SRI LANKA STANDARD 767 : 1986

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SPECIFICATION FOR

PLAIN WOVEN COTTON SHIRTING (POWERLOOM)

SRI LANKA STANDARDS INSTITUTION

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SLS 767:1986

Gr. 5

SRI LANKA STANDARDS INSTITUTION
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Sri Lanka.

SRI LANKA STANDARD

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FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1986-12-17, after the draft, finalized by the Drafting Committee on Cotton Shirting, had been approved by the Textile Divisional Committee.

Some commonly used constructional details for powerloom cotton shirting are given in Appendix A as a guidance to the manufacturers.

All standard 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 results 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 should be the same as that of the specified value in this specification.

In the preparation of this specification, valuable assistance derived from the related publications of the Indian Standards Institution, Standards Institution of Malaysia and American Society for Testing and Materials is gratefully acknowledged.

1 SCOPE

This specification prescribes requirements, methods of sampling and tests for bleached, mercerized, dyed, printed, striped or checked cotton shirting.

2 REFERENCES

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

CS 42 Determination of mass per unit length and per unit area of woven or knitted fabrics

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 63 Determination of colour fastness of textile materials to rubbing

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 fabric

CS 102 Presentation of numerical values

SLS 137 Grey cotton yarn

Part 1 Powerloom (First revision)

CS 203 Determination of colour fastness of textile materials to organic solvents

SLS 428 Random sampling methods

3 REQUIREMENTS

3.1 General requirements

3.1.1 *Yarn*

3.1.1.1 Cotton yarn conforming to **SLS 137:Part 1** is suitable for use in the manufacture of the cloth.

3.1.2 *Cloth*

3.1.2.1 The cloth shall be of plain weave.

3.1.2.2 The cloth when visually examined shall be reasonably free from flaws.

3.2 Scouring loss

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

3.3 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 tested by the cold method prescribed in **CS 86.**

3.4 Shrinkage or elongation

Shrinkage or elongation of cloth, warp way and weft way shall be not more than 1 per cent for pre shrunk cloth and 3 per cent for unshrunk cloth, when tested in accordance with the method prescribed in **CS 47.**

3.5 Breaking strength

The cloth shall have a minimum breaking strength of 150 N, warp way and 125 N, weft way when tested by the method prescribed in **CS 43.**

3.6 Mass per unit area

The cloth shall have a minimum mass per unit area of 73 g per m^2 when tested by the method prescribed in **CS 42.**

3.7 Length

The length of each piece shall be 30 m or as agreed to between the buyer and the seller. The piece length when determined by the method prescribed in **SLS 45** shall not be less than the value specified/declared.

3.8 Width

The width of the cloth shall be 900 mm, 1 140 mm and 1 500 mm or as agreed to 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.**

3.9 Selvedges

The selvedges shall be firm, straight and well woven. The width of the selvedges shall not be less than 5 mm.

3.10 Skewness of weft

The skewness of weft shall not exceed 3 per cent, and the value at any part of the cloth shall not exceed 5 per cent when determined by the method prescribed in **CS 89.**

3.11 Colour fastness

The colour fastness ratings of the cloth shall conform to the requirements specified in Table 1, when tested by the relevant methods.

TABLE 1 - Requirements for colour fastness

Fastness (1)	Numerical ratings (2)	Method of test (3)
Daylight	5 or better	CS 62
Washing	4 or better	CS 55
Rubbing-dry and wet	4 or better	CS 63
Perspiration	4 or better	CS 67
Organic solvents	3 or better	CS 203

4 PACKAGING

The cloth shall be rolled or folded in single pieces or in bales as agreed to between the buyer and seller.

4.1 Single pieces

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

4.2 Bales

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

5 MARKING

5.1 The following information shall be marked legibly on the cloth at both ends of each piece:

a) Name of the product;

b) Type of finish and colour, where applicable;

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

d) Registered trade mark, if any;

e) Length, in metres;

f) Width, in millimetres; and

g) Batch identification mark.

5.2 The following information shall be marked legibly and indelibly on each bale :

a) Name of the product;

b) Type of finish and colour, where applicable;

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

d) Registered trade mark, if any;

e) Width, in millimetres;

f) Number of pieces;

g) Total length in metres; and

h) Batch identification mark.

5.3 The bales and pieces 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.

6 SAMPLING

6.1 Lot

All pieces of cotton shirting belonging to one batch of manufacture or supply shall constitute a lot.

6.2 Scale of sampling

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

6.2.2 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 2.

TABLE 2 - Scale of sampling

Number of pieces in the lot (1)	Number of pieces/bales to be selected (2)
Up to 100	4
101 to 300	5
301 to 600	8
601 and above	10

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

6.2.4 The bales 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.

6.3 Number of tests

6.3.1 Each bale selected as in 6.2.3 shall be inspected for packaging **(4)** and **(5)** requirements.

6.3.2 Each piece selected as in 6.2.2 or 6.2.3 shall be inspected for requirements given in 3.1.2.1, 3.1.2.2 packaging and marking requirements, and length **(3.7)** and width **(3.8)** requirements.

6.3.3 Sufficient quantity of material shall be cut from each piece selected as in 6.2.2 or 6.2.3 after discarding first half metre. Each sample shall be examined for selvedges and tested for requirements given in 3.2 to 3.6, 3.10 and 3.11.

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

7 METHODS OF TEST

Tests for the requirements laid down in 3.2 to 3.8, 3.10 and 3.11 shall be carried out by the methods prescribed therein.

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 inspected as in **6.3.1** satisfy the relevant requirements.

8.2 Each piece inspected as in **6.3.2** satisfy the relevant requirements.

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

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

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

NOTES

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

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

8.6 Each sample examined as in 6.3.3 satisfies the requirements for selvedges.

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

APPENDIX A
COMMONLY USED CONSTRUCTIONAL DETAILS

Type	Linear density of yarn in tex		Ends per 10 mm	Picks per 10 mm
(1)	Warp (2)	Weft (3)	(4)	(5)
1	20	26	26	23
2	20	15	26	27
3	15	15	28	27
4	10	12	38	31
5	12	12	31	31
6	12	10	31	36
Method of test	CS 44		SLS 41	

SLS CERTIFICATION MARK

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.*

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SRI LANKA STANDARDS INSTITUTION

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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.

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All members of the Technical and Sectoral Committees render their services in an honorary capacity. In this process the Institution endeavours to ensure adequate representation of all view points.

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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