

Specification for

**140 g/m<sup>2</sup> mercerized  
cotton fabrics and  
serrated edge strip for  
aerospace purposes**

Confirmed  
February 2008

# Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Aerospace Standards Policy Committee (ACE/-) to Technical Committee ACE/54, upon which the following bodies were represented:

British Fabric Association  
British Rubber Manufacturers Association Ltd.  
British Textile Confederation  
Ministry of Defence  
Society of British Aerospace Companies Limited  
Society of Dyers and Colourists  
Textile Finishers' Association

This British Standard, having been prepared under the direction of the Aerospace Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 August 1992

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The following BSI references relate to the work on this standard:  
Committee reference ACE/54  
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## Amendments issued since publication

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# Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
<hr/>	
Section 1. General	
1.1 Scope	1
1.2 References	1
1.3 General requirements	1
<hr/>	
Section 2. Mercerized cotton fabric	
2.1 Yarn	2
2.2 Manufacture	2
2.3 Finish	2
2.4 Finishing for doping	2
2.5 Rotproofing	2
2.6 Dyeing	2
2.7 Properties of the finished fabric	2
2.8 Make up	2
2.9 Identification	2
<hr/>	
Section 3. Serrated strip	
3.1 Manufacture	3
3.2 Width	3
3.3 Rotproofing	3
3.4 Identification	3
<hr/>	
Annex A (informative) Information to be supplied by the purchaser	4
<hr/>	
Table 1 — General requirements (given in BS F 100)	1
Table 2 — Properties of the finished fabric	2
<hr/>	
List of references	Inside back cover
<hr/>	

# Foreword

This British Standard, prepared under the direction of the Aerospace Standards Policy Committee, is one of a series of a quality suitable for aerospace purposes. It is a revision of BS 6F 8:1975 which is withdrawn. During its preparation no changes have been made to the technical requirements, but the quality requirements specified in British Standard F 100 have been identified.

The quality assurance authority referred to in this standard is as stated in the contract or order, or the accredited representative of the authority stated as instructed by the prime contractors.

**WARNING NOTE 1.** This standard calls for the use of substances and/or test procedures that may be injurious to health if adequate precautions are not taken. It refers only to technical suitability and in no way absolves either the supplier or the user from statutory obligations relating to health and safety at any stage of manufacture or use.

**WARNING NOTE 2.** This standard specifies pentachlorophenyl laurate (PCPL) as the only approved rotproofing treatment for aerospace fabrics. Alternative treatments are under development, and this standard will be updated to delete PCPL as soon as an approved alternative treatment for aerospace fabrics is available.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 4, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

# Section 1. General

## 1.1 Scope

This British Standard specifies a mercerized cotton fabric and strips cut from it for use primarily on aircraft surfaces. Section 2 details the fabric and section 3 details the strip.

NOTE 1 The information to be supplied by the purchaser in the contract or order is listed in Annex A.

NOTE 2 The latest revision of an Aerospace Series Standard is indicated by a prefix number.

## 1.2 References

### 1.2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this standard only when incorporated in it by updating or revision.

### 1.2.2 Informative reference

This British Standard refers to another publication that provides information. The edition of this publication current at the time of issue of this standard is listed on the inside back cover, but references should be made to the latest edition.

## 1.3 General requirements

In addition to requirements specified in section 2 and 3 of this standard, the following sections and clauses of the latest edition of BS F 100 shall apply (see Table 1).

**Table 1 — General requirements (given in BS F 100)**

Section	Title	Requirements and tests
1	General	All requirements
2	Quality requirements	Requirements for the manufacture of wide fabrics Requirements for dimensions and tolerances (general and wide fabrics) Requirements for dyed textiles Requirements for freedom from faults: wide fabrics Requirements for freedom from corrosive impurities
3	Physical tests	Tests for the determination of the number of threads per unit length in woven fabrics Test for mass: mass per unit area of wide fabrics Breaking strength and extension under force: wide fabrics Test for doping properties
4	Chemical tests	If required by section 2, further tests for freedom from corrosive impurities

## Section 2. Mercerized cotton fabric

### 2.1 Yarn

**2.1.1** The yarn shall be two-fold cotton and shall be mercerized.

**2.1.2** If the warp requires sizing, a fully saponifiable size shall be used. Agents containing wax and other non-saponifiable matter shall not be used.

### 2.2 Manufacture

The fabric shall be plain woven.

### 2.3 Finish

The fabric shall be supplied in one of the following conditions:

- a) loomstate;
- b) finished for doping;
- c) scoured and rotproofed;
- d) scoured and dyed;
- e) scoured, dyed and rotproofed.

NOTE The finish required should be stated in the purchaser's contract or order (see A.1).

### 2.4 Finishing for doping

NOTE It will be necessary to obtain a standard sample from the quality assurance authority (see foreword) to carry out the required visual comparisons.

**2.4.1** The fabric shall be calendered to a smooth finish.

**2.4.2** The doping properties shall conform to BS F 100.

### 2.5 Rotproofing

**2.5.1** The fabric shall be rotproofed with pentachlorophenyl laurate (PCPL) in accordance with BS 2087-1:1992, normal process.

**2.5.2** No other rotproofing agent shall be used.

### 2.6 Dyeing

Where dyeing is required, the colour of the fabric shall be specified either by reference to a British Standard, e.g. BS 381C, or otherwise by pattern.

NOTE The requirement for dyeing and the colour should be stated in the purchaser's contract or order (see A.1).

### 2.7 Properties of the finished fabric

**2.7.1** The finished fabric shall conform to the appropriate requirements of Table 2.

#### 2.7.2 Size content

Fabric finished for doping shall not contain more than 2.5 % size by mass when tested in accordance with BS 4032:1978.

### 2.8 Make up

The fabric shall be delivered free from creases and either:

- a) lapped full width on drum boards having a width of 150 mm and a thickness of nominally 12.5 mm; or
- b) rolled full width on tubes with an outside diameter of nominally 45 mm.

NOTE The make up required should be stated in the purchaser's contract or order (see A.1).

### 2.9 Identification

The fabric shall be identified for ordering purposes by the number, date and section of this British Standard (i.e. BS 7F 8:1992, section 2), together with the finish and, if required dyed, the colour.

**Table 2 — Properties of the finished fabric**

Finish	Minimum no. threads/cm		Maximum mass per unit area g/m <sup>2</sup>	Minimum average breaking strength	
	Warp	Weft		Warp N/50 mm	Weft N/50 mm
Loomstate	31	32	150	700	785
Finished for doping	31	31	145	720	720
Scoured and rotproofed	32	29.5	150	675	630
Scoured and dyed	32	29.5	150	675	630
Scoured, dyed and rotproofed	32	29.5	160	675	630

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## Section 3. Serrated strip

### 3.1 Manufacture

**3.1.1** The serrated strip shall be cut lengthwise from fabric which conforms to section 2 of this standard and which has been finished for doping, except that the warp strength shall be not less than 675 N per 50 mm.

**3.1.2** Each edge of the strip shall have 4 to 8 serrations per 25 mm and the depth of each serration shall not exceed 3.5 mm.

### 3.2 Width

The width shall be measured between the peaks and the tolerance on the width shall not exceed  ${}^{+4}_0$  mm.

NOTE The width required should be stated in the purchaser's contract or order (see A.2).

### 3.3 Rotproofing

**3.3.1** If required, the fabric prior to cutting shall be rotproofed with pentachlorophenyl laurate (PCPL) in accordance with BS 2087-1:1992, normal process.

**3.3.2** No other rotproofing agent shall be used.

NOTE The requirement for rotproofing should be stated in the purchaser's contract or order (see A.2).

### 3.4 Identification

The serrated strip shall be identified for ordering purposes by the number, date and section of this British Standard (i.e. BS 7F 8:1992, section 3), the width and, if required, the rotproofing.

NOTE This identification may be codified, e.g. a 100 mm wide rotproofed strip may be identified as:  
BS 7F 8:1992, section 3/100 mm/PCPL.

## **Annex A (informative)**

### **Information to be supplied by the purchaser**

#### **A.1 Mercerized cotton fabric**

The following information should be stated by the purchaser in the contract or order for mercerized cotton fabric:

- a) the number of this British Standard (i.e. BS 7F 8);
- b) the finish required (see **2.3**);
- c) the colour, if required dyed (see **2.6**);
- d) the make up (see **2.8**).

#### **A.2 Serrated strip**

The following information should be stated by the purchaser in the contract or order for serrated strip:

- a) the number of this British Standard (i.e. BS 7F 8);
- b) the colour, if required dyed (see **2.6**);
- c) the width required (see **3.2**);
- d) rotproofing, if required (see **3.3**).



## List of references (see clause 2)

### Normative references

#### BSI standards publications

BRITISH STANDARDS INSTITUTION, London

BS 5F 100:1991, *Procedure for inspection and testing of textiles for aerospace purposes*<sup>1)</sup>.

BS 2087, *Preservative textile treatments*.

BS 2087-1:1992, *Specification for treatments*.

BS 4032:1978, *Method of test for the determination of certain water- or alkali-soluble additives in cellulosic or synthetic fibres, yarns and fabrics or yarns and fabrics made from blends of such fibres*.

### Informative references

#### BSI standards publications

BRITISH STANDARDS INSTITUTION, London

BS 381C:1988, *Specification for colours for identification, coding and special purposes*.

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<sup>1)</sup> Edition current at time of publication (see 1.3).

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