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Specification No. ADRDE/SPECN/1998/51(a)

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Issue: 02
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Government of India
Ministry of Defence

Specification
For
**FIBRE GLASS TAPE 60 MM
FOR AERONAUTICAL PURPOSES**

Approved by

[Signature]
25/6/19

Group Director

Technology Group (Textile Engineering)



Aerial Delivery Research and Development Establishment
Ministry of Defence
Post Box No. 51
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Agra Cantt - 282 001



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RECORD OF AMENDMENTS

| Amendment No. | Sub heading to which amendment pertains and details of amendment | Authority | Incorporated by: Name & Rank in Block letters | Initials |
|---------------|--|-------------------|---|----------|
| 1 | <u>Appendix 'A', Column 3</u> For : Thickness at 200 g/cm ² pressure, max, mm: 0.15 Amendment: Thickness under 200 g/cm ² pressure, max, mm: 0.25 | Director ADRDE | GD, TGTE | |
| 2 | <u>Appendix 'A', Column 6</u> For : No. of ends in full width: Undyed: 74 Black: 3 Amendment: No. of ends in full width: Undyed: 91 Black: 2 | | | |
| 3 | <u>Appendix 'A', Column 7</u> For : Picks/dm: 79/80 Amendment: Picks/dm: 95±5 | | | |
| 4 | <u>Appendix 'A', Column 8 & 9</u> For : Construction of yarn, Tex x Fold Warp: U/D – 63x2 & Black – 20x1 Weft: 113x1 Amendment: Linear density of yarn, Tex (±20%) Warp: 35x3 Weft: 35x2 | | | |



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FIBRE GLASS TAPE 60 MM

0. FOREWORD

- 0.1 This specification has been prepared by a special committee at ADRDE and approved by Group Director, Technology Group (Textile Engineering), ADRDE, Agra.
- 0.2 This specification would be used for manufacture, inspection and procurement of Fibre Glass Tape 60mm for Aeronautical purposes.
- 0.3 In case of any discrepancy between this specification and any sample or pattern, this specification shall be taken as correct.
- 0.4 Enquiries regarding this specification in relation to any contractual conditions should be addressed to the Inspection Authority named in tender or contract. Other enquiries will be referred to the issuing authority, Director, ADRDE, Agra.
- 0.5 Whenever a reference to any other specification occurs in this specification, it shall be taken as a reference to the latest version of that specification.
- 0.6 Copies of this specification can be obtained on payment from:
i. The Director,
A.D.R. & D.F.,
P.B. No. 51, Station Road,
Agra Cantt. - 282 001
ii. Concerned Inspectors and Inspection Authority.
- 0.7 IS specifications quoted in this specification may be obtained directly from B.I.S., Manak Bhawan, 9, Bahadur Shah Zafar Marg, New Delhi - 110002 or its offices located in the country.


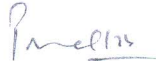
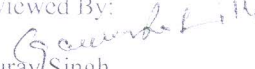
1. SCOPE

- 1.1 This specification covers the requirement of Fibre Glass Tape 60 mm as mentioned below:

2. RELATED SPECIFICATIONS

- 2.1 Reference is made in this specification to:

- i. IS:1954 Methods for determination of length and width of fabrics.
ii. IS:7702 Method for determination of thickness of woven and knitted fabrics.
iii. IS:1964 Method for determination of weight per square metre and weight per linear metre of fabrics.

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- iv. IS: 1963 Method for determination of threads per unit length in woven fabrics.
v. IS:3442 Determination of crimp and count of yarn removed from fabric.
vi. IS:1969 Method for determination of breaking load and elongation of woven textile fabrics.
vii. IS:4905 Method for random sampling.

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

3. MATERIAL

- 3.1 Glass fibre used in the manufacture of tape should be of Aluminum Bore Silicate composition with a guaranteed content of Alkali Metal Oxides not exceeding 0.5% and with glass content 95% minimum.

4. MANUFACTURE

- 4.1 (i) Nominal width in mm of Tape $60 + 2.0$
 $- 0.0$
(ii) Nominal thickness in mm 0.25, max

Tape should be manufactured from low alkali glass fibre yarn and be reasonably free from yarn and weaving defects. Tape should be free from oil, grease, stains, other contamination, wrinkle, yarn distortions etc.

5. DIMENSIONS AND OTHER DETAILS

- 5.1 Fibre Glass Tape shall conform to the particulars given in Appendix 'A'.

6. WORKMANSHIP AND FINISH

- 6.1 Fibre Glass Tape shall be free from weaving defects. When laid on a flat even surface, the tape shall be in straight line without application of any tension.

7. MARKING

- 7.1 Each roll shall be suitably attached with a label shall be legibly and indelibly marked with nomenclature i.e. Manufacture's name, initials or recognized trade mark, year of manufacture, length of roll and DS catalogue no. of the store, if any.

8. QUALITY

- 8.1 Any portion of the sample drawn from a consignment, on examination, shall show its conformity to the particulars furnished in the table under Appendix 'A'.

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9. PRE-INSEPTION OF STORES/CONSIGNMNET

- 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 a thorough pre-inspection of each lot before actually tendering the same for inspection to the inspecting officer nominated under the terms of the 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 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 stores duly numbered serially and arranged in such a way that all the units are easily accessible to the Inspector.
- 10.2 For carrying out full laboratory tests, the rolls selected as in column 2 of the table give below shall constitute the test samples.
- 10.2.1 The inspector shall draw samples for a full test from the bulk lot at random sampling as given in IS: 4905.
- 10.2.2 The length of sample for subjected to full test shall be of 5m.
- 10.3 The remaining rolls of the lot shall be subjected to breaking load test only.
- 10.3.1 The length of the samples for breaking load test shall be 3m.

10.3.2

TABLE**Lot Size**

| No. Of units (In Rolls) | Sample Size for Full Tests |
|-------------------------|----------------------------------|
| Up to 25 | 5 or lot size whichever is less. |
| 26 to 50 | 8 |
| 51 to 90 | 13 |
| 91 to 150 | 20 |
| 151 to 280 | 32 |
| 281 to 500 | 50 |
| 501 to 1200 | 80 |
| 1201 and above | 125 |

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11. CRITERIA FOR CONFORMITY

11.1 All the sample units drawn as per clause 10 above shall be tested/examined to the relevant specification requirement. If all the sample units are found to conform to the specified particular, as given in the specification, the supply shall be considered to be in conformity, otherwise not.

12. INSPECTION

12.1 If, on examination, material from any portion of the consignment is found not conforming fully to this specification in any respect, the whole consignment is liable to be rejected.

12.2 If on examination of 20% of any delivery, 20% of those examined are found not conforming to this specification in any respect, the whole consignment 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, poor workmanship and performance for a period of twelve months from the date of receipt of the stores at consignee's depot. If, during the period, the stores supplied are found by the consignee to be defective, the same shall be replaced immediately with serviceable stores as per specification by the contractor at site, free of any charge or cost.

14. PACKAGING

14.1 Glass Fibre Tape shall be packed in rolls of wooden shaft having side walls and roll shall be properly wrapped in water proof paper and finally packed in wooden cases. The minimum length of tape shall be specified in the purchase order. The tape shall be supplied in rolls of continuous length without joints of 100 m or as required by the procuring authority.

14.2 Packing material used should be best trade quality and approved by Inspecting Officer prior to its use.

14.3 The gross mass of packages shall not exceed 40 kg.

14.4 If ordered for delivery to a local Inspecting Depot, the store shall be delivered loose in firm's returnable packs. After inspection, the accepted supplies shall be packed by the contractor concerned as indicated in para 14.2 above.

14.5 Before dispatch, each case wood packing (CWP) shall be legibly and indelibly marked, showing following details:

- a) Nomenclature and D S Cat number of the store, if any.
- b) Quantity packed in each CWP.
- c) Serial no. of the CWP.



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- d) Month and year of packing.
- e) Name and trade mark of the manufacturer.
- f) Gross mass of each CWP in Kg.
- g) Name and address of the consignee.
- h) Inspection Note number and date.

15. **DEFENCE STORES CATALOGUE NUMBERS**

15.1 Not yet allotted.

16. **SUGGESTION FOR IMPROVEMENT**

16.1 Any suggestion for improvement of this document may be forwarded to the Director, ADRDE, Agra Cantt - 282 001.

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APPENDIX 'A'

PARTICULARS OF FIBRE GLASS TAPE 60MM UNDYED

| Roll Length, m | Width, mm | Thickness at 200 g/cm ² pressure, max, mm | Mass, max, g/m | Breaking Strength, min, N | No. of ends in full width | Suggested Particulars | | | |
|----------------------|---------------|---|----------------------|------------------------------------|------------------------------|-----------------------|---|-------|-------|
| | | | | | | Picks/dm | Linear density of yarn, Tex ($\pm 20\%$) | Weave | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| 100 or as ordered | 60 + 2 - 0 | 0.25 | 18 | 2256 | Undyed - 91 Black - 2 | 95 \pm 5* | 35x3 | 35x2 | Plain |

* Single weft.

- In case of needle loom, Weft yarn Tex of 35x1 shall be used with picks/dm of 190 \pm 10 (2 picks/shed).