

वस्त्रादि — कॉटन स्पिंडल टेप — विशिष्टि

(तीसरा पुनरीक्षण)

Textiles — Cotton Spindle Tapes —
Specification

(Third Revision)

ICS 59.080.20

© BIS 2024



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002

www.bis.gov.in www.standardsbis.in

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 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 mm, 12.5 mm, 16 mm, 19 mm, 22 mm wide cotton spindle tapes for use on ring spinning frames for cotton and man-made fibres and 12.5 mm, 16 mm, 19 mm, 22 mm, 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 given 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 edition of these standards:

<i>IS No.</i>	<i>Title</i>
IS 1954 : 2024/ ISO 22198 : 2006	Textiles — Fabrics — Determination of width and length (<i>third revision</i>)
IS 1963 : 1981	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/ISO 13934- 1 : 2013	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 tex × 3 (20^s/3); and
- c) Binding ends — 30 tex × 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.

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

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.

To access Indian Standards click on the link below:

https://www.services.bis.gov.in/php/BIS_2.0/bisconnect/knowyourstandards/Indian_standards/isdetails/

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](#).

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. The selected rolls shall confirm to the requirement as given in [Table 4](#).

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

(Clauses [3.1.1](#) and [4.1](#))

SI No.	Width mm	No. of Ends in Full Width	Picks per dm	Mass per 100 m, g <i>Max</i>	Breaking Load in Full Width × 20 cm N (kgf) <i>Min</i>	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	1 000 (100)	15
iii)	16	64	110	1 100	1 150 (115)	15
iv)	19	76	110	1 300	1 300 (130)	15
v)	22	88	110	1 500	1 450 (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

(Clauses [3.1.2](#) and [4.1](#))

SI No.	Width mm	No. of Ends in Full Width	Picks per dm	Binding Ends	Mass per 100 m, g <i>Max</i>	Breaking Load in Full Width × 20 cm, N (kgf) <i>Min</i>	Elongation at Break, Percent <i>Max</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
i)	12.5	49	140	10	1 100	900 (90)	15
ii)	16	61	140	13	1 300	1 150 (115)	15
iii)	19	73	140	16	1 530	1 400 (140)	15

Table 2 (Concluded)

SI No.	Width mm	No. of Ends in Full Width	Picks per dm	Binding Ends	Mass per 100 m, g <i>Max</i>	Breaking Load in Full Width × 20 cm, N (kgf) <i>Min</i>	Elongation at Break, Percent <i>Max</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
iv)	22	85	140	19	1 700	1 650 (165)	15
v)	25	97	140	22	1 900	1 900 (190)	15
Tolerance	± 1	± 2	± 5	± 1	—	—	
Method of Test	IS 1954	IS 1963			IS 1964	IS 1969	

Table 3 Sample Size and Criteria for Conformity

(Clauses [7.3](#), [7.4](#), [7.4.1](#) and [Table 4](#))

SI 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 1 300	35	3	9
vi)	1 301 and above	50	4	10

Table 4 Criteria for Conformity

(Clause [7.4.1](#))

SI No.	Characteristic	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

<i>Organization</i>	<i>Representative(s)</i>
Additional Controller CQA (General Stores), DGQA, Ministry of Defence, Kanpur	SHRI A. CHOWDHURY (Chairperson)
Federation of Indian Chambers of Commerce and Industry, New Delhi	SHRI ANU HANDA DR T. SENTHILKUMAR (<i>Alternate</i>)
ICAR - Central Institute for Research on Cotton Technology, Mumbai	DR P. JAGAJANANTHA
Indian Technical Textile Association, Mumbai	DR ANUP RAKSHIT SHRI VIKRAM JAIN (<i>Alternate</i>)
M K U Limited, Kanpur	SHRI SUMIT KHANDELWAL SHRI RAJIB PAL (<i>Alternate</i>)
Motilal Dulichand Pvt Ltd, Kanpur	SHRI SHAILENDRA NATH MISRA SHRI SUDHIR SHIVHARE (<i>Alternate</i>)
National Textile Corporation, New Delhi	SHRI R. K. YADAV
Ordnance Parachute Factory, Kanpur	SHRI V. M. BAGADE SHRI S. KONDAIAH (<i>Alternate</i>)
Office of Textiles Commissioner, Mumbai	SHRI V. K. KOHLI SHRI HUMAYUN K. (<i>Alternate</i>)
SGS Limited, Gurugram	MS ANITHA JEYARAJ SHRI GAURAV SARASWAT (<i>Alternate</i>)
S L Banthia Textiles Industries Pvt Ltd, Surat	SHRI SANTOSH KUMAR BANTHIA
Shipra International, Kanpur	SHRI ABHISHEK KUMAR AGRAWAL
Sky Industries Ltd, Navi Mumbai	SHRI KAPIL MEHROTRA SHRI MICHAEL (<i>Alternate</i>)
Synthetic and Art Silk Mills Research Association, Mumbai	SHRI SANJAY SAINI SHRI PREMNATH SURWASE (<i>Alternate</i>)
Thanawala & Co, Mumbai	SHRI HEMAL THANAWALA SHRI VIVAN THANAWALA (<i>Alternate</i>)
The Bombay Textile Research, Association, Mumbai	SHRI SHAIKH RIYAZ AHMED DR PRASANTA KUMAR PANDA (<i>Alternate</i>)
U P Textile Technological Institute, Kanpur	DR PRASHANT VISHNOI
Universal Yarn & Tex Pvt Ltd, Kanpur	SHRI RAJIV K. BHARTIYA
BIS Directorate General	SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

Member Secretary

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

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Head (Publication & Sales), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

This Indian Standard has been developed from Doc No.: TXD 39 (23316).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: www.bis.gov.in

Regional Offices:

Central : 601/A, Konnectus Tower -1, 6th Floor,
DMRC Building, Bhavbhuti Marg, New
Delhi 110002

Telephones

{ 2323 7617

Eastern : 8th Floor, Plot No 7/7 & 7/8, CP Block, Sector V,
Salt Lake, Kolkata, West Bengal 700091

{ 2367 0012
2320 9474

Northern : Plot No. 4-A, Sector 27-B, Madhya Marg,
Chandigarh 160019

{ 265 9930

Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113

{ 2254 1442
2254 1216

Western : 5th Floor/MTNL CETTM, Technology Street, Hiranandani Gardens, Powai
Mumbai 400076

{ 25700030
25702715

Branches : AHMEDABAD, BENGALURU, BHOPAL, BHUBANESHWAR, CHANDIGARH, CHENNAI, COIMBATORE, DEHRADUN, DELHI, FARIDABAD, GHAZIABAD, GUWAHATI, HARYANA (CHANDIGARH), HUBLI, HYDERABAD, JAIPUR, JAMMU, JAMSHEDPUR, KOCHI, KOLKATA, LUCKNOW, MADURAI, MUMBAI, NAGPUR, NOIDA, PARWANOO, PATNA, PUNE, RAIPUR, RAJKOT, SURAT, VIJAYAWADA.