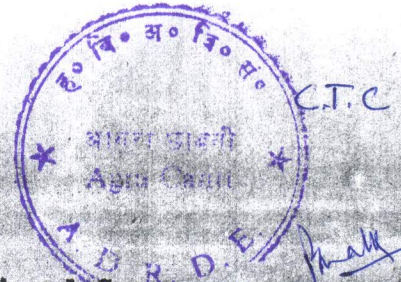


GOVERNMENT OF INDIA
MINISTRY OF DEFENCE



Provisional Specn.
No. ADDE/BP/1(b)

Prasanta K. Mallik
se 'B'

(NIV) TAPES NYLON VARIOUS UNDYED FOR BRAKE PARACHUTES.

1. THIS SPECIFICATION IS INTENDED TO GUIDE PURCHASE, INSPECTION AND MANUFACTURE OF TAPES NYLON FOR PARACHUTES AGAINST DEFENCE REQUIREMENTS.
2. IN CASE OF DISCREPANCY BETWEEN THIS SPECIFICATION AND ANY SAMPLE OR PATTERN, THIS SPECIFICATION WILL BE TAKEN AS CORRECT.
3. WHEREVER A REFERENCE TO ANY OTHER SPECIFICATION/DRAWING OCCURS IN THIS SPECIFICATION IT SHALL BE TAKEN AS A REFERENCE TO THE LATEST VERSION OF THAT SPECIFICATION/DRAWING.

SCOPE

1. This specification covers the requirements of woven/braided Tapes Nylon of various sizes used in the manufacture of Brake Parachutes.

GENERAL

2. The tapes nylon governed by this specification being for use in aircraft brake parachutes are required to be of uniformly high standard and in strict conformity with the particulars laid down in this specification.

MATERIAL

3. The Nylon yarn used in the manufacture of the tapes shall be bright, high tenacity, multifilament type 6.

MANUFACTURE/WORKMANSHIP AND FINISH

4. The finished tapes Nylon shall be clean, evenly woven, free from weaving/spinning defects and stains. The selvages shall be firm, regular and even.
5. The tapes Nylon of various sizes shall conform to the following essential particulars.

Cont.....2/-

Items	Width Gms	Thickness Gms	Wt./mtr (Max) Gms	Suggested Tarn ID	R.S. (18 cm Bet grips Kg) Min	Weave	No. of spindles	Plait per 10 cms
1. Tape Nylon 2.6 cm thick	2.6 ± 0.1	0.295 ± 0.01	33	840	1000	Double Plain	-	-
2. Tape Nylon 2.6 cm Med	2.6 ± 0.1	0.113 ± 0.01	18.25	840	600	Plain	-	-
3. Tape Nylon 2.6 cm thin	2.6 ± 0.1	0.042 ± 0.01	6.3	210	200	"	-	-
4. Tape Nylon 1.3 cm thin	1.3 ± 0.1	0.022 ± 0.01	2.5	210	70	"	-	-
5. Tape Tubular Nylon 2.2 cm	2.2 ± 0.1	0.218 ± 0.01	29.4	840	700	"	-	-
6. Tape Tubular Nylon Braided 1.1 cm	1.1 ± 0.1	0.309 ± 0.01	16.6	840	450	Braided	24	33 ± 1
7. Tape Tubular Nylon Braided 1.5 cm	1.5 ± 0.1	0.292 to 0.238	18.2	840	550	"	48	56 ± 1
8. Tape Nylon 1.6 cm	1.6 ± 0.1	0.048 ± 0.01	5.1	210	200	Plain	-	-

Note :- No. of ends in full width and picks at the discretion of manufacture.

TESTS

6. The tape nylon of various sizes shall satisfy the following tests.
7. Breaking Strength Tests When tested in accordance with the method laid down in the appendix 'A'. The breaking strength of any (test specimen) of a sample shall not be less than the minimum shown in the table under para 5.
8. Weight When tested in accordance with the method laid down in the appendix 'B', the weight per metre should not be more than that shown in the table under para 5.
9. Thickness. The thickness of one layer of tape nylon shall be measured at 10 places under a pressure of 210 gms. per sq. cm. and then the average of these results is calculated.

MARKING

10. Each roll shall be legibly and indelibly marked with the contractor's trade mark, year of manufacture, the length of roll and nomenclature and Cat. No. of the store.

PACKAGING

11. The length of the rolls shall be as shown in the appendix 'C' as required by the procuring authority. The appropriate number of rolls shall be arranged in cylindrical bundles and secured by a jute twine to form a unit pack. Suitable number of such unit packs shall be arranged and wrapped with 150 gauge polythene film. It shall then be placed in a case wood packing provided with lined water-proof bag. The gross weight of the packages shall not exceed 40 Kg. 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 without piercing the contents inside. Packing materials used should be of the best quality and previously approved by the Inspector.

12. If ordered for delivery to a local inspection depot, the tape nylon shall be delivered loose in firms returnable packs. After inspection the accepted supplies shall be packed by the inspection depot authority as indicated in para 11 above.

13. Before despatch, each cases wood packing shall be legibly and indelibly marked showing the following :-

- (a) Name of the store.
- (b) Quantity packed in CWP
- (c) Serial No. of the CWP
- (d) Month and year of Packing.
- (e) Name and trade mark of the manufacturer.
- (f) Gross weight of the CWP in Kg.
- (g) Name and address of the consignee.
- (h) Inspection note no. and date.

PRE-INSPECTION

14. Before tendering the store to the Govt. Inspector, the supplier will carry out a thorough pre-inspection of each delivery to satisfy himself that the store fully conform to this specification.

INSPECTION

15. i) If, on examination, material from any portion of a consignment is found not to be fully in accordance with this specification the whole consignment is liable to be rejected.
- ii) If, on examination of 20 per cent of any delivery 20 per cent of those examined are found not to conform to this specification in any respect then the whole consignment may be rejected.
- iii) All rolls not fully in accordance with this specification shall be rejected.

AGPA CANTT
DATE: *Aug '81*

(B.S.)
For DIRECTOR
AERIAL DELIVERY RESEARCH AND DEVELOPMENT
ESTABLISHMENT

(G.B. SINGH)
2 July 2001

APPENDIX 'A'

METHOD FOR THE DETERMINATION OF BREAKING STRENGTH

The specimen from the selected test sample shall be conditioned for not less than 24 hrs. in an atmosphere having a R.H. of 65 ± 2 per cent and a temp., $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The specimen shall be fixed in an approved Breaking strength testing machine in which the test piece is stretched at a constant rate of 43 Cm (18") per minute, the length between the support shall be 18 Cm (7") and the specimen tested whilst under the same condition.

If the specimen breaks at point not within the unsupported length at a load lower than that specified, a duplicate test shall be carried out on another specimen.

APPENDIX 'B'

METHOD FOR DETERMINATION OF WEIGHT/M IN GMS.

Prior to test, the test specimen shall be conditioned not less 24 hrs. in an atmosphere having a R.H. of $65 \pm 2\%$ and a temp of $27^{\circ}\text{C} \pm 2^{\circ}\text{C}$. The test specimen so conditioned shall then be subjected for one minute to a load equal to 1% of the breaking strength and a specimen of tape shall not be cut under tension. The weight/m shall then be determined.

APPENDIX 'C'

ROLL OF LENGTHS OF NYLON TAPES VARIOUS FOR BRAID PARACHUTES

S.No.	Nomenclature	Actual for use	Roll Length	
			For test	Total per roll
1.	Tape Nylon 2.6 cm thick	85 m	5 m	90 m
2.	Tape Nylon 2.6 cm med	85 m	5 m	90 m
3.	Tape Nylon 2.6 cm thin	50 m	5 m	55 m
4.	Tape Nylon 1.3 cm thin	50 m	5 m	55 m
5.	Tape Tubular Nylon 2.2. cm	90 m	5 m	95 m
6.	Tape Tubular Nylon Braided 1.1. cm	50 m	5 m	55 m
7.	Tape Tubular Nylon Braided 1.5 cm	90 m	5 m	95 m
8.	Tape Nylon 1.6 cm	50 m	5 m	55 m

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