

BSI

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British Standard

# Narrow fabrics

Part 3. Specification for wool tapes

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## Foreword

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This Part of BS 7141 has been prepared under the direction of the Textiles and Clothing Standards Policy Committee. It includes requirements for narrow fabrics specified in Defence Standard 83-37, which has been withdrawn.

Cross-references are given in appendix A and information specifically requested by the Ministry of Defence, and which was previously contained in Defence Standards, is given in appendix B. Appendix C gives additional recommendations.

Other Parts of this British Standard are as follows:

- Part 1\* Specification for polyamide and polyolefin woven tapes and webbings
- Part 2\* Specification for cotton webbings for personal load carrying purposes
- Part 4\* Specification for woven elastic webbings containing natural rubber
- Part 5 Specification for elastic flat braids containing natural rubber
- Part 6 Specification for laces for boots, shoes and other purposes

*Product certification.* Users of this British Standard are advised to consider the desirability of third party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate Part of BS 5750.

Enquiries as to the availability of third party certification schemes will be forwarded by BSI to the Association of Certification Bodies. If a third party certification scheme does not already exist, users should consider approaching an appropriate body from the list of Association members.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.** In particular, attention is drawn to the Textile Products (Indications of Fibre Content) Regulations S.I. 1986 No. 26.

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# Specification

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## 1 Scope

This Part of BS 7141 specifies requirements including colour fastness ratings for wool tapes, used mainly in the manufacture of chevron stripes, flashes, etc., for the Ministry of Defence (MoD).

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

## 2 Definitions

For the purposes of this Part of BS 7141, the following definitions apply.

**2.1 narrow fabric.** Any fabric made by interlacing fibres or yarns which (in the UK) does not exceed 450 mm in width. In the USA and for the purpose of the Combined Nomenclature of the European Community, for tariff purposes, the upper width limit is 300 mm. A characteristic of a narrow fabric is that its edges are an essential feature.

**2.2 pick.** A single operation of the weft insertion mechanism in weaving.

**2.3 selvedge.** When used without qualification, a longitudinal edge of a fabric formed during weaving, with the weft not only turning at the edges but also passing continuously across the width of the fabric from edge to edge.

**2.4 shuttleloom.** A term used to describe a weaving machine that uses a shuttle to insert the weft.

**2.5 tape.** A woven narrow fabric, generally plain-weave, used in non-loadbearing applications and for the reinforcing of fabrics to resist wear and deformation.

**2.6 draft.** In twill fabrics having alternate right and left twills forming a series of Vs, the number of V formations across the fabric width.

**2.7 weave.** The pattern of interlacing of warp yarns and weft yarns in a woven fabric.

**2.8 batch.** A definite quantity of some commodity produced under prescribed uniform conditions.

## 3 Materials

The fabric shall be manufactured from 100 % new wool, except for those items specified otherwise in table 1.

NOTE. Worsted yarn of R74/2 tex and cotton or viscose yarn of R30/2 tex may be suitable to produce these fabrics.

## 4 Construction

**4.1** The construction of the tapes shall comply with table 1.

**4.2** The tape shall be woven by shuttleloom.

**4.3** The finished tapes shall not contain more than 1 % by mass of grease, soap, filling, or any admixture used to increase the mass per metre or to give substance or firmness.

NOTE. In cases of dispute, the percentage should be determined in accordance with BS 3582.

**4.4** Sulphur black dyes shall not be used.

**4.5** In finished tapes which are chrome dyed, the amount of soluble hexavalent chromium shall not exceed 0.01 %, calculated as  $K_2Cr_2O_7$  when determined in accordance with BS 6810.

**4.6** The minimum colour fastness of the yarn or finished fabric shall comply with table 2.

NOTE. If the colour fastness of the yarn has been tested prior to manufacture, there is no need to carry out further tests after manufacture.

## 5 Sampling

Samples shall not be taken from the first 3 m of textile manufactured. Sampling shall be as follows.

(a) Woven fabrics, loomstate.

(1) For fabrics woven from beams, take one sample from one piece per beam.

NOTE. The quantity of fabric produced from one weaver's beam or from a creel contains the same warp yarns throughout and is woven in one particular form. As such, it constitutes a unique batch or unit of production, provided that weft yarn of substantially consistent quality has been used. If a fresh delivery of weft yarn of unproved quality is introduced during weaving the warp, a fresh batch has been created and further samples for complete fabric tests become necessary. Manufacturers should maintain continuous quality control of weft yarn in respect of the relevant properties, e.g. type of fibre, linear density, strength.

(2) For fabrics woven from creels, take one sample from one piece from each continuously woven length not exceeding 5000 m.

(3) If several narrow fabrics are woven simultaneously in the same loom, take one sample from each continuously woven length not exceeding 5000 m.

(b) Woven fabrics piece treated.

(1) For woven fabrics already proved by test in loomstate, take one sample from one piece per finisher's batch per fabric type and manufacturer.

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(2) For woven fabrics not subject to test in loom-state, take one sample from one piece per weaver's beam or each continuously woven length not exceeding 5000 m per finisher's batch.

(3) If a finisher's batch consists of further pieces from a weaver's beam, or from continuously woven lengths previously proved by test in the finished condition, take one sample from one piece from the finisher's batch.

In the event of dispute, samples shall be pre-conditioned for 4 h at a relative humidity not exceeding 10 % and at a temperature not greater than 50 °C and subsequently exposed to the standard temperate atmosphere for testing textiles as defined in BS 1051 for not less than 24 h, and then tested without removal from that atmosphere.

## 6 Marking

The tapes shall be provided with a ticket or other means of marking attached to each container and carrying the following information:

- (a) the number and date of this Part of BS 7141, i.e. BS 7141 : Part 3 : 1990\*;
- (b) the reference number of the product in accordance with table 1;
- (c) the name, trademark or other means of identification of the manufacturer.

NOTE. For MoD contracts (see appendix B) additional information will also include, for example, the contract number, the NATO stock number (where appropriate, see table 3), the pattern number (see table 1) and the item name and description (see table 1).

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\*Marking BS 7141 : Part 3 : 1990 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. Requirements for tapes

Reference number	Item name	Item description	MoD pattern number	Previous MoD pattern number replaced	Nominal width* (determined in accordance with BS 1930)	Total ends in width (determined in accordance with BS 2862)	Minimum picks per 100 mm (determined in accordance with BS 2862)	Mass per 100 m ( $\pm 3\%$ ) (determined in accordance with BS 2471)	Weave	Other details
1	Tape textile	Wool, worsted, blue	9052 A	NF 1501	mm 25	60	149	kg 0.732	2/2 twill, 1.1/2 V draft as figure 1	2 fold wool worsted yarn (weft)
2		Wool, worsted, black	9067 A	NF 1506	16	34	141	0.441	2/2 twill, 1.1/2 V draft as figure 2	2 fold wool worsted yarn (weft)
3		Wool, worsted, elcho (brown) for kilt binding	9068 A	NF 1507	25	60	157	0.667	2/2 twill, 1.1/2 V draft as figure 1	2 fold wool worsted yarn (weft)
4		Wool, worsted, light blue	9359 A	17277	25	60	180	0.732	2/2 twill, 1.1/2 V draft as figure 3	2 fold wool worsted yarn (weft)
5		Wool, worsted, blue	9399 A	NF 1508	13	34	141	0.403	2/2 twill, V draft as figure 2	2 fold wool worsted yarn (weft)
6		Wool, worsted, scarlet	9399 B	NF 1502	13	34	141	0.403	2/2 twill, V draft as figure 2	2 fold wool worsted yarn (weft)
7		Wool, worsted, yellow	9399 C	NF 1510	13	34	141	0.403	2/2 twill, V draft as figure 2	2 fold wool worsted yarn (weft)
8		Wool, worsted, khaki	9400 A	NF 1511	22	54	149	0.667	2/2 twill, 1.1/2 V draft as figure 4	2 fold wool worsted yarn (weft)
9		Wool, worsted, green, Highlanders	9400 B	NF 1509	22	60	149	0.667	2/2 twill, 1.1/2 V draft as figure 1	2 fold wool worsted yarn (weft)
10		Wool, worsted, saffron	9401 A	NF 1514	38	110	141	1.162	2/2 twill, 1.1/2 V draft as figure 5	2 fold wool worsted yarn (weft)

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Table 1 (continued)

Reference number	Item name	Item description	MoD pattern number	Previous MoD pattern number replaced	Nominal width* (determined in accordance with BS 1930)	Total ends in width (determined in accordance with BS 2862)	Minimum picks per 100 mm (determined in accordance with BS 2862)	Mass per 100 m ( $\pm 3\%$ ) (determined in accordance with BS 2471)	Weave	Other details
11	Webbing textile	Wool, worsted, scarlet	9402 A	NF 1532	mm 38	110	165	kg 1.141	2/2 twill, V draft as figure 5	2 fold wool worsted yarn (weft)
12		Wool, worsted, green	9422 A	3161 A	16	40	165	0.452	2/2 twill, V draft as figure 6	2 fold wool worsted yarn (weft)
13		Wool, worsted, yellow, RM	9051 A	NF 1533	13	55	141	0.602	2/2 twill, V draft as figure 7	2 fold wool worsted yarn (weft)
14		Wool, worsted, scarlet, RM	9051 B	NF 1504	13	55	141	0.602	2/2 twill, V draft as figure 7	2 fold wool worsted yarn (weft)
15		Wool, worsted, chevron	9374 A	NF 1512	13	Total ends 85, i.e. 36 ground worsted, 49 (7 x 7) mercerized cotton. 13 figure including 6 ends worsted interwoven with 7 ends cotton	141	0.581	2/2 twill, V draft as figure 8	Bleached cotton, white, for chevron figuring
16		Wool, worsted, khaki	9421 A	S/2227	13	40	100	0.775	Twill, as figure 9	2 fold wool worsted yarn (weft)
17		Wool, worsted, white	9427 A	3960	13	55	148	0.602	2/2 twill, V draft as figure 7	2 fold wool worsted yarn (weft)
18		Wool, worsted, scarlet No. 2	9429 A	S/4099	13	55	141	0.602	2/2 twill, V draft as figure 7 pattern	2 fold wool worsted yarn (weft)

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Table 1 (concluded)

Reference number	Item name	Item description	MoD pattern number	Previous MoD pattern number replaced	Nominal width* (determined in accordance with BS 1930)	Total ends in width (determined in accordance with BS 2862)	Minimum picks per 100 mm (determined in accordance with BS 2862)	Mass per 100 m ( $\pm 3\%$ ) (determined in accordance with BS 2471)	Weave	Other details
19		Wool, worsted, Footguards	9423 A	7581	mm 13	34	140	kg 0.354	2/2 twill, V draft as figure 2	2 fold wool worsted yarn (weft)
20		Wool, worsted, Footguards and Drummer	9424 A	3957	16	40	140	0.462	2/2 twill, V draft as figure 10	2 fold wool worsted yarn (weft)
21		Wool, worsted, Footguards	9425 A	3958	20	50	140	0.561	2/2 twill, V draft as figure 11	2 fold wool worsted yarn (weft)
22		Wool, worsted, Footguards	9426 A	3959	25	108	140	1.16	2/2 twill, V draft as figure 12	2 fold wool worsted yarn (weft)

\*Subject to a tolerance of  $\pm 2.0$  mm.Indicates Testing Services  
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Table 2. Colour fastness		
Agency	Method of test	Requirements
Light using xenon lamp	BS 1006, section B02	5,6
Water-staining, wool	BS 1006, section E01	4,5
Water-staining, cotton	BS 1006, section E01	4,5
Dry cleaning, change of colour	BS 1006, section D01	4,5
Perspiration, change in colour*	BS 1006, section E04 (both acid and alkaline)	4,5
Perspiration, staining wool and cotton*	BS 1006, section E04 (both acid and alkaline)	4,5

\*This test is applicable to reference number 3 item only.

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## Appendices

### Appendix A. Cross-references

Cross-references between the reference numbers specified in this Part of BS 7141 and NATO stock numbers are shown in table 3.

Reference number	NATO stock number
1	8315-99-571-7331
2	8315-99-973-0823
3	8315-99-973-0831
4	8315-99-973-0828
5	8315-99-973-0835
6	8315-99-973-0842
7	8315-99-973-0828
8	8315-99-973-0822
9	8315-99-973-0833
10	8315-99-973-0841
11	8315-99-973-0844
12	8315-99-973-0832
13	8305-99-973-0838
14	8305-99-973-0836
15	8305-99-973-0818
16	8305-99-973-0830
17	8305-99-973-0848
18	8305-99-973-0843
19	8315-99-973-0846
20	8315-99-445-2041
21	8315-99-445-7812
22	8315-99-445-7813

### Appendix B. Supplementary information for MoD contracts

#### B.1 Standard patterns

A standard pattern obtainable from the authority named in the tender or contract provides criteria for any properties not specified in this standard.

#### B.2 Non-compliance

In the event of non-compliance with the specified requirements, any resampling is at the discretion of the Quality Assurance Directorate.

#### B.3 Delivery format

Rolls should be rolled straight and free from creases. The rolls should be approximately 33 m in length when measured in accordance with BS 1931 after not less than 24 h relaxation. Rolls of not more than two lengths may be accepted provided that the shorter length is not less than 11 m.

#### B.4 Colour

The colour of the webbing should match that of the appropriate pattern.

#### B.5 MoD items no longer to be purchased

The item in table 4 is on the MoD list of items no longer to be purchased, in Defence Standard 83-41/2.

MoD pattern number	Pattern number replaced	NATO stock number	Item name	Item description
9374 B	NF 1513	8305-99-973-0837	Webbing textile	Wool, worsted, chevron, blue, RAF, cotton and worsted warp, worsted weft

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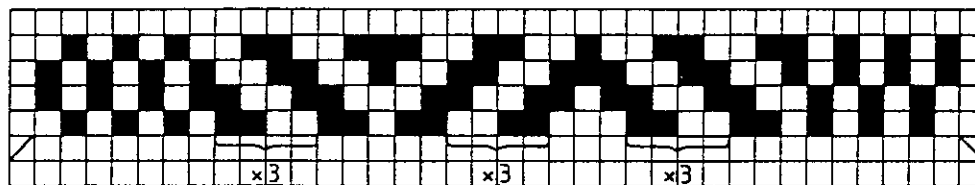
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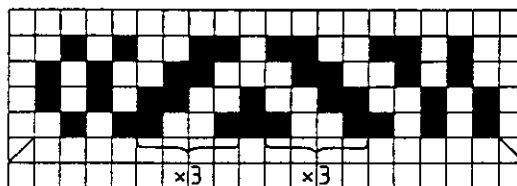
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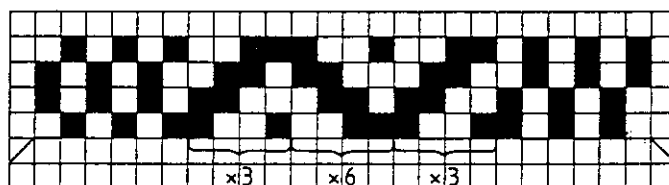
■ Warp up Total of 60 ends

Figure 1. Weave diagram for items 1, 3 and 9



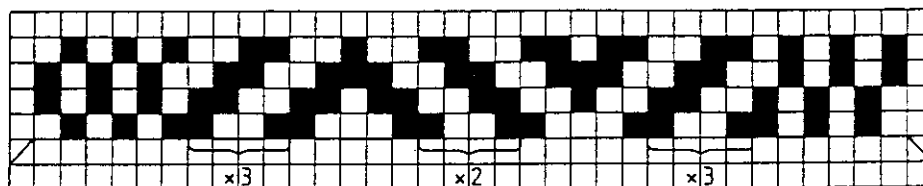
■ Warp up Total of 34 ends

Figure 2. Weave diagram for items 2, 5, 6, 7 and 19



■ Warp up Total of 60 ends

Figure 3. Weave diagram for item 4



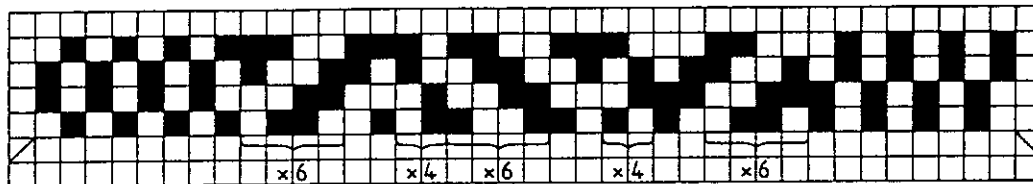
■ Warp up Total of 54 ends

Figure 4. Weave diagram for item 8

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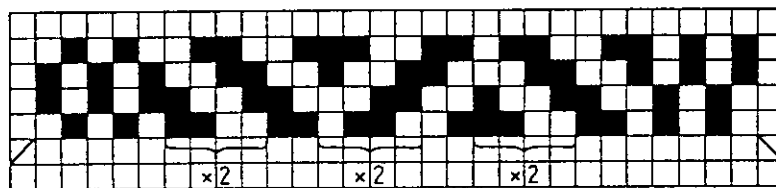
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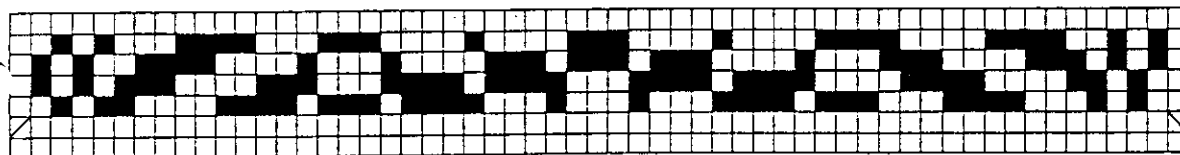
■ Warp up Total of 110 ends

Figure 5. Weave diagram for items 10 and 11



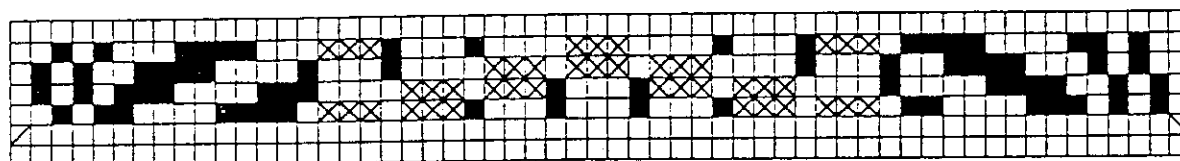
■ Warp up Total of 40 ends

Figure 6. Weave diagram for item 12



■ Warp up Total of 55 ends

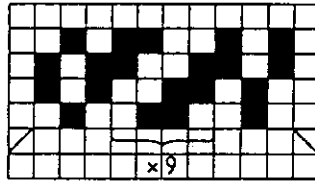
Figure 7. Weave diagram for items 13, 14, 17 and 18



■ Warp up Total of 85 ends

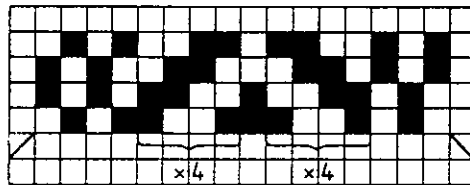
- Key
- Worsted khaki warp yarn uppermost.
  - x Cotton white warp yarn uppermost.
  - Weft yarn uppermost.

Figure 8. Weave diagram for item 15



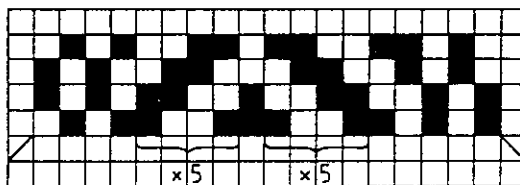
■ Warp up Total of 42 ends

Figure 9. Weave diagram for item 16



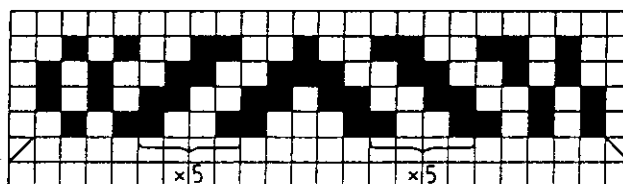
■ Warp up Total of 40 ends

Figure 10. Weave diagram for item 20



■ Warp up Total of 50 ends

Figure 11. Weave diagram for item 21



■ Warp up Total of 108 ends (54 double)

Figure 12. Weave diagram for item 22

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