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(Replacing British Standard F.57 and
Ministry of Aviation Specification D.T.D 524B)

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BRITISH STANDARD SPECIFICATION FOR

SCOURED COTTON FABRICS

FOR AERONAUTICAL PURPOSES

FOREWORD

This British Standard, one of a series for textiles of a quality suitable for aeronautical purposes, replaces British Standard F.57 and incorporates Ministry of Aviation Specification D.T.D. 524B. During the preparation of this standard minor changes only have been made to the technical requirements but provision has now been made for the fabric to be rot-proofed. Provision has also been made for the fabric to be identified by a code reference.

Metric equivalents of British units are given in the Appendix; the figures in British 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 for textiles for aeronautical purposes.
B.S. 350 Conversion factors and tables.
B.S. 947 Yarn count systems and their conversions.
B.S. 2087 Chemical requirements for textiles treated by certain preservative processes.

NOTE. In place of the customary, but incorrect, use of the pound as a unit of force, the unit called a pound-force (abbreviation lbf) has been used in this standard. It is that force which, when acting on a body of mass one pound, gives it an acceleration equal to that of standard gravity.

SPECIFICATION

SCOPE

1. This British Standard specifies the requirements for scoured cotton fabric for aeronautical purposes in a range of weights.

YARN

2. Cotton yarn* shall be used in the manufacture of the fabric. The use of singles yarn is permitted except for Fabric A for which two fold mercerised yarn shall be used.

* Nominal grey counts and plies of yarn in warp and weft which have been found suitable are:

Designation	Nominal grey counts of yarn	
	Warp	Weft
JM	80s	90s
P	70s	88s
Q	82s	88s
R	104s	124s
A	2/66s	2/66s
B	50s	56s
C	74s	86s
D	88s	108s

MANUFACTURE AND TREATMENT

3. *a.* The weave shall be plain.

b. The fabric shall be uniformly woven and shall be pick found.

c. The fabric shall be closely singed on both sides and shall be scoured.

d. Unless otherwise stipulated in the contract or order, the fabric shall be treated with pentachlorophenyl laurate applied from aqueous emulsion in accordance with B.S. 2087.

e. The width of the treated fabric at any part shall be not less than 42 inches nor more than 42½ inches, unless otherwise stipulated in the contract or order. The width of the fabric as woven shall be at least 4 per cent greater than the scoured width.

f. The selvedges shall be straight, even and well made, and shall have the same tension as the remainder of the fabric. The fabric, when laid on a table, shall be flat and shall continue to lie flat under lengthways tension.

CONSTRUCTION AND PROPERTIES

4. The treated fabric shall comply with the requirements of Table 1.

Price 2/6 net

TABLE 1

Designation	Minimum number of threads per inch		Maximum weight		Minimum average breaking strength lbf per inch width	
	Warp	Weft	oz/sq yd	g/m²	Warp	Weft
JM	102	102	1·70	58	26	26
P	124	128	2·25	76	52	42
Q	126	130	2·10	71	45	45
R	128	134	1·54	52	31	31
A	76	76	3·94	134	80	80
B	120	116	3·24	110	59	59
C	130	130	2·36	80	43	43
D	135	135	1·92	65	35	35

FREEDOM FROM IMPURITIES

5. *a.* The amount of water extractable matter in the treated fabric shall not exceed 0·5 per cent.

b. The treated fabric shall contain not more than 0·1 per cent of water soluble chloride calculated as NaCl and not more than 0·25 per cent water soluble sulphate calculated as Na_2SO_4; alternatively, the conductivity of an aqueous extract shall not exceed 150 micromhos.

c. Each piece of treated fabric shall be spotted with aqueous solutions of the indicators bromo-cresol green and thymol blue and shall show a blue or greenish blue colour with the former and a distinct yellow colour with the latter. The indicators shall be absorbed immediately on application.

FREEDOM FROM DEFECTS

6. The fabric shall be as free as possible from defects, to the satisfaction of the Inspector.

MAKE UP

7. The fabric shall be made up at full width on poles longer than the width of the fabric in continuous pieces without joins and of the specified length, rolled tightly and free from creases.

SAMPLING AND TESTING

8. *a.* Unless otherwise agreed with the Inspecting Authority, the selection of test samples and the tests for weight, breaking strength, water extractable matter, water soluble sulphates, water soluble chlorides and conductivity of aqueous extract shall be in accordance with British Standard F.100.

b. For scoured fabric the requirements of Clause 5.*b* above shall be applied at Type test frequency. For fabric treated with pentachlorophenyl laurate these tests are already required by B.S. 2087

IDENTIFICATION

9. The fabric shall be identified for ordering purposes by the number of this British Standard and the relevant designation given in Table 1.

For example, fabric 'C' shall be identified as 'B.S.2F. 57/C'.

APPENDIX

METRIC EQUIVALENTS OF BRITISH UNITS

British unit	Metric equivalent
1 inch	25·4 millimetres
1 yard	0·91 metres
1 ounce	28·35 grammes
1 pound	0·45 kilogrammes
1 thread per inch	3·94 threads per 10 centimetres
Yarn count (cotton)	$\frac{590{\cdot}5}{\text{Yarn count}} = \text{Tex}$

The metric conversions are approximate. More accurate conversions should be based on the tables in B.S. 350 'Conversion factors and tables', or B.S. 947 'Yarn count systems and their conversions'

This British Standard, having been approved by the Aircraft Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council of the Institution on 28th June, 1963.

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 B.S.I. references relate to the work on this standard:
Committee reference ACE/26. Draft for comment CT(ACE) 6792.

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