

Specification for

**345 g/m² and 415 g/m²
cotton canvas fabrics
suitable 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
British Textile Employers' Association
Man-made Fibres Producers' Committee
Ministry of Defence
Society of British Aerospace Companies Limited
Society of Dyers and Colourists

This British Standard, having been prepared under the direction of the Aerospace Standards Policy Committee (ACE/-), was published under the authority of the Board of BSI and comes into effect on 31 January 1991

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The following BSI references relate to the work on this standard:
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Foreword

This British Standard, prepared under the direction of the Aerospace Standards Policy Committee, is one of a series for textiles of a quality suitable for aerospace purposes and is a revision of BS 5F 55:1982 which is withdrawn. It differs from the previous edition primarily in that provision for the supply of fabrics treated with mineral khaki has been deleted. Quality requirements as defined in the latest edition of BS F 100 are also included, as are details of information to be supplied by the purchaser.

WARNING NOTES

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.

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.

1 Scope

This British Standard specifies the requirements for cotton canvas fabrics of nominal loomstate mass per unit area of 345 g/m² and 415 g/m² for aerospace purposes, primarily for heavy duty parachute packs.

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

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

NOTE 3 The latest revision of an Aerospace Series standard is indicated by a prefix number.

2 General requirements

In addition to the requirements specified in clauses 3 to 7, 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 test
1	General	All requirements
2	Quality requirements	Requirements for the manufacture of wide fabrics Requirements for dyed textiles Requirements for dimensions and tolerances: general and wide fabrics Requirements for freedom from corrosive impurities ^a Requirements for freedom from defects
3	Physical tests	Test for the determination of mass of wide fabric Tests for breaking strength and extension under load of wide fabrics Dimensional changes by cold water immersion: wide fabrics Test for water repellency
4	Chemical tests	If required by section 2: test for freedom from corrosive impurities test for pH value of aqueous extract test for water soluble chloride test for water soluble sulphate

^a Not applicable to loomstate fabric.

Table 2 — Properties of the grey yarn

Fabric designation	Nominal linear density for single yarn		Plies		Folding twist		Twist direction
	Warp	Weft	Warp	Weft	Warp	Weft	
	dtex	dtex			turns/m	turns/m	
No. 55	370	370	3	3	475	475	S
No. 448	445	445	2	2	475	475	S

Table 3 — Properties of the loomstate fabric

Fabric designation	Minimum number of threads per centimetre ^a		Mass per unit area	Minimum average breaking strength	
	Warp	Weft		Warp	Weft
			g/m ²	N/50 mm	N/50 mm
No. 55	17.0	15.5	415 ± 15	1 100	1 250
No. 448	17.0	18.0	345 ± 15	900	1 000

^a Calculated from the number of threads in a measured length of not less than 2 cm.

5 Finish

5.1 General

The fabrics shall be supplied either:

- a) scoured, dyed (see 5.2) and rotproofed (see 5.3); or
- b) scoured, dyed (see 5.2), rotproofed (see 5.3) and treated with a water repellent (see 5.4).

5.2 Dyeing

The colour shall be specified either by reference to a British Standard, e.g. BS 381C, or otherwise by pattern.

NOTE The colour required should be stated in the contract or order (see Appendix A).

5.3 Rotproofing

5.3.1 The fabrics shall be treated with pentachlorophenyl laurate (PCPL) in accordance with BS 2087-1, normal process.

5.3.2 No alternative process shall be used.

5.4 Water repellent treatment

5.4.1 When water repellency is required, the fabric shall be rendered permanently water repellent by a process which complies with 6.3.

NOTE The requirement for water repellent treatment should be stated in the contract or order (see Appendix A).

5.4.2 Cuprammonium proofing shall not be used.

6 Construction and properties of finished fabric

NOTE The minimum usable width of the finished fabric should be as stated by the purchaser in the contract or order (see Appendix A) but a minimum usable width of 900 mm is usually supplied.

6.1 Tests

When tested in accordance with clause 2, the fabric in the finished state shall comply with 6.2, 6.3 and 6.4.

6.2 Breaking strength

The minimum average breaking strength in the warp or weft directions shall be not less than the following:

- a) fabric designation No. 55:1050 N/50 mm;
- b) fabric designation No. 448:880 N/50 mm.

6.3 Water repellency

Where water repellency is required, the fabric shall be rendered water repellent such that the mean absorption shall not exceed 25 % and the penetration shall be nil, i.e. no individual figure shall exceed nil.

6.4 Dimensional changes

The maximum change in dimensions of the finished fabric after immersion in water at 20 ± 2 °C shall not exceed 2 % in either warp or weft direction.

7 Identification

The fabric shall be identified for ordering purposes by the number of this British Standard, i.e. BS 6F 55:1990¹⁾, together with the relevant designation given in Table 2 and, if required, the colour and water repellency treatment.

NOTE This identification may be codified. For example, fabric No. 448 required dyed to BS 381C olive drab and treated with a water repellent, may be identified as BS 6F 55/448/BS 381C No. 298/WR.

¹⁾ Marking BS 6F 55:1991 on or in relation to a product represents a manufacturer's declaration of conformity, i.e. a claim by or on behalf of the manufacturer that the product meets the requirements of the standard. The accuracy of the claim is therefore solely the responsibility of the person making the claim. Such a declaration is not to be confused with third party certification of conformity, which may also be desirable.

Appendix A Information to be supplied by the purchaser

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

- a) the number of this British Standard, i.e. BS 6F 55;
- b) the fabric designation, selected from Table 2;
- c) the colour (see **5.2**);
- d) the water repellent treatment, if required (see **5.4.1**);
- e) the width of the cloth if other than 900 mm (see clause **6**).

Publications referred to

BS F 100, *Procedure for inspection and testing of textiles.*

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

BS 2087, *Preservative treatments for textiles.*

BS 2087-1, *Specification for treatments.*

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