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Superseding

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The following commercial specification is adopted from the military documents. Revision A includes all known accepted revisions, amendments, notices, and Department of Defense (DoD) engineering changes previously developed for this item. Revisions B and forward include changes adopted by DoD and Industry to reflect technology and design evolution.

CLOTH, NETTING; NYLON OR POLYESTER

The Parachute Industry Association makes this document available for use by Industry and Government organizations that wish to apply this specification to their products.

1. SCOPE

1.1 Scope. This document covers two types of nylon or polyester netting.

1.2 Type designation. The netting shall be of the following types as specified (see 6.2).

Type I - Woven

Type II - Warp knitted

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in Sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of the documents cited in Sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government publications.

2.2.1 Government publications. The following Government publications form a part of this document (see 2.4).

STANDARDS

FEDERAL

FED-STD-4 - Glossary of Fabric Imperfections

FED-STD-595 - Colors used in Government Procurement

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Documents
Document Sharing Hub

MILITARY

MIL-STD-1491 - Glossary of Knitting Imperfections

(Unless otherwise indicated, copies of the above specifications and standards are available from the Standardization Documents Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. Electronic copies of Military and Federal standards and specifications may be obtained from <https://assist.daps.dla.mil/quicksearch/>.)

FEDERAL TRADE COMMISSION (FTC)

16 CFR 303 - Rules And Regulations Under the Textile Fiber Products Identification Act

(Copies are available online at: www.ftc.gov or from the Federal Trade Commission, 600 Pennsylvania Avenue, N.W., Washington, DC 20580-0001.

2.3 Non-government publications. The following documents form a part of this document (see 2.4).

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

- AATCC 20A - Fiber Analysis: Quantitative
- AATCC 61 - Colorfastness to Laundering: Accelerated
- AATCC 81 - pH of Water-Extract from Wet Processed Textiles
- AATCC 96 - Dimensional Changes in Commercial Laundering of Woven and Knitted Fabrics Except Wool
- AATCC 111 - Weather Resistance of Textiles: Exposure to Daylight and Weather
- AATCC Evaluation Procedures:
 - 8 AATCC 9 - Step Chromatic Transference Scale
 - 9 Visual Assessment of Color Difference Textiles.

(Applications for copies should be addressed to the AATCC National Headquarters, P.O. Box 12215, Research Triangle Park, NC 27709-2215. Electronic copies may be obtained from www.aatcc.org.)

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQ Z1.4 - Sampling Procedures and Tables for Inspection by Attributes

(Copies are available online at: www.asq.org or American Society For Quality, 600 North Plankinton, Milwaukee, WI 53203.)

ASTM INTERNATIONAL (ASTM)

ASTM D 1336 - Standard Test Method for Distortion of Yarns in Woven Fabrics

- ASTM D 1776 - Standard Test Method for Conditioning Textiles for Testing
- ASTM D 3775 - Standard Test Method for Warp (End) and Filling (Pick) Count of Woven Fabrics
- ASTM D 3776 - Standard Test Method for Mass Per Unit Area (Weight) of Fabric
- ASTM D 3951 - Standard Practice for Commercial Packaging
- ASTM D 5034 - Standard Test Method for Breaking Strength and Elongation of Textile Fabrics (Grab Test)

(Application for copies should be addressed to the ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Electronic copies may be obtained from www.astm.org/.)

2.4 Revision levels of subsidiary documents. The documents listed in Section 2 shall be defined as subsidiary documents, other Government publications and non-government publications. Unless otherwise specified by the procuring activity, the revision level of subsidiary documents shall be of the latest revision level as listed in the Acquisition Streaming and Standardization Information (ASSIST) database located at: <https://assist.daps.dla.mil/quicksearch/>.

2.5 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document shall take precedence. Nothing in this document, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 Standard. The finished cloth shall match the standard for shade and appearance and shall be equal to or better than the standard with respect to all characteristics for which the standard is referenced (see 6.2).

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, and environmentally preferable material should be used to the maximum extent possible, provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.3 Basic material. The material shall be nylon or polyester woven or warp knitted mesh.

3.3.1 Nylon. The yarn shall be 70 denier, bright or semi-dull, multi-filament nylon to meet the requirements of this document. Testing shall be as specified in 4.2.4.

3.3.2 Polyester. The yarn shall be 70 denier, bright, or semi-dull, multi-filament polyester to meet the requirements of this document. Testing shall be as specified in 4.2.4.

3.4 Color. The color of the finished cloth shall be as specified by the procuring activity (see 6.2). The use of pigmented resin emulsion finishes to provide color and finish in one operation is permitted. A reference of standard colors is provided in Section 6.2.

3.4.1 Visual shade matching. The color of the dyed fabric shall match the standard when viewed using the AATCC Evaluation Procedure 9, Option A, with sources simulating artificial

daylight D75 illuminate with color temperature of $7500 \pm 200\text{K}$, with illumination of 100 ± 20 foot candles, and shall be a good match to the standard under incandescent lamplight at $2856 \pm 200\text{K}$.

3.4.2 Colorfastness. The dyed cloth shall show fastness to laundering and accelerated weathering equal to or better than the standard or equal to or better than a rating of 3-4 on the AATCC Gray Scale for color change when tested as specified in 4.2.4.

3.5 Physical requirements. The dyed cloth shall conform to the requirements shown in TABLE I when tested as specified in 4.2.4.

TABLE I **Physical requirements.**

Characteristics	Type I	Type II
Weight per sq. yd., ounces (maximum)	1.6	2.3
Yarns per inch:		
Warp	54 min., 56 max.	—
Filling	54 min., 56 max.	—
Breaking strength, pounds (minimum):		
Warp	50	—
Filling	50	—
Length	—	50
Width	—	50
Mesh size, initial (inches) ^{1/} :		
Warp (maximum)	0.035	—
Filling (maximum)	0.035	—
Vertical pillars (maximum)	—	0.035
Horizontal inlay (maximum)	—	0.040
Mesh size, inches after 3 laundering and slippage yarn tests (maximum)	0.100	0.100
Meshes per sq. inch ^{2/} :		
Minimum	729	510
Maximum	784	675

Notes:

^{1/} Requirements based on the distance between the two warp yarns and the primary filling yarns forming the mesh opening for Type I, and the distance between the two vertical pillars and the horizontal inlay yarns forming the mesh opening for Type II. The average values of these measurements shall not exceed the maximum specified.

^{2/} When dyed, meshes per square inch shall be 470 minimum, 635 maximum for Type II only.

3.5.1 Weave (Type I). The cloth shall be woven with three picks of plain and one pick of leno and repeated as shown in Figure 1, causing the three picks of plain to be pushed together on each side of the leno pick forming well defined mesh openings. Selvages shall not be less than 1/4 inch nor more than 1/2 inch in width (see 4.2.4).