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RAKSHA MANTRALAYA

JOINT SERVICES SPECIFICATION

TAPE, TEXTILE : NYLON, UNDYED/DYED
(DO CAT NO. 8315-000 257 to 000 263)

Issued by

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TEXTILES & CLOTHING, P.B. No. 294
KANPUR-208 001.

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JSS 8315-6
1981

RECORD OF AMENDMENTS

Amendment No.	Sub-heading to which amendment pertains	Authority	Incorporated by Name & Rank in block letters	Signature
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CONTENTS

		<u>PAGE</u>
0.	FORWORD	4
1.	SCOPE	5
2.	RELATED SPECIFICATIONS	5
3.	MATERIAL	6
4.	MANUFACTURE	6
5.	DIMENSIONS AND OTHER DETAILS	6
6.	WORKMANSHIP AND FINISH	6
7.	MARKING	6
8.	QUALITY	6 & 7
9.	PRE-INSPECTION OF STORES/COMMITMENT	7 & 8
10.	SAMPLING	8 & 9
11.	CRITERIA FOR CONFORMITY	9
12.	INSPECTION	9
13.	WARRANTY	9
14.	PACKAGING	10
15.	DEFECTIVE STORES CATALOGUE NUMBER	11
16.	SUGGESTIONS FOR IMPROVEMENT	11
17.	APPENDIX 'A'	12
18.	APPENDIX 'B'	13

JSS 8315-6
1981

JOINT SERVICES SPECIFICATION

TAPE, TEXTILE : NYLON, UNDYED/ND.

(Ds Cat No. 8315-000 257 to 000 268)

0. FOREWORD

0.1 This specification has been prepared by the Stores Standardisation Sub Committee on the authority of the Standardisation Committee, Ministry of Defence.

0.2 This specification is approved by the Ministry of Defence and is mandatory for use by the Defence Services. It supersedes specification No. IND/AD1/0603(a).

0.3 This JSS would be used to guide design, manufacture, inspection and procurement of the item.

0.4 Inquiries regarding this specification in relation to any contractual conditions should be addressed to the Inspection Authority named in the tender or contract, other enquiries will be referred to the Directorate of Standardisation, Ministry of Defence, New Delhi-110 011.

0.5 Copies of this specification can be obtained on payment from :

Directorate of Standardisation,
Ministry of Defence,
NEW DELHI-110 011.

or concerned Inspection authority of Ministry of Defence, viz :

Chief Inspectorate of Textiles & Clothing,
P.B. No. 294, Kanpur-203 004.

or

Asstt. Controller (Stock)
(Army JSS Publication)
Department of Publication
Government of India
Civil Lines, Delhi-110 054.

CONTROLLER

CONTROLLER OF QUALITY ASSURANCE
TEXTILES & CLOTHING, P.B. No. 294
KANPUR-203 001

1. SCOPE

1.1 This specification covers the requirements of Tape Nylon Various Dyed/Undyed used in the manufacture of personnel parachutes and other Aerial delivery equipments.

2. RELATED SPECIFICATIONS

2.1 Reference is made in this specification to :

- (i) IS: 636 - Method for determination of colour fastness to textile materials to daylight.
- (ii) IS: 764 - Method for determination of colour fastness of textile materials to washing tests.
- (iii) IS: 832 - Method for determination of twist in yarn.
- (iv) IS: 1315 - Method for determination of universal count of cotton yarn.
- (v) IS: 1390 - Methods for determination of pH value of aqueous extracts of textile materials.
- (vi) IS: 1954 - Methods for determination of length and width of fabrics.
- (vii) IS: 1963 - Methods for determination of threads per decimeter in woven fabrics.
- (viii) IS: 1969 - Method for determination of breaking load and elongation at break of woven textile fabrics.
- (ix) IS: 4228 - Nylon tapes for aeronautical purposes.
- (x) IS: 4905 - Method for random sampling.

2.2 All specifications/drawings referred to in this specification for any tender or contract, shall mean the edition current on the date of such tender or contract.

2.3 Indian Standard specifications are issued by the Indian Standards Institution and are obtainable on payment from the Sales Section, Indian Standards Institution, Manak Bhavan, 9, Bahadur Shah Zafar Marg, New Delhi-110 002 or their regional offices.

JSS 8315-6
1981

3. MATERIAL

3.1 The basic material of yarn shall be Nylon type '6' or '66'. The yarn for both warp and weft shall be bright multifilament, of high tenacity and of 23 tex. The yarn of 46 tex or 92 tex can also be used.

4. MANUFACTURE

4.1 The single and folded yarns shall be evenly twisted. The tapes shall be evenly woven under suitable tension. The edges of the tape shall be firm and regular.

4.2 The dyed tapes shall be manufactured either by use of dyed yarn in the weaving or by dyeing the tapes. The yarn or tapes shall be dyed with disperse or acid type dye. Metallised or chromic dyes shall not be used.

4.3 The yarns used for both warp and weft shall be twisted together (plied) in one operation.

5. DIMENSIONS AND OTHER DETAILS

5.1 Tape Nylon various dyed/undyed shall conform to the essential particulars given in Appendix.

6. WORKMANSHIP AND FINISH

6.1 The Tape Nylon various shall be free from weaving defects. When laid on a flat even surface, the tapes shall be in a straight line without any application of tension.

7. MARKING

7.1 Each roll shall be suitably attached with a label. The labels shall be legibly and indelibly marked with the manufacturer's name, initials or recognised trade mark, year of manufacture, length of roll, nomenclature and DS Cat. number of the stone.

8. QUALITY

8.1 Examination of the samples taken from any portion of a consignment shall show that the tapes conform to the following requirements when tested in accordance with the methods mentioned against each :

Tests	Requirements	Methods (Refer to)
(a) Length	100 m or as ordered	X X IS:1954
(b) Width	As per Col. 2 of Appex. 'A'	X
(c) Thickness	As per Col. 3 of Appex. 'A'	Appendix 'B'
(d) Mass in g per 100 m	As per col.8 of Appex. 'A'	IS:4226 (Appex. B)
(e) Picks per dm	As per col. 5 of Appex. 'A'	IS:1963
(f) Total no. of ends in full width. Min.	As per col. 4 of Appex. 'A'	IS:1963
(g) No. of folds of yarn Warp Weft	As per col. 6 of Appex. 'A' As per col. 7 of Appex. 'A'	
(h) Turns per metre	100	IS:832
(j) Breaking load (on full width x 20 cm)	As per Col. 9 of Appex. 'A'	X
(k) Elongation at break per cent, Min	18	X X X IS:1969
(l) pH value of aqueous extract.	6.0 to 8.5	IS:1390 (cold method)
(m) Dye fastness (i) To light (ii) To washing	Class 5 or better Rating 4 or better	IS:686 IS:764
(n) Linear Density of yarn	As per col. 12 & 13 of appex 'A'	IS:1315

9. PRE-INSPECTION OF STORES/CONSIGNMENT

9.1 Manufacturers/contractors must satisfy themselves that the stores are in accordance with the terms of the contract and fully conform to the required specification by carrying out thorough pre-inspection of each lot before actually tendering the same for inspection to the Inspecting Officer nominated under their terms of contract. A declaration by the contractor that necessary pre-inspection has been carried out on the stores tendered will be submitted along with the Challan. The declaration will also

indicate the method followed in carrying out pre-inspection showing the features checked/tested and will have the test certificate attached to the challan/declaration.

9.2 If the Inspecting Officer finds that pre-inspection of the consignment as required above has not been carried out the consignment is liable for rejection.

10. SAMPLING

10.1 The manufacturer/supplier shall tender the store duly numbered serially and arranged in such a way that all the units are easily accessibly to the Inspector.

10.2 The Inspector shall draw samples from the bulk lot at random using the technique of simple random sampling as given in IS:4905.

10.3 For evaluating length, width, ends in full width, picks per dm and folds of yarn the rolls selected as in Col. 2 of the table given below shall constitute the test sample. The sample so drawn shall be examined for shade, dyeing defects, weaving defects, length, width, ends in full width and picks per dm and it should not exceed the corresponding number given in Col. 3 of the table. In case of length the value obtained for each roll shall be compared with its specified declared or marked length. The mean percentage of deficiency in length, if any, shall be determined as made applicable to the lot.

10.4 For evaluating other laboratory tests on the number of rolls specified in Col. 4 of the table shall constitute the test sample.

10.5 The length of the sample for subjecting to full tests shall be 5 m. A 2 m sample shall also be drawn from the remaining lot for breaking load test only.

TABLE

Lot size (rolls)	Sample size for visual examination (No. of rolls to be selected.)	Permissible No. of defective rolls	Sub sample size (No. of rolls to be selected for laboratory tests.
1.	2.	3.	4.
upto 25	5*	0	3
26- 50	8	0	5
51- 100	13	1	7
101-150	20	2	9
151-300	32	3	11
301-500	50	5	13
501-1000	80	7	15

* or lot size when less than 3.

11. CRITERIA FOR CONFORMITY

11.1 All the sample units drawn as per clause 10.2 above when tested/examined if meet the requirements of the specification, the lot shall be considered to be in conformity with the specification requirements otherwise not.

12. INSPECTION

12.1 If, on examination of any sample taken from any portion of a consignment, the material is found to be not fully in accordance with this specification, the whole supply may be rejected.

13. WARRANTY

13.1 The stores supplied against this order shall be deemed to bear a warranty of the contractor against defective material, workmanship and performance for a period of six months from the date of receipt of stores at consignee's depot. If during this period the stores supplied are found by the ~~xxxx~~ consignee to be so defective, the same shall be replaced immediately with serviceable store by the contractor at site free of any charge or cost.

JSS 8315-6
1981

14. PACKAGING

14.1 The appropriate number of rolls shall be arranged in cylindrical bundles and secured by jute twine 3 ply to a unit pack. Suitable number of such unit packs shall be arranged and wrapped with 0.04 mm thick polythene film. Alternatively one layer of paper wrapping followed by a layer of paper packing waterproof can be used in emergent condition when polythene film 0.04 mm thick is not readily available. It shall then be placed in cases wood packing provided with liners waterproof bag. The empty spaces if any shall be filled in with cushioning material to prevent any movement of the contents inside the cases wood packing and the top lid of the cases shall be nailed in. Care shall be exercised that the nails do not pierce the contents inside the cases wood packing. The cases wood packing shall be made secure by fastening with metal hoops or metal wire.

14.2 Packing materials used should be of best trade quality and previously approved by the Inspecting Officer.

14.3 If the store is intended for factory use the gross mass of the packages shall not exceed 250 kg.

14.4 For D05 packing the gross mass of packages shall not exceed . 40 kg.

14.5 If ordered for delivery to a local inspection depot the Tape Nylon Various dyed/undyed shall be delivered loose in firm's returnable packs. After inspection the accepted supplies shall be packed by the inspection depot concerned as indicated in para 14.1 above.

14.6 Before despatch, each cases wood packing shall be legibly and indelibly marked showing the following details :

- (a) Nomenclature and DS Cat. number of the store.
- (b) Quantity packed in each CWP.
- (c) Serial No. of the CWP.
- (d) Month and year of packing.
- (e) Name and trade mark of the manufacturer.
- (f) Gross mass of the each CWP in kg.
- (g) Name and address of the consignee.
- (h) Inspection Note number and date.

JSS 8315-6
1981

15. DEFENCE STORES CATALOGUE NUMBER

15.1 The tape nylon covered by this specification shall bear the following D.S. Cat numbers :

D.S. CAT NO.	NOMENCLATURE
	Tape, Textile : Nylon, Undyed
8315- 000 257	14 mm
8315- 000258	19 mm
8315- 000259	25.4 mm.
8315- 000260	32 mm
8315-000 261	38 mm
8315- 000262	44 mm
	Tape, Textile : Nylon, Dyed
8315- 000 263	14 mm
8315- 000264	19 mm
8315- 000265	25.4 mm
8315- 000266	32 mm
8315- 000267	38 mm
8315- 000268	44 mm

SUGGESTIONS FOR IMPROVEMENT

1. Any suggestion for improvement of this document may be forwarded to the Secretary, Stores Standardisation Sub-Committee, Directorate of Standardisation, Ministry of Defence, New Delhi-110 011.

JCS 8315-6
1981

Variety No.	Width in (mm)	Thickness in (mm)	Pressure of 210 g per sq cm	Full width in (mm)	Picks per dm	No. of Yarns of 1/2 weight	Mass per 100 m in g (Max)	Breaking Load (Full width) in (N)	Percentage elongation at break	Wave Length	Line P	Density of yarn (Tex)
1.	14 + 1	0.64 to 1.0		92	134	2	370	2256	18	*	23	23
2.	19 + 1	0.5 to 0.8		150	148	1	620	1893	18	@	23	23
3.	25.4 + 1	do		75	134	4	1120	3352	18	*	23	23
4.	32 + 1	do		34	134	4	1400	4362	18	*	23	23
5.	38 + 1.5	do		112	134	4	1675	5333	18	*	23	23
6.	44 + 1.5	do		132	134	4	1935	6914	18	*	23	23

* 2 up and 2 down herringbone twill with one reversal of twill in the centre.
 @ 2 up and 2 down herringbone twill with one reversal of twill at the centre and 2/woven as one.

NOTE: Breaking load - to individual reading should be less than specified.

Requirement of Roll length of Take Tex: nylon 42mm (88-6914N) Roll Lengths - 50 mbr
 Through our letter No. CE-1744/PSM/T DT: - T-4-99 ..

2

JSS 8315-6
1981

APPENDIX 'B'

FOR DETERMINATION OF THICKNESS

Prior to test, the test specimen shall be conditioned in a standard atmosphere of 65 ± 2 per cent relative humidity and 23 ± 0.5 C temperature for at least 24 hours. Take a test at three different places and calculate the average of these results.