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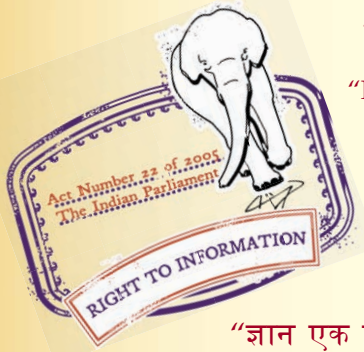
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IS 9998 (1981): Cotton Liner Fabrics [TXD 33: Industrial Fabrics]



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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”





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IS : 9998 - 1981

*Indian Standard*  
SPECIFICATION FOR  
COTTON LINER FABRICS

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# Indian Standard

## SPECIFICATION FOR COTTON LINER FABRICS

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# *Indian Standard*

## SPECIFICATION FOR COTTON LINER FABRICS

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 30 November 1981, after the draft finalized by the Industrial Textiles Sectional Committee had been approved by the Textile Division Council.

**0.2** Standards of Weights and Measures Act, 1976 stipulates the use of International System of Units in the country; in order to familiarize the industry with this system, the recommended SI units for use in the textiles industry are given in Appendix C.

**0.3** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard prescribes the requirements of cotton liner fabrics used in the rubber industry.

**1.2** This standard also gives the constructional particulars of a few popular varieties of cotton liner fabrics for information only.

### 2. MANUFACTURE

**2.1 Yarn** — The yarn used in the manufacture of liner fabrics shall be satisfactory in evenness and shall be reasonably free from neps, spinning and doubling defects.

**2.2 Cloth** — The cloth shall be evenly and firmly woven in plain weave. The cloth when visually examined shall be reasonably free from foreign matter and such defects as knots, lumps and irregularities of twist in yarn.

### 3. REQUIREMENTS

**3.1** The cotton liner fabrics shall conform to the requirements as given in Table 1.

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\*Rules for rounding off numerical values (*revised*).

TABLE 1 REQUIREMENTS OF COTTON LINER FABRICS

( Clause 3.1 )

MASS (g/m <sup>2</sup> )	BREAKING STRENGTH, Min	
	Warp kN/m (2)	Weft kN/m (3)
(1)		
Up to 250	8	6
251 - 350	11	6
METHOD OF TEST	IS : 1964-1970*	IS : 1969-1968†

\*Method for determination of weight per square metre and weight per linear metre of fabrics (*first revision*).

†Method for determination of breaking load and elongation at break of woven textile fabrics (*first revision*).

**3.2** The various constructional particulars of liner fabrics shall be as agreed to between the buyer and the seller subject to the following tolerances when tested by the method shown against them:

Parameters	Tolerances	Method of Test
Ends	± 2.0 percent	IS : 1963-1981*
Picks	± 5.0 percent	IS : 1963-1981*
Mass, g/m <sup>2</sup>	± 5.0 percent	IS : 1964-1970†
Length	+ 2.0 - 0.5 percent	IS : 1954-1969‡
Width	± 1.0 percent	IS : 1954-1969‡

**3.2.1** The constructional particulars of a few popular varieties are given in Appendix A for information only.

**3.3** The liner fabrics shall be starch free when tested by the method given in Appendix B.

## 4. PACKAGING

**4.1** The cloth shall be made into tight rolls of suitable length as agreed to between the buyer and the seller.

\*Methods for determination of threads per unit length in woven fabrics (*second revision*).

†Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*).

‡Methods for determination of length and width of fabrics (*first revision*).

## 5. MARKING

5.1 Each roll shall be marked with the following:

- a) Name of the material;
- b) Roll number;
- c) Length and width of roll;
- d) Net mass and gross mass;
- e) Name of the manufacturer, initials or trade-mark, if any;
- f) Month and year of manufacture; and
- g) Material code as agreed to between the buyer and the seller.

5.1.1 *ISI Certification Mark* — The roll may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the 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 ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of ISI Certification Mark may be granted to manufacturers or processors may be obtained from the Indian Standards Institution.

## 6. PACKING

6.1 The rolls shall be tightly wrapped with a layer each of polyethylene film and hessian and sewn tightly all over as agreed to between the buyer and the seller. If necessary, additional layers of packing materials may be used to avoid ingress of moisture in transit. In case the length of the roll is more than 500 m, wooden discs on both sides should also be placed inside the packing.

## 7. SAMPLING

7.1 For ascertaining the conformity in respect of length, width, breaking strength, mass, ends and picks, the number of tests and criteria for conformity as given in IS : 3919-1966\* shall be followed.

7.2 For ascertaining the conformity in respect of freedom from starch, the number of tests and criteria for conformity as given in IS : 5463-1969† shall be followed.

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\*Methods for sampling cotton fabrics for determination of physical characteristics.

†Methods for sampling of cotton fabrics for chemical tests.



## APPENDIX A

(Clause 3.2.1)

## CONSTRUCTIONAL PARTICULARS OF POPULAR VARIETIES OF COTTON LINER FABRICS

VARIETY No.	APPROXIMATE COUNT OF YARN		YARN PLY		ENDS dm	PICKS dm	MASS g/m <sup>2</sup>
	Warp (2)	Weft (3)	Warp (4)	Weft (5)			
(1)					(6)	(7)	(8)
1	30 tex	30 tex	Singles	Singles	280	340	200
2	—	—	Singles	Singles	200	180	260
3	—	—	2-ply	2-ply	230	150	270
4	—	—	Singles	Singles	310	110	275
5	13s (45 tex)	13s/2 (45 tex × 2)	Singles	2-ply	330	110	285
6	—	—	2-ply	Singles	230	110	300

NOTE — Count of yarn is for guidance only.

## APPENDIX B

(Clause 3.3)

## METHOD FOR DETERMINATION OF STARCH CONTENT

## B-1. TEST SPECIMEN

**B-1.1** Cut a piece weighing about 10 g from the test sample. Shred the piece into small bits and mix them thoroughly. Draw from the pieces so shredded a test specimen of about 5 g.

## B-2. PROCEDURE

**B-2.1** Boil the test specimen in about 200 ml of distilled water in a conical flask for about 45 minutes. Cool the contents in the flask. Put a drop of iodine solution on a smaller quantity taken from the flask.

## B-3. REPORT

**B-3.1** Observe whether there is any appearance of blue colour on adding a drop of iodine solution. Report the material to be free from starch if no blue colour is observed.

## APPENDIX C

( Clause 0.2 )

### RECOMMENDED SI UNITS FOR TEXTILES

Sl No.	CHARACTERISTIC	SI UNIT		APPLICATION	
		Unit	Abbreviation		
(1)	(2)	(3)	(4)	(5)	
1.	Length	Millimetre	mm	Fibres Samples, test specimens ( as appropriate ) Yarns, ropes, cordage, fabrics	
		Millimetre, centimetre	mm, cm		
		Metre	m		
2.	Width	Millimetre	mm	Narrow fabrics Other fabrics Samples, test specimens ( as appropriate ) Carpets, druggets, <i>DURRIES</i> ( as appropriate )	
		Centimetre	cm		
		Millimetre, centimetre	mm, cm		
3.	Thickness	Micrometre ( micron )	$\mu\text{m}$	Delicate fabrics Other fabrics, carpets, felts	
		Millimetre	mm		
4.	Linear density	Tex	tex	Yarns Fibres Filaments filament yarns Slivers, ropes, cordage	
		Millitex	mtex		
		Decitex	dtex		
		Kilotex	ktex		
5.	Diameter	Micrometre ( micron )	$\mu\text{m}$	Fibres Yarns, ropes, cordage	
		Millimetre	mm		
6.	Circumference	Millimetre	mm	Ropes, cordage	
7.	Threads in fabric			Woven fabrics ( as appropriate )	
		a) Lengthwise	Number per centimetre Number per decimetre		ends/cm ends/dm
		b) Widthwise	Number per centimetre Number per decimetre		picks/cm picks/dm
8.	Warp threads in loom	Number per centimetre	ends/cm	Reeds	

( Continued )

RECOMMENDED SI UNITS FOR TEXTILES — *Contd*

Sl. No.	CHARACTERISTIC	SI UNIT		APPLICATION
		Unit	Abbreviation	
(1)	(2)	(3)	(4)	(5)
9.	Stitches in knitted fabric			Knitted fabrics (as appropriate)
a)	Lengthwise	Courses per centimetre Courses per decimetre	courses/cm courses/dm	
b)	Widthwise	Wales per centimetre Wales per decimetre	wales/cm wales/dm	
10.	Stitch length	Millimetre	mm	Knitted fabrics, made-up items
11.	Mass per unit area	Grams per square metre	g/m <sup>2</sup>	Fabrics
12.	Mass per unit length	Grams per metre	g/m	Fabrics
13.	Twist	Turns per centimetre Turns per metre	turns/cm turns/m	Yarns, ropes, cordage (as appropriate)
14.	Test or gauge length	Millimetre, centimetre	mm, cm	Fibre, yarn and fabric specimens (as appropriate)
15.	Breaking load	Millinewton Newton	mN N	Fibres, delicate (individual or skeins) Strong yarns (individual or skeins), ropes, cordage, fabrics
16.	Breaking length	Kilometre	km	Yarns
17.	Tenacity	Millinewton per tex	mN/tex	Fibres, yarns (individual or skeins)
18.	Twist factor or twist multiplier	Turns per centimetre x square root of tex Turns per metre square root of tex	turns/cm x/tex turns/m x/tex	Yarns (as appropriate)
19.	Bursting strength	Newton per square centimetre	N/cm <sup>2</sup>	Fabrics
20.	Tear strength	Millinewton, newton	mN, N	Fabrics (as appropriate)
21.	Pile height	Millimetre	mm	Carpets
22.	Pile density	Mass of pile yarn in grams per square metre per millimetre pile height	g/m <sup>2</sup> /mm pile height	Pile carpets
23.	Elastic modules	Millinewton per tex per unit deformation	mN/tex/unit deformation	Fibres, yarns, strands

# INDIAN STANDARDS

## ON

### INDUSTRIAL TEXTILES

IS:

- 1178-1973 Filter cloth for sugar and oil industries (*first revision*)
- 1422-1977 Cotton duck (*second revision*)
- 1424-1977 Cotton canvas (*second revision*)
- 3192-1965 Cotton calico for electric cables
- 3193-1965 Cotton yarn for braiding for electric cables
- 4388-1967 Cotton fabrics for reinforcement of rubber hoses
- 5996-1979 Cotton belting ducks (*first revision*)
- 7133-1973 Cotton tyre cord for cycle and rickshaw
- 8995-1979 Cotton cover fabrics for fan belts and V-belts
- 9230-1979 Cotton chafer fabrics
- 9293-1979 Flax canvas
- 9336-1979 Cotton yarns for underground cables