

INCH-POUND

A-A-55224A

September 23, 2002

SUPERSEDING

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, 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

Beneficial comments, recommendations, additions, deletions, clarification, etc. and any date that may improve this document should be sent to: Defense Supply Center Philadelphia, Clothing and Textiles Directorate, ATTN: DSCP-CRDD, 700 Robbins Avenue, Bldg. 6D, Philadelphia, PA 19111-5092.

A-A-55224A

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 a semi-dull, environmentally acceptable polyester fiber, 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:

TABLE I. Component tests.

Characteristics	Test Method
Wool:	
Identification	AATCC 20
Length of fiber	ASTM-D-519 or ASTM-D-1575
Polyester:	
Identification	AATCC 20
Length of fiber	ASTM-D-5103
Denier	ASTM-D-1059

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 percent \pm 2 percent polyester and 25 percent \pm 2 percent wool 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, drycleaning, perspiration, light, and crocking equal to or better than the standard sample. When no standard sample is available, the finished cloth shall show colorfastness to laundering, dry-cleaning, perspiration, light and crocking according to the requirements specified in Table II.

A-A-55224A

3.4 Material finishing. The cloth shall be scoured, heat set, sheared, and decated so as to provide a finish equal to that of the standard sample.

3.5 Physical requirements. The finished cloth shall conform to the requirements specified in Table II.

TABLE II. Physical requirements.

Characteristic	Requirement	Test Method
Fiber content		
Polyester	75 percent \pm 2 percent	AATCC 20A
Wool	25 percent \pm 2 percent	AATCC 20A
Width	60 inches excluding selvages	Visual
Weight (Ounces/linear yd) <u>1/</u>		
Type I	6.3 (min.) – 6.8 (max.)	ASTM-D-3776, Method C
Type II	9.5 (min.) – 10.5 (max.)	ASTM-D-3776, Method C
Yarn ply		
Type I (warp and filling)	Singles	Visual <u>2/</u>
Type II (warp and filling)	2-ply	Visual <u>2/</u>
Weave	1 X 1 Plain	Visual <u>2/</u>
Yarns per inch (min.)	Warp Filling	
Type I	65 59	ASTM-D-3775
Type II	50 44	ASTM-D-3775
Breaking strength (lb., min.)	Warp Filling	
Types I and II	100 80	ASTM-D-5034
Tearing strength (lb., min.)	Warp Filling	
Type II only	4.0 4.0	ASTM-D-1424
Dimensional stability (percent, min.)	Warp Filling	
Type I	2.5 2.5	AATCC 135V(3)Aiii <u>3/</u>
Type II	3.0 2.5	AATCC 135V(3)Aiii <u>3/</u>
Pilling	No more than standard sample	ASTM-D-3511 <u>4/</u>
pH		
Type I and II	5.5 - 8.5	AATCC 81
Selvage thickness	No thicker than 65 percent more than the body of cloth	ASTM-D-1777
Colorfastness to: (Types I and II)		
Light	4.0 (40 hours of exposure)	AATCC 16, Option A
Dry cleaning	Not less than 4.0	AATCC 132
Perspiration	Not less than 4.0	AATCC 15
Crocking		
Dry	Not lower than 3.0	AATCC 8
Wet	Not lower than 2.5	AATCC 8
Laundering (3 cycles)	Not less than 4.0	AATCC 61, TM 1A <u>5/</u>

A-A-55224A

- 1/ Based on 56-inch width.
- 2/ One determination per sample unit and the results reported as “pass” or “fail”.
- 3/ The measurement shall be taken after 5 cycles.
- 4/ The pilling test shall be conducted in accordance with ASTM-D-3511, except that 5 specimens of the test cloth and one specimen of the standard sample shall be used concurrently.
- 5/ The laundering cycle shall be 30 minutes and the temperature of the container and its contents shall be maintained at 100 ± 4 °F (38 ± 2 °C). Only the stain on the wool fibers of the color transfer cloth shall be evaluated.

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

3.7 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.

3.8 Put up. The cloth shall be furnished in continuous lengths, each not less than 50 yards. .

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. PRODUCT CONFORMANCE PROVISIONS

5.1 Product conformance. The product provided shall meet the salient characteristics of this commercial item description conform to the producer’s own specifications, standards, and quality assurance practices; and is a similar product that is 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 (0.91 m) 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 grams). 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.

A-A-55224A

5.4 Visual examination. The finished cloth shall conform to the quality established by this document. The demerit points per 100 square yards (83.6 sq. m.) shall not exceed to 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

5.4.1 Defects. The cloth shall be examined for the defects listed below:

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 the roll; bar code causes damage to the item; any items not packaged in accordance with contract or purchase order.

5.5 Tests. The physical and chemical values specified in Table II apply to the results of the determination 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 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 (731) or less	2
801 (732) up to and including 22,000 (20,115)	3
22,001 (20,116) and over	5

5.6 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.

5.7 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 (10.2 cm x 50.8 cm) swatch of the cloth. A sample unit shall be drawn from each roll in the lot.

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

A-A-55224A

5.9 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 individual rolls)
Type II	10	10	15

5.10 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.

5.11 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, or illegible from either or both ends; or bleed through occurring.
 Back stamping on the wrong side.
 Letters not less than ½ inch in height.
 Not labeled or ticketed in accordance with the Rules and Regulations under the Wool Products Labeling Act.

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

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:

Defense Automated Printing Service
 Bldg. 4D
 700 Robbins Avenue
 Philadelphia, PA 19111-5094

A-A-55224A

7.2 Source of Non-Government documents

- ASTM-D-519 - Length of Fiber in Wool Top
- ASTM-D-1059 - Yarn Number Based on Short Length Specimen
- ASTM-D-1424 - Tearing Strength of Woven Fabrics by Falling Pendulum
Type (Elmendorf) Apparatus
- ASTM-D-1575 - Fiber Length of Wool in Scoured Wool and in Silver Card
- ASTM-D-1777 - Thickness of Textile Materials
- ASTM-D-3775 - Fabric Count of Woven Fabric
- ASTM-D-3776 - Mass Per Unit Area (Weight) of Fabric
- ASTM-D-5034 - Breaking Force and Elongation of Textile Fabrics (Grab
Test), G-E or G-T
- ASTM-D-5103 - Length and Length Distribution of Man-Made Staple Fibers
(Single Fiber Test)

(Applications for copies should be addressed to ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

- AATCC 8 - Colorfastness to Crocking: AATCC Crockmeter Method
- AATCC 15 - Colorfastness to Perspiration
- AATCC 20 - Fiber Analysis; Qualitative
- AATCC 16 - Colorfastness to Light
- AATCC 81 - pH of the Water-Extract from Bleached Textiles
- AATCC 135 - Dimensional Stability

(Applications for copies should be addressed to American Association of Textile Chemists and Colorists (AATCC), P.O. Box 12215, Research 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 Information Office, Room 3510-S, P.O. Box 96456, 600 Pennsylvania Avenue, NW, Washington, DC 20090-6456.

RULES AND REGULATIONS UNDER THE WOOL PRODUCTS LABELING ACT

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

7.3 Scales. 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.)

A-A-55224A

MILITARY INTERESTS:

Custodian:

Navy - NU

Civil Agency Coordinating Activity:

GSA - FSS

Preparing Activity:

DLA – CT

(Project No. 8305-0809)