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SPECIFICATION FOR
GENT'S KNITTED BRIEFS

SRI LANKA STANDARDS INSTITUTION

Gr. 7

SRI LANKA STANDARD

SPECIFICATION FOR GENT'S KNITTED BRIEFS

FOREWORD

The Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1986-11-14, after the draft, finalized by the Drafting Committee on Ladies'. and Gent's Underwear, had been approved by the Textiles Divisional Committee.

All standard values given in this specification are in SI units.

Size of the briefs is designated by a number which is the waist measurement of the body, in centimetres, for which the brief is intended to fit. This was done as an attempt to introduce the size designation system based on body measurements. Also, for the convenience of the industry the corresponding inch value is given in brackets.

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 an analysis, shall be rounded off in accordance with **CS 102**. The number of significant places to be 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 International Organization for Standardization, Indian Standards Institution, Kenya Bureau of Standards and Industrial Institute of Malaysia is gratefully acknowledged.

1 SCOPE

This specification prescribes the requirements and methods of sampling and test for gent's cotton, cotton-synthetic blended, and 100 per cent synthetic knitted briefs.

2 REFERENCES

CS 16 Standard atmospheres for conditioning and testing textiles

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

CS 102 Presentation of numerical values

CS 112 Cotton sewing thread

SLS 227 Elastic braids and webbings

SLS 335 Care labelling of textiles

SLS 428 Random sampling methods

SLS ..* Polyester cotton sewing threads (Under preparation)

SLS ..** Spun polyester sewing threads (Under preparation)

SLS ..*** Knitted fabrics (Under preparation)

3 DEFINITIONS

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

3.1 strand: One of the individual components, namely, a single, two-fold, or multi-fold yarn, of a folded or cabled construction.

3.2 mends: Defects, imperfections and damages in fabrics and garments rectified by thread and needle.

3.3 course: A transverse row of loops in a knitted fabric or garment.

3.4 wale: A longitudinal chain of loops in a kintted fabric or garment formed by one needle.

3.5 interlock fabric: A double 1x1 rib-knitted fabric with corssed sinker wales. The wales on one side of the fabric are immediately behind the wales of the other side of the fabric. The appearance of the fabric is same on both sides.

3.6 rib-knitted fabric

3.6.1 rib-knitted fabric 1x1: A weft-knitted fabric made on two sets of needles in which all the loops of alternate wales are intermeshed in one direction and all the loops of the other wales knitted at the same courses are intermeshed in the other direction.

3.6.2 rib-knitted fabric 2x2: A weft-knitted fabric made on two sets of needles in which all the loops of alternate pairs of wales are intermeshed in one direction and all the loops of the other pairs of wales knitted at the same course are intermeshed in the other direction. Also known as "Corduroy (Knitted)" and "Swiss Rib".

3.7 faltlock stitch: A sewing stitch which makes the sewn portion lie flat and not raise above the surface of the fabric. These stitches are more often used in underwear.

3.8 dropp stitch; dropped stitch: A defect in a knitted fabric which may result from a defective needle, improper feeder setting, or other causes. It occurs when a needle (or needles) misses to receive the yarn but casts off its old loop at the same course. Also known as "Missed Stitch".

3.9 ladder: A sequence of drop stitches in a single wale. It appears like a ladder.

3.10 lock stitch: A two-thread sewing stitch by which the lower thread is interlocked with the upper thread and held fast.

3.11 overlock stitch

3.11.1 two-thread overlock stitch: A sewing stitch made from two threads used for hemming purposes. The edge of the fabric is first cut by knives incorporated in the machine and then stitch is made over the cut edge of the fabric to join it with the main fabric.

3.11.2 three-thread overlock stitch: A sewing stitch made from three threads used for joining two or more pieces of fabric. The edges of the fabrics are first cut by knives incorporated in the machine and then the stitch is made over the cut edges of the fabrics to join them together.

4 REQUIREMENTS

4.1 General requirements

4.1.1 *General design*

Shapes of the briefs shall be as shown in Fig. 1. Briefs shall have double flaps (so that one is covered by the other) with suitable front openings.

4.1.2 *Waist band*

4.1.2.1 Briefs shall be supplied with a woven or knitted, elastic strap and shall be stitched to the waist band by lock stitches in case of woven straps and flat or over-lock stitches in case of knitted straps. Alternatively, the knitted fabric shall be welted and stitched at the waist band to accommodate an elastic strap or a rubber band. The waist band should be free of knots.

4.1.2.2 The elastic strap used shall conform to **SLS 272.**

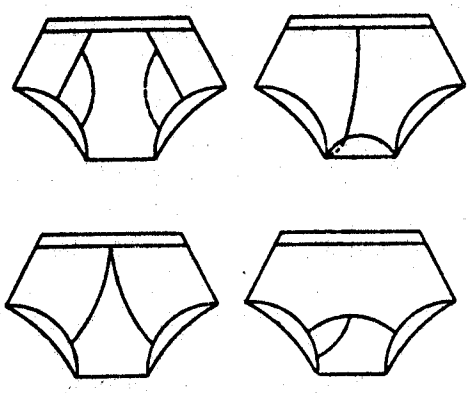

FIGURE 1 - General design of briefs

4.1.3 *Seams and stitches*

4.1.3.1 For stitching various portions of briefs, the type of stitches and count of sewing thread used shall be as given in Table 1.

4.1.3.2 The sewing thread shall be either cotton, polyester cotton or 100 per cent spun polyester conforming to CS 112, SLS ..* and SLS ..** respectively.

4.1.4 *Freedom from defects*

Briefs shall be reasonably free from any manufacturing defects, such as large mends, ladders, dropped stitches, holes, cuts and stains. They shall also be reasonably free from missed stitches at the stitched portions.

TABLE 1 - Seams and stitches

Portion to be stitched (1)	Type of stitch (2)	Thread in needle(s) (3)	Thread in looper(s) (4)
Joining at the seat and side seams (for briefs fabricated out of the flat fabric)	Flatlock	Strands of 9.8 tex x 3	Two strands of sewing thread of 15 tex x 2 or 9.8 tex x 3 or the same type of yarn as used for knitting the fabric
Welting at the front opening and thigh openings	Flatlock or 2-thread overlock stitch	One or more strands of 9.8 tex x 3	One or two strands of 15 tex x 2 or 9.8 tex x 3 or the same type of yarn used as for knitting fabric

4.2 Other requirements

4.2.1 *Fabric*

4.2.1.1 Briefs shall be tailored out of well and evenly knitted interlock 1x1 rib, 2x2 rin or plain, cotton, cotton-synthetic blended or 100 per cent synthetic fabric. These fabrics conforming to SLS ...*** shall be either grey, scoured, bleached or dyed.

4.2.1.2 Dimensional change

The dimensional change (due to relaxation) of briefs shall not exceed 5.0 per cent when determined by the method prescribed in **8.2.**

4.2.1.3 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 determined by the cold method prescribed in **CS 86.**

4.2.2 *Size designation*

The size of briefs shall be designated by the number specified in Column 1 of Table 2. In case of briefs made of 100 per cent synthetic fabrics, the size of briefs shall be designated as Small (S) Medium (M) and Large (L). Other dimensions of these sizes will correspond to those of sizes 70 cm, 75 cm to 90 cm and 95 cm to 110 cm respectively, given in Table 2.

4.2.3 *Dimensions*

Dimensions of briefs when measured as prescribed in 8.3 shall conform to the requirements of Table 2.

TABLE 2 - Dimensions of briefs

(Values given in this table shall be read in conjunction with Fig. 2)

Size cm (in) (1)	Width across waist (See Note) cm A (2)	Width across seat (hip) cm B (3)	Crotch length* (width at bottom between stitches) cm C (4)	Back length* cm D (5)	Front length* cm E (6)	Side length* cm F (7)	Thigh opening* cm G (8)	Width of strap* cm H (9)
70(28)	26	35.0	11	27	24	15	19	2.5
75(30)	28	37.5	12	29	26	16	20	2.5
80(32)	30	40.0	13	31	28	17	21	2.5
85(34)	32	42.5	14	33	30	18	23	2.5
90(36)	35	45.0	15	35	32	19	25	2.5
95(38)	38	47.5	16	37	34	20	27	2.5
100(40)	41	50.0	17	38	35	21	29	2.5
105(42)	44	52.5	18	39	36	22	31	2.5
110(44)	47	55.0	19	40	37	23	33	2.5
Tolerance	± 2.0	± 1.5	± 1.0	± 1.5	± 1.5	± 1.0	± 1.0	± 0.5

* *These dimensions may be varied if desired by the buyer ; however, these shall be subject to the tolerances specified.*

NOTE - The width across waist of the briefs may be varied depending upon the elasticity of waist strap.

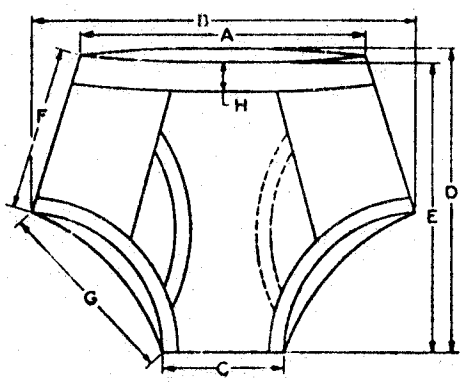

FIGURE 2

5 PACKAGING

5.1 Each brief shall be suitably packed in a polyethylene bag.

5.2 Number of such packages as agreed to between the buyer and the seller may in turn be packed in a carton.

6 MARKING

6.1 A suitable cloth label shall be securely attached to each brief at the inside, near waist band. The cloth label shall be marked legibly and indelibly with the following information:

a) Size of briefs, in centimetres (inches);

b) Type of fibre;

c) Registered trade mark, if any;

d) Brand name, if any;

e) Care instructions as given in SLS 335.

6.2 Each package shall be marked legibly and indelibly with the following:

a) Name of the product;

b) Name and address of manufacturer (including country of origin);

c) Size of briefs, in centimetres (inches);

d) The words "To fit WAIST ..... centimetres (..... inches)";

e) Type of fibre;

f) Registered trade mark, if any;

g) Brand name, if any; and

h) Batch or code number.

6.3 Each carton shall be marked legibly and indelibly with the following:

a) Quantity;

b) Name and address of manufacturer (including country of origin);

c) Size of briefs in centimetres (inches);

d) The words "To fit WAIST ..... centimetres (..... inches)";

e) Batch or code number;

f) Registered trade mark, if any; and

g) Brand name, if any.

6.4 Packages 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 Certification Mark may be granted to manufacturers or processors may be obtained from the Sri Lanka Standards Institution.

7 SAMPLING

7.1 Lot

In a consignment all briefs of same size and variety 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 The number of briefs to be selected from a lot shall be in accordance with Column 1 and Column 2 of Table 3.

7.2.3 If the briefs are packed in cartons, 10 per cent of the cartons subject to a minimum of five cartons shall be selected and as far as possible an equal number of briefs shall be drawn from each carton so selected to form a sample as given in Table 3.

7.2.4 Each brief shall be selected at random. In order to ensure randomness of selection, random number tables as given in **SLS 428** shall be used.

7.3 Number of tests

7.3.1 Each brief selected as in 7.2.2 or 7.2.3 shall be examined for packaging and marking requirements.

TABLE 3 - Scale of sampling

Number of briefs in the lot (1)	Number of briefs to be selected (2)	Number of briefs to be selected for sub sample (3)	Acceptance number (4)
Up to 50	5	3	0
51 to 100	8	5	0
101 to 150	13	5	0
151 to 300	20	8	1
301 to 500	32	8	1
501 and above	50	13	2

7.3.2 Each brief selected as in **7.2.2** or **7.2.3** shall be inspected for the requirements specified in **4.1.1**, **4.1.2.1**, **4.1.4** and **4.2.3**.

7.3.3 A sub sample of size as given in Column 3 of Table 3 shall be drawn from briefs selected as in **7.2.2** or **7.2.3** and each brief in this sub sample shall be tested for dimensional change **(4.2.1.2)** and pH value **(4.2.1.3)**.

8 METHODS OF TEST

8.1 Tests shall be carried out as prescribed in **8.2** and **8.3** of this specification and in **CS 86**.

8.2 Determination of dimensional change (due to relaxation)

8.2.1 *Marking of test specimens*

8.2.1.1 Take each garment from the test sample. Cut from it a test specimen measuring approximately 20 cm x 20 cm in such a way that the two of its sides are parallel in the direction of wales and the other two parallel in the direction of courses. Mark the directions of wales and courses in the test specimen.

8.2.1.2 Mark centrally on the test specimen by means of indelible ink or a fast dyed cotton sewing thread and area 15 cm x 15 cm with two of its sides in the direction of wales and the other two in the direction of courses. Spread this test specimen cn a flat smooth surface, carefully remove by hand all creases and wrinkles. Within this area, mark six pairs of marks, three pairs each in the wales direction and the courses direction in such way that the distance between each pair of marks is the same.

8.2.2 Procedure

8.2.2.1 Place the test specimen on a glass plate and carefully remove by hand all creases and wrinkles without distorting it and place the other glass plate on the test specimen. Measure, correct to the nearest millimetre, the distance between each pair of marks separately.

8.2.2.2 Lay the test specimen flat in water-tight tray of suitable size and of depth 10 mm min. Soak it under a head of 25 mm of water containing 0.5 per cent suitable wetting agent at room temperature (30 °C to 35 °C) for 2 hours. Drain out the water and remove the test specimen carefully so that it is not stretched and lay it flat on a smooth surface. Remove the excess of water by absorbent material and dry it at room temperature.

8.2.2.3 After drying, condition the test specimen. The atmospheres required for pre-conditioning, for conditioning and testing are those specified in **CS 16**. Place it on the glass plate, carefully remove all wrinkles and creases and place the other glass plate on the test specimen. Measure, correct to the nearest millimetre, the distance between each pair of marks separately.

8.2.3 *Calculation*

8.2.3.1 Calculate, separately, the percentage of dimensional change both in the direction of wales and in the direction of courses by the following formula:

$$S = \frac{100 \times (a - b)}{a}$$

where,

S = dimensional change, per cent;

a = the distance between a pair of marks (along the wales or courses as the case may be) before soaking; and

b = the distance between the same pair of marks after soaking.

8.2.3.2 Calculate separately the dimensional change between all the three pairs of marks in the direction of wales and in the direction of courses and calculate the average dimensional change in each direction.

8.3 Determination of dimensions

Take each garment constituting the test sample. Lay it flat on a table. Remove by hand all creases and wrinkles without distorting it. Measure, correct to the nearest 0.5 cm the dimensions given in Table 2.

9 CONFORMITY TO STANDARD

The lot shall be considered as conforming to the requirements of this specification if the following conditions are satisfied;

9.1 Each brief examined as in **7.3.1** satisfies the marking requirements.

9.2 The number of briefs, not conforming to any one or more requirements when inspected as in **7.3.2**, is less than or equal to the corresponding acceptance number given in Column 4 of Table 3.

9.3 The briefs of sub sample, tested as in **7.3.3** satisfy the relevant requirements.

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.

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