

MIL-C-17566E
31 May 1988

SUPERSEDING
MIL-C-17566D
4 October 1976

MILITARY SPECIFICATION

CLOTH, BILLIARD

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

1. SCOPE

1.1 Scope. This specification covers the requirements for a wool and nylon blend billiard cloth.

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 issues 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.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Officer in Charge, Navy Clothing and Textile Research Facility, 21 Strathmore Road, Natick, MA 01760-2490 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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SPECIFICATIONS

FEDERAL

PPP-P-1132 - Packaging and Packing of Woolen, Worsted and Wool Blend (Synthetic Fiber; Cotton) Fabrics

MILITARY

MIL-C-43665 - Cloth, Wool: Mothproofing Treatment of

STANDARDS

FEDERAL

FED-STD-191 - Textile Test Methods

MILITARY

MIL-STD-655 - Provisions for Evaluating Quality of Cloth, Wool, and Wool Blends

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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.

LAWS AND REGULATIONS

Rules and Regulations Under the Wool Products Labeling Act of 1939

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

2.2 Other publications. The following document(s) 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 issue of the nongovernment documents which is current on the date of the solicitation.

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TECHNICAL MANUAL OF THE AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS

Method No. 8 - 1985 Colorfastness to Crocking: AATCC Crockmeter Method

(Copies may obtained from AATCC National Headquarters, P.O. Box 12215, Research Triangle Park, NC 27709.)

U.S. DEPARTMENT OF AGRICULTURE

Methods of Test for Grade of Wool

(Application for copies should be addressed to the U.S. Department of Agriculture, Agriculture Marketing Service, Washington, DC 20402).

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 and shall be equal to or better than the standard sample with respect to all characteristics for which the standard sample is referenced (see 6.3). The standard sample is identified under piece number 88014.

3.2 First article. When specified, the contractor shall furnish sample unit(s) for first article inspection and approval (see 4.3 and 6.2).

3.3 Material.

3.3.1 Fiber.

3.3.1.1 Wool. The wool stock shall be of fleece or pulled wool, or a combination of both, not lower in grade than 56's U.S. Standard, when tested as specified in 4.4.1.1. The use of noils, laps or any other wool manufacturing by-products is prohibited.

3.3.1.2 Nylon. The nylon fiber shall be 3 denier, 2 inch staple, when tested as specified in 4.5.

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3.3.2 Yarn. The yarn shall be carded and spun on the woolen system and spun into singles for both the warp and the filling yarn, when tested as specified in 4.5.

NOTE: Selvage yarn may be of a finer count than those used in the body of the cloth to prevent edges of the cloth from building up when rolled.
The selvage yarn shall contain the same fibers as those used in the body of the cloth.

3.3.3 Fiber content. The finished cloth shall contain a minimum of 74 percent wool, with the remaining percentage nylon, when tested as specified in 4.5.

3.4 Color. The color of the finished cloth shall be Blue 3384 and shall match the standard sample. The color shall be obtained by stock or piece dyeing.

3.4.1 Matching. 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 ± 200 K, with illumination of 100 ± 20 foot candles, and shall be a good match to the standard sample under incandescent lamplight at 2300 ± 200 K. (See 4.4.3.4.1).

3.4.2 Colorfastness. The finished cloth shall show colorfastness to wet dry cleaning and crocking equal to or better than the standard sample when tested as specified in 4.5. As a limit of acceptability when no standard sample is available or when the standard sample is not referenced for colorfastness the finished cloth shall show a minimum of "good" fastness to wet dry cleaning, and shall show a crocking rating of 5.0 dry and 4.0 wet when tested.

3.5 Finish. The fabric shall be mothproofed, and have a finish and hand equal to or better than the standard sample when tested as specified in 4.4.3.4.1). The fabric shall be thoroughly scoured, properly fullered, free from vegetable matter (carbonized if necessary) and face evenly sheared.

3.5.1 Mothproofing. The cloth shall be given a mothproofing treatment in accordance with MIL-C-43665, when tested as specified in 4.5.

3.6 Physical requirements. The finished cloth shall conform to the requirements specified in Table I when tested as specified in 4.5.

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Table I. Physical requirements

Characteristics	Maximum	Minimum
Weight, oz (kg) per linear yard (based on 56 inches)	-	15 (0.42)
Yarns per inch (2.54 cm)		
warp	-	47 (18.5)
filling	-	40 (15.7)
Breaking strength, lbs (N)		
warp	-	86 (382.7)
filling	-	78 (347.1)

3.7 Weave. The weave shall be 2 up, 1 down, left hand twill, when tested as specified in 4.5.

3.8 Width. The width of the finished cloth shall be as specified (see 6.2) and shall be the minimum acceptable width, exclusive of selvages.

3.9 pH. The pH value of the water extract of the finished cloth shall be no less than 4.0 nor more than 8.5 when tested as specified in 4.5.

3.10 Length and put-up. Unless otherwise specified (see 6.2), the finished cloth shall be furnished in continuous lengths each not less than 50 yards (45.7 m). Each length shall be put-up on full width rolls face side inward as specified in PPP-P-1132.

3.11 Wool content label. Each piece shall be labeled, or ticketed for wool content in accordance with the Wool Products Labeling Act of 1939.

3.12 Back identification. The back side of the cloth shall be identified by stamping on that side with the word "Back" at each end of the roll.

3.13 Workmanship. The finished cloth shall conform to the quality established by this document. The demerit points per 100 square yards (83.61 m²) when calculated as specified in Section 4, shall not exceed the established maximum point value. Each defect shall be marked with a 1 to 1-1/2 inch (2.54 to 3.81 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 (see 4.4.3.5).

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4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract or order, the contractor may use his own or any other facilities suitable for 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 specification 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 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 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 Certificate of compliance. Where 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 inspection. The inspection requirements specified herein are classified as follows:

1. First article inspection (see 4.3).
2. Quality conformance inspection (see 4.4).

4.3 First article inspection. When required (see 3.2 and 6.2), the first article shall be visually examined for appearance, color and finish, and shall be tested for physical and chemical properties in accordance with methods specified in 4.5.

4.4 Quality conformance inspection. Sampling for inspection shall be performed in accordance with MIL-STD-655, except where otherwise indicated.

4.4.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be tested in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified, or qualified in this specification or applicable procurement documents.

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4.4.1.1 Wool. The wool shall be visually examined for grade in scoured form, prior to dyeing, picking, or carding by comparison with the applicable U.S. Standard (see 2.2). The examination for grade shall be performed on a composite sample of 1 pound (0.45 Kg) of scoured wool for each 10,000 pounds (4500 Kg) or fraction thereof in the lot. The composite sample shall be selected from not less than 10 percent of the bags/bales in the lot. In the event of a dispute resulting from the above comparisons, the grade shall be determined by the width method (wedge). The lot shall be unacceptable if one or more composite sample fails to meet the requirements of 3.3.1. Each lot shall consist of one grade of wool only.

4.4.2 In-process inspection. Inspection shall be made at any point or during any phase of the manufacturing process to assure that no laps, noils, or any other wool manufacturing by-products are used (see 3.3.1.1). The Government reserves the right to exclude from consideration for acceptance any material for which the in-process inspection has indicated non-conformance.

4.4.3 Examination of the end item. Examination of the end item shall be in accordance with 4.4.3.1 through 4.4.3.5.

4.4.3.1 Yard-by-yard examination. The yard by yard examination shall be as specified in MIL-STD-655. The fabric quality shall be quality level 15.

4.4.3.1.1 Limit for slubs and knots. Only those knots and slubs which exceed the limits shown on Sears Fabric Defect Scales (see 6.4), F for slubs or 2 as applicable, and E for knots, shall be scored.

4.4.3.2 Examination for length. Examination for length shall be as specified in MIL-STD-655.

4.4.3.3 Examination for back marking and compliance with the Wool products Labeling Act. Examination for backing marking and compliance with the Wool Products Labeling Act shall be as specified in MIL-STD-655.

4.4.3.4 Examination for shade and finish.

4.4.3.4.1 Individual rolls. Each roll in the lot shall be examined visually for shade match (see 3.4.1) and finish (see 3.5). A roll shall be unacceptable if it fails to meet the requirements for shade match and finish. The sample unit shall be a 4 inch by 20 inch swatch of the cloth. A sample unit shall be drawn from each roll in the lot.

4.4.3.5 Examination for defect marking. Examination for defect marking shall be as specified in MIL-STD-655.

4.4.4 Examination of packaging requirements. Examination shall be made in accordance with the provisions of PPP-P-1132 to determine that put-up and preservation, packing, and marking comply with section 5 requirements.

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4.5 Tests. The methods of testing specified in FED-STD-191, wherever applicable, and as listed in Table III 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 the applicable test methods. The sample unit shall be 2 continuous yards full width of the finished cloth. The lot size shall be expressed in units of 1 yard (.9m) each. The lot shall be unacceptable if one or more sample units fail to meet any test requirement specified. 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:

TABLE II. Sample size

Lot size (yards)	Sample size
800 or less	2
801 up to and including 22,000	3
22,001 and over	5

TABLE III. Test methods

Characteristic	Requirement paragraph	Test method
Wool grade	3.3.1.1	4.4.1.1
Nylon identification denier, staple	3.3.1.2	<u>1</u> /
Fiber content	3.3.3	2101
Colorfastness to:		
Wet dry cleaning	3.4.2	5621
Crocking	3.4.2	AATCC-TM-8-1985
Mothproofing	3.5.1	<u>2</u> /
Weight	3.6	5041
Yarns per inch	3.6	5050
Breaking strength	3.6	5100
Weave	3.7	Visual <u>3</u> /
pH	3.9	2 8 1 1

1/ A certificate of compliance shall be submitted and shall be acceptable for this requirement.

2/As specified in MIL-C-43665.

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

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5. PACKAGING

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

5.1.1 Level A and Commercial. The cloth shall be put-up and preserved in accordance with the applicable requirements of PPP-P-1132.

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

5.2.1 Level A, B and Commercial. The cloth shall be packed in accordance with the applicable requirements of PPP-P-1132.

5.3 Marking. In addition to any special marking required by the contract, shipments shall be marked in accordance with PPP-P-1132.

6. NOTES

6.1 Intended use. The cloth covered by this specification is intended for use as table covers.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. When a first article is required (see 3.2 and 4.3). The item will be tested and should be a first article sample. The contracting officer should include specific instruction in acquisition documents regarding arrangements for examinations, quantity, testing and approval of the first article.
- c. Width required if other than specified (see 3.8).
- d. Length required if other than specified (see 3.10).
- e. Levels of put-up, preservation, and packing required (see 5.1 and 5.2).

6.3 Standard sample. For access to standard sample, address the procuring activity issuing the invitation for bids (see 3.1).

6.4 Sears Fabric Defect scales are available from Sears Roebuck and Company, Department 87, (Attn: BSC 23-29), "Fabric Defect Replica Kit," Chicago, IL 60684 (see 4.4.3.1.1).

6.5 Subject term (key word) listing:

- a. Fabric, billiard
- b. Fiber, wool/nylon blend
- c. Finish, moth proof
- d. Table, cover

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Custodian:

Navy - NU

Air Force - 99

Review Activity:

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Preparing Activity:

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Project No. 8305-0085

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