

Fabrics for uniforms and workwear —

Part 1: Specification for fabrics of wool and wool blends

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Committees responsible for this British Standard

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- Assistant Masters’ and Mistresses’ Association
- British Clothing Industry Association
- British Railways Board
- British Textile Employers’ Association
- Confederation of British Wool Textiles Limited
- Department of Health
- Fabric Care Research Association
- Home Office
- International Wool Secretariat
- Local Authority Organizations
- Mail Order Traders’ Association
- Man-made Fibres Producers Committee
- Menswear Association of Britain Limited
- Ministry of Defence
- National Association of Head Teachers
- National Children’s Wear Association
- Textile and Clothing Contractors’ Association
- Textile Research Council

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Foreword

This Part of BS 1771 has been prepared under the direction of the Textiles and Clothing Standards Policy Committee and contains requirements for fabrics made entirely from wool or from blends of wool and other fibres. BS 1771-2 contains requirements for fabrics made from cotton, man-made fibres and blends of man-made fibres with cotton.

It was decided to produce a revision of the 1984 edition of Part 1 of BS 1771 to include additional MoD requirements and this part revision includes a range of commonly used fabrics from Defence Standards 83-34/Issue 3, 83-35/Issue 3 and 83-72/Issue 2.

With the publication of this Part, BS 1771-1:1984 is superseded and withdrawn.

As with the previous edition of this Part of BS 1771, the fabric references allocated to the fabrics listed in Table 1 and Table 2 have been chosen with the aim of assisting the non-technical purchaser in making a choice of fabric type for his known end-usage.

Appendix A recommends fabrics for fire service, local authority, constabulary, and hospital use and is included to assist in narrowing the choice still further, so that the non-technical purchaser is not overwhelmed by a vast array of technological data and fabric types.

Supplementary information for MoD contracts is also given in Appendix E, which includes a cross-reference table giving details of the MoD pattern numbers, the item names and descriptions, the NATO stock numbers together with the fabric width.

Many properties cannot be specified objectively and cannot therefore be included in the specification. Examples of such properties include colour, handle, appearance and details of additional design features. Public sector purchasing authorities may be able to supply standard patterns which cover these properties and serve to resolve any ambiguities of description.

Attention is drawn to Statutory Instrument No. 26 1986 The Textile Products (Indications of Fibre Content) Regulations 1986.

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 16, 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 Part of BS 1771 specifies constructional requirements and minimum performance requirements for a range of wool fabrics and fabrics of wool and other fibres, used for the manufacture of uniforms and workwear garments.

Reference numbers have been allocated to the fabrics listed, with the aim of assisting the non-technical purchaser in making a choice of fabric type for his known end-usage. Appendices are included to provide further assistance by recommending fabrics for fire service, local authority, constabulary and hospital use, and to give supplementary information for MoD contracts. This Part includes a cross-reference table giving the item names and descriptions, the MoD pattern numbers, the NATO stock numbers and fabric widths and additional details.

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

2 Definitions

For the purposes of this Part of BS 1771, the definitions given in BS 6189 apply, together with the following.

2.1 batch

a definite quantity of some commodity manufactured or produced under conditions which are presumed uniform

2.2 bulk

the total length of fabric included in the contract of supply

2.3 lot

the total number of rolls of fabric included in any part delivery of the bulk

3 Fabric references

The fabrics specified in this Part of BS 1771 have been allocated references, arranged so that the general end usages and fabric types can be easily discerned. The key to the references and general descriptions is as follows.

C	Fabrics for caps and badges
OC	Overcoat fabrics
SP	Specific protection
UB	Uniform, baratheia
UK	Uniform, knitted
US	Uniform, serge

NOTE More detailed information about recommended end uses is given in Appendix A and a table of cross-references with traditional fabric numbers is given in Appendix B.

4 Fabric details

Woven fabrics shall comply with the requirements of Table 1 and knitted fabrics shall comply with the requirements of Table 2.

NOTE 1 Selvedges should be firm and straight and should not cause "build-up" during laying-up for garment cutting.

NOTE 2 The finished fabric should be free from grease, soap, filling or any substance used to add mass or modify the handle.

5 Dyestuffs and colour fastness

5.1 Dyestuffs

Due to the risk of degradation of the fabric in storage, sulphur black dyestuffs shall not be used.

For fabrics dyed with a chrome dyestuff or mordant the finished fabric shall contain not more than 0.01 % of residual soluble hexavalent chromium, expressed as $K_2Cr_2O_7$ when tested in accordance with 8.5 of BS 6810:1987.

5.2 Colour fastness

Fabrics shall comply with the requirements of Table 3.

6 Sampling, testing and compliance

6.1 Sampling

Sampling shall be carried out in such a manner that samples taken are representative of the manufacturing, processing, dyeing or finishing batch from which they are drawn.

No batch shall exceed 6 000 m in length. Samples of the fabric taken for testing for compliance with the requirements of this standard shall be representative of each batch. One sample shall be taken from each 1 500 m or part thereof.

Each sample shall be taken from a different piece or roll of fabric and shall be taken not less than 20 m from the end of the piece or roll. It shall be large enough to provide material for all the tests required by this standard and shall be identified with the piece or roll from which it was taken.

6.2 Selection of test specimens

Test specimens shall be selected from the sample taken in accordance with 6.1 in such a manner that the full width and length of the sample is represented in each set of test specimens.

6.3 Testing

All the physical tests required shall be carried out on each sample.

Chemical tests, and colour fastness tests other than for light fastness, shall be carried out on one sample from each batch.

Colour fastness to light determination shall be carried out on one sample taken from the first batch of a contract. Provided that this sample meets the requirement stated in Table 1, and subject to the following proviso, no further colour fastness to light tests need be carried out. If however, in the course of the contract, the dye formulation is changed, the colour fastness shall be re-determined on a sample taken from the first batch to which the new dye formulation applies. In cases of dispute the colour fastness to light test shall be carried out on the basis of one sample per batch.

6.4 Pre-conditioning

Pre-conditioning is not specified prior to testing. However, in the event of any dispute on test results, samples shall be pre-conditioned for 4 h in a relative humidity not exceeding 10 % at a temperature not greater than 50 °C before being exposed to the standard temperate atmosphere for the conditioning and testing of textiles, defined in BS 1051, for at least 24 h before testing.

6.5 Re-tests

Should a sample fail any test, two further samples shall be selected from two different pieces in the same batch. Each of these samples shall be tested, and if either fails the whole batch should be rejected. If both the re-test samples pass, the batch shall be accepted, but the piece from which the failed sample was taken shall not be included in the delivery.

7 Marking

Each piece or roll of fabric shall have a label attached bearing the following information:

- a) name and/or distinctive mark of the manufacturer;
- b) fabric reference in accordance with Table 1 and Table 2;
- c) contract number, where applicable;
- d) piece number;
- e) year of manufacture;
- f) length of the piece or roll, in metres;
- g) width of the fabric in centimetres;
- h) whether a chrome dyestuff or mordant has been used on the fabric;
- i) the number and date of this British Standard, i.e. BS 1771-1:1989¹⁾.

NOTE To assist in the choice of a suitable fabric, it is recommended that the manufacturer provides the purchaser with the information given in Appendix A.

¹⁾ Marking BS 1771-1:1989 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.

Table 1 — Physical characteristics of woven fabrics

1	2	3	4	5	6	7	8	9	10	11	12	13
Fabric reference	Fibre content (see BS 4407)	Weave	Finish and other details	Wool fibre diameter, mean	Polyester fibre linear density, nominal	Mass per unit area, min.	Threads per unit length, min.		Breaking strength, min.		Dimensional change, max. ^a	Other requirements
							Warp	Weft	Warp	Weft		
C1 ^b	100 % wool	Plain	—	µm	dtex	g/m ²	per cm	per cm	N per 50 mm	N per 50 mm	%	
C2	82.5 % wool 17.5 % cotton	Plain	Face finish	—	—	370	13.8	13.8	290	220	2.0	
C3	100 % wool	Plain	Face finish	—	—	390	16.6	17.4	155	155	2.0	
OC1	100 % wool	2/2 S twill	Woollen spun, 2 fold warp and weft ^c	—	—	510	18.0	16.5	355	265	2.0	
OC2	100 % wool	Plain	Woollen spun, singles warp and weft, face finish ^c	—	—	525	18.8	18.8	285	230	2.0	
OC3	100 % wool	Plain	Woollen spun, singles warp and weft, face finish ^c	—	—	610	16.6	16.4	335	260	2.0	
OC4	100 % wool	2/2 S twill	Woollen spun. Wool tweed (cheviot) singles wrap and weft ^c	—	—	615	15.8	13.4	335	270	2.0	
OC5	100 % wool	2/2 broken twill	Woollen spun, singles warp and weft ^c	—	—	625	11.0	13.4	355	335	2.0	
OC6	100 % wool	2/1 S twill	Woollen spun	—	—	625	16.6	16.4	325	295	2.0	
OC7	90 % wool 10 % cotton	3/1 broken crow. Warp face. Move 1, 2, 4, 3	Woollen spun	—	—	650	14.6	11.0	355	325	2.0	
OC9	100 % wool	2/1 S twill	Woollen spun, singles warp and weft ^c	—	—	670	15.6	15.4	420	340	2.0	