalty points does not exceed 40 points per 100 linear yards. However, the maximum of defects may not exceed 25 defects per 100 yards.

B. Raised surface fabrics shall be classified as first quality if the number of penalty points does not exceed 50 points per 100 linear yards. However, the maximum number of defects may not exceed 31 per 100 linear yards.

C. Novelty fabrics shall be classified as first quality if the number of penalty points does not exceed 60 per 100 linear yards. However, the maximum number of defects may not exceed 37 defects per 100 linear yards. Novelty fabrics are to be so designated by Seller. Novelty fabrics are those whose production involves special difficulties includingthose arising from special types of yarn, stitches, fibers or other factors. Fabrics are to be classified if they are thus designated in the sales contract or in other written notice given by the Seller to the Buyer. However, the maximum shall not exceed 37 defects per 100 yards.

NOTE: Laps: No more than 3 lapped pieces per 100 yards are allowable and not more than 1 lap in less than 100 yards. The shortest unlapped portion of a piece shall not be less than 10 yards.

VI. LENGTH AND WIDTH - MEASUREMENT METHODS

A. Length - Length Shall be measured with any surface contact device (Trumeter or equivalent that is calibrated regularly. The device shall contact the back or a smooth surface of Raschel knitted fabrics. (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 Raschel knit fabric flat on a table without tension or elongation. (Reference: ASTM 3887-80).

1. Conformity to the selling width of Raschel knit fabric shall be determined on the basis of one of the three following methods:

a. Width between gummed edges of gummed fabrics.

b. Width between tenter frame pin marks when pin marks remain in shipped fabrics.

c. Overall width of Raschel knit fabric when neither of the criteria in (a) and (b) exists.

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

VII. BOW AND SKEW (BIAS) - DEFINITIONS 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. (See Fig. 1)

2. Skewness (Bias) - a fabric condition resulting when knitted courses are angularly displaced from a line perpendicular to the edge or side of the fabrics. (See Fig. 2)

B. Measurement Method

1. Bow - a straightedge is placed across the fabric between the points at which the marked filling yarn or 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. (Fig. 1 Distance "D")

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 yd). 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, as shown in Fig. 2.

Record the three or more skewness or bias measurements. Calculate the maximum skewness or bias as a percentage of the fabric width using Eq. 2:

Skewness (bias), %

= (Distance AB or DB x 100/ (Width BC)

VIII. PHYSICAL PROPERTIES

A. Basic Fabrics -- ASTM standard performance specification for textiles fabric.

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.