

MIL-C-44103B
19 July 1988
SUPERSEDING
MIL-C-44103A
6 August 1985

MILITARY SPECIFICATION

CLOTH, DUCK, POLYESTER, FIRE, WATER AND WEATHER RESISTANT

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

1. SCOPE

1.1 Scope. This document covers fire, water, and weather resistant polyester duck cloth. The cloth may be uncoated or coated (see 3.4 and 3.7).

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 specification to the extent specified herein. Unless otherwise specified, the issue of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATION

FEDERAL

PPP-P-1135 - Packaging of Duck Fabrics (Cotton;
Synthetic Fiber; Cotton-Synthetic Fiber Blends)

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 01760-5014, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 8305

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

MIL-C-44103B

STANDARDS

FEDERAL

- FED-STD-4 - Glossary of Fabric Imperfections
- FED-STD-191 - Textile Test Methods

MILITARY

- MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes

(Copies of specifications, standards, and handbooks required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

2.1.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

FEDERAL TRADE COMMISSION

Rules and Regulations Under the Textile Fiber Products Identification Act

(Copies may be obtained without charge from the Federal Trade Commission, Washington, DC 20580.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issues of the nongovernment documents which are current on the date of the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- D 523 - Specular Gloss
- D 1424 - Tear Resistance of Woven Fabrics by the Falling-Pendulum (Elmendorf) Apparatus

(Copies should be obtained from the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

Chromatic Transference Scale

(Copies should be obtained from the American Association of Textile Chemists and Colorists, P.O. Box 12215, Research Triangle Park, NC 27709-2215.)

MIL-C-44103B

(Nongovernment standards and other publications are normally available from the organizations which prepare or which 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 specification and the references cited herein, the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Standard sample. The finished cloth shall match the standard sample for shade and appearance and shall unless otherwise indicated (see 3.6.2) be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.3).

3.2 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection (see 4.3, 6.2, and 6.4.)

3.3 Material.

3.3.1 Fiber. The fiber shall be regular tenacity, semi-dull or dull fiber prepared from polyethylene glycol terephthalate with a minimum melting point of 472°F.

3.4 Physical requirements. The finished cloth shall conform to the requirements specified in table I when tested as specified in 4.4.3.

TABLE I. Physical requirements

Characteristic	Requirements	
	Minimum	Maximum
Weight, oz/yd ² :	---	13.5
Yarns per inch:		
Warp	44	---
Filling	32	---
Breaking strength, pounds:		
Warp	400	---
Filling	300	---
Tearing strength, pounds:		
Warp	11	---
Filling	7	---

MIL-C-44103B

TABLE I. Physical requirements (cont'd)

Characteristic	Requirements	
	Minimum	Maximum
Gloss (face side only), percent:		
60 degree specular gloss	---	2.0
85 degree specular gloss	---	2.0
Adhesion of coating, lbs/2-inch width <u>1</u> /	6.0	---
Flaking	Pass <u>2</u> /	---

1/ If fabric is coated.

2/ The coating shall show no evidence of flaking, loss of coating, coating separation, or cracking.

3.4.1 Weave. The weave shall be plain. The cloth shall be woven on either a fly-shuttle or a shuttleless loom. When the cloth is woven on shuttleless looms, the fringed selvages shall be removed from the cloth.

3.5 Width. The width of the cloth shall be as specified (see 6.2) and shall be the minimum 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 Color. The color of the finished cloth shall be as specified (see 6.2) and shall match the standard sample.

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

3.6.1.1 Spectral reflectance. When Camouflage Green 483 is specified, the spectral reflectance factors (in percent) for visible/near infrared wavelength range of 600 to 860 nanometers of the finished cloth shall meet the requirements specified in table II. When Desert Tan 459 is specified, the spectral reflectance factors (in percent) for the visible/near infrared wavelength range of 700 to 860 nanometers of the finished cloth shall meet the requirements specified in table III.

MIL-C-44103B

TABLE II. Spectral reflectance (percent) limits
for the Camouflage Green 483

Wavelengths Nanometers	Reflectance		Wavelengths Nanometers	Reflectance	
	Max	Min		Max	Min
600	12	5	740	42	30
620	12	5	760	50	39
640	12	5	780	56	45
660	13	5	800	60	47
680	15	7	820	63	49
700	21	12	840	65	50
720	30	20	860	66	51

TABLE III. Spectral reflectance (percent) limits for Desert Tan 459

Wavelengths Nanometers	Reflectance	
	Max	Min
700	65	45
720	65	45
740	65	45
760	65	45
780	65	45
800	65	45
820	65	45
840	65	45
860	65	45

3.6.2 Colorfastness. The finished cloth shall show fastness to accelerated weathering equal to or better than the standard sample or equal to or better than the rating of "fair" when tested as specified in 4.4.3. The cloth shall show fastness to dry-crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating not lower than 1.5 when tested as specified in 4.4.3.

3.7 Finish. The cloth shall be given an approved finish (see 6.5).

3.7.1 Water repellent finish. The cloth shall be water repellent treated. The finished cloth shall conform to the requirements shown in table IV when tested as specified in 4.4.3.

MIL-C-44103B

TABLE IV. Water repellency requirements

Characteristic	Requirement	
	Minimum	Maximum
Spray rating:		
Initial	90, 90, 90	--
Hydrostatic resistance in centimeters:		
Initial	55 (avg.) $\frac{1}{1}$	--
After weathering	45 (avg.) $\frac{1}{1}$	--
After low temperature	50 (avg.) $\frac{1}{1}$	--
Dynamic absorption, percent:		
Initial	--	10
After weathering	--	10

1/ No individual value shall be less than 50 cm for initial, 40 cm after weathering and 45 cm after low temperature.

3.7.2 Flame retardant. The cloth shall be flame retardant treated. The finished cloth shall conform to the requirements specified in table V when tested as specified in 4.4.3 and shall show no evidence of melting or dropping of flaming pieces at any time during flame resistance testing.

TABLE V. Flame retardant requirements

Characteristic	Requirement (maximum)	
	Warp	Filling
After-flame time, seconds:		
Initial	2.0	2.0
After weathering	2.0	2.0
Percent consumed:		
Initial	50	50
After weathering	50	50

3.7.3 Flexibility. The finished cloth shall show a bending moment of not more than 0.020 inch-pounds initially and not more than 0.040 inch-pounds during an exposure at minus 20° ± 5°F and after heating at 200° to 205°F, when tested as specified in 4.4.3.

MIL-C-44103B

3.8 Face identification. One side of the cloth shall be identified as the face by stamping the word "face" on that side at each end of the roll. The side determined to be the "face" shall remain consistent throughout the entire lot.

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

3.10 Length and put-up. Unless otherwise specified (see 6.2), the cloth shall be in continuous pieces, each not less than 40 yards in length and shall be put-up in rolls in accordance with 5.1.

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

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 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 the document where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirement in the document shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Certificates of compliance. When certificates of compliance are submitted, the Government reserves the right to check test 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).

MIL-C-44103B

4.3 First article inspection. When a first article is required (see 6.2), it shall be examined for the defects specified in 4.4.2 and tested for the characteristics specified in 4.4.3. The presence of any defect or failure to pass any test shall be cause for rejection of the first article.

4.4 Quality conformance inspection. Unless otherwise specified, sampling for inspection shall be performed in accordance with MIL-STD-105.

4.4.1 Components and materials 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 document 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. 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, as defined in section I of FED-STD-4, which are clearly noticeable at normal inspection distance (3 feet) shall be scored and assigned demerit points as listed in 4.4.2.1.1 with the following exceptions: glossary numbers 1, 2, 3, 5, 14, 26, 27, and 29 shall not be scored unless they exceed three times the thickness of the yarn. Misdraws and reed marks shall be scored if they result in a clearly noticeable separation of warp yarns. Only those slubs and knots which exceed three times the normal yarn size shall be scored. No linear yard (increments of 1 yard on the measuring device of the inspection machine) from any one roll with the sample shall be penalized more than 4 points. The sample size shall be 20 rolls. The lot shall be unacceptable if the points per 100 square yards of the total yardage examined exceeds 40.0 points. The lot shall be unacceptable if the points per 100 square yards of two or more individual rolls exceeds 60.0 points. If one roll exceeds 60.0 points per 100 square yards, a second sample of 20 rolls shall be examined only for individual roll quality. The lot shall be unacceptable if one or more rolls in the second sample exceeds 60.0 points per 100 square yards. Point computation for lot quality and individual roll quality shall be as follows:

Total points scored in sample x 3600	= Points per 100
Contracted width of cloth (inches) x Total yards inspected	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:

MIL-C-44103B

Hole, cut or tear.
 Objectionable odor.
 Baggy, ridgy or wavy cloth.
 Width less than specified or cut raw edge.
 Edge ravel when pulled outward.
 Slack or tight selvages 1/.
 Overall uncleanness.
 Poorly constructed - not firmly or tightly woven.
 Overall application of compound not uniform.
 Tackiness.

- 1/ To determine the presence of unacceptable selvage conditions, the following procedure shall be observed: During the visual examination, the perch shall be stopped a minimum of three times for each roll in the sample, the tension removed and the finished cloth examined for the selvage conditions. A waviness in the selvage causing significant waviness or ripples within the body of the cloth is an indication of slack or tight selvages.

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 roll ticket shall be considered a length defect. The lot shall be rejected if two or more rolls in the sample are defective with respect to length or if the total of the actual lengths of rolls in the sample is less than the total of the lengths marked on the roll tickets.

4.4.2.3 Roll marking examination. During the yard-by-yard examination each roll in the sample shall be examined for defects listed below. The lot shall be unacceptable if two or more of the following defects are present in the sample:

Face stamping missing from either or both ends.

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

4.4.3 End item testing. The cloth shall be tested for the characteristics listed in table VI. The methods of testing specified in FED-STD-191, wherever applicable and as listed in table VI shall be followed. The physical and chemical values specified in section 3 apply to the results of the determinations made on a sample unit for test purposes, as specified in applicable test method. The sample unit shall be 5 continuous yards full width. The sample size shall be as shown below. The lot shall be unacceptable if one or more sample units fail to meet any test requirements specified. Unless otherwise specified herein, all physical tests shall be performed under Standard Conditions as specified in FED-STD-191. Test reports shall contain the individual values utilized in expressing the final results.

MIL-C-44103B

<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 VI. End item tests

<u>Characteristics</u>	<u>Requirement paragraph</u>	<u>Test method</u>
Material identification	3.3.1	<u>1</u> /
Weight	3.4	5041
Yarns per inch	3.4	5050
Breaking strength	3.4	5100
Tearing strength	3.4	ASTM D 1424
Gloss (face side only)	3.4	ASTM D 523
Adhesion of coating <u>2</u> /	3.4	5970 <u>3</u> /
Flaking	3.4	<u>4</u> /
Weave	3.4.1	Visual
Spectral reflectance	3.6.1.1	4.5.1
Colorfastness to:		
Weathering (after 100 hours)	3.6.2	5671 <u>5</u> /
Crocking	3.6.2	5651
Water repellency:		
Spray rating:		
Initial	3.7.1	5526
Hydrostatic resistance:		
Initial	3.7.1	5514
After weathering	3.7.1	4.5.2 and 5514
After low temperature	3.7.1	4.5.3
Dynamic absorption:		
Initial	3.7.1	5500
After weathering	3.7.1	4.5.2 and 5500

MIL-C-44103B

TABLE VI. End item tests (cont'd)

Characteristics	Requirement paragraph	Test method
Flame-retardancy:		
After-flame time:		
Initial	3.7.2	5905 6/
After weathering	3.7.2	4.5.4 and 5905 6/
Percent consumption:		
Initial	3.7.2	5905
After weathering	3.7.2	4.5.4 and 5905
Flexibility:		
Initial	3.7.3	4.5.5
At low temperature	3.7.3	4.5.6
After heat aging	3.7.3	4.5.7

- 1/ A certificate of compliance is required and will be acceptable for the requirement stated.
- 2/ If applicable.
- 3/ Specimens shall be adhered face-to-face.
- 4/ All coated specimens tested for hydrostatic resistance (initial, after weathering, and after low temperature) and dynamic absorption (initial and after weathering) shall be examined for evidence of flaking, loss of coating, coating separation and cracking.
- 5/ Except that filters shall be removed.
- 6/ Except that the average shall be calculated using the four lowest individual results of the sample unit.

4.4.4 Packaging inspection. The inspection shall be in accordance with the quality assurance provisions of PPP-P-1135.

4.5 Methods of inspection.

4.5.1 Spectral reflectance test. Reflectance data shall be obtained from 600 to 860 nanometers (nm) for Camouflage Green 483 and from 700 to 860 nm for Desert Tan 459 relative to barium sulfate 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 6.6). The spectral band width at 860 nm shall be less than 26 nm. Reflectance

MIL-C-44103B

measurements shall be made by either the monochromatic or polychromatic mode operation. When the polychromatic mode operation is used, the spectrophotometer (see 6.7) shall operate with the specimen diffusely illuminated with the full emission of a continuous 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 two layers of the same fabric and shade. Readings will be taken on a minimum of two different areas, and the data averaged. The specimen shall be viewed at an angle no greater than 10 degrees from normal. Photometric accuracy of the spectrophotometer shall be within 1 percent and the wavelength accuracy shall be within 2 nm. When the measured reflectance values for any color at four or more of the listed wavelengths do not meet the limits specified in table II or III as applicable it shall be considered a test failure.

4.5.2 Accelerated weathering procedure for water resistance tests. The specimens for the water resistance after weathering tests shall be prepared and weathered in accordance with 4.5.4.

4.5.3 Hydrostatic resistance after low temperature test. The specimens shall be exposed to low temperature as specified in Method 5874 of FED-STD-191 except that the exposure temperature shall be $-20^{\circ} \pm 5^{\circ}\text{F}$ and the exposure time shall be a minimum of 4 hours. The face side on the specimens shall be toward the outside of the fold. After exposure to the low temperature, the specimens shall be tested for hydrostatic pressure resistance as specified in Method 5514 of FED-STD-191 with the water pressure applied to the face side of the specimens.

4.5.4 Accelerated weathering procedure for flame resistance tests. The apparatus and procedure shall be in accordance with Method 5804 except that the filters shall be removed and the weathering procedure shall be as follows. Two swatches, each 13 by 28 inches, shall be cut from the sample unit. One swatch shall be cut with the long dimension in the direction of the warp; the other with the long dimension in the direction of the filling. When the width of the sample unit does not permit a full 28-inch swatch to be taken in the filling direction, two 13 by 14-inch swatches shall be cut. The face side of the cloth shall be exposed to the light source. The swatches shall be exposed one above the other, in the quadrant of the accelerated weathering apparatus for 100 hours. The swatches shall be changed from the top to bottom racks and visa versa each time the carbons are changed (approximately 17 to 20 hours) during a 100-hour exposure period. At the conclusion of the 100-hour exposure period, the swatches shall be removed from the apparatus and allowed to dry. Then five specimens for the fire resistance test shall be cut from each exposed swatch. All specimens shall be conditioned at Standard Conditions prior to testing. The five specimens shall be cut such that the direction being tested shall have been exposed to accelerated weathering in the vertical position. In conducting fire resistance tests on these specimens, three specimens shall be subjected to the flame at the end which was at the top of the exposed material, and two shall be subjected to the flame at the end which was at the bottom of the specimen. The lower edges of the fire resistance test specimens shall be trimmed, if necessary, so that a freshly cut end is exposed to the test flame.

MIL-C-44103B

4.5.5 Initial flexibility test. The flexibility test shall be in accordance with Method 5202 of FED-STD-191 except that eight specimens, four with the long dimension in the warp direction and four in the filling direction, shall be cut from the sample unit and pressed between two glass plates having dimensions of approximately 8 inches by 8 inches by 1/8 inch. A 20-pound weight shall be placed on the top plate for 4 hours at Standard Conditions prior to determining the flexibility. The load scale reading shall be taken only at a 20-degree angular deflection for each specimen.

4.5.6 Flexibility at low temperature test. Flexibility test specimens shall be cut and conditioned as specified in 4.5.5. The weight and upper glass plate shall then be removed. The lower plate holding the conditioned and pressed specimens and the instrument shall then be subjected to a temperature of minus $20^{\circ} + 5^{\circ}\text{F}$ for not less than 1 hour and then tested at that temperature, as specified in Method 5202 of FED-STD-191. The load scale reading shall be taken only at a 20-degree angular deflection for each sample.

4.5.7 Flexibility after heat aging test. A piece of the material to be tested shall be cut from the sample measuring 8 inches by 8 inches. The sample shall be hung vertically in a well ventilated oven at a temperature of $200^{\circ} + 5^{\circ}\text{F}$ for 120 hours. The sample shall not be laid flat in the oven. The sample shall be removed from the oven and placed between glass plates with the dimensions stipulated in 4.5.5. A 20-pound weight shall be placed on the top plate for 4 hours at Standard Conditions. The sample shall then be removed from the glass plates and specimens shall be cut as specified in 4.5.5. Flexibility shall then be determined as specified in Method 5202 of FED-STD-191. The load scale reading shall be taken only at a 20-degree angular deflection for each sample.

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 PPP-P-1135.

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 PPP-P-1135.

5.3 Marking. In addition to any special marking required in the contract or purchase order, shipments shall be marked in accordance with the requirements of PPP-P-1135.

MIL-C-44103B

6. NOTES

6.1 Intended use. Polyester duck, treated for fire, water, and weather resistance, is intended for use in manufacture of tents and tent flys.

6.2 Ordering data. Acquisition documents should specify the following:

- a. Title, number and date of this document.
- b. When first article is required (see 3.2, 4.3, and 6.4).
- c. Width of cloth required (see 3.5).
- d. Color required (see 3.6).
- e. Length, if other than specified (see 3.10).
- f. Selection of applicable levels of put-up, preservation, and packing (see 5.1 and 5.2).
- g. Type of marking required (see 5.3).

6.3 Standard sample. For access to standard sample, address the contracting activity issuing the invitation for bids.

6.4 First article. When a first article is required, it shall be inspected and approved under the appropriate provisions of FAR 52.209. 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 all acquisition instruments regarding arrangements for selection, inspection, and approval of the first article.

6.5 Formula approval. Approval of formulations is the responsibility of the U.S. Army Natick Research, Development, and Engineering Center, Natick, MA 01760-5014 and is based on extensive tests including those for toxicity which are not set forth in this document. Because of the time required to evaluate and approve new treatments (approximately 6 months), only those chemical treatments already approved will be considered acceptable for the related procurement. Information pertaining to approval of new treatments should be obtained from the U.S. Army Natick Research, Development, and Engineering Center. The list of approved treatments may be obtained from the contracting activity.

6.6 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 Bureau of Standards or the instrument manufacturers.

6.7 Spectrophotometers. Suitable spectrophotometers for measuring spectral reflectance in the visible/near infrared are the Diano Hardy, Diano Match Scan, Hunter D54P-IR, and Macbeth 1500 with IR option.

MIL-C-44103B

6.8 Subject term (key word) listing.

Cloth
Coated
Duck
Uncoated

6.9 Changes from previous issues. Asterisks 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 No. 8305-0207

Review activities:

Army - MD
Navy - MC
Air Force 82
DLA - CT

User activity:

Navy - YD

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NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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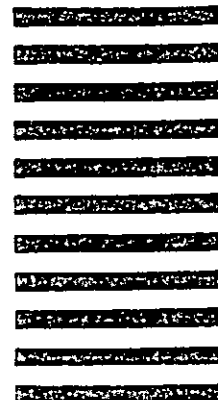
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STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER MIL-C-44103B		2. DOCUMENT TITLE Cloth, Duck, Polyester, Fire, Water and Weather Resistant	
3a. NAME OF SUBMITTING ORGANIZATION		4. TYPE OF ORGANIZATION (Mark one)	
b. ADDRESS (Street, City, State, ZIP Code)		<input type="checkbox"/> VENDOR	
		<input type="checkbox"/> USER	
		<input type="checkbox"/> MANUFACTURER	
		<input type="checkbox"/> OTHER (Specify): _____	
5. PROBLEM AREAS			
a. Paragraph Number and Wording:			
b. Recommended Wording:			
c. Reason/Rationale for Recommendation:			
6. REMARKS			
7a. NAME OF SUBMITTER (Last, First, MI) - Optional		b. WORK TELEPHONE NUMBER (Include Area Code) - Optional	
c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional		8. DATE OF SUBMISSION (YYMMDD)	