भारतीय मानक

Indian Standard

IS 12637 : 2023

कमरे की सज्जा के लिए बुने हुए वस्त्रादि — साधारण गुच्छेदार या लच्छेदार — विशिष्टि

(पहला पुनरीक्षण)

Woven Upholstery Fabrics — Plain, Tufted or Flocked — Specification

(First Revision)

ICS 59.080.30

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October 2023 **Price Group 5**

Man-made Fibres, Cotton and their Products Sectional Committee, TXD 31

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Man-made Fibres, Cotton and their Products Sectional Committee had been approved by the Textiles Division Council.

A large varieties of textile fabrics are used in the manufacture of indoor furniture. For durability of these fabrics in actual use, formulation of a standard specification based on performance requirements was very much needed.

This standard was first published in 1988. It has been revised again to incorporate the following changes:

a) Method of tests for warp and weft count, thread density, mass, lend composition, length, and width have been incorporated in the standard;
b) Marking clause has been modified; and
c) References have been updated.

The composition of the Committee responsible for the formulation of this standard is listed in Annex C.

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 revised*)’. 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

WOVEN UPHOLSTERY FABRICS — PLAIN, TUFTED OR FLOCKED — SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard prescribes the performance requirements for plain, tufted or flocked woven upholstery fabrics made of man-made fibres or their blends with other fibres used in the manufacture of new indoor furniture.

1.2 It does not cover the knitted, bonded, laminated or surface-coated fabrics and is not applicable to fabrics used in porch, deck, or lawn furniture.

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 subjected to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Plain Fabric — A fabric which does not have an intentionally raised fibre or yarn surface, such as, pile, napped, or tufted surface.

3.2 Tufted Fabric — A fabric which has an intentionally tufted surface.

3.3 Flocked Fabric — A fabric which has flocks of fibres bonded to the surface with an adhesive. These flocks may consist of fibres in entangled small masses or beads usually of irregular broken fibres, or powdered fibres.

4 REQUIREMENTS

4.1 The woven fabrics intended for manufacture of new indoor furniture shall satisfy the requirements given in Table 1 and in **4.2**.

4.1.1 The requirements for flammability and soil release efficiency as prescribed in Table 1 are optional and shall be applicable only when an agreement has been reached between the buyer and the seller.

4.2 Durability of Back Coating

If applicable, the fabric shall exhibit no cracking or peeling of back coating when tested for dimensional change or colour fastness to water and solvent.

5 SEALED SAMPLE

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

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

6 MARKING

6.1 Each piece of fabric shall be marked on both ends with the following:

a) Name of the material and its composition, in case of blends;
b) Type and quality of the fabric;
c) Manufacturer’s name, initials or trademark;
d) Month and year of manufacture;
e) Dimensions (length and width) of the fabric;
f) Mass of fabric (g/m^2); and
g) Any other information as required by the law in force.

6.2 A suitable cloth label indicating symbols for proper care of upholstery fabric in actual use should also be attached with each piece of fabric. The manufacturer may also arrange for leaflets giving instructions for care and maintenance of upholstery fabrics or their composites.

6.3 BIS Certification Marking

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 2016 and Rules and Regulations made thereunder. The details of the conditions under which the licence for use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Table 1 Requirements for Upholstery Fabrics-Plain, Tufted or Flocked

(*Clauses* 4.1, 4.1.1 *and* 12.2)

Sl No.	Characteristics	Requirements	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	Breaking load on 5.0 cm × 20 cm strips, kg (N), *Min*		IS 1969 (Part 1)
	a) Warpway	22.6 (222)	
	b) Weftway	22.6 (222)	
ii)	Tear strength, kg (N), *Min*		IS 6489 (Part 1)
	a) Warpway	11.3 (111)	
	b) Weftway	11.3 (111)	
iii)	Pilling resistance after 5 h of test, *Min*	4	IS 10971(Part 1)
iv)	Dimensional change on washing, percent, *Max* Warpway or weftway	5 percent shrinkage to 2 percent gain	IS 1299
v)	Minimum colour fastness rating to:		
	a) Water, change in colour	4	IS/ISO 105-E01
	b) Organic solvent, change in colour	4	IS/ISO 105-X05
	c) Rubbing		IS/ISO 105-X12
	1) Dry	4	
	2) Wet	3	
	d) Artificial light, change in colour	4	IS/ISO 105-B02
vi)	Ignitability	To pass the smouldering cigarette test and match flame	IS 12467 (Part 1) and IS 12467 (Part 2)
vii)	Soil release efficiency percent, *Min*	80	IS 11813

7 PACKING

The cloth shall be packed in bales or cases in conformity with the procedure laid down either in IS 2194 or in IS 2195 or as agreed to between the buyer and the seller.

8 DECLARATION AND TOLERANCE

8.1 The manufacturer shall declare the constructional particulars, namely, linear density of warp and weft yarn, number of ends and picks per dm mass per unit area (g/m^2), length and width of fabric and the chemical composition of the fabric in case of blends.

8.2 The tolerances as given below shall be permitted on these particulars:

Sl No.	*Characteristic*	*Tolerance(s)*	*Method of tests*
(1)	(2)	(3)	(4)
i)	Nominal count of warp and weft yarn (tex)	± 5 Percent	IS 3442
ii)	Ends/dm and picks/dm	± 5 Percent	IS 1963
iii)	Mass (g/m^2)	$\frac{+5 \text{ Percent}}{-2.5 \text{ Percent}}$	IS 1964
iv)	Length	$\frac{+5 \text{ Percent}}{-0 \text{ Percent}}$	IS 1954
v)	Width	± 15 mm	IS 1954
vi)	Chemical composition in case of blends	± 2 percent units	IS 3416 and IS 2005

8.2.1 The nominal width and mass (g/m^2) of the fabric shall be as agreed to between the buyer and the seller and tolerances given in **8.2** shall be applicable to these agreed values.

9 INSPECTIONS

9.1 The fabric shall be inspected for serious and major flaws (*see* Annex B) and shall be considered as satisfactory if the following conditions are satisfied:

a) Serious flaws : Nil

b) Major flaws : 5 per 100 linear metres

9.1.1 All the defects shall be flagged by appropriate coloured threads on either of the selvedges (*see* also Annex B).

10 SAMPLING

10.1 Lot

The quantity of upholstery fabric purporting to be on one definite type and quality delivered to a buyer against one despatch note shall constitute a lot.

NOTE — The sampling plan given in Table 2 shall give desired protection to the buyer and the seller provided the lot submitted for inspection is homogeneous. To ensure homogeneity of the lot, it is recommended to follow the methods given in IS 4905.

10.2 The conformity of the lot to the requirements of this standard shall be adjudged on the basis of the tests carried out on the samples selected from it.

10.3 Unless otherwise agreed to between the buyer and the seller, the number of pieces to be selected from a lot shall be in accordance with co1 (1) and col (2) of Table 2.

11 CHEMICAL COMPOSITION OF FABRIC

11.1 The manufacturer shall declare the quantitative and qualitative chemical composition of the fabric.

11.1.1 The fabric, when tested for chemical composition in case of blends, shall meet the declared composition with a tolerance of ± 2 percent units.

Table 2 Sample Size

(*Clauses* 10.1, 10.3 and 12)

Sl No.	Lot Size	Sample Size	Permissible Number of Non-Conforming Piece	Sub Sample Size	Sub-Sub sample Size
(1)	(2)	(3)	(4)	(5)	(6)
i)	Up to 50	5	0	3	2
ii)	51 - 150	8	0	5	3
iii)	151 - 300	13	1	5	3
iv)	301 - 500	30	1	8	5
v)	501 and above	32	2	8	5

12 CRITERIA FOR CONFORMITY

The fabric shall be declared conforming to the requirements of this standard if the conditions given below are satisfied:

Sl No.	*Characteristic(s)*	*Number of Tests*	*Criteria for Conformity*
(1)	(2)	(3)	(4)
i)	Serious and major flaws	According to col (2) of Table 2	Permissible number of defective pieces not to exceed corresponding number given in col (3) of Table 2
ii)	Ends, picks, mass, length, width and chemical composition	According to col (4) of Table 2	-do-
iii)	Breaking load tear strength, dimensional change, colour fastness, pilling resistance and durability of back coating	According to col (5) of Table 2	All the specimens satisfy the relevant requirements given in Table 1

ANNEX A
(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*
IS 1299 : 1984	Method for determination of dimensional changes on washing of fabrics woven from rayon and synthetic fibres (*second revision*)
IS 1954 : 1990	Determination of length and width of woven fabrics — Methods (*second revision*)
IS 1963 : 1981	Methods for determination of threads per unit length in woven fabrics (*second revision*)
IS 1964 : 2001	Textiles — Methods for determination of mass per unit length and mass per unit area of fabrics (*second revision*)
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 (*fourth revision*)
IS 2005 : 1988	Methods for quantitative chemical analysis of binary mixtures of nylon 6 or nylon 6.6 fibres and certain other fibres (*first revision*)
IS 2194 : 1963	Code for seaworthy packaging of man-made fibre fabrics
IS 2195 : 1964	Code for inland packaging of man-made fibre fabrics and man-made fibre yarns
IS 3442 : 2023	Textiles — Method for determination of crimp and linear density of yarn removed from fabrics (second *revision*)
IS 4905 : 2015	Random sampling and randomization procedures (*first revision*)
IS 5463 : 2022	Methods for sampling of cotton fabrics for chemical tests first revision of IS 5463
IS 6489 (Part 1) : 2011	Textiles — Tear properties of fabrics: Part 1 Determination of tear force using ballistic pendulum method (Elmendorf) (*second revision*)
IS 10971 (Part 1) : 2011	Textiles — Determination of fabric propensity to surface fuzzing and to pilling: Part 1 Pilling box method (*first revision*)
IS 11813 : 1986	Method for determination of soil resistance and soil release efficiency of finished textile fabrics
IS 12467	Textiles — Assessment of the ignitability of upholstered furniture:
(Part 1) : 2006	Ignition source: smouldering cigarette (*first revision*)
(Part 2) : 2006	Ignition source: match flame equivalent (*first revision*)
IS/ISO 105-X05 : 1994	Textiles — Tests for colour fastness: Part X05 Colour fastness to organic solvents
IS/ISO 105-X12 : 2016	Textiles — Tests for colour fastness: Part X12 Colour fastness to rubbing (*first revision*)
IS/ISO 105-E01 : 2013	Textiles — Tests for colour fastness: Part E01 Colour fastness to water (*first revision*)
IS/ISO 105-B02 : 2014	Textiles — Tests for colour fastness: Part B02 Colour fastness to artificial light: Xenon arc fading lamp test

ANNEX B

(*Clause* 9.1 and 9.1.1)

CATEGORIZATION OF FLAWS

B-l SERIOUS FLAWS

The serious flaws include:

a) One or more ends missing in the body of the material throughout its length, or more than three ends missing at a place and running over 600 mm or prominently noticeable double end running throughout the length of the piece;

b) Undressed snarls noticeable over a length exceeding 5 percent of the length of the piece;

c) Bad smashes definitely rupturing the texture of the fabric;

d) Holes, cut or tear;

e) Reed marks prominently noticeable over a length exceeding 5 percent of the length of the piece;

f) Defective or damaged selvedge noticeable over a length exceeding 5 percent of the length of the piece;

g) Very large floats;

h) Missing weft across full width for more than 6 mm; and

j) Mechanical damage, abrasion marks affecting the strength of the fabric.

B-2 MAJOR FLAWS

The major flaws include:

a) Weft crack or two or more missing picks less than 6 mm across the width of the fabric;

b) Weft bar due to the difference in raw material, count, twist, lustre, colour, shade or pick spacing of adjacent groups of weft yarns;

c) More than two adjacent ends running parallel or broken or missing end extending beyond 100 mm;

d) Noticeable warp or weft floats over ± 6.5 mm square or if over 13 mm long or broad, floating over more than four threads;

e) Noticeable oil or other stains in the fabric unless the causes are known and the effects are known to be harmless;

f) Prominently noticeable slub;

g) Conspicuous broken pattern:

h) Gout due to foreign matter usually lint or waste woven into the fabric;

j) Hard inclusions;

k) Badly made pull backs;

m) Prominent selvedge defects, that is, weak, slack, wavy, tight or scalloped selvedge;

n) Significant shading or listing in fabrics having a gradual change in tone or depth of shade of fabrics (excluding selvedge or border running parallel to selvedge);

p) Coloured flocks;

q) Blurred or dark patch;

r) Patchy, streaky or uneven dyeing;

s) Dye bar;

t) Printing defect which mars the general appearance of the fabric; and

u) Longitudinal bars of relatively tight or slack warp threads.

ANNEX C

(*Foreword*)

COMMITTEE COMPOSITION

Technical Textiles for Man-Made Fibers, Cotton and their Products Sectional Committee, TXD 31

Organization	*Representative(s)*
Textiles Committee, Mumbai	SHRI KARTIKAY DHANDA **(*Chairperson*)**
Association of Synthetic Fibre Industries, New Delhi	SHRI M. S. VERMA
ATM Syntex, Dadra and Nagar Haveli	SHRI ARNAB SAMANTHA
Confederation of Indian Textile Industry, New Delhi	SHRIMATI CHANDRIMA CHATTERJEE SHRI ANMOL GUPTA (*Alternate*)
Consumer Guidance Society of India, Mumbai	DR SITARAM DIXIT DR M. S. KAMATH (*Alternate*)
Cotton Association of India, Mumbai	SHRI ATUL S. GANTARA SHRI VINAY N. KOTAK (*Alternate*)
Defence Materials and Stores Research and Development Establishment, Kanpur	SHRI ASHOK KUMAR YADAV SHRI BISWA RANJAN DAS (*Alternate*)
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Grasim Industries Limited, Vadodara	SHRIMATI SHAILLEY GARG SHRIMATI ASHMITA PANCHAL (*Alternate*)
ICAR - Central Institute for Research on Cotton Technology, Mumbai	DR SENTHIL KUMAR DR A. ARPUTHARAJ (*Alternate*)
JCT Limited, Phagwara	SHRI KHUSHWINDER SINGH DHILLON SHRI ARWINDER SINGH (*Alternate*)
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Northern India Textile Research Association, Ghaziabad	SHRI SANJEEV SHUKLA
Office of Textile Commissioner, Mumbai	SHRI SOURABH KULKARNI SHRI PRANAV PARASHAR (*Alternate*)
Reliance Industries Limited, Mumbai	SHRI AJAY GUPTA SHRI KESHAV PAREEK (*Alternate*)
SITRA, Coimbatore	REPRESENTATIVE
Textile Committee, Mumbai	SHRI J. D. BARMAN SHRI P. N. S. SIVAKUMAR (*Alternate*)
The Bombay Textile Research Association, Mumbai	SHRI R. A. SHAIKH SHRIMATI PRAGATI KULKARNI (*Alternate*)

Organization	*Representative(s)*
The Cotton Corporation of India Ltd, Navi Mumbai	SHRI S. K. PANIGRAHI SHRI PRANJAL P. JOSHI (*Alternate*)
The Cotton Textile Export Promotion Council, Mumbai	SHRI SIDDARTHA RAJGOPAL
The Southern India Mills Association, Coimbatore	DR K. SELVARAJU SHRI NAGARAJAN ESAKKIMUTHU (*Alternate*)
The Synthetic & Rayon Textile Export Promotion Council, Mumbai	SHRI S. K. KHANDELIA SHRI PRAVEEN KUMAR S. SADH (*Alternate*)
The Synthetic and Art Silk Mills Research Association Mumbai	DR MANISHA MATHUR SHRIMATI ASHWINI A. SUDAM (*Alternate*)
Veermata Jijabai Technological Institute, Mumbai	DR (SHRIMATI) SURANJANA GANGOPADHYAY SHRI S. P. BORKAR (*Alternate*)
In Personal Capacity (*36 Old Sneh Nagar, Wardha Road, Nagpur* - 440015)	SHRI A. SATHEESAN
BIS Directorate General	SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI MAYUR KATIYAR
SCIENTIST 'B'/ASSISTANT DIRECTOR
(TEXTILES), BIS

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This Indian Standard has been developed from Doc No.: TXD 31 (21855).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Published by BIS, New Delhi