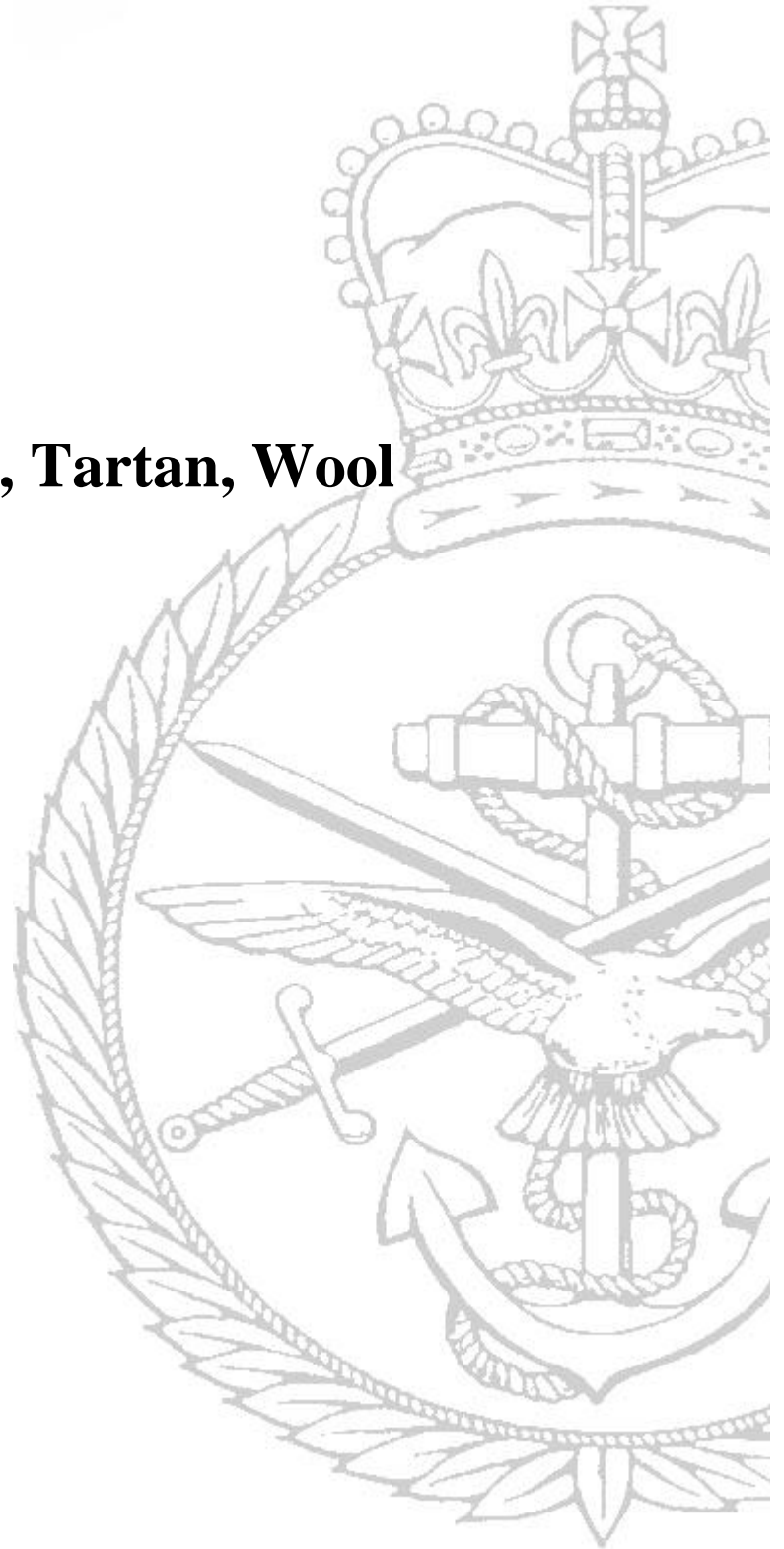




Ministry of Defence Defence Standard 83-22

Issue 4 Publication Date 29 September 2000

Cloths, Tartan, Wool



AMENDMENT RECORD

Amd No	Date	Text Affected	Signature and Date

REVISION NOTE

This standard is raised to Issue 4 to update its content.

HISTORICAL RECORD

This standard supersedes the following:

Defence Standard (Def Stan) 83-22 Issue 3 dated 31 August 1988

Defence Standard (Def Stan) 83-22 Issue 2 dated 30 September 1983

Defence Standard (Def Stan) 83-22 Issue 1 dated 30 September 1970

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PREFACE

Standards for Defence

Cloths, Tartan, Wool

- a.** This standard specifies the Ministry of Defence requirements for cloths used for regimental kilts, trews and plaids.
- b.** This standard has been produced on behalf of the Defence Materiel Standardization Committee (DMSC) by the Defence Clothing and Textiles Agency (DCTA).
- c.** This standard has been agreed by the authorities concerned with its use and is intended to be used whenever relevant in all future designs, contracts, orders etc. and whenever practicable by amendment to those already in existence. If any difficulty arises which prevents application of the Defence Standard, the Directorate of Standardization (DStan) shall be informed so that a remedy may be sought.
- d.** Any enquiries regarding this standard in relation to an invitation to tender or a contract in which it is incorporated are to be addressed to the responsible technical or supervising authority named in the invitation to tender or contract.
- e.** Compliance with this Defence Standard shall not in itself relieve any person from any legal obligations imposed upon them.
- f.** This standard has been devised solely for the use of the Ministry of Defence (MOD) and its contractors in the execution of contracts for the MOD. To the extent permitted by law, the MOD hereby excludes all liability whatsoever and howsoever arising (including, but without limitation, liability resulting from negligence) for any loss or damage however caused when the standard is used for any other purpose.

TEXT**Standards for Defence****Cloths, Tartan, Wool****SECTION 1 GENERAL REQUIREMENTS****1 SCOPE**

This standard specifies the requirements for cloths used for regimental kilts and trews. All the tartan designs are produced from one quality of yarn and one woven construction, using a standardized range of yarn colours.

2 WARNING

The Ministry of Defence (MOD), like its contractors, is subject to both United Kingdom and European laws regarding Health and Safety at Work, without exemption. All Defence Standards either directly or indirectly invoke the use of processes and procedures that could be injurious to health if adequate precautions are not taken. Defence Standards or their use in no way absolves users from complying with statutory and legal requirements relating to Health and Safety at Work.

3 RELATED DOCUMENTS

3.1 The publications shown below are referred to in the text of this standard. Publications are grouped and listed in alpha numeric order.

Designation	Title
BS 2819	Methods for Determination of Bow, Skew and Lengthway Distortion in Woven and Knitted Fabrics
BS 4323	Method for Determination of Dimensional Change of Fabrics Induced by Free Steam
BS 6189	Glossary of Terms Relating to Fabrics and Associated Fibres, Yarns and Processes
BS EN 1049	Textiles. Woven Fabrics. Construction. Method of Analysis
BS EN 1773	Textiles. Fabrics. Determination of Width and Length
BS EN 12127	Textiles. Fabrics. Determination of Mass per Unit Area Using Small Samples
BS EN ISO 105	Textiles. Test for Colour Fastness
BS EN ISO 13934	Textiles. Tensile Properties of Fabrics

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SECTION 1 GENERAL REQUIREMENTS

3.2 Reference in this standard to any related document means in any invitation to tender or contract the edition and all amendments current at the date of such tender or contract unless a specific edition is indicated.

3.3 In consideration of **3.2** above, users shall be fully aware of the issue and amendment status of all related documents, particularly when forming part of an invitation to tender or contract. Responsibility for the correct application of standards rests with users

3.4 Information about sources of related documents can be obtained from the DStan Helpdesk, whose contact numbers are shown on the outside rear cover of this Defence Standard.

4 DEFINITIONS

Definitions for the terms used to describe the cloths in this standard are given in BS 6189.

SECTION 2 SPECIFIC REQUIREMENTS

5 STANDARD PATTERNS

Standard Patterns, obtainable from the Authority named in the tender or contract, shall provide the criteria for any particulars or properties not fully defined in this standard. In particular they constitute the standard for the colours, designs of the tartans, surface finish and handle.

6 MATERIALS

The cloths shall be made wholly of pure new wool of a quality at least equal to that used in the relevant Standard Pattern.

7 MANUFACTURE

7.1 Yarns shall be evenly spun on the woollen system.

7.2 The cloth shall be uniformly woven from single yarns in a 2 x 2 'S' twill construction.

7.3 Bowed, skewed or drawn cloth, as defined in BS 2819 is not acceptable.

7.4 The properties of the cloth shall conform to the requirements specified in **Table 2**.

7.5 The design of each cloth shall match the tartan design of the appropriate Standard Pattern. The overall check repeat shall be square to the size specified in **Table 1** and within the tolerances specified in **9.1.1**.

7.6 The positioning of the check pattern relative to the edge of the cloth is critical in kilt manufacture and no departure may be made from the layout of the design from the selvedge edges as it appears in the appropriate Standard Pattern. For this reason all Standard Patterns with suffix A will be issued in full width. Imbalance at the centre of the piece occurs in Patterns 8632A, 8633A, 8634A and 8637A.

7.7 Selvedges shall be firm, straight and of the conventional type. The weave of the selvedge, including the twill direction, shall be the same as in the body of the cloth. Tenter pin holes shall be in the selvedge and shall not be prominent.

7.8 The width of the cloth, tested in accordance with BS EN 1773, shall be as specified in **Table 2**.

SECTION 2 SPECIFIC REQUIREMENTS

8 DYEING AND FINISHING

8.1 The shade and appearance of each element of the tartan shall match that of the corresponding element of the Standard Pattern. It should be noted that the appearance of any such element will depend not only on the shade of the individual yarns, but also on the shade of adjacent areas of the tartan and on the surface finish.

8.2 All cloths shall be steam set. The setting conditions shall be such as to prevent excessive shrinkage or distortion by steam pressing during garment manufacture.

8.3 The handle of the finished cloth shall match that of the Standard Pattern.

8.4 All cloths shall be free from grease, soap, filling or any substance used to add weight or modify the handle.

9 INSPECTION, SAMPLING AND TESTING

9.1 Inspection

9.1.1 Every piece shall be inspected for visible defects, shade and handle, and measured for correct size of check throughout its whole length. Every defect shall be indicated by means of a string, tag, or sticker at the selvedge. For each defect an allowance of 0.2 meters over and above the length of the fault shall be deducted from the total length of the piece. Should the allowance for any one piece exceed 2% of the total length the piece shall be rejected .

9.1.2 The check size of the finished cloth shall be measured every 5 metres. In the weft direction there is a +1.0% tolerance but no negative tolerance. In the warp direction no individual measurement shall vary from the specified value by more than 1.5%, or the mean of the values in a given piece by more than 1.0%.

9.2 Sampling

9.2.1 Samples of the cloth taken for testing for compliance with the requirements of this standard shall be representative of each finishing batch. They shall be taken in accordance with the following scale, each sample being taken from a different piece and identified with the piece from which it was taken.

1 sample from a batch not exceeding 10 pieces

9.2.2 Each sample shall be taken not less than 16 meters from the end of the batch and shall be large enough to provide material for all the tests required by this standard.

9.3 Testing

9.3.1 Samples of the material taken in accordance with **9.2** shall comply with the requirements of the standard.

SECTION 2 SPECIFIC REQUIREMENTS

9.3.2 All the physical tests required by this standard shall be carried out on each sample.

9.3.3 Colour fastness tests other than for light fastness, shall be carried out on specimens cut from one sample from each batch. Fastness ratings shall not be less than the values stated in **Table 3**.

9.3.4 Light fastness determinations are to be made on all colours individually. If the coloured portion to be tested is small, it may be necessary to make up a pad of yarns withdrawn from the sample.

9.3.5 For other colour fastness requirements (See **Table 3**) an overall assessment based on a composite specimen containing all the colours may be carried out.

9.3.6 Light fastness determinations shall be carried out on one sample taken from the first batch off a contract. Provided that this sample meets the requirements stated in **Table 3**, no further light fastness tests need be carried out. If, however, in the course of the contract the dye formulation is changed, the light fastness shall be re-determined on a sample taken from the first batch to which the new dye formulation applies.

9.3.7 Mass Per Unit Area. The mass per unit area tested in accordance with BS EN 12127, expressed as the mean of the values for five individual specimens, shall be not less than the values specified in **Table 2**. No plus tolerance is specified, but the right is reserved to reject cloth so heavy that its character in comparison with the Standard Pattern is so altered (e.g. in texture), that it is rendered unsuitable for the intended end uses.

9.3.8 Breaking Strength. The breaking strength shall be determined in accordance with BS EN ISO 13934. The mean value for the samples tested shall not be less than the breaking strength specified in **Table 2**.

9.3.9 Dimensional Change on Steaming Fabrics are to comply with the requirements specified in **Table 2**, when tested in accordance with BS 4323.

9.3.10 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 shall 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.

10 MARKING

A label shall be attached to each piece of cloth bearing the following information:

- a. contractor's name, initials, or trade mark;
- b. contract number;
- c. Defence Standard Number: Def Stan 83-34/4
- d. year of manufacture;

SECTION 2 SPECIFIC REQUIREMENTS

- e.** length of piece;
- f.** width;
- g.** piece number;
- h.** NATO Stock Number;
- i.** pattern number;
- j.** item name and item description;
- k.** and any other markings the contract or order may require.

11 DELIVERY

Pieces shall be delivered rolled full width on tubes in lengths of 60 meters to 70 meters. On pieces which have a cut or through, the shorter length shall not be less than 16 metres. The position of the cut or through shall be indicated by a string in the selvedge and a note on the piece ticket. The number of pieces containing throughs shall be indicated on the consignment documents.

12 PACKAGING

Packaging requirements shall comply with the details stated in the contract or order.

Table 1 Cloths, Tartan, Wool						
Description						
Item No.	NATO Stock Number 8305-99-	Item Name	Item Description	Pattern Number (see NOTE)	Size of Check (cm)	Remarks
	(a)	(b)	(c)	(d)	(e)	(f)
1	130-5442	Cloth, Tartan, Wool	Highland, No. 1, Black Watch	8625A	27.5	-
2	130-5445		Highland, No. 1A	8626A	34.5	A variant of Tartan, Highland No. 1, with a larger check.
3	130-5448		Highland, No. 2, MacKenzie, Seaforth	8627A	28.0	
4	130-5451		Highland, No. 3, Gordon	8628A	34.5	-
5	130-5454		Highland, No. 4, Cameron of Erracht	8629A	23.5	-
6	130-5457		Highland, No. 5A, MacKenzie, HLI	8630A	35.4	-
7	130-5460		Highland, No. 6, Douglas	8631A	13.6	-

Continued on page 10.

Table 1 Cloths, Tartan, Wool (continued)

Table 1 Cloths, Tartan, Wool (continued)						
Description						
Item No.	NATO Stock Number 8305-99-	Item Name	Item Description	Pattern Number (see NOTE)	Size of Check	Remarks
	(a)	(b)	(c)	(d)	(e)	(f)
8	130-5463	Cloth, Tartan, Wool	Highland, No. 7, Leslie	8632A	22.0	Refer to 7.6
9	130-5466		Highland, No. 8, Hunting Stewart	8633A	28.0	Refer to 7.6
10	130-5469		Highland, No. 8A, Hunting Stewart	8634A	23.0	A variant of Tartan, Highland No. 8, with a smaller check.
11	130-5472		Highland, No. 9, Forbes	8635A	34.7	Refer to 7.6
12	130-5475		Highland, No. 11, Red Erskine	8636A	11.8	-
13	130-5478		Highland, No. 15, Red Grant	8637A	21.0	Refer to 7.6
14	130-5481		Highland, No. 16, Red MacDuff	8638A	17.5	-
						Continued on page 11.

Table 1 Cloths, Tartan, Wool (continued)

Table 1 Cloths, Tartan, Wool (continued)						
Description						
Item No.	NATO Stock Number 8305-99-	Item Name	Item Description	Pattern Number (see NOTE)	Size of Check	Remarks
	(a)	(b)	(c)	(d)	(e)	(f)
15	130-5484	Cloth, Tartan, Wool	Highland, No. 18, Red Robertson	8639A	22.8	-
16	130-5487		Highland, No. 19, Hunting Fraser	8640A	23.8	-
17	130-5490		Highland, No. 22, MacDonald of the Isles	8641A	16.0	-
18	130-5493		Highland, No. 26, MacDonnell of Keppoch	8642A	19.0	-
19	130-5496		Highland, Royal Stewart	8643A	23.8	-
20	130-5499		Highland, Hunting Rose	8644A	14.0	-

Table 2 Cloths, Tartan, Wool							
Finished Cloth Requirements and Methods of Test							
BS EN 1773	BS EN 12127	BS EN 1049 (Part 2)		BS EN ISO 13934 (Part 1)		BS 4323	
Width Including Selvedges	Mass Per Unit Area (Refer to 9.3.6)	Threads/cm (Nominal)		Breaking Strength (min)		Dimensional Change After Steaming (max)	
cm	g/m²	Warp	Weft	Warp	Weft	Warp	Weft
142	360	15.7	15.0	300	300	1.5	1.5

Table 3 Minimum Colour Fastness Ratings							
	Method of Test BS EN ISO 105						
	Part B02	Part X12		Part E04		Part D01	
Agent	Light, Using Xenon Lamp	Rubbing		Perspiration, Acidic and Alkaline		Dry Cleaning	
		Wet	Dry	Change in Colour of Specimen	Staining: Wool and Cotton	Change in colour of specimen	Change in colour of solvent
All shades except as indicated	6 - 7 <u>Except:</u> Light blue 6 Red 6 Yellow 6	3 - 4	4	4 - 5	4	4 - 5	5

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ANNEX A

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8626A	Highland, No 1A	9	2
8627A	Highland, No 2, MacKenzie, Seaforth	9	3
8628A	Highland, No 3, Gordon	9	4
8629A	Highland, No 4, Cameron of Erracht	9	5
8630A	Highland, No 5A, MacKenzie, HLI	9	6
8631A	Highland, No 6, Douglas	9	7
8632A	Highland, No 7, Leslie	10	8
8633A	Highland, No 8, Hunting Stewart	10	9
8634A	Highland, No 8A, Hunting Stewart	10	10
8635A	Highland, No 9, Forbes	10	11
8636A	Highland, No 11, Red Erskine	10	12
8637A	Highland, No 15, Red Grant	10	13
8638A	Highland, No 16, Red MacDuff	10	14
8639A	Highland, No 18, Red Robertson	11	15
8640A	Highland, No 19, Hunting Fraser	11	16
8641A	Highland, No 22, MacDonald of the Isles	11	17
8642A	Highland, No 26, MacDonald of Keppoch	11	18
8643A	Highland, Royal Stewart	11	19
8644A	Highland, Hunting Rose	11	20

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Directorate of Standardization
Kentigern House
65 Brown Street
GLASGOW G2 8EX

DStan Helpdesk

Tel 0141 224 2531/2
Fax 0141 224 2503
Internet e-mail enquiries@dstan.mod.uk

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Contract Requirements

When Defence Standards are incorporated into contracts users are responsible for their correct application and for complying with contractual and statutory requirements. Compliance with a Defence Standard does not in itself confer immunity from legal obligations.

Revision of Defence Standards

Defence Standards are revised as necessary by up issue or amendment. It is important that users of Defence Standards should ascertain that they are in possession of the latest issue or amendment. Information on all Defence Standards is contained in Def Stan 00-00 Standards for Defence Part 3 , Index of Standards for Defence Procurement Section 4 'Index of Defence Standards and Defence Specifications' published annually and supplemented regularly by Standards in Defence News (SID News). Any person who, when making use of a Defence Standard encounters an inaccuracy or ambiguity is requested to notify the Directorate of Standardization (DStan) without delay in order that the matter may be investigated and appropriate action taken.