IS 13717 (1993): Textiles - Polyester cotton blended khadi (polyvastra) suitings for uniforms [TXD 8: Handloom and Khadi]

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IS 13717 : 1993
(Reaffirmed 2003)

भारतीय मानक

वस्त्रादि – वर्दी के लिए पोलिएस्टर काटन मिश्रित खादी (पोलिवस्त्र) की सूटिंग – विशिष्टि

Indian Standard

TEXTILES — POLYESTER COTTON BLENDED KHADI (POLYVASTRA) SUITINGS FOR UNIFORM — SPECIFICATION

UDC 667-489 '494·674' 21·074 : 687·112 : 687·152

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NEW DELHI 110002

May 1993

Price Group 2

Handloom and Khadi Sectional Committee, TX 08

FOREWORD

This Indian Standard was adopted be the Bureau of Indian Standards, after the draft finalized by the Handloom and Khadi Sectional Committee had been approved by the Textile Division Council.

Polyester blended suitings are being increasingly used by the organized consumers like DGS&D, Ministry of Defence, Railways, P&T, etc, for making uniforms. Polyvastra is a polyester-cotton blended fabric which is being produced In the khadi sector under the aegis of Khadi Village Industries Commission. With a view to encourage production of polyester blended fabric in khadi sector, Govt of India has introduced the scheme to purchase polyvastra fabric for uniforms of eligible employees. This standard has been formulated in order to provide the quality requirements of polyvastra for acceptance by various indenting Departments of the Govt of India.

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 'Rules for rounding off numerical values (*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

TEXTILES — POLYESTER COTTON BLENDED KHADI (POLYVASTRA) SUITINGS FOR UNIFORM — SPECIFICATION

1 SCOPE

1.1 This standard prescribes constructional particulars and performance requirements of polyester cotton blended khadi (polyvastra) suitings for making uniforms.

1.2 This standard does not specify the general appearance, feel, shade, etc, of the fabric.

2 REFERENCES

The Indian Standards listed at Annex A are necessary adjuncts to this standard.

3 MANUFACTURE

3.1 The hand spun yarn shall be used in the manufacture of the fabric.

3.2 The fabric shall be woven on handloom with uniform construction having firm and straight selvedges.

3.2.1 The fabric shall be well singed, heat set and fully shrunk.

4 REQUIREMENTS

4.1 The cloth shall conform to the requirements specified in Table 1.

4.2 The cloth shall be free from major flaws (defects) which shall not exceed 15 per 100 metres length. A list of major flaws (defects) is given in Annex B (*see* also IS 4125 : 1987). The allowance for providing extra length of cloth in lieu of flaws (defects) not exceeding the permissible limits may be as agreed to between the buyer and the seller.

NOTE — The number of defects shall be determined on all pieces under test and converted into number of defects per 100 metre length.

Table 1 Requirements of Polyester Cotton Blended Khadi (Polyvastra) Suitings for Uniforms

(*Clause* 4.1)

Sl No.	Characteristics	Requirement	Method of Test
(1)	(2)	(3)	(4)
1)	Approximate count of warp and weft yarns (for guidance only)	20 tex × 2 (30s/2)	—
2)	Blend composition, percent		IS 3416 : 1988
	a) Polyester	67 ± 5	
	b) Cotton	33 ± 5	
3)	Threads/dm		IS 1963 : 1981
	a) Warp	260 ± 5 percent	
	b) Weft	190 ± 5 percent	
4)	Mass, g/m²	190 ± 5 percent	IS 1964 : 1970
5)	Length, m	As agreed	IS 1954 : 1990
6)	Width, cm	70 ± 2	IS 1954 : 1990
7)	Breaking load on 5·0 × 20 cm strip, *Min*	—	IS 1969 : 1985
	a) Warpway	840 N	
	b) Weftway	610 N	
8)	Crease recovery angle, *Min* (initially and after three repeated washings, etc)	240°	IS 4681 : 1981
9)	Pilling (after 5 hrs test)	4 or better	IS 10971 : 1984
10)	Relaxation shrinkage, percent, *Max*		IS 2977 : 1989
	a) Warpway	2	
	b) Weftway	2	
11)	*p*H value of the aqueous extract	6·0 to 8·5	IS 1390 : 1983 (cold method)
12)	Water solubles, *Max*, percent	1	IS 3456 : 1966
13)	Colour fastness		
	a) Light	5 or better	IS 2454 : 1985
	b) Washing : Test 3 (After 4 washings)		IS 764 : 1979
	i) Change in colour	4 or better	
	ii) Staining on fabric	4 or better	
	c) Perspiration	4 or better	IS 971 : 1983
	d) Rubbing	4 or better	IS 766 : 1981
14)	Heat shrinkage, percent, *Max*	2·0	Annex C

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 respect.

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

5 MARKING

5.1 The cloth shall be marked with the following information:

a) Name of the material, namely, polyvastra suiting;
b) Composition, namely, polyester 67 percent and cotton 33 percent;
c) Length and width; and
d) Indication of the source of manufacture.

5.1.1 The cloth may also be marked with the Standard Mark.

6 PACKING

6.1 The cloth shall be packed in conformity with the procedure laid down in IS 1347 : 1972 or as agreed to between the buyer and the seller.

7 SAMPLING

7.1 Lot

The quantity of cloth delivered to a buyer against one despatch note shall consitute a lot.

7.2 The number of pieces to be selected at random from a lot for inspection shall be according to Table 2. To ensure randomness of selection, procedure given in IS 4905 : 1968 may be followed.

Table 2 Sample Size

Lot Size	Sample Size	Permissible No. of Non-Conforming Pieces	Sub-Sample Size	Sub-Sub-Sample Size
(1)	(2)	(3)	(4)	(5)
Up to 100	5	0	3	3
101 to 150	8	0	3	3
151 to 300	13	1	5	3
301 to 500	20	1	5	3
501 to 1 000	32	2	8	5
1 001 and above	50	3	13	5

7.3 Number of Samples and Criteria for Conformity

Characteristics	*Number of Sample*	*Criteria for Conformity*
Major flaws	According to col 2 of Table 2	All the test specimen satisfy the relevant requirements
Ends, picks, mass, length and width	According to col 4 of Table 2	
Blend composition, Relaxation shrinkage, breaking load, crease recovery angle, pilling, colour fastness, water soluble matter, *p*H value and heat shrinkage	According to col 5 of Table 2	do

ANNEX A

(*Clause* 2)

LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*
764 : 1979	Method for determination of colour fastness of textile materials to washing : Test 3 (*second revision*)
766 : 1988	Method for determination of colour fastness of textile materials to rubbing
971 : 1983	Method for determination of colour fastness of textile materials to perspiration (*first revision*)
1347 : 1972	Inland packaging of cotton cloth and yarn (*first revision*)
1390 : 1983	Methods for determination of *p*H value of aqueous extracts of textile materials (*first revision*)
1954 : 1990	Methods for determination of length and width of fabrics (*second revision*)
1963 : 1981	Methods for determination of threads per unit length in woven fabrics (*second revision*)
1964 : 1970	Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*)
1969 : 1985	Methods for determination of breaking load and elongation of woven textile fabrics (*second revision*)
2454 : 1985	Methods for determination of colour fastness of textile materials to artificial light (xenon lamp) (*first revision*)
2977 : 1989	Method for determination of dimensional changes of woven fabrics (other than wool) on soaking in water (*first revision*)
3416 : 1988	Method for quantitative chemical analysis of mixtures of polyester fibres with cotton or regenerated cellulose (*first revision*)
3456 : 1966	Method for determination of water soluble matter of textile materials
4125 : 1987	Glossary of terms pertaining to defects in fabrics (*first revision*)
4681 : 1981	Method for determination of recovery from creasing of textile fabrics by measuring the angle of recovery (*first revision*)
4905 : 1968	Methods for random sampling
6359 : 1971	Method for conditioning of textiles
10971 : 1984	Method for determination of pilling resistance of fabrics

ANNEX B

(*Clause* 4.2)

LIST OF MAJOR FLAWS

One or more ends missing in the body of the material throughout its length, more than three ends missing at a place and running over 60 cm, or prominently noticeable double and running throughout the piece.

Undressed snarls noticeable over a length exceeding 5 percent of the length of the piece.

Smash definitely rupturing the texture of the fabric.

Hole, cut or tear.

Reed marks prominently noticeable over a length exceeding 5 percent of the piece.

Defective or damaged selvedge noticeable over a length exceeding 5 percent of the length of the piece.

Skewing of more than three percent on weft.

Weft crack or two or more missing picks across the width of the fabric.

Warp or weft bar due to the difference in raw material, count, twist, lustre, colour, shade or spacing of adjacent groups of yarns (starting mark).

More than two adjacent ends running parallel, broken or missing and extending beyond 10 cm.

Noticeable warp or weft float in the body of the fabric.

Noticeable oil or other stain in the fabric.

Oily weft in the fabric.

Prominently noticeable slub.

Conspicuous broken pattern.

Gout due to foreign matter, usually lint or waste woven into the fabric.

Prominent selvedge defect.

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

Coloured flecks.

Blurred or dark patch.

Patchy, streaky or uneven dyeing.

Dye bar.

Fuzzy appearance.

ANNEX C

(*Table* 1)

METHOD FOR DETERMINATION OF HEAT SHRINKAGE OF FABRIC

Cut a sample of fabric measuring 30 cm × 30 cm and bring it to moisture equilibrium by conditioning in standard atmospheric conditions of 67 ± 2 percent RH and $27 \pm 2°C$ temperature (*see* IS 6359 : 1971). Mark a square of 25 cm × 25 cm on the sample. Make four reference points on each side of the square at 5 cm intervals so that by including the sides of the square, six determinations can be made in warp and weft direction. Make two slits of 1·25 cm from opposite edges of the fabric and pass a rod through the slits. Mount the sample in the ventilated oven by means of the rod so that air circulates freely around the sides of the sample. Bring the oven to a temperature of $160 \pm 4°C$. Then withdraw the sample and remove it from the rod, lay in on a flat smooth surface and allow it to cool. Measure the distance between each pair of marks to the nearest millimetre and record the change in the dimensions. Determine the average of the readings in the warp and weft directions separately and express it as a percentage of the original length.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard 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 BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Bureau of Indian Standards

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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 latest issue of 'BIS Handbook' and 'Standards Monthly Additions'. Comments on this Indian Standard may be sent to BIS giving the following reference:

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