

INCH-POUND

A-A-55224

October 8, 1996

COMMERCIAL ITEM DESCRIPTION

CLOTH, TROPICAL: POLYESTER AND WOOL

The General Services Administration has authorized the use of this Commercial Item Description in preference to MIL-C-24910 and MIL-C-29404 for all Federal agencies.

1. Scope. This Commercial Item Description covers two types of washable polyester and wool tropical cloth. The cloth is intended for use in the manufacture of Navy and Marine Corps men's and women's uniform clothing.

2. Classification. The wool cloth shall be in the following types:

Type I - Top Dye 75/25 Polyester/Wool Shade Khaki 2122

Type II - Top Dye 75/25 Polyester/Wool Shade Blue 3346

3. Salient Characteristics.

3.1 Description. The weave for both types of cloth shall be plain. Unless otherwise specified, the finished cloth shall be a minimum of 60 inches exclusive of selvages or exclusive of tuck-in when woven on shuttleless looms. The cloth shall be scoured, heat set, sheared and decated so as to provide a finish equal to that of the standard sample for the applicable type being procured.

3.2 Materials.

3.2.1 Wool. The wool stock shall be fleece or pulled wool or both, not lower in grade than 64's U.S. standard, when tested as specified in Table II. The wool fiber shall be 3 to 3-1/2 inches in length and, when blended with the appropriate polyester, shall be spun on the worsted spinning system. The use of recycled material, noils, laps or any other wool manufacturing by-products is prohibited.

3.2.2 Polyester. The stock shall be semidull polyester fiber made from polyethylene glycol terephthalate, either homopolymer or modified polymer as appropriate. The fiber shall be three denier and the minimum average fiber length shall be three inches when tested in accordance with the following:

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Defense Personnel Support Center, Clothing and Textiles Directorate, Attn: DPSC-FNS, 2800 South 20th Street, Philadelphia, PA 19145-5099.
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AMSC N/A

FSC 8305

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A-A-55224

Table I Component tests.

Characteristics	Test method
Polyester identification	1/
Length of fiber	Visual 1/
Denier	4021 1/

1/ A certificate of compliance shall be submitted and will be acceptable for the stated requirement.

3.2.3 Polyester/Wool yarn. The polyester and wool fibers shall be blended and spun on the worsted system for both warp and filling yarns. The yarns shall be singles for type I and 2 ply for type II, in both warp and filling. The finished cloth shall contain 75% \pm 2% polyester and 25 \pm 2% wool, based on the weight obtained from chloroform extraction, when tested as specified in Table II.

3.3 Color. The color of the finished cloth shall be Khaki 2122 for Type I and Blue 3346 for Type II and shall match the standard sample. The Type I and Type II color shall be produced by top dyeing. The color of the selvages shall approximate the shade of the body cloth. The color 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) Kelvin, 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) Kelvin.

3.3.1 Colorfastness. The finished cloth shall show colorfastness to laundering, wet dry-cleaning, perspiration, light and crocking equal to or better than the standard sample. When no standard sample is available, the finished cloth shall show "good" colorfastness to laundering, wet dry-cleaning, perspiration, crocking and light when tested as specified in Table II.

3.4 Physical requirements. The finished cloth shall conform to the requirements listed in Table II.

Table II Physical requirements

Characteristic	Requirement		Test Method
Fiber content			
Polyester	75% \pm 2%		2102
Wool	25% \pm 2%		2102
Weight (Ounces/Linear yd) 1/			
Type	Min.	Max.	ASTM-D-3776 Method C (small swatch of fabric method)
I	6.3	6.8	
II	9.5	10.5	
Yarn ply			
Type	Singles		Visual 2/
I (warp and filling)	2-ply		Visual 2/
II (warp and filling)	1X1 Plain		Visual 2/
Weave			
Yarns per inch	Minimum		
Type	Warp	Filling	
I	65	59	ASTM-D-3775
II	50	44	ASTM-D-3775
Breaking strength lbs.	Minimum		
Types	Warp	Filling	
I & II	100	80	ASTM-D-5034

A-A-55224

Table II Physical requirements (cont'd.)

Characteristic	Requirement		Test Method
Tearing strength lbs. Type II only	Minimum Warp 4.0	Filling 4.0	ASTM-D-1424
Dimensional stability (percent) Type I II	Minimum Warp 2.5 3.0	Filling 2.5 2.5	AATCC-135 AATCC-135
Pilling			5320 <u>3/</u>
pH Type I & II	5.5-8.5		2811
Selvage thickness	No thicker than 65% more than body of cloth		5030
Mothproofing (Type II only)			As tested in MIL-C-43665
Colorfastness to: (Types I & II) Light Wet- dry cleaning Perspiration Crocking Dry Wet Laundering (3 cycles)	Good (40 SFH) 4.0 4.0 (acid test only) Not lower than 3.0 Not lower than 2.5 4.0		5660 <u>4/</u> AATCC 132 AATCC 15 AATCC-8 AATCC-8 AATCC 61-2A <u>5/</u>

1/ Based on 56 inch width.

2/ One determination per sample unit and the results reported as "pass" or "fail".

3/ The pilling test shall be conducted in accordance with method 5320, except that 5 specimens of the test cloth and one specimen of the standard sample shall be used concurrently.

4/ The calibration of the fadeometer and the definition of AATCC Fading Units shall be according to AATCC Test Method 16. Using the formula below, 16 to 22 AFU's are acceptable as 20 SFH's.

$$\text{AATCC Fading Units} = \frac{(\Delta E^*)}{1.7} (20)$$

Where E^* is the color difference in CIELAB* units of color difference.

5/ The laundering cycle shall be 30 minutes and the temperature of the container and its contents shall be maintained at $100 \pm 4^\circ\text{F}$ ($38 \pm 2^\circ\text{C}$). Only the stain on the wool fibers of the color transfer cloth shall be evaluated.

3.5 Wool content label. The cloth shall be labeled in accordance with the Wool Products Labeling Act of 1939.

3.6 Marking. The back of the cloth shall be marked "BACK" at both ends of each roll with the letters not less than 1/2 inch (1.3 cm) in height. The marking shall be clearly legible in any indelible marking medium used commercially and shall not show through the face of the cloth.

3.7 Put up. The cloth shall be furnished in continuous lengths, each not less than 50 yards. The cloth shall be put up in accordance with the provisions of PPP-P-1132.

A-A-55224

3.8 Workmanship. The finished cloth shall conform to the quality established by this document. The demerit points per 100 square yards (86.3 Sq.m) shall not exceed the established maximum point value. Each defect shall be marked with a 1 to 1-1/2 inch (2.5 to 3.8 cm) long string. The string shall be sewn into the selvage near the defect. A red string shall represent a three or four point defect and a white string shall represent a one or two point defect.

4. Regulatory Requirements. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. QUALITY ASSURANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description; conforms to the producer's own drawings, specifications, standards, and quality assurance practices; and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Wool grade. The wool shall be visually examined for grade in the undyed top form by comparison with the applicable US standard. In the event of a dispute, the wool grade shall be determined by the width method (wedge). The sample unit shall be 1 yard (0.91m) of undyed top. The sample size (number of sample units) shall be as shown below. The lot size shall be expressed in units of one pound (454 kg). The results from each sample unit shall be reported separately. The lot shall be unacceptable if a single sample unit fails to meet the required grade.

5.3 Market acceptance criteria. The item offered, or a generic equivalent, must have been sold to the commercial market or to the Government for at least two years.

5.4 Warranty. The item offered shall include the standard warranty given to the commercial market beginning with the date of delivery of the individual items.

5.5 Visual examination. The cloth shall be examined for the defects listed below:

Defects. Any hole, cut, or tear; broken or missing yarn; smash; float, mispick, harness skip, or other misweave; hitchback, stripback; open or thin place, crack (warp or filling); knot or slub; loose, slack, or tight yarns; reed mark, wrong draw; abrasion mark, bruise, tender or weak spot; embedded crease or wrinkle; selvage cut, torn, folded, rolled, slack, or tight; filling bar, coarse filling, or mixed filling; spot, stain, streak, or dirty yarn; foreign matter; shade not as specified; finish not equal to or better than standard; offshade or uneven shading throughout piece; mottled, cloudy, streaky, or barre; overall uncleanness or soiled; baggy, ridgy, wavy, or unevenly woven; width not within established tolerances; net length less than indicated on the ticket; fiber identification marking omitted; bar code omitted or not readable by scanner; human-readable interpretation (HRI) omitted or illegible; bar code not visible on roll; bar code causes damage to the item; any items not packaged in accordance with the contract or purchase order. Each defect shall be marked with a 1-1/2 inch long string; the string shall be inserted into the selvage opposite the defect.

5.6 Tests. The physical and chemical values specified in Table II apply to the results of the determinations made on a sample unit for test purposes as specified in the applicable test methods. The sample unit shall be 3-1/2 continuous yards full width of the finished cloth. The

A-A-55224

lot shall be unacceptable if one or more sample units fail to meet any test requirements specified. The lot size shall be expressed in units of one yard (0.91 m) each. All test reports shall contain the individual values utilized in expressing the final result. The sample size (number of sample units) shall be in accordance with the following:

<u>Lot size-yards- (meters)</u>	<u>Sample size</u>
800 (728) or less	2
801 (729) up to and including 22,000 (20,020)	3
22,001 (20,021) and over	5

5.7 Limits of slubs and knots. Only those slubs and knots which exceed the limits shown on the Sears Fabric Defect Scale, D or 3-1/2 as applicable for slubs and C for knots shall be scored.

5.8 Examination for shade match and finish, individual rolls. Each roll in the lot shall be examined visually for shade match and finish. A roll shall be unacceptable if it fails to meet the requirements for shade match or finish. The sample unit shall be a 4 inch by 20 inch (10.2cm x50.8cm) swatch of the cloth. A sample unit shall be drawn from each roll in the lot.

5.9 Examination for defect marking (stringing of defects). The examination for defect marking shall be as specified in MIL-STD-655.

5.10 Yard-by-yard examination. The yard-by-yard examination shall be as specified in MIL-STD-655. 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. The fabric quality shall be as follows:

	<u>Quality Level</u>	<u>Entire Sample</u>	<u>Individual Rolls</u>
Type I	13	13	22 (2 or more ind. rolls)
Type II	10	10	15

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

5.12 Roll 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 of the defects are present in the sample:

Back stamp missing, incorrect or illegible from either or both ends, or bleed through occurring.
 Back stamping on the wrong side.
 Letters less than 1/2 inch in height.
 Not labeled or ticketed in accordance with the Rules and Regulations under the Wool Products Labeling Act.

5.13 Acceptance criteria. Acceptance criteria shall be as specified in the contract or purchase order.

A-A-55224

6. PACKAGING

6.1 Preservation, packing, and marking. The preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES

7.1 Source of Government documents. Copies of military and Federal documents are available from:

Standardization Documents Order Desk
Bldg. 4D
700 Robbins Avenue
Philadelphia, PA 19111-5094

7.2 Source of Non-Government documents

ASTM Test Methods

(Applications for copies should be addressed to American Society For Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19426-2959.)

AATCC Test Methods

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

U.S. DEPARTMENT OF AGRICULTURE; METHODS OF TEST FOR GRADES OF WOOL
TOP

(Applications for copies should be addressed to the U.S. Department of Agriculture, Agricultural Marketing Service, Washington, DC 20250-0001.)

RULES AND REGULATIONS UNDER THE WOOL PRODUCTS LABELING ACT

(Applications for copies should be addressed to the Federal Trade Commission, Washington, DC 20580-0001.)

Sears Fabric Defect Scales are available from Sears, Roebuck and Company, Department 817 (Attn: BSC 23-29), "Sears Defect Replica Kit", Sears Tower, Chicago, IL 60684.

MILITARY INTERESTS:

Custodian:
Navy - NU

Civil Agency Coordinating Activity:
GSA - FSS

Preparing Activity:
DLA - CT

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