

MIL-C-43352D
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SUPERSEDING
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MILITARY SPECIFICATION

CLOTH, NETTING, NYLON, TULLE TRICOT

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

1. SCOPE

1.1 Scope. This document covers nylon tulle netting cloth.

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

Class 1 - Untreated, OG-106

Class 2 - Resin treated, Dark Green 323

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: 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

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SPECIFICATION

FEDERAL

PPP-P-1133 - Packaging of Synthetic Fiber Fabrics

STANDARDS

FEDERAL

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 solicitation.

* FEDERAL TRADE COMMISSION

Rules and Regulations Under the Textile Fiber Products Identification Act

(Copies may be obtained from the Federal Trade Commission, Pennsylvania Avenue at Sixth Street, N.W., Washington, DC 20580.)

* (Copies of drawings, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

* 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 solicitation.

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* AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

Chromatic Transference Scale

(Copies may be obtained from the American Association of Textile Chemists and Colorists, PO Box 12215, Research Triangle Park, NC 27709.)

- * (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 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 6.3).
- * 3.2 Standard sample. The 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. Materials shall be as specified herein (see 6.6).
- 3.3.1 Yarn. The yarn used in the manufacture of the cloth shall be monofilament, semi-dull, nylon.
- 3.4 Color. For class 1, the color of the finished cloth shall be Olive Green 106 to match the standard sample (see 6.4). For class 2, the color of the treated and finished cloth shall be Dark Green 323 to match the standard sample (see 6.4).
- * 3.4.1 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 ± 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.

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* 3.4.2 Colorfastness. The finished cloth shall show colorfastness to laundering, bleaching, and perspiration equal to or better than the standard sample or equal to or better than a rating of "good". The finished cloth shall show fastness to crocking equal to or better than the standard sample or shall have an AATCC Chromatic Transference Scale rating of 3.5. Testing shall be as specified in 4.4.3.

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

TABLE I. Physical requirements

Characteristic	Class 1		Class 2	
	(min)	(max)	(min)	(max)
Weight per square yard, ounces	0.4	0.6	0.3	0.7
Mesh repeats per inch:				
Width	19	21	19	21
Length	27	29	27	29
* Bursting strength, pounds	19	--	14	--

* 3.5.1 Knit. The cloth shall be a tricot or raschel knit fabric (see 6.5).

3.5.2 Width. The width of the cloth shall be as specified (see 6.2) and shall be the minimum acceptable width inclusive of selvages.

3.6 Finish. The class 1 cloth shall be scoured. The class 2 cloth shall be given a permanent resin finish and the character of the finished cloth shall be equal to that of the standard sample.

3.6.1 Heat treating. The cloth shall be appropriately framed and heat set so that the proper number of meshes per inch specified is maintained.

3.7 Length and put-up. Unless otherwise specified (see 6.2), the cloth shall be furnished in continuous lengths, each not less than 50 yards. The cloth shall be put up on full width rolls as specified in 5.1.1. No more than three pieces per roll shall be permitted.

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

* 3.9 Workmanship. The dyed and finished cloth shall conform to the quality of product established by this specification and the occurrence of defects shall not exceed the applicable acceptable quality levels.

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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 this 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 requirements 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 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 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 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 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 document or applicable purchase document.

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4.4.2 End item visual examination.

- * 4.4.2.1 Yard-by-yard examination. The required yardage of each roll shall be examined for defects listed below. All defects clearly noticeable at normal inspection distance (3 feet) shall be counted regardless of their proximity to each other, except where two or more defects represent a single local condition of the cloth, in which case only one defect shall be counted. A continuous defect shall be counted as one defect for each warpwise yard or fraction thereof in which it occurs. The lot size shall be expressed in units of 1 yard. The sample unit shall be 1 linear yard. The inspection level shall be II and the acceptable quality level, (AQL), expressed in terms of defects per hundred units shall be 2.5. The number of rolls from which the yardage is to be selected shall be in accordance with table II. The sample yardage shall be apportioned equally among the selected rolls.

Defects

Any cut, hole, tear, break, or mend
 Any thin area, or weak place
 Any loose or floating end
 Any coarse yarn more than three times the
 thickness of normal yarn
 Any broken or missing yarns
 Any edge folded, curled, torn, or broken
 Spot, stain or streak, more than 1 inch
 in combined directions

- * 4.4.2.2 Overall examination. Each roll selected for yard-by-yard examination in accordance with table II shall be examined over its entire length for the defects listed below. Each defect shall be counted not more than once in each roll examined. If the total number of overall defects in the sample rolls exceeds the applicable acceptance number specified in table II, the lot shall be rejected.

Defects

Off Shade
 Class 2 cloth - character of finish not equal to that
 of standard sample
 Overall uncleanness
 Width less than specified
 Objectionable odor, class 2 only

NOTE: Normal residual odor of chemicals commonly used to apply resins for finishing shall not be regarded as objectionable.

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TABLE II. Sample size and acceptance criteria

Lot size (yards)	Sample size (rolls)	Acceptance number <u>2/</u>
Up to 1200 inclusive <u>1/</u>	3	0
1201 up to and including 3200	5	0
3201 up to and including 10,000	8	0
10,001 up to and including 35,000	13	0
35,001 up to and including 150,000	20	1
150,001 and over	32	2

1/ If a lot contains fewer than three rolls, each roll in the lot shall be examined.

2/ Applicable to 4.4.2.2 and 4.4.2.3.

- * 4.4.2.3 Length examination. Each roll used in the yard-by-yard examination shall be examined for the defects listed below. If the total number of these defects in the sample rolls exceeds the applicable acceptance number specified in table II or if the total of the actual gross lengths of rolls in the sample is less than the total of the gross lengths marked on the roll tickets, the lot shall be rejected.

Defects

Any length on roll found to be less than the minimum specified.
 Total length of roll is 2 or more yards less than that marked on ticket.
 Any roll containing more than three pieces.
 Any piece in roll less than 50 yards in length.

- * 4.4.2.4 Shade and appearance examination. During the yard-by-yard examination, each roll in the sample shall be examined for shade and finish appearance. Any roll in the sample off shade or shaded side to side, side to center or end to end, shall be cause for rejection of the entire lot represented by the sample.
- * 4.4.2.5 Roll identification examination. During the yard-by-yard examination, each roll in the sample shall be examined. The lot shall be unacceptable if two or more rolls in the sample are not labeled or ticketed in accordance with the Textile Fiber Products Identification Act.

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4.4.3 End item testing. The cloth shall be tested for the characteristics listed in table III. 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 average of the determinations made on a sample unit for test purposes as specified in the applicable test method. The sample unit shall be 1 continuous yard, full width, of the finished cloth. The lot size shall be expressed in units of 1 linear yard and the sample size (number of sample units) shall be as specified below. The lot shall be unacceptable if any sample unit fails to meet any test requirement specified. All test reports shall contain the individual values used in expressing the final result.

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

TABLE III. End item tests

<u>Characteristic</u>	<u>Requirement paragraph</u>	<u>Test method</u>
Nylon identification	3.3.1	1530 <u>1/</u>
Monofilament	3.3.1	Visual <u>1/</u>
Luster (semi-dull)	3.3.1	<u>1/</u>
Colorfastness to:		
Light	3.4.2	5660
Crocking	3.4.2	5651
Perspiration	3.4.2	5680
Laundering	3.4.2	5614
Weight	3.5	5041
Mesh repeats per inch:		
Width	3.5	Visual <u>2/</u>
Length	3.5	Visual <u>2/</u>
Bursting strength	3.5	5120
Finish	3.6	<u>1/</u>
Heat treatment	3.6.1	<u>1/</u>

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- 1/ A certificate of compliance shall be submitted and will be acceptable for the stated requirements.
- 2/ Five determinations shall be made per sample unit and the average reported to the nearest whole number.
- * 4.4.4 Packaging examination. The examination shall be in accordance with the quality assurance provisions of PPP-P-1133.
- * 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 on rolls and preserved in accordance with the applicable requirements of PPP-P-1133.
- * 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-1133.

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 PPP-P-1133.

6. NOTES

- 6.1 Intended use. This knitted cloth is intended to be used as a component of the medical kit used by military personnel and as a component of the head net.
- 6.2 Ordering data. Acquisition documents should specify the following:
- a. Title, number, and date of this document.
 - b. Class of cloth required (see 1.2).
 - * c. When a first article is required (see 3.1, 4.3 and 6.3).
 - d. Width of cloth required (see 3.5.2).
 - e. Length of roll required, if other than specified (see 3.7).
 - f. Selection of applicable levels of put-up, preservation and packing (see 5.1 and 5.2).

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* 6.3 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.

6.4 Standard sample. For access to standard sample, address the contracting activity issuing the invitation for bid.

6.5 Knitting machine. The following is for information only and is not a mandatory requirement. The knitting machine may be a 2-bar, 28 gauge tricot machine or raschel machine of suitable gauge, provided the resulting cloth possesses the desired characteristics and meets the physical requirements specified.

6.6 Recycled material. It is encouraged that recycled material be used when practical as long as it meets the requirements of the document (see 3.3).

* 6.7 Subject term (key word) listing.

Cloth
Knit
Netting
Nylon

* 6.8 Changes from previous issue. The margins of this document are marked with an asterisk (*) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content, irrespective of the marginal notations and relationship to the last issue.

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Army - GL
Navy - NU
Air Force -- 99

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Army - GL
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Review activities:

Army - MD
* Air Force - 82
DLA - CT

User activities:

Navy - MC
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