

भारतीय मानक

वस्त्रादि – कॉटन स्पिंडल टेप – विशिष्टि
(तीसरा पुनरीक्षण)

Indian Standard

TEXTILES — COTTON SPINDLE TAPES — SPECIFICATION
(Third Revision)

ICS 59.080.20

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भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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Technical Textiles for Clothtech Applications including Narrow Fabrics and Braids Sectional Committee, TXD 39

FOREWORD

This Indian Standard (Third Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Technical Textiles for Clothtech Applications including Narrow Fabrics and Braids Sectional Committee had been approved by the Textile Division Council.

This standard was first published in 1960 and subsequently revised in 1970 and 1988. The current revision has been made in the light of experience gained since its publication and to incorporate the following major changes:

- a) Title of the standard has been modified.
- b) BIS certification marking clause has been modified; and
- c) References to Indian Standard given in Annex A has been updated.

The composition of the Committee responsible for the formulation of this standard is given in Annex A.

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 : 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.

*Indian Standard***TEXTILES — COTTON SPINDLE TAPES — SPECIFICATION***(Third Revision)***1 SCOPE**

This standard prescribes the requirements for 10, 12.5, 16, 19, 22 mm wide cotton spindle tapes for use on ring spinning frames for cotton and man-made fibres and 12.5, 16, 19, 22, 25 mm wide cotton spindle tapes for use on doubling frames for cotton and man-made fibre yarn and ring spinning frames for wool.

2 REFERENCES

The standards listed below 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 below:

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>
IS 1954 : 2024	Textiles — Fabrics - Determination of width and length (<i>Third Revision</i>)
IS 1963 : 1981	Textiles — Methods for determination of threads per unit length in woven fabrics (<i>Second Revision</i>)
IS 1964 : 2001	Textiles — Methods for determination of mass per unit length and mass per unit area of fabrics (<i>Second Revision</i>)
IS 1969 (Part 1) : 2018	Textiles — Tensile properties of fabrics — Part 1 Determination of maximum force and elongation at maximum force using the strip method (<i>Fourth Revision</i>)

3 MANUFACTURE

3.1 Cotton spindle tapes shall be manufactured from plied cotton yarns in warp and weft. The tapes should be clean, even and well woven with firm, regular and straight selvages. The approximate count of yarns used should be as under:

- a) Warp - 30 tex × 4 (20^s/4)

- b) Weft - $30 \text{ tex} \times 3 (20^s/3)$
- c) Binding ends - $30 \text{ tex} \times 3 (20^s/3)$

3.1.1 Tapes for cotton and man-made fibre ring spinning frames (Table 1) shall be woven with 2/2 V - twill weave or herring bone weave.

3.1.2 Tapes for cotton and man-made fibre yarn doubling and woollen ring spinning frames (Table 2) shall be woven in double plain weave (basket weave) with binding ends as 1 up 1 down.

3.2 In case of coloured threads are used for identification, they shall be of the same count as of warp.

4 REQUIREMENTS

4.1 The spindle tapes shall conform to the requirements given in Table 1 for use on ring spinning frames for cotton and man-made fibre, and Table 2 for use on doubling frames for cotton and man-made fibre yarns and ring spinning frames for wool.

4.1.1 The length of the tape in rolls shall be 100 m unless otherwise specified in contract or order. It shall be not less than the declared value when determined in accordance with the method prescribed in IS 1954.

5 PACKING

5.1 The rolls of the spindle tapes shall be wrapped in polyethylene film/kraft paper, etc, and packed in wooden or cardboard boxes as agreed to between the buyer and the seller.

6 MARKING

6.1 Each roll shall be marked with the following:

- a) Name of the material,
- b) Name of the manufacturer, initials or trade-mark,
- c) Width,
- d) Length of roll; and
- e) Any other information as required by the law in force.

6.2 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 there under, and the product(s) may be marked with the Standard Mark.

7 SAMPLING

7.1 Lot

The quantity of tape of one definite variety delivered to one buyer against one despatch note shall constitute a lot.

7.2 The conformity of a lot to the requirements of this standard shall be determined on the basis of tests carried out on the rolls of tape selected from the lot.

7.3 Unless otherwise agreed to between the buyer and the seller, the number of rolls of tape to be selected at random from the lot shall be in accordance with col 3 of Table 3.

Table 1 Requirements of Cotton Spindle Tapes for Ring Spinning Frames for Cotton and Man-Made Fibres
(Clause 4.1)

SI No.	Width Mm	No. of Ends in Full Width	Picks per dm	Mass per 100 m, <i>Max</i> g	Breaking Load in Full Width × 20 cm, <i>Min</i> N (kgf)	Elongation at Break, percent, <i>Max</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	10	42	110	700	850 (85)	15
ii)	12.5	52	110	900	1000 (100)	15
iii)	16	64	110	1100	1150 (115)	15
iv)	19	76	110	1300	1300 (130)	15
v)	22	88	110	1500	1450 (145)	15
Tolerance	± 1	± 2	± 5	—	—	—
Method of Test	IS 1954	IS 1963		IS 1964	IS 1969	

Table 2 Requirements of Cotton Spindle Tapes for Doubling Frame for Cotton and Man-Made Fibre Yarn and Ring Spinning Frame for Wool
(Clause 4.1)

SI No.	Width	No. of Ends in Full Width	Picks per dm	Binding Ends	Mass per 100 m, <i>Max</i>	Breaking Load in Full Width × 20 cm, <i>Min</i>	Elongation at Break, <i>Max</i>
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	mm				g	N (kgf)	Percent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	12.5	49	140	10	1100	900 (90)	15
ii)	16	61	140	13	1300	1150 (115)	15
iii)	19	73	140	16	1530	1400 (140)	15
iv)	22	85	140	19	1700	1650 (165)	15
v)	25	97	140	22	1900	1900 (190)	15
Tolerance	± 1	± 2	± 5	± 1	—	—	—
Method of Test	IS 1954	IS 1963			IS 1964	IS 1969	

7.4 For evaluating mass, width, length of a roll, weave, ends in full width, picks per dm, and number of binding ends in the lot, the rolls selected as in col 3 of Table 3 shall constitute the sample.

7.4.1 For evaluating breaking load and elongation at break, the number of rolls specified in col 5 of Table 3 shall constitute the sample. The rolls shall be selected at random from those selected as in col 3 of Table 3. The required test specimens shall be drawn from each of the rolls and subjected to the corresponding tests.

Table 3 Sample Size and Criteria for Conformity
(Clauses 7.3, 7.4 and 7.4.1)

Sl No.	Lot Size (No. of Rolls)	Sample Size	Permissible No. of Defective Rolls	Sub-Sample Size
(1)	(2)	(3)	(4)	(5)
i)	Up to 100	5	0	5
ii)	100 to 300	10	1	6
iii)	301 to 500	15	1	7
iv)	501 to 800	25	2	8
v)	801 to 1300	35	3	9
vi)	1301 and above	50	4	10

Table 4 Criteria for Conformity
(Clauses 7.4.1)

Sl No.	Characteristics	Number of Specimens	Criteria for Conformity
(1)	(2)	(3)	(4)
i)	Mass, width, length, weave, ends in full width, picks per dm and number of binding ends	As in col 3 of Table 3	Number of defective rolls not to exceed the number given under col 4 of Table 3
ii)	Breaking load and elongation at break	As in col 5 of Table 3	All the samples shall conform to the specified requirements

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Technical Textiles for Clothtech Applications including Narrow Fabrics and Braids Sectional
Committee, TXD 39

Organization

Additional Controller CQA (General Stores), DGQA, Ministry of Defence

ICAR - Central Institute for Research on Cotton Technology, Mumbai

Federation of Indian Chambers of Commerce and Industry

Indian Technical Textile Association, Mumbai

M K U Limited, Kanpur

Motilal Dulichand Pvt Ltd, Kanpur

National Textile Corporation, New Delhi

Ordnance Parachute Factory, Kanpur

Office of Textiles Commissioner, Mumbai

SGS Limited, Gurugram

S L Banthia Textiles Industries Pvt Ltd

Shipra International, Kanpur

Sky Industries Ltd, Navi Mumbai

Synthetic and Art Silk Mills Research Association, Mumbai

Thanawala & Co., Mumbai

The Bombay Textile Research, Association, Mumbai

U P Textile Technological Institute, Kanpur

Universal Yarn & Tex Pvt Ltd, Kanpur

BIS Directorate General

Representative(s)

SHRI A CHOWDHURY (*Chairperson*)

DR P JAGAJANANTHA

DR T SENTHILKUMAR (*Alternate*)

SHRI ANU HANDA

DR ANUP RAKSHIT

SHRI VIKRAM JAIN (*Alternate*)

SHRI SUMIT KHANDELWAL

SHRI RAJIB PAL (*Alternate*)

SHRI SHAILENDRA NATH MISRA

SHRI SUKHR SHIVHARE (*Alternate*)

SHRI R K YADAV

SHRI V M BAGADE,

SHRI S KONDAIAH (*Alternate*)

Shri V K kohali

Shri Humayun K

MS ANITHA JEYARAJ

SHRI GAURAV SARASWAT (*Alternate*)

SHRI SANTOSH KUMAR BANTHIA

SHRI ABHISHEK KUMAR AGRAWAL

SHRI KAPIL MEHROTRA

SHRI MICHAEL (*Alternate*)

SHRI SANJAY SAINI

SHRI PREMNATH SURWASE (*Alternate*)

SHRI HEMAL THANAWALA

SHRI VIVAN THANAWALA (*Alternate*)

SHRI SHAIKH RIYAZ AHMED

DR PRASANTA KUMAR PANDA (*Alternate*)

DR PRASHANT VISHNOI

SHRI RAJIV K BHARTIYA

SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR and Head (Textiles)
[Representing Director General (*Ex-officio*)]

Member Secretary

SHRI TANISHQ AWASTHI
SCIENTIST 'B'/ASISTANT DIRECTOR
(Textiles), BIS