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SPECIFICATION FOR COTTON FURNISHING FABRIC

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BUREAU OF CEYLON STANDARDS

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S. L. S. 255 : 1973

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Sri Lanka Standards are subject to periodical revision in order to accommodate the progress made by industry. Suggestions for improvement will be recorded and brought to the notice of the Committees to which the revisions are entrusted.

This Standard does not purport to include all the necessary provisions of a contract.

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SRI LANKA STANDARD SPECIFICATION FOR COTTON FURNISHING FABRIC

FOREWORD

This Sri Lanka Standard Specification was prepared by the Drafting Committee on Furnishing Fabric. It was approved by the Textiles Divisional Committee of the Bureau of Ceylon Standards and was authorised for adoption and publication by the Council of the Bureau on 5th December, 1973.

In Sri Lanka furnishing fabrics are produced by both hand-loom and powerloom sectors of the textile industry. This standard has been prepared incorporating all the essential requirements with a view to assist both the handloom and the powerloom sectors to produce furnishing fabrics of uniform quality.

All quantities and dimensions specified in this standard are given in the inch pound system of units to which the industry is accustomed. In view of the Ceylon Governments decision to change over to the international system of units (SI), the metric equivalents have also been given in brackets. These equivalent values have been calculated in accordance with C. S. 116: Ceylon Standard on principles of Conversion and rounded off in accordance with C.S. 102: Ceylon Standard on presentation of Numerical values. Conversion of Cotton Count to tex values have been carried out in accordance with C.S. 18–Yarn Count Systems and their conversions.

1. SCOPE

This specification prescribes the constructional details and other requirements for cotton furnishing fabric intended for use in upholstery and curtains.

2. DEFINITIONS

For the purpose of this Standard following definitions shall apply.

2.1 **Repp** – a plain–weave fabric with a prominently weftway-rib effect, made from two warps and two wefts. Both the warp and the weft threads are arranged alternately coarse and fine, coarse ends are raised above coarse picks and fine ends above fine picks, the rib effect being accentuated by different tensions in the warps.

Note:– less expensive fabrics are now often made with one warp and one weft but with the general ribbed effect.

2.2 **Figured repp** – a fabric in which patterns or motifs are produced by a combination of distinct weave usually requiring a dobby or Jacquard mechanism.

2.3 **Casement** – a light to medium mass closely plain–woven, cotton cloth made from good quality yarns. The weft is coarser and more closely spaced and has a lower twist factor than the warp thus giving a soft cloth in which the weft predominates on both sides.

2.4 **Cretonne** – a fabric woven plain, twill, crepe or fancy with thick soft weft and usually ornamented by elaborate printed designs.

2.5 **Tapestry** – an ornamented cloth, texture of which is mono-coloured or multicoloured woven with one or more series of warp and weft threads.

2.6 **Crepe** – a weave having a random distribution of floats so as to produce an 'all–over' effect in the fabric to disguise the repeat.

2.7 **Dobby** – a mechanism attached to a loom for controlling the movement of the heald shafts. It is required when the number of heald shafts or the number of picks in a repeat of the pattern or both are beyond the capacity of tappet shedding.

2.8 **Jacquard** – a shedding mechanism, attached to a loom, that gives individual control of up to several hundred warp threads and this enables large figured designs to be produced.

3. GENERAL REQUIREMENTS

3.1 Yarn – the yarn used in the manufacture of furnishing fabric shall be spun from cotton and shall conform to C.S. 137*.

3.1.1 The twist per inch (10 mm) of yarns used in the manufacture of furnishing cloth shall not exceed the values specified in Table 1.

TABLE 1 - TWIST OF YARNS

Count of yarn Cotton count (tex)	Maximum twist per inch (10 mm)
Warp 14s (42)	16.5 (6.5)
Warp 16s (36)	17.5 (6.9)
Warp and Weft 20s/2 (30 × 2)	Single twist 15 (5.9) Double twist 12 (4.7)
Warp and Weft 30s/2 (20 × 2)	Single 19 (7.5) Double 16 (6.3)
Weft 10s (60)	13.5 (5.3)
Weft 16s (36)	16 (6.3)

3.2 Cloth

3.2.1 The cloth shall be woven in plain, twill, dobby or jacquard weave as the case may be.

3.2.2 Selvedges shall be straight and evenly woven and at least 0.2 in (5 mm) width.

3.2.3 The cloth shall be free from defects which affect the appearance.

3.2.4 The finish and design of the cloth shall be agreed upon between the buyer and seller.

4. SPECIFIC REQUIREMENTS

4.1 The fabric shall comply with the requirements of any of the types specified in Table 2. The permissible tolerances for various requirements and the methods of test have also been prescribed in the Table.

* C.S. 137 – Grey Cotton Yarns.

TABLE 2 – CONSTRUCTIONAL DETAILS

Weave	Count of Yarn Cotton Count (tex)		Ends per inch (10mm)	Picks per inch (10mm)	Mass per sq. yd. in oz (per sq. metre in kg)	Minimum breaking load in 1bf (daN)	
	Warp	Weft				Warp wise	Weft wise
Repp 1.	16s (36)				7.6 (0.26)	160 (71)	82
	or 14s (42)	10s(60)	78 (31)	40 (16)	8.4 (0.28)	167 (74)	(36)
2.	20s/2 (30 × 2)	20s/2 (30 × 2)	48 (19)	56 (22)	9.4 (0.32)	153 (68)	120 (53)
3.	16s (36)				7.2 (0.24)	113 (50)	
	or 14s (42)	10s(60)	60 (24)	44 (17)	8.5 (0.29)	126 (56)	95 (42)
Plain or repp 4.	20s/2 (30 × 2)	10s(60)	48 (19)	56 (22)	9.1 (0.31)	146 (65)	120 (53)
5.	20s/2 (30 × 2)	30s/2 (20 × 2)	44 (17)	42 (17)	5.5 (0.19)	132 (59)	88 (39)
Crepe 6.	30s/2 (20 × 2)	16s(36)	52 (20)	48 (19)	5.8 (0.20)	115 (51)	99 (44)
7.	20s/2 (30 × 2)	16s(36)	56 (22)	48 (19)	7.7 (0.26)	178 (79)	99 (44)
Matt Weave or 8. Irregular Hopsack	20s/2 (30 × 2)	20s/2 (30 × 2)	48 (19)	48 (19)	8.6 (0.29)	153 (68)	103 (46)
Jacquard Repp 9.	30s/2 (20 × 2)	10s(60)	104 (41)	48 (19)	10.08(0.34)	212 (94)	103 (46)

Weave	Count of Yarn Cotton Count (tex)		Ends per inch (10 mm)	Picks per inch (10 mm)	Mass per sq. yd. in oz (per sq. metre in kg)	Minimum breaking load in lbf (daN)	
	Warp	Weft				Warp wise	Weft wise
Tapestry 10.	14s(42) + 150 D fillament yarn.	14s (42)	72 (29)	46 (18)	6.7 (0.23)	154 (68)	71 (32)
Tolerance	±5%		+5% —2.5%	+5% —2.5%	+5% —2.5%	—	—
Methods of Test	C.S. 44*		C.S. 41**		C.S.42***	C.S.43****	

4.2 Colour fastness – The coloured yarn used for designs and coloured cloth shall be fast to daylight, bleaching, washing, rubbing and perspiration. The numerical ratings shall be in accordance with table 3, when tested by the relevant methods given in column 4 of the table.

* C.S.44 – Methods for the determination of the count of yarn removed from fabric free from added matter.

** C.S.41 – Methods for the determination of the number of threads per inch in woven fabrics.

*** C.S.42 – Methods for the determination of mass per unit length and per unit area of woven or knitted fabrics.

**** C.S.43 – Method for the determination of breaking load and extension of strips of woven textile fabric.

TABLE 3 - COLOUR FASTNESS REQUIREMENTS

Description (1)	Agent (2)	Numerical rating (3)	Methods of Test (4)
Curtain	Daylight	5 or better	C.S. 62*
	Washing	4 or better	C.S. 55**
	Bleaching	3 or better	C.S. 88***
Upholstery	Daylight	5 or better	C.S. 62*
	Washing	4 or better	C.S. 55**
	Bleaching	4 or better	C.S. 88***
	Rubbing	3 or better	C.S. 63†
	Perspiration	3 or better	C.S. 67‡

4.3 Scouring loss

4.3.1 The scouring loss of cloth in a lot shall be not more than 2.5 per cent.

4.3.2 The percentage of scouring loss of cloth in a lot shall be determined by the method described in C. S. 87††.

4.4 Chemical soundness of fabric

4.4.1 Cuprammonium fluidity of a solution of cloth shall not exceed 10 reciprocal poise (m^2/N-s).

4.4.2 The cuprammonium fluidity shall be determined by the method described in C.S.‡‡

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* C.S. 62 – Method for determination of colour fastness of textile materials by daylight.

** C.S. 55 – Method for the determination of colour fastness of Textile materials to washing at 95° C for 30 minutes (test 4)

*** C.S. 88 – Method for the determination of colour fastness of textile materials to bleaching with hypochlorite.

† C.S. 63 – Method for determination of colour fastness of textile materials to rubbing.

‡ C.S. 67 – Method for determination of colour fastness of textile materials to perspiration.

‡‡ C.S. – Method for determining the fluidity of cotton, rayon and cellulose acetate in cuprammonium hydroxide solution (under preparation).

†† C.S. 87 – Method for the determination of scouring loss in grey and finished cotton textile materials.

4.5 pH value

4.5.1 The pH value of the aqueous extract of cloth shall be not less than 6.0 nor more than 8.5.

4.5.2 The pH value of the aqueous extract of cloth shall be determined by the cold method prescribed in C.S. 86*.

4.6 Shrinkage or Elongation

4.6.1 The relaxation shrinkage or elongation of cloth, warpway or weftway, shall not be more than 1 per cent for pre-shrunk and 6 per cent for unshrunk materials.

4.6.2 The percentage of warpway and weftway shrinkage or elongation of cloth shall be determined by the method prescribed in C.S. 47†

4.7 Width

4.7.1 The minimum width of cloth shall be 45 in (114 cm) or as agreed between the buyer and the seller. A tolerance of $\pm$ 2% in the width of cloth shall be permitted.

4.7.2 The width of cloth shall be determined by the method prescribed in C.S. 46‡.

Note: cm has been given for practical purposes.

4.8 Length

4.8.1 The length of each piece of cloth shall be 40 yd (36m) or any other length as may have been specified in an agreement between the buyer and the seller.

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* C.S. 86 – Method for the determination of pH value of aqueous extracts of textile materials.

† C.S. 47 – Method for shrinkage of fabrics: cold water immersion test.

‡ C.S. 46 – Method for the determination of width of woven or knitted fabrics when relaxed at zero tension.

4.8.2 The length of each of the pieces constituting the sample under test (see clause 7.4) shall be determined by the method prescribed in C.S.45*.

4.9 Skewness of weft

4.9.1 The mean skewness of the weft shall not exceed 6 per cent and the value at any part of the fabric shall not exceed 10 per cent.

4.9.2 The skewness of the weft shall be determined by the method prescribed in C.S.89**.

5. PACKING

Cloth shall be packed in a manner acceptable to the purchaser, in single pieces or in bales.

5.1 **Single pieces** – the fabric shall be completely wrapped in paper or suitable covering which shall not contain any water soluble dyes capable of staining the fabric.

5.2 **Bales** – Pieces of the same variety and finish shall be packed together in the same bale.

6. LABELLING

The following information shall appear in legible and indelible marking on a label securely attached to the end of each piece.

(a) manufacturer's name or trade mark if any,
(b) width and piece length
(c) name of the material (upholstery, curtain)
(d) type (Repp, Jacquard repp, crepe, etc.)
(e) Year of manufacture.

7. SAMPLING

7.1 **Lot** – The quantity of cloth of the same type and quality delivered to one buyer against one despatch note shall constitute a lot.

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* C.S. 45 – Method for the determination of length of woven or knitted fabrics when relaxed at zero tension.
** C.S. 89 – Method for the determination of bow and skewness in woven fabrics.

7.2 Unless otherwise agreed upon between the buyer and the seller, the number of pieces of cloth to be selected at random from a lot shall be in accordance with column 2 of Table 4. These pieces shall be selected from at least 10 per cent of the bales, and equal number of pieces, as far as possible, being drawn at random from each bale.

TABLE 4 – SAMPLE SIZE

(See Clause 7.2, 7.3)

Number of pieces in the lot	Sample size (No. of pieces to be selected)	Permissible number of pieces deviating from the standard	Sub-sample size (No. of pieces to be selected)
(1)	(2)	(3)	(4)
Up to 100	10	0	5
101 to 300	15	1	6
301 to 500	25	1	7
501 to 800	35	2	8
801 to 1,300	50	3	9
1,301 and above	75	4	10

7.3 For evaluating (a) ends and picks, (b) mass (c) width, (d) length, the samples selected as in column 2 of Table 3 shall constitute the test sample.

7.4 For evaluating (a) breaking load, (b) colour fastness, (c) scouring loss, (d) pH value, (e) shrinkage or elongation (f) chemical soundness of fabrics and skewness, the number of pieces of cloth specified in column 4 of Table 3 shall constitute the test sample: these pieces may be drawn from the pieces selected for the purpose of Clause 7.4. The required test specimens shall be drawn from each of the pieces and subjected to corresponding tests.

7.5 Criteria for Conformity – The lot shall be considered to be in conformity with the requirements of this standard, if the following conditions are satisfied:

(a) The number of non–conforming pieces with respect to (1) ends and picks, (2) mass, and (3) width, does not exceed the corresponding number given in Column 3 of Table 3.

(b) In the case of length, the length of each piece is not less than the specified, declared or marked length. If it is, the mean percentage of deficiency in length is determined and made applicable to the lot.

(c) From the observed values of the breaking load tests in respect of each piece in the test sample, the average breaking load value is calculated. From all such average values, the grand average $\bar{\bar{x}}$ and the range R_1 is calculated and the value of the expression $\bar{\bar{x}} - 0.4R_1$ is found to be greater than or equal to the specified value.

(d) From the observed values of shrinkage or elongation, the average $\bar{x}$ and the range R are calculated and the value of the expression $\bar{x} + 0.4R$ is less than or equal to the specified value.

(e) From the observed pH values, the average $\bar{x}$ and the range R are calculated and the value of the expressions $\bar{x} + 0.4R$ and $\bar{x} - 0.4R$ lie within the specified limits.

(f) From the observed value of scouring loss, skewness of weft and chemical soundness of fabric the average $\bar{x}$ and the rang R are calculated and the value of the expression $\bar{x} + 0.4R$ is less than or equal to the specified limit.

(g) The colour fastness ratings for various agencies obtained on tests satisfy the corresponding requirements.

Note 1: The average breaking load value for a piece is the value obtained by dividing the sum of observed values in respect of the test specimens taken from the piece, by the number of test specimens. The grand average $\bar{\bar{x}}$ is the value obtained by dividing the sum of the average breaking load values in respect of all the pieces in the test sample, by the number of pieces tested.

Note 2: The range R_1 is the difference between the maximum and the minimum in a set of average breaking load values for the pieces tested.

Note 3: Average $\bar{x}$ is the value obtained by dividing the sum of the observed values by the number of tests.

Note 4: Range R is the difference between the maximum and the minimum in a set of observed values.

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