

Specification for

**Hydrolysis resistant,
thermoplastic
polyether polyurethane
elastomer-coated nylon
fabric for aerospace
purposes**

Committees responsible for this British Standard

The preparation of this British Standard was entrusted to Technical Committee ACE/54, Wide woven and coated fabrics for aerospace purposes, 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

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Foreword

This British Standard has been prepared by Technical Committee ACE/54.

This British Standard is one of a series for textiles of a quality suitable for aerospace purposes. During its preparation the applicable basic quality requirements contained in BS 5F 100:1991 have been included in the text. The standard specifies the requirements for coated fabrics used in the manufacture of inflatable life saving equipment.

The fabric designations specified in this standard are based on the user firm specifications RFD 572, BASE 8925, BASE 8926, BASE 8982, IAC/S 1336 and IAC/S 1344.

In addition to the definitive requirements, this standard also requires the items detailed in clause 3 to be documented. For compliance with this standard, both the definitive requirements and the documented items have to be satisfied.

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 8, 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 six nylon fabrics coated with a thermoplastic hydrolysis resistant polyether polyurethane elastomer for use in the manufacture of aerospace items, which may include items of inflatable life saving equipment. All fabrics are intended primarily for assembly by high-frequency welding techniques. In addition, all fabrics are intended to be capable of assembly by solvent based polychloroprene or polyurethane adhesives.

NOTE 1 The information to be supplied by the purchaser in the enquiry or order is listed in clause 3.

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

2 References

2.1 Normative references

This standard incorporates, by dated or undated reference, provisions from other publications. These normative references are made at the appropriate places in the text and the cited publications are listed on the inside back cover. For dated references, only the edition cited applies; any subsequent amendments to or revisions of the cited publication apply to this standard only when incorporated in the reference by amendment or revision. For undated references, the latest edition of the cited publication applies, together with any amendments.

2.2 Informative references

This standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Information and requirements to be agreed and documented

The following information to be supplied by the purchaser shall be fully documented. Both the definitive requirements specified throughout the standard and the following documented items shall be satisfied before a claim of compliance with the standard can be made and verified:

- a) if required dyed, the colour (see 5.1.1);
- b) the width required (see 5.3.1);
- c) the packaging requirements (see 6.1);
- d) the number of this British Standard, i.e. BS F 142:1995 (see 7.1).

4 General requirements

4.1 In addition to the requirements given in clauses 3 to 7 of this standard, the sections of BS 5F 100:1991 given in Table 1 shall apply.

4.2 The test requirements shall be determined in accordance with BS 5F 100:1991 unless otherwise stated in this standard. In the event of a dispute, the methods of test, performance standards, inspection and acceptance limits stated in this standard shall take precedence.

4.3 Type tests shall be performed at the commencement of each contract and thereafter at intervals not exceeding 5 000 m of fabric. In addition, when any change occurs to the material, finishing treatments or to the composition of the coating compound the type tests shall be repeated.

5 Technical requirements

5.1 Uncoated textiles

5.1.1 The textile prior to coating shall be scoured, dyed and heatset in accordance with the requirements of the specification shown in Table 2.

NOTE The requirement for dyeing and the colour required should be stated in the purchaser's enquiry or order (see clause 3).

5.1.2 When tested in accordance with BS 5F 100:1991, the fastness to light of the dyed textile shall be a minimum of Standard 4, except where fluorescent colours are required when the fastness to light shall be a minimum of Standard 2.

5.2 Coating compounds

5.2.1 The elastomer shall be an unpigmented hydrolysis resistant thermoplastic polyurethane.

5.2.2 The coating composition shall contain not less than 90 % (V/V) of elastomer and shall not contain any waxes or other ingredients which will adversely affect the weldability of the fabric.

NOTE For a clear coating containing no additives such as fire retardants, the coating composition should contain approximately 96 % (V/V) of elastomer.

5.2.3 When tested in accordance with section 3 of BS 6085:1992 using mineral salts agar without nutrient for a period of 28 days, the coating composition shall not support microbiological growth (type test) when assessed in accordance with section 6 of BS 6085:1992.

5.2.4 When tested in accordance with BS 2782:Method 120D:1990 the softening point of the elastomer shall be not less than 140 °C nor greater than 180 °C (type test).