

INCH-POUND

MIL-C-43637D  
28 January 1992  
SUPERSEDING  
MIL-C-43637C  
21 December 1987

## MILITARY SPECIFICATION

## CLOTH, PLAIN WEAVE, RIPSTOP, NYLON

This specification is approved for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers nylon, plain weave, ripstop cloth.

1.2 Classification. The cloth shall be of the following classes as specified (see 6.2).

- Class 1 - Dyed
- Class 2 - Natural
- Class 3 - (Deleted see 6.8)
- Class 4 - Woodland Camouflage Pattern
- Class 5 - Desert Camouflage Pattern (3 color)

## 2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be used in improving this document should be addressed to: U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5019 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8305

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## STANDARDS

## FEDERAL

- FED-STD-4 - Glossary of Fabric Imperfections
- FED-STD-191 - Textile Test Methods
- FED-STD-802 - Packaging of Synthetic Fiber Fabrics

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

## DRAWINGS

## U.S. ARMY NATICK RESEARCH, DEVELOPMENT, AND ENGINEERING CENTER

- 2-1-1516 - Woodland Pattern - 48 inches
- 2-1-1516B - Woodland Pattern - 60 inches
- 2-1-2240 - 3 Color Desert Pattern 48 & 60 inch pattern

(Copies of drawings are available from the U.S. Army Natick Research, Development, and Engineering Center, ATTN: STRNC-UX, Natick, MA 01760-5017.)

## FEDERAL TRADE COMMISSION

Rules and Regulations Under the Textile Fiber Products  
Identification Act

(Copies are available from the Federal Trade Commission, Pennsylvania Avenue at Sixth Street, N.W., Washington, DC 20580-0001.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2).

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AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

Chromatic Transference Scale Rating

(Application for copies should be addressed to the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- D 2261 - Tearing Strength of Woven Fabrics, by the Tongue (Single Rip) Method (Constant Rate of Extension Tensile Testing Machine)
- D 5035 - Breaking Force and Elongation of Textile Fabrics (Strip Force)

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103-1187.)

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 Standard sample. The dyed or printed finished cloth shall match the standard sample for shade and appearance and shall be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.4).

3.3 Material. It is encouraged that recycled material be used when practical as long as it meets the requirements of this specification.

3.3.1 Yarn. The yarn used shall be bright, multifilament nylon.

3.4 Color.

3.4.1 Color class 1. The color of class 1 cloth shall be as specified and shall match the standard sample (see 6.2 and 6.4).

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3.4.2 Color class 2. The color of the class 2 cloth shall be natural (unbleached).

3.4.3 Color class 4. The color of the class 4 finished cloth shall be the Woodland Camouflage Pattern obtained by dyeing the ground shade to match the Light Green 354 and overprinting using three rollers or screens as appropriate for the Dark Green 355, Brown 356, and Black 357. Printing shall be accomplished by the use of resin bonded pigments.

3.4.3.1 Pattern execution, class 4. The pattern shall reproduce the standard sample in respect to design, colors, and registration of the respective areas and the measurements of the repeat. In general, the repeat shall be 27.25 inches (+1.25, -2.5 inches) in the warp direction. The various areas of the pattern shall be properly registered in relation to each other and present definite sharp demarcations with a minimum of feathering or spew. Each pattern area shall show solid coverage. Skitteriness exceeding that shown by the standard sample in any of the printed areas shall not be acceptable. When the standard sample is not referenced for pattern execution or design, the pattern on the base cloth shall match standard Woodland camouflage pattern Drawing 2-1-1516 or 2-1-1516B, as applicable (see 6.2 and 6.4).

3.4.3.2 Spectral reflectance, class 4. The spectral reflectance values for each color in the Woodland camouflage printed finished cloth shall conform to the requirements specified in table I when tested as specified in 4.4.3.

TABLE I. Spectral reflectance requirements, class 4

Wavelength, Nanometers (nm)	Reflectance values (percent)					
	Black 357		Light Green 354		Dark Green 355 and Brown 356	
	Min.	Max.	Min.	Max.	Min.	Max.
600	-	10	8	20	3	13
620	-	10	8	20	3	13
640	-	10	8	20	3	13
660	-	10	8	22	3	13
680	-	10	8	36	3	22
700	-	10	14	60	8	46
720	-	10	26	78	8	66
740	-	10	40	90	12	80
760	-	10	50	92	17	88
780	-	10	55	92	20	90
800	-	10	55	92	21	90
820	-	10	55	92	22	90
840	-	10	55	92	22	90
860	-	10	55	92	22	90

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3.4.4 Color class 5. The color of the class 5 finished cloth shall be the Desert Camouflage Pattern (3 color), and shall be obtained by dyeing the ground shade to match the Light Tan 492 and overprinting using two rollers or screens as appropriate for the Light Brown 493, and Light Khaki 494. Printing shall be accomplished by the use of resin bonded pigments.

3.4.4.1 Pattern execution, class 5. The pattern shall reproduce the standard sample in respect to design, colors, and registration of the respective areas and the measurement of the repeat. The warp-wise pattern repeat of the printed and finished cloth shall be 16.75 inches (+1.25 -1.75 inches). Each pattern area shall show solid coverage. Skitteriness exceeding that shown by the standard sample in any of the printed areas will not be acceptable. When the standard sample is not referenced for pattern execution or design, the pattern on the finished cloth shall match that of Drawing 2-1-2240 (see 2.1.2, 6.2, and 6.4).

3.4.4.2 Spectral reflectance, class 5. The spectral reflectance values for each color in the Desert camouflage printed cloth shall conform to the requirements specified in table II when tested as specified in 4.4.3.

TABLE II. Spectral reflectance requirements, class 5

Wavelength, Nanometers (nm)	Reflectance values (percent)					
	Light Tan 492		Light Brown 493		Light Khaki 494	
	Min.	Max.	Min.	Max.	Min.	Max.
700	38	68	10	41	17	54
720	38	81	10	41	17	56
740	39	86	10	42	18	58
760	40	89	10	42	19	59
780	41	90	10	42	20	61
800	43	90	10	43	20	62
820	45	90	10	45	22	63
840	48	90	11	46	23	64
860	50	90	11	48	24	65

3.4.5 Matching. The color of the finished cloth shall match the standard sample when viewed under filtered tungsten lamps that approximate artificial daylight and that have a correlated color temperature of  $7500 \pm 200\text{K}$ , with illumination of  $100 \pm 20$  foot candles, and shall be a good match to the standard sample under incandescent lamplight at  $2300 \pm 200\text{K}$ .

3.4.6 Colorfastness.

3.4.6.1 Colorfastness class 1. The dyed and finished cloth shall show fastness to laundering, perspiration, and crocking equal to or better than the standard sample or equal to or better than a rating of "good" to

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laundering and perspiration and shall show an AATCC Chromatic Transference Scale rating for crocking not lower than 3.5 when tested as specified in 4.4.3.

3.4.6.2 Colorfastness class 4. The finished camouflage printed cloth shall show fastness to laundering and perspiration equal to or better than the standard sample or equal to or better than a rating of "good" for each of the pattern colors except Black 357 which shall be equal to or better than a rating of "fair". Fastness to crocking shall be equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating not lower than 3.5 for all the pattern areas, except Black 357 which shall have an AATCC Chromatic Transference Scale rating not lower than 1.5. Testing shall be as specified in 4.4.3.

3.4.6.3 Colorfastness class 5. The Desert camouflage printed and finished cloth shall show fastness to laundering and perspiration equal to or better than the standard sample or equal to or better than a rating of "good" for each of the pattern areas. The cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating not lower than 3.5 for all the pattern areas. Testing shall be as specified in 4.4.3.

3.5 Physical requirements. The finished cloth shall conform to the physical requirements specified in table III when tested as specified in 4.4.3.

TABLE III. Physical requirements

Weight, ounces per sq yd, maximum	Yarns per inch, minimum		Breaking strength, lbs, minimum		Tearing strength, lbs, minimum	
	Warp	Filling	Warp	Filling	Warp	Filling
1.1	120	120	42	42	5	5

3.5.1 Width. The width of the cloth shall be as specified (see 6.2) and shall be the minimum acceptable width inclusive of the selvage when fly shuttle looms or shuttleless with tuck-in selvage looms are used. For all other shuttleless looms, the width measurement shall be made between the last warp yarn on each side excluding the protruding fringe(s).

3.6 Weave. The ripstop weave pattern for the cloth shall be one of the weaves as shown in figures 1, 2 or 3. Reinforcement ribs in both the warp and filling shall form a uniform pattern of squares. There shall be a minimum of 6.5 repeats of the pattern per inch in both directions.

3.7 Finish. The cloth shall be scoured and heat treated. Classes 4 and 5 cloth shall be heat treated prior to printing. The heat treating shall be done such that the cloth meets the requirements of 3.8 and 3.9.

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3.8 Dimensional stability. The cloth shall show no appreciable distortion or puckering, nor shall there be more than 2.0 percent dimensional change in either warp or filling, when tested as specified in 4.4.3.

3.9 Nonfibrous materials. The total chloroform-soluble and water-soluble material content of the finished cloth shall not exceed 1.0 percent for classes 1 and 2 and 4.0 percent for classes 4 and 5 when tested as specified in 4.4.3.

3.10 pH. The pH value of the finished cloth shall be not lower than 5.0 nor higher than 8.5 when tested as specified in 4.4.3.

3.11 Length and put-up. Unless otherwise specified (see 6.2), the finished cloth shall be in continuous lengths, each not less than 75 yards. Each length shall be put-up in full width rolls as specified in 5.1.

3.12 Fiber identification. Each roll shall be labeled or ticketed for fiber content in accordance with the Rules and Regulations Under the Textile Fiber Products Identification Act.

3.13 Marking. The face side of the cloth shall be identified by applying a stamping on that side of the cloth with the word "FACE" at each end of the roll.

3.14 Workmanship. The finished cloth shall conform to the quality established by this specification. The demerit points per 100 square yards when calculated as specified in section 4 shall not exceed the established maximum point value.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling

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inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Certificates of compliance. When certificates of compliance are submitted, the Government reserves the right to inspect such items to determine the validity of the certification.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 First article inspection. When a first article is required (see 3.1 and 6.2), it shall be examined for appearance, color, and finish defects and shall be tested for the characteristics specified in table IV.

4.4 Quality conformance inspection.

4.4.1 Component and material inspection. In accordance with 4.1, components and materials shall be inspected in accordance with all the requirements of referenced documents, unless otherwise excluded, amended, modified, or qualified in this specification or applicable purchase document.

4.4.2 End item examination.

4.4.2.1 Yard-by-yard examination. Each roll in the sample shall be examined on the face side only (printed side for classes 4 and 5). When the total yardage in the roll does not exceed 100 yards, the entire yardage in the roll shall be examined. When the total yardage in the roll exceeds 100 yards, only 100 yards shall be examined. All defects, defined in Section III of FED-STD-4, that are clearly noticeable at normal inspection distance (3 feet) shall be scored and assigned demerit points as listed in 4.4.2.1.1. No linear yard (increments of 1 yard on the measuring device of the inspection machine) from any one roll within the sample shall be penalized more than four points. The sample size shall be 20 rolls selected from 20 containers. The lot shall be unacceptable if the points per 100 square yards of the total yardage examined exceeds 35 points. The lot shall be unacceptable if the points per 100 square yards of two or more individual rolls exceeds 53 points. If no individual roll exceeds 53 points per 100 square yards, the lot shall be acceptable with respect to this characteristic. If one roll in the sample size of 20 exceeds 53 points per 100 square yards, a second sample of 20 rolls shall be examined for individual roll quality only. The lot shall be unacceptable if one or more rolls in the second sample exceeds 53 points per 100 square yards. Point computation for lot quality and individual roll quality shall be as follows:

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$$\frac{\text{Total points scored in sample} \times 3600}{\text{Contracted width of cloth (inches)} \times \text{Total yards inspected}} = \frac{\text{Points per 100}}{\text{square yards}}$$

4.4.2.1.1 Demerit points. Demerit points shall be assigned as follows:

For defects 3 inches or less in any dimension	- one point
For defects exceeding 3 inches, but not exceeding 6 inches in any dimension	- two points
For defects exceeding 6 inches, but not exceeding 9 inches in any dimension	- three points
For defects exceeding 9 inches in any dimension	- four points

The following defects, when present, shall be scored four points for each yard in which they occur:

Width less than specified  
 Objectionable odor  
 Overall uncleanness  
 Uneven weaving throughout  
 Skitteriness of pattern exceeds that shown by standard sample (classes 4 and 5)  
 Pattern design not equal to the standard sample (classes 4 and 5)  
 Excessive feathering or spew of pattern (classes 4 and 5)  
 Warp-wise pattern repeat less than 24.75 inches or more than 28.50 inches (class 4)  
 Warp-wise pattern repeat less than 15.00 inches or more than 18.00 inches (class 5)

4.4.2.2 Length examination. During the yard-by-yard examination, each roll in the sample shall be examined for length. Any length found to be less than the minimum specified or more than 2 yards less than the length marked on the ticket shall be considered a defect with respect to length. The lot shall be unacceptable if two or more rolls in the sample are defective in respect to length. The lot shall be unacceptable if the total of the actual lengths or rolls in the sample is less than the total of the lengths marked on the tickets.

4.4.2.3 Shade and appearance examination. During the yard-by-yard examination, each roll in the sample shall be examined for shade and appearance on the face side. The lot (class 1) shall be unacceptable if any

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roll is off shade, shaded side to side, shaded side to center, or shaded end to end, or if any roll does not have the same appearance as the standard sample. The lot (class 4 or 5) shall be unacceptable if any roll fails to match the standard sample with respect to color for all pattern areas, or if any roll does not have the same appearance as the standard sample.

4.4.2.4 Roll identification examination. During the yard-by-yard examination, each roll in the sample shall be examined for the defects listed below. The lot shall be unacceptable if two or more rolls in the sample contain one or more of the following defects:

Not labeled or ticketed in accordance with the Rules and Regulations Under the Textile Fiber Products Identification Act

Face identification missing from either or both ends

Face identification on the wrong side

4.4.3 End item testing. The cloth shall be tested for the characteristics listed in table IV. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in table IV shall be followed. The physical and chemical values specified in section 3, except where otherwise specified, apply to the average of the determinations made on a sample unit for test purposes as specified in the applicable test method. The sample unit shall be 3-1/2 continuous yards full width of the finished cloth. The lot shall be unacceptable if one or more sample units fail to meet any requirement specified. All test reports shall contain the individual values used in expressing the final results. The sample size (number of sample units) shall be in accordance with the following:

<u>Lot size (yards)</u>	<u>Sample size (sample units)</u>
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

TABLE IV. End item tests

<u>Characteristic</u>	<u>Requirement paragraph</u>	<u>Test method</u>
Nylon:		
Multifilament	3.3.1	Visual 1/
Identification	3.3.1	1530 2/
Luster	3.3.1	2/
Spectral reflectance:		
Class 4	3.4.3.2	4.5.2
Class 5	3.4.4.2	4.5.2

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TABLE IV. End item tests (cont'd)

Characteristic	Requirement paragraph	Test method
Colorfastness to:		
Laundering	3.4.6	5614 and <u>3/</u> <u>4/</u>
Perspiration	3.4.6	5680 and <u>3/</u>
Crocking	3.4.6	5651 and <u>3/</u>
Weight	3.5	5041
Yarns per inch	3.5	5050
Breaking strength	3.5	ASTM D 5035 <u>5/</u>
Tearing strength	3.5	ASTM D 2261 <u>6/</u>
Weave	3.6	Visual <u>1/</u>
Finish:		
Scouring	3.7	<u>2/</u>
Heat treating	3.7	<u>2/</u>
Dimensional stability	3.8	4.5.1
Nonfibrous material	3.9	2611
pH	3.10	2811

- 1/ One determination shall be made on each sample unit and the results reported as "pass" or "fail".
- 2/ Unless otherwise specified, a certificate of compliance shall be submitted and will be acceptable for the stated requirement.
- 3/ On camouflage pattern cloth, the colorfastness test shall be performed on each color in the pattern for both the standard sample, when applicable, and the submitted specimen. The individual colors of the pattern shall be so selected that only the specific color being evaluated is included as the test area of the submitted specimen and the standard sample.
- 4/ On camouflage pattern cloths, a 2 gram test specimen from each color in the pattern area shall be used.
- 5/ The 1-inch raveled strip method (paragraph 9.2 of test method D-5035) shall be used.

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6/ The average of five highest peaks (paragraph 10.2 of test method D-2261) shall be used.

4.4.4 Packaging examination. The examination shall be in accordance with the quality assurance provisions of FED-STD-802.

4.5 Methods of inspection.

4.5.1 Dimensional stability test. The test specimen shall be a square of cloth a minimum 20 inches by 20 inches. Before marking and measuring for dimensional change, the specimen shall be in equilibrium with Standard Conditions as defined in FED-STD-191. The specimen shall be laid without tension on a flat surface and shall be inscribed with an 18-inch square approximately equidistant from the edges having sides parallel to the warp and normal filling directions. The marked specimen shall be placed in a preheated oven and maintained at a temperature of  $280^{\circ} \pm 20^{\circ}\text{F}$  for a period of 2 hours. The specimen may be looped over a rod or laid flat on a rack both of which shall be made of low-conductivity (nonmetallic) material and have free air circulation on both sides. Promptly remove the specimen from the oven, allow to cool on a flat surface, and then bring to equilibrium under Standard Conditions. Measure each side of the inscribed square for dimensional change in both the warp and filling directions (two measurements each for the warp and filling per specimen). Each change in dimension shall be reported to the nearest 0.1 percent. The specimen shall also be visually compared with the original unheated cloth for any appreciable distortion or puckering. (Appreciable means a change that is immediately noticeable when comparing the tested specimen with the original. If closer inspection is required to make apparent a slight change, the change is not considered appreciable.)

4.5.2 Spectral reflectance test. Spectral reflectance data shall be obtained from 600 to 860 nanometers (nm) for class 4 and 700 to 860 nm for class 5, for each color at 20 nm intervals on a spectrophotometer (see 6.6) relative to a barium sulfate standard, the preferred white reference standard. Other white reference materials may be used, provided they are calibrated to absolute white; e.g., Halon, magnesium oxide, or vitrolite tiles (see 6.7). The spectral bandwidth shall be less than 26 nm at 860 nm. Reflectance measurements shall be made by either the monochromatic or polychromatic mode of operation. When the polychromatic mode is used, the spectrophotometer shall operate with the specimen diffusely illuminated with the full emission of a source that simulates in the visible spectrum either CIE Source A or CIE Source D65. The specimen shall be measured as a single layer, backed with sufficient layers of the same fabric and shade. For class 4, sufficient layers are eight layers for Light Green 354, Dark Green 355, and Brown 356 and three layers for Black 357. For class 5, sufficient layers are fifteen layers for Light Tan 492 and seven layers for Light Brown 493 and Light Khaki 494. When the specimen is presented to the sample port, the specimen shall be oriented with the reinforcement yarns, running in

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either the warp or filling direction, of the ripstop weave parallel to the horizontal plane. Measurements shall be taken on a minimum of two different areas for each color, and the data averaged. The specimen shall be viewed at an angle no greater than  $10^{\circ}$  from normal, with the specular component included. Photometric accuracy of the spectrophotometer shall be within 1 percent, and wavelength accuracy within 2 nm. For all colors, classes 4 and 5, with the exception of Light Tan 492, class 5, the aperture of the measurement port of the spectrophotometer shall be 1.0 to 1.25 inches (25 to 32 mm) in diameter (Large Area of View). Light Tan 492 shall be measured with the aperture of the measurement port 0.37 inches (10 mm) in diameter (Small Area of View). When the measured reflectance values for any color at four or more wavelengths per sample do not meet the limits specified in table I or in table II, it shall be considered a test failure.

## 5. PACKAGING

5.1 Put-up and preservation. Put-up and preservation shall be level A or Commercial as specified (see 6.2).

5.1.1 Levels A and Commercial. The cloth shall be put-up and preserved in accordance with the applicable requirements of FED-STD-802.

5.2 Packing. Packing shall be level A, B, or Commercial, as specified (see 6.2).

5.2.1 Levels A, B, and Commercial. The cloth shall be packed in accordance with the applicable requirements of FED-STD-802.

5.3 Marking. In addition to any special marking required by the contract or purchase order, shipments shall be marked in accordance with the applicable requirements of FED-STD-802.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The cloth is intended for use as the outer covering for batting used in the manufacture of quilted clothing. The cloth is not intended for the manufacture or repair of parachutes.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. Class required (see 1.2).
- c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).

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- d. When first article is required (see 3.1, 4.3, and 6.3).
- e. Color required when class 1 is specified (see 3.4.1).
- f. Woodland or Desert camouflage pattern drawing if required (see 3.4.3.1 and 3.4.4.1).
- g. Width required (see 3.5).
- h. Length of roll if other than specified (see 3.11).
- i. Levels of preservation and packing (see 5.1 and 5.2).

6.3 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209-4. The first article should be a preproduction sample. The contracting officer should specify the appropriate type of first article and the number of units to be furnished. The contracting officer should include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Sample. For access to samples, address the contracting activity issuing the invitation for bids or request for proposal.

6.5 Dyestuff combination for Camouflage Green 483. A suggested, but not mandatory, dyestuff combination for Camouflage Green 483 is as follows:

Acid Blue 171  
Acid Orange 162

6.6 Spectrophotometer. Suitable spectrophotometers for measuring spectral reflectance in the visible/near-infrared are the Diano Hardy, Diano Match Scan, Milton Roy Match Scan 2, Applied Color Systems Spectro Sensor I & II and CS-5, Hunter D54P-IR, Hunter VIS/NIR spectrophotometer, and Macbeth 1500 with IR options.

6.7 White standard. Barium sulfate of suitable quality for use as a white reference standard is available from the Eastman Kodak Company. The same source has available magnesium reagent (ribbon) and Halon. Suitable tiles can be obtained from the National Institute of Standards and Technology or the instrument manufacturers.

6.8 Supersession data. The Class 3 U.S. Army Camouflage Pattern 1948 cloth has been deleted since it is no longer required.

6.9 Subject term (key word) listing.

Batting  
Camouflage pattern  
Liner  
Poncho  
Quilted clothing

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6.10 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:

Army - GL  
Navy - NU  
Air Force - 99

Preparing activity:

Army - GL  
(Project 8305-0428)

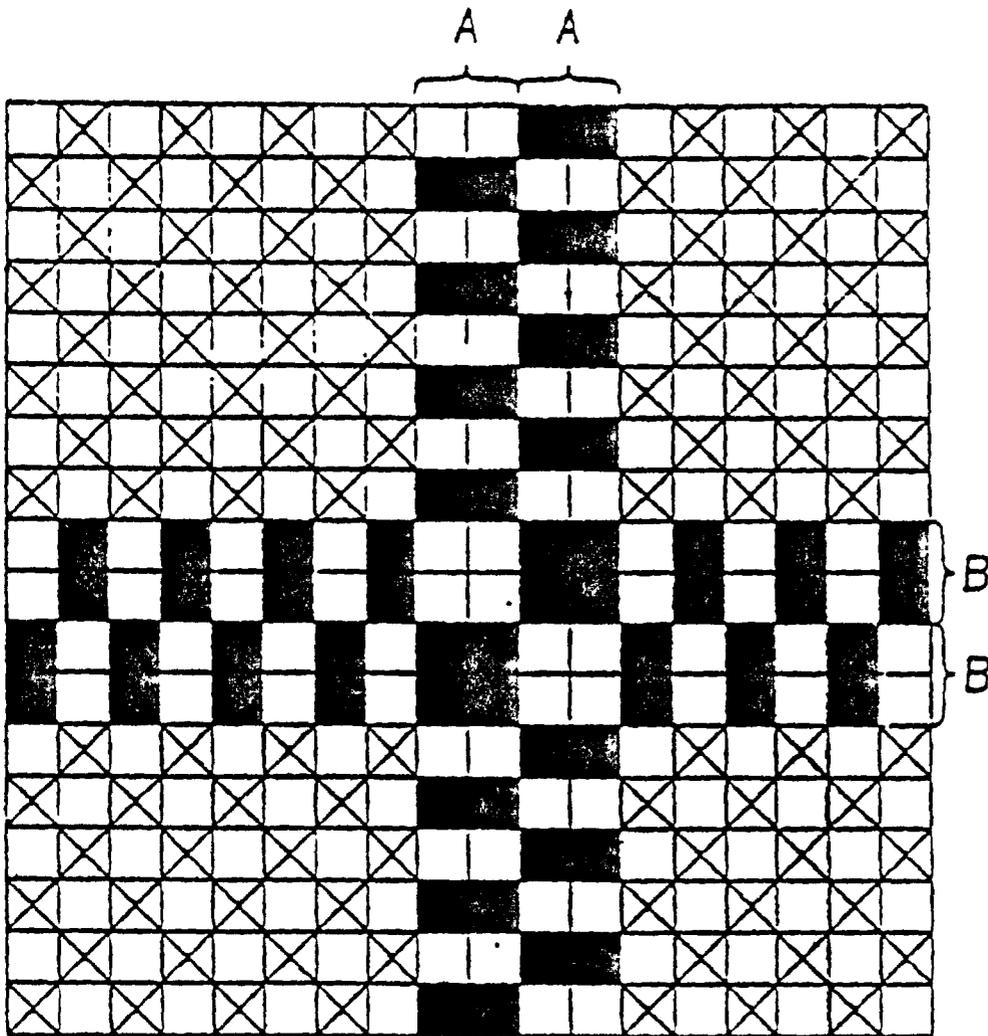
Review activities:

Army - MD  
Air Force - 82  
DLA - CT

User activity:

Navy - MC

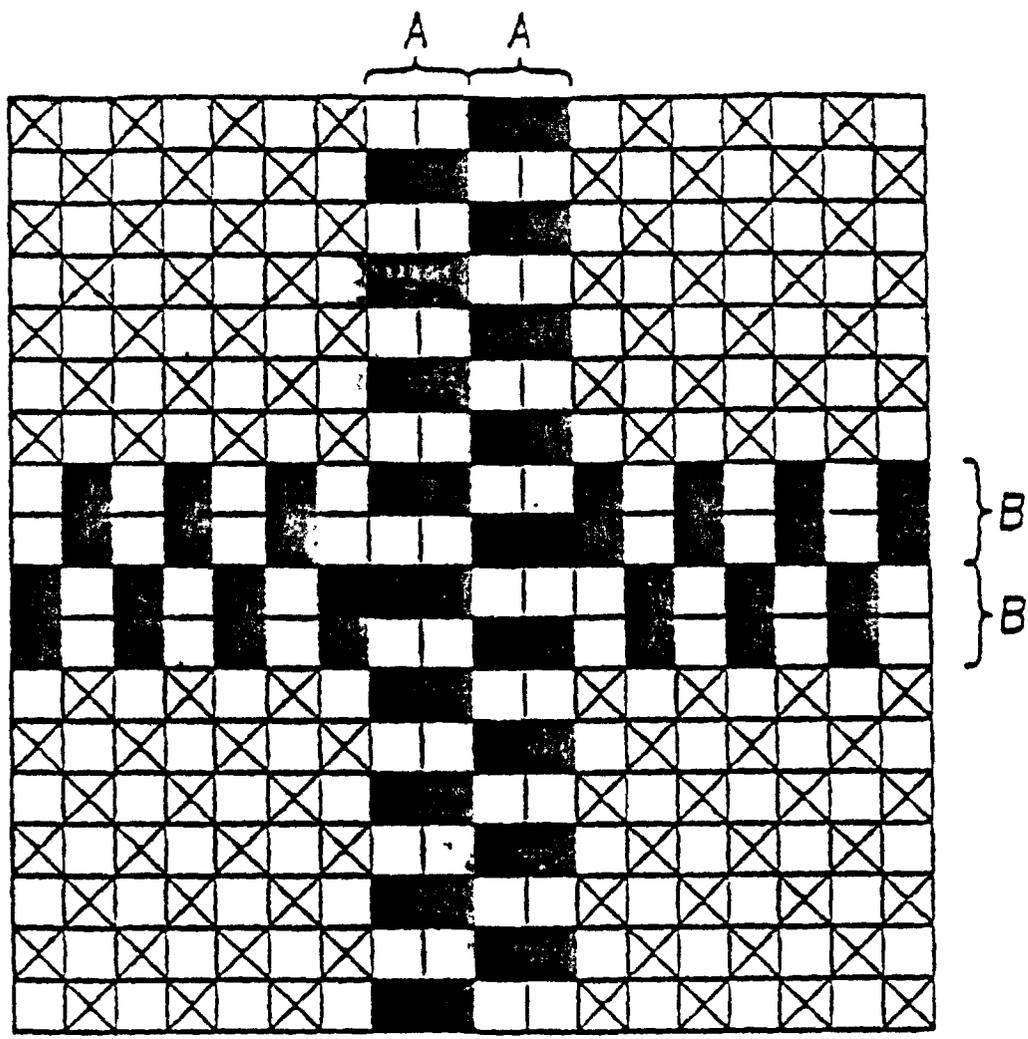
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A = TWO WARP ENDS WOVEN AS ONE  
 B = TWO FILLING PICKS PER SHED

FIGURE 1. RIPSTOP WEAVE PATTERN.

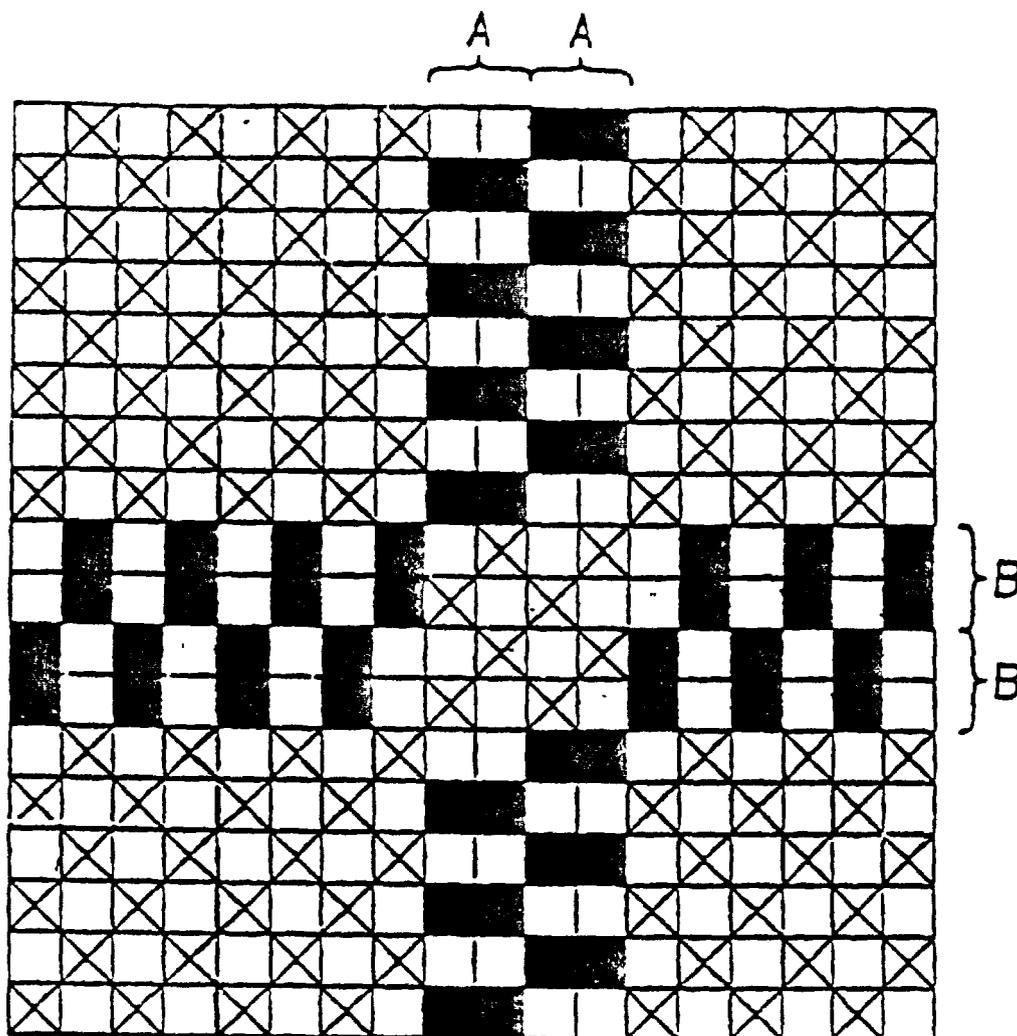
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A = TWO WARP ENDS WOVEN AS ONE  
B = TWO FILLING PICKS PER SHED

FIGURE 2. RIPSTOP WEAVE PATTERN.

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A = TWO WARP ENDS WOVEN AS ONE  
B = TWO FILLING PICKS PER SHED

FIGURE 3. RIPSTOP WEAVE PATTERN.

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

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<b>1. RECOMMEND A CHANGE:</b>	1. DOCUMENT NUMBER MIL-C-43637D	2. DOCUMENT DATE (YYMMDD) 1992 January 28
3. DOCUMENT TITLE CLOTH, PLAIN WEAVE, RIPSTOP, NYLON		
4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed)		
5. REASON FOR RECOMMENDATION		
6. SUBMITTER		
a. NAME (Last, First, Middle Initial)	b. ORGANIZATION	
c. ADDRESS (Include Zip Code)	d. TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (If applicable)	e. DATE SUBMITTED (YYMMDD)
8. PREPARING ACTIVITY		
a. NAME U.S. Army Natick RD&E Center	b. TELEPHONE (Include Area Code) (1) Commercial 508-651-4532	(2) AUTOVON/DSN 256-4532
c. ADDRESS (Include Zip Code) Commander, U.S. Army Natick RD&E Center ATTN: STRNC-IRT Natick, MA 01760-5019	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT: Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466 Telephone (703) 756-2340 AUTOVON 289-2340	