

भारतीय मानक ब्यूरो
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भारतीय मानक मसौदा

वस्त्रादि – हथकरघा सूती टवील – विशिष्टि

(आई एस 1579 का दूसरा पुनरीक्षण)

Draft Indian Standard

TEXTILES — HANDLOOM COTTON TWILLS — SPECIFICATION

(Second Revision of IS 1579)

ICS 59.080.30

Handloom and khadi sectional committee,
TXD 08

Last date for receipt of comment is
27 April 2024

FOREWORD

(Formal clauses will be added later)

Handloom cotton twill is a fabric crafted by hand on traditional looms using cotton yarns, employing a twill weave technique. This weaving style creates diagonal ridges on the fabric's surface, lending it a distinctive texture. Renowned for its durability and versatility, handloom cotton twill finds extensive use in clothing like pants, jackets, and skirts, as well as in home textiles such as curtains, upholstery, and bedding. Its production through the painstaking handloom process imbues each piece with a special charm, appealing to aficionados of traditional craftsmanship and artisanal textiles.

This standard was originally published in 1960 and subsequently revised in 1979. The standard has again been revised to incorporate the following changes:

- a) Marking clause has been modified;
- b) References to Indian Standards have been updated;
- c) Test method for identification of material has been incorporated;
- d) Amendment has been incorporated; and
- e) Sampling clause has been modified.

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, shall be rounded off in accordance with IS 2 : 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1 SCOPE

1.1 This standard prescribes the constructional particulars and other requirements of five varieties of handloom cotton twills, bleached or dyed.

1.2 This standard does not specify the general appearance, feel, finish, etc of the cloth (*see also 4.3*).

2 REFERENCES

The standards listed in Annex A contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated in Annex A.

3 MANUFACTURE

3.1 Yarn

The cotton yarn used in the manufacture of cloth should be satisfactory in evenness and reasonably free from neps and spinning defects. The yarn shall conform to IS 171.

3.2 Cloth

The cloth shall be free from dressing and filling materials and from substances liable to cause subsequent tendering.

4 REQUIREMENTS

4.1 The constructional particulars of cloth shall conform to those given in Table 1.

4.2 The colour fastness ratings and other requirements of the cloth shall conform to those given in Table 2.

Table 1 Constructional Particulars of Handloom Cotton Twills
(Clause 4.1)

Sl No.	Variety No.	Count of Yarn [Cotton Count (Universal Count)]		Ends/cm	Picks/cm	Length m	Width cm	weave
		Warp	Weft					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	1	18s (33 tex)	24s (25 tex)	25	20	20 or as agreed	75 or as agreed	2/2 Twill
ii)	2	20s (30 tex)	16s (37 tex)	24	17			
iii)	3	20s (30 tex)	30s (20 tex)	26	24			
iv)	4	24s (25 tex)	24s (25 tex)	28	20			
v)	5	80s/2 (7.4 tex × 2)	36s (16.5 tex)	35	32			
Tolerance, percent	—	± 5	± 5	± 5	± 5	—	± 5	—
Method of Test, Ref to	—	IS 3442		IS 1963		IS 1954		Visual

NOTE — Count of yarn is given for guidance only.

Table 2 Requirements of Handloom Cotton Cloth Twills
(Clause 4.2)

Sl No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Colour fastness to: a) Light b) Washing Test 4 c) Bleaching	5 or better 4 or better 3 or better	IS/ISO 105-B01 or IS/ISO 105-B02 IS/ISO 105-C10 IS/ISO 105-N01
ii)	Dimensional change, percent, <i>Max</i>	4	IS 2977
iii)	Scouring loss, percent, <i>Max</i>	2.5	IS 1383
iv)	pH value of aqueous extract	6.0 to 8.5	IS 1390 or Annex B
v)	Fiber identification	100 percent cotton	IS 667

4.3 Sealed Sample

If, in order to illustrate or specify the indeterminable characteristics, such as general appearance, lustre, feel and shade of the cloth, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

4.3.1 The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

5 INSPECTION

5.1 The cloth when visually inspected should be reasonably free from the following defects:

- a) More than two adjacent ends running parallel, broken or missing and extending beyond 20 cm;
- b) Weft crack or more than two missing picks across the width of the material;
- c) Prominently noticeable weft bar due to the difference in raw material, count, twist, lustre, etc;
- d) Noticeable selvedge defects;
- e) Noticeable warp or weft float in the body;
- f) Noticeable oil or other stains;
- g) Noticeable hole, cut or tear up to 3 mm size;
- h) Smash rupturing the texture of the fabric;
- j) Undressed snails noticeable throughout the piece;
- k) Conspicuous gout due to foreign matter, usually lint or waste woven into cloth;
- m) Conspicuous broken pattern; and
- n) Any other flaw which would mar the appearance or affect the serviceability and/or durability of the cloth.

5.1.1 A reference may be made to IS 14466 for details of these defects.

6 SAMPLING

6.1 The quantity of handloom cotton twill cloth of the same variety delivered to a buyer against a despatch not shall constitute a lot.

6.2 To ascertain the conformity of the lot to the requirements of this standard, samples shall be drawn and inspected from each lot separately.

6.3 The number of pieces to be selected at random for inspection shall be in accordance with Table 3.

Table 3 Sample Size and Permissible Number of Non-Conforming Pieces
(Clause 6.3)

Sl No.	Lot Size	Sample Size	Permissible No. of Non-Conforming Pieces	Sub Sample Size
(1)	(2)	(3)	(4)	(5)
i)	Up to 90	5	0	3
ii)	91 to 150	8	0	3
iii)	151 to 500	13	1	5
iv)	501 to 1200	20	1	5
v)	1201 to 10000	32	2	8
vi)	10001 to 35000	50	3	8
vii)	35001 to 500000	80	5	13
viii)	500001 and above	125	7	13

6.4 Number of Tests and Criterion for Conformity

Sl No.	Characteristic(s)	No. of Tests	Criterion for Conformity
(1)	(2)	(3)	(4)
i)	Count of yarn, length, width, ends, picks and weave	According to col (3) of Table 3	Permissible number of non-conforming piece does not exceed the corresponding number given in col (4) of Table 3
ii)	Colour fastness, dimensional changes, scouring loss, pH and fibre identification	According to col (5) of Table 3	All the test specimens meet the relevant requirements

7 MARKING

7.1 The cloth shall be suitably marked or labelled with the following information:

- a) Name of the material;
- b) Manufacturer's name, initials or trade-mark;
- c) Length and width;
- d) Count of warp and weft yarn;
- e) Indication of the source of manufacture; and
- f) Other declarations required as per law in force.

7.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations framed thereunder, and the product may be marked with the Standard Mark.

8 PACKING

Unless otherwise agreed between the buyer and the seller, the cloth shall preferably be packed in bales or cases in conformity with the procedure laid down in IS 1347 or IS 293.

ANNEX A
(Clause 2)

LIST OF REFFERED STANDARDS

<i>IS No.</i>	<i>Title</i>
IS 171 : 1993	Textiles — Ring spun grey cotton yarn for weaving — Specification (<i>fourth revision</i>)
IS 293 : 1980	Code for seaworthy packaging of cotton yarn and cloth (<i>third revision</i>)
IS 667 : 1981	Methods for identification of textile fibres (<i>first revision</i>)
IS 1070 : 2023	Reagent Grade Water Specification
IS 1347 : 1972	Specification for inland packaging of cotton cloth and yarn (<i>first revision</i>)
IS 1383 : 2023	Methods for determination of scouring loss in grey and finished cotton textile materials (<i>second revision</i>)
IS 1390 : : 2022/ ISO 3071 : 2020	Textiles Determination of pH of aqueous extract (<i>third revision</i>)
IS 1954 : 1990	Determination of length and width of woven fabrics — Methods (<i>second revision</i>)
IS 1963 : 1981	Methods for determination of threads per unit length in woven fabrics (<i>second revision</i>)
IS 2977 : 1989	Fabrics (other than wool) — Method for determination of dimensional changes on soaking in water (<i>first revision</i>)
IS 3442 : 2023	Textiles method for determination of crimp and linear density of yarn removed from fabric
IS 14466 : 1997/ ISO 8498 : 1990	Fabrics — Description of defects — Vocabulary
IS/ISO105-B01 : 2014	Textiles — Tests for colour fastness — Part B01 Colour fastness to light: Daylight
IS/ISO 105-B02 : 2014	Textiles — Tests for colour fastness — Part B02 Colour fastness to artificial light: Xenon arc fading lamp test
IS/ISO 105-C10 : 2006	Textiles — Tests for colour fastness — Part C10 Colour fastness to washing with soap or soap and soda
IS/ISO 105-N01 : 1993	Textiles — Tests for colour fastness — Part N01 Colour fastness to bleaching: Hypochlorite

ANNEX B
(Table 2)

METHOD FOR DETERMINATION OF pH VALUE OF AQUEOUS EXTRACT

B-1 APPARATUS

B-1.1 Erlenmeyer Flask

B-1.2 Reflux Condenser

B-2 REAGENTS

B-2.1 Distilled Water

(see IS 1070).

B-2.2 Indicator pH Papers

B-3 PROCEDURE

B-3.1 Draw from each piece in the test sample at least two test specimens each weighing 5 g.

B-3.2 Rinse the Erlenmeyer flask with distilled water. Take one test specimen and cut it into small bits. Put the bits in the Erlenmeyer flask and add 50 ml of distilled water. Boil the contents for one hour under the reflux condenser. Stopper the flask and cool the contents. Decant the supernatant extract in a test-tube.

B-3.3 Take the pH indicator paper. Dip it in the extract and compare the colour of the moistened indicator paper with those printed on the booklet or dispenser containing the indicator paper. Designate the number written on a particular colour shade with which the moistened indicator paper matches, as pH of the extract.

B-3.4 Similarly, test the remaining test specimen(s).

B.4 REPORT

B-4.1 Report the pH value of the extract as determined above.