SRI LANKA STANDARD 90 : 1986

UDC 677 . 06 : 677 . 21

SPECIFICATION FOR
COTTON POPLIN (POWERLOOM)
(FIRST REVISION)

SRI LANKA STANDARDS INSTITUTION

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SLS 90:1986

Gr. 6

SRI LANKA STANDARDS INSTITUTION
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This standard does not purport to include all the necessary provisions of a contract.

SRI LANKA STANDARD

SPECIFICATION FOR COTTON POPLIN (POWERLOOM)
(FIRST REVISION)

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1986-05-16 after the draft, finalized by the Drafting Committee on Cotton Poplin, had been approved by the Textiles Divisional Committee.

This specification was first published in 1970. In this revision, the scope of the specification has been expanded to cover finished and printed cotton poplin. In keeping with the current practice of the textile industry, one set of values for linear density of warp and weft yarn has been given as a guidance. This makes provision for the manufacturers to use suitable yarn of other linear densities. Requirements for number of threads per unit length, mass per unit area and shrinkage or elongation of preshrunk cloth have been changed and the colour fastness to bleaching and twist in yarns have been deleted. Further, methods of sampling and conformity to standard have been modified.

Clauses **4.2.6** and **4.2.7** of this specification call for agreement between the buyer and the seller.

All values given in this specification are in SI units.

For the purpose of deciding whether a particular requirement of this specification is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with **CS 102**. The number of significant places retained in the rounded off value shall be the same as that of the specified value in this specification.

In the preparation of this specification, valuable assistance derived from the publications of the Indian Standards Institution is gratefully acknowledged.

1 SCOPE

This specification prescribes requirements, methods of sampling and test for bleached, mercerized and white finished, dyed or printed cotton poplin.

2 REFERENCES

SLS 41 Determination of the number of threads per centimetre in woven fabric (First revision)

SLS 42 Determination of mass per unit length and per unit area of woven or kintted fabrics (First revision)

CS 43 Determination of breaking load and extension of strips of woven textile fabric

CS 44 Determination of the count of yarn removed from fabric, free from added matter

SLS 45 Determination of length of woven fabric (First revision)

SLS 46 Determination of width of woven fabric (First revision)

CS 47 Method for shrinkage of fabrics-cold water immersion test

CS 55 Determination of colour fastness of textile materials to washing at 95 °C for 30 minutes (Test 4)

CS 62 Determination of colour fastness of textile materials to daylight

CS 67 Determination of colour fastness of textile materials to perspiration

CS 86 Determination of pH value of aqueous extracts of textile materials

CS 87 Determination of scouring loss in grey and finished cotton textile materials

CS 89 Determination of bow and skewness in woven fabrics

CS 102 Presentation of numerical values

SLS 137 Grey cotton yarns

Part 1 Powerloom (First revision)

SLS 428 Random sampling methods.

3 DEFINITION

For the purpose of this specification the following definition shall apply:

3.1 poplin: A plain weave fabric with weftway ribs and high warp sett.

4 REQUIREMENTS

4.1 General requirements

4.1.1 *Yarn*

Yarn complying with the requirements given in SLS 137:Part 1 is suitable for use in the manufacture of the cloth.

4.1.2 *Cloth*

4.1.2.1 The cloth shall be woven in plain weave.

4.1.2.2 The cloth shall be reasonably free from defects.

4.2 Specific requirements

4.2.1 *Construction*

The cloth shall conform to the requirements given in Table 1, except for the linear densities of warp and weft yarn which have been given only for guidance. A warp cover factor is to weft cover factor of approximately 2:1 is suitable for the manufacture of cloth. Tests shall be carried out by the relevant methods given in the table.

TABLE 1 - Requirements for construction

Sl. No. (1)	Characteristic (2)	Requirement (3)	Method of test ref. (4)
i	Linear density, tex a) Warp b) Weft	 20 15	CS 44
ii	Threads per cm, min. a) Warp b) Weft	 42 24	SLS 41
iii	Mass per unit area, g/m^2, min.	110	SLS 42
iv	Breaking load, kg, min. a) Warp b) Weft	 54 22	CS 43

4.2.2 *Colour fastness*

The colour fastness ratings of dyed or printed cloth shall conform to the requirements given in Table 2, when tested by the relevant methods.

TABLE 2 - Requirements for colour fastness

Fastness to	Numerical rating	Method of test ref.
Washing	4 or better	CS 55
Daylight	5 or better	CS 62
Perspiration	4 or better	CS 67

4.2.3 *Scouring loss*

The scouring loss of the cloth shall not exceed 2 per cent when determined by the method prescribed in **CS 87**.

4.2.4 *pH value*

The pH value of the aqueous extract of the cloth shall be not less than 6.0 and not more than 8.5 when determined by the cold method prescribed in **CS 86**.

4.2.5 *Shrinkage or elongation*

Shrinkage or elongation of cloth warp way and weft way, when tested in accordance with the method prescribed in **CS 47** shall be not more than 1 per cent for preshrunk cloth and 5 per cent for unshrunk cloth.

4.2.6 *Width*

The width of cloth shall be as agreed between the buyer and the seller and a tolerance of ± 2 per cent of the specified width shall be permitted, when determined by the method prescribed in **SLS 46**.

4.2.7 *Length*

The length of each piece of cloth shall be 30 m or as agreed between the buyer and the seller. The length of cloth shall be determined by the method prescribed in **SLS 45**.

4.2.8 *Selvedges*

The selvedges shall be straight and the width shall be even. Where the selvedges have a fringe, it shall not exceed 5 mm.

4.2.9 *Skewness of weft*

The skewness of weft shall not exceed 6 per cent, and the value at any part of the fabric shall not exceed 10 per cent, when determined by the method prescribed in **CS 89**.

5 PACKAGING

The cloth shall be packed in a manner acceptable to the purchaser, in single pieces, bales of cartons.

5.1 Single pieces

The fabric shall be completely wrapped in polyethylene or any other suitable material. The wrapper shall not contain any water-soluble dyes capable of staining the fabric on wetting.

5.2 Bales or cartons

The pieces having the required length shall be completely wrapped in a suitable material. The wrapper shall not contain any water-soluble dyes capable of staining the fabric on wetting. Only pieces of the same variety and finish shall be packed together in the same bale or carton.

6 MARKING

6.1 The follwing information shall be marked or printed legibly on the fabric, at the end of each piece:

a) Name and address of the manufacturer (including the country of origin);

b) Registered trade mark, if any;

c) Type of material;

d) Length, in metres;

e) Width, in centimetres;

f) Type of finish and, where applicable, colour; and

g) Batch identification mark.

6.2 The following information shall be marked legibly and indelibly on the outside of each bale or carton:

a) Name and address of the manufacturer (including the country of origin);

b) Registered trade mark, if any;

c) Type of material;

d) Total length of pieces, in metres;

e) Width, in centimetres;

f) Type of finish and, where applicable, colour;

g) Number of pieces;

h) Gross mass, in kilograms; and

j) Batch identification mark.

6.3 The bale or the carton may also be marked with the Certification Mark of the Sri Lanka Standards Institution illustrated below on permission being granted for such marking by the Sri Lanka Standards Institution.

NOTE - The use of the Sri Lanka Standards Institution Certification Mark (SLS Mark) is governed by the provisions of the Sri Lanka Standards Institution Act and the regulations framed thereunder. The SLS mark on products covered by a Sri Lanka Standard is an assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control, which is devised and supervised by the Institution and operated by the producer. SLS marked products are also continuously checked by the Institution for conformity to that standard as a further safeguard. Details of conditions under which a permit for the use of the Certification Mark may be granted to manufacturers or processors may be obtained from the Sri Lanka Standards Institution.

7 SAMPLING

7.1 Lot

All pieces of cotton poplin of the same variety and finish and belonging to one batch of manufacture or supply shall constitute a lot.

7.2 Scale of sampling

7.2.1 Samples shall be tested from each lot for ascertaining its conformity to the requirements of this specification.

7.2.2 If single pieces are submitted for inspection, the number of pieces to be selected from a lot shall be in accordance with Column 1 and Column 2 of Table 3.

TABLE 3 - Scale of sampling

Number of pieces in the lot (1)	Number of pieces/bales or cartons to be selected (2)
Up to 50	3
51 to 100	4
101 to 300	5
301 and above	10

7.2.3 If bales or cartons are submitted for inspection, the number of pieces in the submitted lot shall be calculated and the number of bales or cartons to be selected from the lot shall be in accordance with Column 1 and Column 2 of Table 3. One piece shall be selected from each bale or carton so selected.

7.2.4 The bales or cartons and pieces shall be selected at random. In order to ensure randomness of selection, tables of random numbers as given in SLS 428 shall be used.

7.3 Number of tests

7.3.1 Each bale or carton selected as in 7.2.3 shall be inspected for the requirements for packaging and marking.

7.3.2 Each piece selected as in 7.2.2 or 7.2.3 shall be inspected for the requirements for packaging, marking, width and length.

NOTE - 7.3.1 and 7.3.2 may be done at the place of sampling.

7.3.3 Sufficient quantity of material shall be cut from each piece selected as in 7.2.2 or 7.2.3 after discarding the first half-metre. Each sample shall be examined for selvedges and tested for requirements given in 4.2.1 to 4.2.5 and 4.2.9.

NOTE - The required test specimens shall be taken in accordance with the relevant test methods.

8 CONFORMITY TO STANDARD

A lot shall be declared as conforming to the requirements of this specification if the following conditions are satisfied.

8.1 Each bale or carton inspected as in 7.3.1 satisfies the relevant requirements.

8.2 Each piece inspected as in 7.3.2 satisfies the relevant requirements.

8.3 The value of the expression $\bar{x} - 0.4\,R$ (see Notes) calculated using test results on threads per centimetre, mass per unit area and breaking load, is not less than the specified value for each requirement.

NOTES

1 Mean $(\bar{x}) = \dfrac{\text{Sum of observed values}}{\text{Number of values}}$

2 Range (R) is the difference between the maximum and the minimum in a set of observed values.

8.4 The value of the expression $\bar{x} + 0.4\ R$ calculated using test results on scouring loss, shrinkage or elongation and skewness of weft is less than the specified value for each requirement.

8.5 The values of the expressions $\bar{x} + 0.4\ R$ and $\bar{x} - 0.4\ R$ calculated using test results on pH value lie between the two specification limits.

8.6 Each sample examined as in **7.3.3** satisfies the requirements for selvedge.

8.7 Each sample tested for colour fastness satisfies the relevant requirement.

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The Sri Lanka Standards Institution is the owner of the registered certification mark shown below. Beneath the mark, the number of the Sri Lanka Standard relevant to the product is indicated. This mark may be used only by those who have obtained permits under the SLS certification marks scheme. The presence of this mark on or in relation to a product conveys the assurance that they have been produced to comply with the requirements of the relevant Sri Lanka Standard under a well designed system of quality control inspection and testing operated by the manufacturer and supervised by the SLSI *which includes surveillance inspection of the factory, testing of both factory and market samples.*

Further particulars of the terms and conditions of the permit may be obtained from the Sri *Lanka Standards Institution, 17, Victoria Place, Elvitigala Mawatha, Colombo 08.*

Printed at SLSI (Printing Unit)

SRI LANKA STANDARDS INSTITUTION

The Sri Lanka Standards Institution (SLSI) is the National Standards Organization of Sri Lanka established under the Sri Lanka Standards Institution Act No. 6 of 1984 which repealed and replaced the Bureau of Ceylon Standards Act No. 38 of 1964. The Institution functions under the Ministry of Science & Technology.

The principal objects of the Institution as set out in the Act are to prepare standards and promote their adoption, to provide facilities for examination and testing of products, to operate a Certification Marks Scheme, to certify the quality of products meant for local consumption or exports and to promote standardization and quality control by educational, consultancy and research activity.

The Institution is financed by Government grants, and by the income from the sale of its publications and other services offered for Industry and Business Sector. Financial and administrative control is vested in a Council appointed in accordance with the provisions of the Act.

The development and formulation of National Standards is carried out by Technical Experts and representatives of other interest groups, assisted by the permanent officers of the Institution. These Technical Committees are appointed under the purview of the Sectoral Committees which in turn are appointed by the Council. The Sectoral Committees give the final Technical approval for the Draft National Standards prior to the approval by the Council of the SLSI.

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In the International field the Institution represents Sri Lanka in the International Organization for Standardization (ISO), and participates in such fields of standardization as are of special interest to Sri Lanka.

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