

PROVS C I
COTTON TAPE

UDC 629.7:677.754:677.21.064

5 F. 47, June, 1972
(Superseding British Standard 4F.47)

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BRITISH STANDARD: AEROSPACE SERIES
SPECIFICATION FOR
COTTON TAPE

FOREWORD

This British Standard, one of a series for textiles of a quality suitable for aerospace purposes, supersedes British Standard 4F.47. During its preparation account has been taken of the fact that some basic quality requirements are now included in British Standard F.100 and all values are now given in metric units.

The majority of the widths of tape for which details of construction and properties are given are multiples of 5 mm and it is hoped that only those tapes, or others in the same category, will be used in new designs. Details of three widths which are not multiples of 5 mm are also given, in italics, as an interim measure only: they are non-preferred widths and it is intended to omit them from the next revision of this standard.

Conversion factors for metric to imperial units and vice versa are given in Appendix A. The figures in metric units are to be regarded as the standard.

This standard makes reference to the following British Standards:

British Standard F.100. Inspection and testing procedures and certain basic requirements for textiles for aeronautical purposes.

BS 350. Conversion factors and tables.

BS 947. Yarn count systems and their conversion.

BS 2087. Preservative textile treatments.

BS 3763. The International System of units (SI).

NOTE. The latest editions of these standards should be used.

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SPECIFICATION

1. SCOPE

This British Standard specifies the requirements, in metric (SI*) units, for cotton tapes for aerospace purposes in a range of widths.

2. GENERAL

In addition to the specific requirements stipulated in 3 to 8, the tape shall comply with the relevant portions of the clauses relating to the following general quality requirements in British Standard F.100:

- (1) *Manufacture*
- (2) *Dyed textiles*
- (3) *Dimensions and tolerances*
- (4) *Freedom from corrosive impurities*
- (5) *Freedom from defects.*

3. YARN

The tape shall be manufactured from unsized cotton yarns of nominal counts as follows:

- (1) *Warp* : 2 ply yarn of resultant count 20 tex (R20tex/2).
- (2) *Weft* : 17 tex count singles.

4. MANUFACTURE

The weave shall be plain.

5. FINISH

5.1 Rot-proofing

5.1.1 If rot-proofing is required, this shall be achieved in accordance with the requirements of 5.1.2 or 5.1.3 as stipulated in the contract or order.

5.1.2 The tape or the yarns from which it is to be constructed shall be treated with pentachlorophenyl laurate (PCPL) in accordance with BS 2087. This proofing is colourless.

5.1.3 The tape shall be treated with Mineral Khaki (MK), which confers a khaki colour, followed by treatment with pentachlorophenyl laurate. These treatments shall be in accordance with BS 2087, except that the pentachlorophenyl laurate content shall be included as part of the stitch finish when calculating the amount of stitch finish required in association with the Mineral Khaki.

5.2 *Dyeing.* If colouration, other than that conferred by Mineral Khaki, is required, the colour shall be stated in the contract or order and either the tape or the yarns from which it is to be constructed shall be dyed.

6. CONSTRUCTION AND PROPERTIES

6.1 The ends in width and minimum breaking strength of the tape, in the condition as ordered, and the maximum mass in the unrot-proofed and undyed state, of the widths listed in Table 1 shall comply with the requirements of that table.

6.2 The number of picks shall be 18 ± 1 per centimetre, calculated from the number of picks in a measured length of not less than 2.5 cm.

*Information concerning SI units is given in BS 3763 and BS 350.

6.3 Tapes of widths other than those listed in Table 1 may be supplied in accordance with the requirements of this British Standard. In such cases the values of the variables given in Table 1 shall be proportional to the values specified in that table for the next lower width.

TABLE 1

NOTE. The figures in parentheses are the values in imperial units formerly specified for tapes of similar widths and are given for information only.

Width		Ends in width *		Maximum mass		Min. breaking strength	
mm	(in)	No.		g/m	(oz/144yd)	N	(lbf)
5		18		0.6		36	
6	(¼)	24	(24)	0.8	(3½)	44	(10)
10		36		1.1		80	
13	(½)	48	(48)	1.5	(6¾)	105	(24)
15		57		1.7		125	
20	(¾)	72	(72)	2.2	(10)	160	(36)
25	(1)	96	(96)	2.9	(13½)	215	(48)
30		116		3.5		260	
32	(1¼)	120	(120)	3.6	(16¾)	265	(60)
50	(2)	192	(192)	5.7	(26¼)	430	(96)
100	(4)	384	(384)	11	(53)	845	(190)

*Tolerance +4, -0.

7. SAMPLING AND TESTING

Sampling and testing shall be in accordance with British Standard F.100.

8. IDENTIFICATION

The tape shall be identified for ordering purposes by the number of this British Standard, together with the width, and, if required, the colour and references to the special requirements of 5.1. The identification may be codified.

For example, 30 mm wide tape required dyed blue-grey and rot-proofed may be identified as 'BS 5F 47/50mm/blue-grey/PCPL'.

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APPENDIX A

CONVERSION FACTORS

NOTE. The conversion factors given in this appendix are approximate. More accurate conversions should be based on the tables in BS 350 and BS 947.

A.1 Metric to imperial units

1 millimetre	=	0.04 inch
1 gram per metre	=	4.7 ounces per 144 yards
1 newton	=	0.22 pound force
Tex	=	$\frac{590}{\text{Yarn count (cotton)}}$

A.2 Imperial to metric units

1 inch	=	25 millimetres
1 ounce per 144 yards	=	0.22 gram per metre
1 pound force	=	4.5 newtons
Yarn count (cotton)	=	$\frac{590}{\text{Tex}}$

This British Standard, having been approved by the Aerospace Industry Standards Committee, was published under the authority of the Executive Board of the Institution on 14 June, 1972.

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ISBN: 0 580 07123 5

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee reference ACE/21 Draft for comment 70/33295

(Printed in England by Reliance Printing, London) (2.5k)