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of Defence

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Please reply to:

email: [REDACTED]

Our Reference:  
FOI2023/02680  
Date:  
10 March 2023

Dear [REDACTED]

Thank you for your email of 28 February 2023, requesting the following information:

*Could you pls. provide me with a copy of UK/SC/4767 fabric flag specification?*

I am treating your correspondence as a request for information under the Freedom of Information Act 2000 (FOI Act). A search for the information has now been completed within the Ministry of Defence (MOD), and I can confirm that information in scope of your request is held. The information identified relating to this request is attached, as follows:

- Annex A – UK/SC/4767 Issue 2 Specification for Cloth, Plain Weave, Polyester Bunting – Various Colours and Cloth Prepared for Print

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If you remain dissatisfied following an internal review, you may raise your complaint directly to the Information Commissioner under the provisions of Section 50 of the Freedom of

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Information Act. Please note that the Information Commissioner will not normally investigate your case until the MOD internal review process has been completed. The Information Commissioner can be contacted at: Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF. Further details of the role and powers of the Information Commissioner can be found on the Commissioner's website at <https://ico.org.uk/>.

Yours sincerely,

DES SEC Pol Sec

UK/SC/4767 Issue 2

Specification for  
**CLOTH, PLAIN WEAVE, POLYESTER**  
**Bunting – Various colours and cloth prepared**  
**for print**



Defence Logistics Organisation

**ENGINEER SYSTEMS SUPPORT**

Integrated Project Team

Property of:  
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**D/DCTA/P3664 (ST)**  
**D/DCTA/492/058 (QPS)**

**Date of Approval: 09 May 2000**  
**Previous Issue: 25 May 1982**

**NATO Stock Numbers**

**Pattern Number**

8305-99-130-4577	Black	8711A
8305-99-130-4578	Azure blue	8711B
8305-99-130-4579	Intermediate blue	8711C
8305-99-130-4580	Royal blue	8711D
8305-99-130-4581	Navy blue	8711E
8305-99-130-4582	Crimson	8711F
8305-99-130-4583	Green	8711G
8305-99-130-4584	Red	8711H
8305-99-130-4585	Optical white	8711J
8305-99-130-4586	Yellow	8711K
8305-99-130-4587	Deep Yellow	8711L
8305-99-130-4588	Orange	8711M
8305-99-130-4589	Tartan Green	8711N
8305-99-130-4590	Red brown	8711P
8305-99-130-4591	Netherlands blue	8711R
8305-99-736-7015	Dark green	8711S
8305-99-736-7016	Heraldic blue	8711T
8305-99-736-7017	Grey	8711V

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This Specification has 7 Pages

1. SCOPE

This specification describes the requirements for polyester cloth to be used for bunting and polyester cloth prepared for printing, mainly for flags.

2. RELATED SPECIFICATIONS AND DOCUMENTS

Reference is made in this specification to:

BS EN ISO 105	Textiles. Tests for colour fastness
BS ISO 2076	Textiles. Man made fibres - generic names
BS EN 1049	Textiles. Woven fabrics. Construction. Methods 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 20139	Textiles. Standard atmospheres for conditioning and testing
BS 2576	Method for determination of breaking strength and elongation (strip method) of woven fabrics

2.2 Reference in this specification to a British Standard or any other specification or document means, in any tender or contract, the edition current at the date of such tender or contract unless a specific edition is referred to.

3. STANDARD PATTERN

A Standard Pattern, obtainable from the Quality Assurance Authority named in the contract, is to provide the criteria for any particulars or properties not fully defined in the specification.

4. MATERIALS

4.1 The cloth for bunting is to be made from yarns composed of staple fibre semi-dull polyester. The cloth prepared for print is to be woven from yarns composed of staple fibre polyester. The polyester for both is to be as defined in BS ISO 2076.

5. MANUFACTURE

5.1 The warp yarn is to be two - fold; the weft yarn can be single or two-fold. Yarns are to be evenly spun.

5.2 The cloth is to be uniformly woven in plain weave.

5.3 The selvages of cloths for bunting are to be constructed using a continuous or discontinuous weft yarn. They are to be even in tension to the body of the cloth, and are to consist of 16 threads crammed to 6mm. An alternative selvedge may be approved by the Quality Assurance Authority named in the contract.

- 5.4 The selvages of cloth prepared for print are to be constructed using either a discontinuous or continuous weft yarn.
- 5.5 The cloths are to conform to the physical requirements of Table 1.
- 5.6 Skew and bow within a piece must not exceed 2.5%.
- 5.7 The width of the cloth specified in Table 1 refers to the useable, undamaged width. Unless otherwise agreed between purchaser and supplier, or stated in the tender or contract, this is the width of finished cloth that meets all the requirements of this specification and excludes selvedge materials, marks and pinholes.
6. DYEING AND FINISHING
- 6.1 The shade and finish of the polyester bunting is to match the relevant Standard Pattern and is to be uniform throughout.
- 6.2 The polyester bunting is to conform to the colour fastness requirements of Table 2.
- 6.3 The cloth is to be heat-set.
7. SAMPLING
- 7.1 For sampling purposes, no batch is to exceed 700 items. One sample is to be taken from each batch, and is to be identified with the piece from which it was taken; samples large enough to provide specimens for all the tests required by this specification and by the terms of the contract, are to be taken not less than 20 metres from the end of the piece.
- 7.2 Certificates of conformity are to be obtained from sub contractors for all dye batches. It is the contractor's responsibility to audit the sub-contractor on a controlled basis of at least every 3000 metres per shade. This test is to be carried out in approved laboratory conditions and will specifically address Breaking Strength, Dimensional Stability to heat and all colour fastness tests as currently specified. Testing for width, ends and picks, and mass will be carried out as a controlled process within manufacturing.
8. TESTING
- 8.1 Samples of cloth taken in accordance with clause 7 are to meet the requirements specified in Tables 1 and 2 when tested by the methods quoted.
- 8.2 Should a sample fail any test, two further samples are to be selected from different places in the same batch. Each of these samples is to be tested and if either fails the whole batch is to be rejected. If both the re-test samples pass, the batch is to be accepted but the piece from which the failed sample was taken is to be rejected.
- 8.3 Determination of light-fastness may be carried out on one sample taken from the first batch off a contract. If this sample meets the requirements specified in Table 2, no further light-fastness need be performed, subject to the following proviso: if, during the course of a contract, the dye formulation is changed, the light-fastness is to be re-determined on one sample taken from the first batch of the new formulation. The Quality Assurance Authority named in the contract reserves the right to have more frequent light-fastness tests carried out, e.g. on every batch.

9. PACKAGING

Packaging (preservation, identification and packing) is to be in accordance with the terms of the contract.

10. INSPECTION

Inspection is to be carried out to the satisfaction of the Quality Assurance Authority named in the contract. Where shade is concerned, an approved sample from one batch will be used in order to detect any shade variation within that batch.

TABLE 1  
PHYSICAL REQUIREMENTS

BS EN 1773	BS EN 12127	BS EN 1049 Part 2		BS 2576		Annex A	
Width (refer to clause 5.7)	Mass per unit area	Threads		Breaking Strength		Dimensional stability to heating	
cm	g/m <sup>2</sup>	per cm		N		% change	
min	± 10	min		min		max	
100	155	warp	weft	warp	weft	warp	weft
		13	12	1050	825	2	2

TABLE 2  
COLOUR FASTNESS REQUIREMENTS OF POLYESTER BUNTING

BS EN ISO 105								
PART	B02	C06A2S		X12	E02		Annex B	
AGENT	LIGHT	LAUNDERING		RUBBING wet and dry	SEA WATER		COLD WATER wetting	
		Colour Change	*Staining	*Staining	Colour Change	*Staining	Colour Change	*Staining
	6	4-5	4-5	5	4-5	4-5	4-5	4-5

\* Staining of undyed polyester bunting



ANNEX A

DETERMINATION OF DIMENSIONAL STABILITY TO DRY HEAT

Apparatus

Ventilated oven, pre-heated to  $160 \pm 4^{\circ}\text{C}$ , with internal means of support for a rod  
Rod at least 30cm long  
25cm square template  
Stopclock  
Means to achieve standard atmosphere to BS EN 20139

Method

A 30cm square specimen is to be conditioned to BS EN 20139 for 24 hours. A template is to be used to mark a 25cm square, with sides parallel to the warp and weft, on the specimen. Four reference points are to be marked at 5cm intervals on each side of the square. A short slit is to be made 1cm in from the edge, in the middle of each of two opposite sides of the specimen. A supporting rod is to be passed through the two slits, enabling the specimen to hang in a loop. The specimen is to be placed in the pre-heated oven so that air can circulate freely; once the oven temperature has regained  $160 \pm 4^{\circ}\text{C}$ , the stopclock is to be set. After 15 minutes, the specimen is to be removed from the oven and laid flat to cool before re-conditioning to BS EN 20139 for 24 hours. Measure, to the nearest millimetre, the lengths of each side of the square marked on the specimen and the distance between each opposite pair of marks, to give six measurements in each direction. The mean of the 6 warp measurements and the mean of the 6 weft measurements is to be calculated and expressed as a percentage of the original length, i.e. 25cm.

ANNEX B

DETERMINATION OF COLOUR FASTNESS TO WETTING

A 10cm square specimen of coloured bunting is to be thoroughly wetted before soaking for 5 minutes in water at  $37 \pm 2^{\circ}\text{C}$ .

A piece of undyed bunting of the same size and quality is to be laid flat on a horizontal surface. After removal from the water, the coloured specimen is to be placed on top of the undyed piece with the whole of their surfaces in contact. The double layer is to be rolled into a cylinder and secured with non coloured ties in at least two places. The roll is to be left for 24 hours before untying, separating and line drying the specimens.

The staining of the undyed bunting is to be assessed against grey scales to BS EN ISO 105 Part A03. The procedure is to be carried on each colour of bunting.

Copies of Specifications and Standards may be obtained from the following departments. It is advisable to check the current terms of issue and/or charges for publications at the time of ordering.

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