

**BRITISH STANDARDS INSTITUTION**  
2 PARK STREET, LONDON W1A 2BS

INCORPORATED BY ROYAL CHARTER  
Telephone: 01-629 9000  
Telex: 266933

**BRITISH STANDARD: AEROSPACE SERIES**  
**SPECIFICATION FOR**  
**COTTON WEBBING**

**FOREWORD**

This British Standard, one of a series for textiles of a quality suitable for aerospace purposes, supersedes British Standard 2F.49. During its preparation account has been taken of the fact that some basic quality requirements are now included in British Standard F.100 and the values for the maximum mass specified for the various sizes of the material have been increased. In addition, all values are now given in metric units.

The majority of the widths of webbing 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: these 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.

## SPECIFICATION

### 1. SCOPE

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

### 2. GENERAL

In addition to the specific requirements stipulated in 3 to 8, the webbing 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 webbing shall be manufactured from unsized cotton yarns of nominal counts as follows:

- (1) *Warp* : 3 ply yarn of resultant count 148 tex (R148 tex/3).
- (2) *Weft* : 3 ply yarn of resultant count 90 tex (R90 tex/3).

### 4. MANUFACTURE

The weave shall be 2/2 V twill.

### 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 webbing 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 webbing 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 webbing 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 webbing, 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  $12 \pm 0.5$  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 Webbing of widths other than those listed in Table 1 may be supplied in accordance with 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 webbings 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)
10		30		6.5		440	
13	(½)	38	(38)	8.3	(36)	535	(120)
20	(¾)	56	(56)	13	(54)	845	(190)
25	(1)	74	(74)	17	(72)	1100	(250)
30		90		20		1300	
32	(1¼)	94	(94)	20	(90)	1400	(310)
38	(1½)	112	(112)	27	(108)	1650	(375)
40		116		27		1750	
45	(1¾)	130	(130)	29	(126)	1950	(440)
50	(2)	148	(148)	33	(144)	2200	(500)
75	(3)	222	(222)	50	(216)	3350	(750)
100	(4)	294	(294)	66	(288)	4450	(1000)

\*Tolerance +4, -0.

#### 7. SAMPLING AND TESTING

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

#### 8. IDENTIFICATION

The webbing 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, 50 mm wide webbing required dyed blue-grey and rot-proofed may be identified as 'BS 3F 49/50mm/blue-grey/PCPL'.

## SPECIFICATION

### 1. SCOPE

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

### 2. GENERAL

In addition to the specific requirements stipulated in 3 to 8, the webbing 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 webbing shall be manufactured from unsized cotton yarns of nominal counts as follows:

- (1) *Warp* : 3 ply yarn of resultant count 148 tex (R148 tex/3).
- (2) *Weft* : 3 ply yarn of resultant count 90 tex (R90 tex/3).

### 4. MANUFACTURE

The weave shall be 2/2 V twill.

### 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 webbing 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 webbing 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 webbing 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 webbing, 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  $12 \pm 0.5$  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.