

ANNEX A

UK/SC/5878 Issue 03  
03 December 2009



**Technical Specification for  
CLOTH, GABERDINE, COTTON, 2X2 TWILL,  
Camouflage Pattern,**

**Defence Clothing (DC)**

PROPERTY OF  
MINISTRY OF DEFENCE

Defence Equipment & Support



PREFACE

TABLE 1 – PRODUCT LIST

|                                |                                     |                                  |
|--------------------------------|-------------------------------------|----------------------------------|
| <b>Item Name</b>               | CLOTH, GABERDINE, COTTON, 2X2 TWILL |                                  |
| <b>Nato Stock Number (NSN)</b> | <b>Pattern No</b>                   | <b>Colour</b>                    |
| 8305-99-137-2306               | 8003C                               | Woodland Disruptive Pattern (DP) |
| n/a                            | 8003G                               | Multi-Terrain Pattern (MTP)      |
| <b>Development File No</b>     | D/DCIPT/RDG/7/7/6                   |                                  |

Any colour shown in this document is for representation and must not be used for colour matching.

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TABLE 2 – ISSUE RECORD

| <b>Issue No.</b> | <b>Comments</b>   | <b>Issue Date</b> |
|------------------|---|-------------------|
| 3                | Addition of Multi-Terrain Pattern (MTP) and UK/SC/6600.<br>Deletion of table 10<br>Dimensional Change updated to BS EN ISO 5077.<br>Format updated. | 03 December 2009  |
| 2                | Clarification of IRR method Table 8<br>Formatting and text updated  | 16 November 2005  |
| 1                | Partially supersedes Defence Standard 83-53 Issue 3, dated 18 <sup>th</sup> July 1983   | 28 February 2003  |

PART 1

1. THE PRODUCT

Use of the Product. For garments for extreme cold weather conditions.

TABLE 3 - RELATED SPECIFICATIONS AND DOCUMENTS

| <b>Specification/Document</b>                                 | <b>Detail</b>   |
|---|---|
| BS EN ISO 105<br>Part B02<br>Part C06<br>Part E04<br>Part X12 | Textiles. Tests for colour fastness<br>Colour fastness to artificial light: Xenon arc fading lamp<br>Colour fastness to domestic and commercial laundering<br>Colour fastness to perspiration<br>Colour fastness to rubbing |
| BS EN ISO 5077  | Textiles. Fabrics. Determination of dimensional change in washing and drying  |
| BS EN ISO 6330  | Textiles. Domestic washing and drying procedures for textile testing  |
| BS EN ISO 13934<br>Part 1                                     | Textiles - Tensile properties of fabrics<br>Determination of maximum force and elongation at break using the strip method   |
| BS EN 1049<br>Part 2  | Textiles. Woven fabrics. Construction. Methods of analysis<br>Determination of number of threads per unit length  |
| BS EN 12127   | Textiles. Fabrics. Determination of mass per unit area using small samples  |
| BS EN 29865   | Textiles. Determination of water repellency of fabrics by the Bundesmann rain-shower test   |
| UK/SC/6600  | Technical Specification Camouflage Patternst  |
| MAT0001A  | Woodland Disruptively Patterned material. Non coated.   |
| MAT0006B  | Standard for shade and design of Multi-Terrain Pattern  |

2. PATTERNS.

- a. Master Patterns. DC holds a Master Pattern for this product. Potential contractors may view the pattern on site by arrangement with the DC Commercial Department.
- b. Standard Patterns. A Standard Pattern may be obtained from the DC Technical Information Office and be may used to provide the criteria for shade, handle, finish, etc., not fully defined in this specification.

PART 2

3. PRODUCT DESCRIPTION

TABLE 4 – PRODUCT COMPONENTS

|        |  |
|--------|--|
| FIBRES | <ul style="list-style-type: none"><li>• 100% cotton</li><li>• Quality equal to the cloth Standard Pattern</li></ul>  |
| YARNS  | <ul style="list-style-type: none"><li>• To be evenly spun</li><li>• 2 fold yarns</li><li>• Quality equal to the cloth Standard Pattern</li></ul>   |
| CLOTH  | <ul style="list-style-type: none"><li>• 2 x 2 'S' Twill weave</li><li>• Selvedges are to be firm, straight and not of a thickness that may lead to unacceptable build up during laying up for garment cutting.</li><li>• Handle drape and appearance are to closely match the Standard Pattern</li></ul> |

TABLE 4 – PRODUCT COMPONENTS – Continued

|                      |   |
|----------------------|---|
| DYEING AND FINISHING | <p><u>ALL</u></p> <ul style="list-style-type: none"><li>• White spots, patches or misfittings are not permitted.</li><li>• Pigment prints are not permitted.</li><li>• Infra red reflectance and luminance values shall comply with UK/SC/6600.</li><li>• The cloths are to be given a water repellent treatment</li><li>• To be fully shrunk.</li></ul> <p><u>WOODLAND PRINT</u></p> <ul style="list-style-type: none"><li>• The cloth must be dyed khaki, singed closely on both faces and then overprinted to give the Woodland disruptively patterned four colour print on the face.</li><li>• The colours and pattern of the woodland disruptive print must visually match those of Pattern No MAT0001A.</li></ul> <p><u>MULTI-TERRAIN PATTERN</u></p> <ul style="list-style-type: none"><li>• The cloth must be printed in the Multi-Terrain Pattern (MTP) on the face.</li><li>• The colours and pattern of the MTP must visually match those of Pattern No. MAT0006B.</li></ul> |
|----------------------|---|



TABLE 5 – SAMPLING AND COMPLIANCE TESTING

|                           |  |
|---------------------------|--|
| <p>SAMPLING</p>           | <ul style="list-style-type: none"> <li>• No batch is to exceed 5000m</li> <li>• One sample to be taken from every batch and not less than 20m from the end of a piece</li> <li>• Samples are to be representative of each dyeing or finishing batch</li> <li>• Each sample is to be large enough to provide material for all the tests required</li> <li>• Each sample is to be identified with the piece from which it was taken</li> </ul>   |
| <p>COMPLIANCE TESTING</p> | <ul style="list-style-type: none"> <li>• All samples to meet requirements of Tables 6, 7 and 8</li> <li>• All the tests, except for colour fastness to light, are to be carried out on each sample</li> <li>• Colour Fastness to Light:             <ul style="list-style-type: none"> <li>• If the first batch sample meets requirements, no further testing is required provided the dye formulation stays the same</li> <li>• If the dye formulation is changed, light fastness is to be re-determined</li> </ul> </li> <li>• If a sample does not meet any requirement, 2 further samples from two different pieces in the same batch are to be tested</li> <li>• If either re-test samples does not meet all requirements, the whole batch is to be rejected</li> <li>• If both re-test samples meet all requirements, the batch can be accepted except for the piece from which the failed sample was taken</li> </ul> |

TABLE 6 – PHYSICAL PERFORMANCE REQUIREMENTS

| BS EN 12127      | BS EN 1049-2 |      | BS EN ISO 13934-1 |      | BS EN ISO 5077          | BS EN 29865                                     |             |
|------------------|--------------|------|-------------------|------|-------------------------|---|-------------|
| Mass             | Threads      |      | Breaking Strength |      | Dimensional change (1)] | Water Repellency As Received and After Wash (1) |             |
| g/m <sup>2</sup> | per cm       |      | N                 |      | %                       | %   | ml          |
| ± 5              | min.         |      | min.              |      | max.                    | max   |             |
| 175              | Warp         | Weft | Warp              | Weft | Warp and Weft           | Absorption                                      | Penetration |
|                  | 74.0         | 39.2 | 1000              | 550  | 2                       | 35  | 2           |

Note 1: After 1 wash and dry cycle to BS EN ISO 6330, Process 2A, Drying Procedure E (high)

TABLE 7 – MINIMUM COLOUR FASTNESS REQUIREMENTS

| Method of Test to BS EN ISO 105 |          |          |     |               |          |                              |          |
|---------------------------------|----------|----------|-----|---------------|----------|------------------------------|----------|
| COLOUR                          | Part B02 | Part X12 |     | Part C06:C2S  |          | Part E04                     |          |
|                                 | Light    | Rubbing  |     | Laundering    |          | Perspiration Acid and Alkali |          |
|                                 |          | Dry      | Wet | Colour Change | Staining | Colour Change                | Staining |
| Black                           | 5-6      |          |     |               |          |                              |          |
| Brown                           | 6        | 4        | 3   | 4-5           | 4        | 4-5                          | 4-5      |
| Green                           |          |          |     |               |          |                              |          |
| Khaki                           |          |          |     |               |          |                              |          |
| 8003G All Colours               | 5-6      | 4        | 4   | 4-5           | 4-5      | 4-5                          | 4-5      |



TABLE 8 – REQUIREMENTS FOR INFRA RED REFLECTANCE AND LUMINANCE

To be determined on samples both AS RECEIVED and AFTER LAUNDERING,  
1 wash/dry cycle to BS EN ISO 6330 Process 2A, Drying Procedure E (high)

| METHOD OF TEST        |             |                      |
|-----------------------|-------------|----------------------|
| UK/SC/6600            |             |                      |
| Type                  | Pattern No. | UK/SC/6600 Reference |
| Woodland DP           | 8003C       | Table 7              |
| Multi-Terrain Pattern | 8003G       | Table 6              |