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Superseding
PIA W 5664B

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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. Revision B and forward include changes adopted by DoD and Industry to reflect technology and design evolution.

WEBBING, TEXTILE, ELASTIC

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 specification covers cotton and nylon elastic webbing.

1.2 Classification. The webbing shall be furnished in the following Types, Classes, and Widths as specified in TABLE I (see 6.2).

1.3 Type designation. The webbing shall be furnished in the following Types (see 6.2):

Type I	- Cotton fiber
Type II	- Nylon filament

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 nor is it 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 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 publication forms a part of this document.

FEDERAL TRADE COMMISSION (FTC)

16 CFR 303	- Rules and Regulations Under the Textile Fiber Products Identification Act
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(Copies are available online at: www.ftc.gov or from the Federal Trade Commission, 600 Pennsylvania Avenue, N.W., Washington, DC 20580-0001. Electronic copies may also be obtained from www.access.gpo.gov/.)

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2.3 Non-government publications. The following documents form a part of this document to the extent specified herein.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

AATCC 8	- Colorfastness to Crocking; Crockmeter Method
AATCC 15	- Colorfastness to Perspiration
AATCC 16.2	- Colorfastness to Light: Carbon-Arc
AATCC 16.3	- Colorfastness to Light: Xenon-Arc
AATCC 20	- Fiber Analysis: Qualitative
AATCC 61	- Colorfastness to Laundering: Accelerated
AATCC 81	- pH of the Water-Extract from Wet Processed Textiles
AATCC 107	- Colorfastness to Water
AATCC Evaluation Procedures:	

- 1, Gray Scale for Color Change
- 2, Gray Scale for Staining
- 8, AATCC 9 - Step Chromatic Transference Scale
- 9 Visual Assessment of Color Differences of 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
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(Applications for copies should be addressed to American Society for Quality, 600 North Plankinton Ave, Milwaukee, WI 53203. Electronic copies may be obtained from www.asq.org.)

ASTM INTERNATIONAL (ASTM)

ASTM D412	- Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension
ASTM D1776	- Standard Practice for Conditioning and Testing Textiles
ASTM D1777	- Standard Test Method for Thickness of Textile Materials
ASTM D3774	- Standard Test Method for Width of Textile Fabric
ASTM D3775	- Standard Test Method for Warp (End) Count and Filling (Pick) Count of Woven Fabric
ASTM D3776	- Standard Test Methods for Mass Per Unit Area (Weight) of Fabric

(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 Order of precedence. Unless otherwise stated herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this

document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2) in the contract or purchase order, a sample shall be subjected to first article inspection in accordance with 4.2.

3.2 Standard. The dyed webbing shall match the standard for shade and appearance, unless otherwise indicated, and shall be equal to or better than the standard with respect to all characteristics for which the standard is referenced (see 6.1).

3.3 Recycled, recovered, or environmentally preferable materials. Recycled, recovered or environmentally preferable materials 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.

3.4 Material.

3.4.1 Cotton yarn. The yarn used in the manufacture of the cotton elastic webbing shall be of a grade and staple length which will meet the requirements of this specification. Testing shall be as specified in 4.6 and 4.7.4

3.4.2 Nylon yarn. The yarn used in the manufacture of the nylon elastic webbing shall be a bright, high tenacity, light and heat resistant polyamide prepared from hexamethylene diamine and adipic acid and its derivatives. The yarn shall have a minimum melting point of 244 °C (471°F). The yarn shall not be bleached. Testing shall be as specified in 4.7.4

3.5 Physical requirements.

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TABLE I Physical requirements.

TYPE I				
Class	Width (inches)	Thickness range (inches)	Ounces per linear yard (maximum weight)	To produce 50 percent elongation, load range at room temperature (pounds)
1	3/8 ±1/32	.016 - .046	0.28	1.15 - 3.25
	1/2 ±1/16	.016 - .046	0.38	1.35 - 3.75
	3/4 ±1/16	.016 - .046	0.53	1.80 - 5.00
	7/8 ±1/16	.016 - .046	0.55	0.90 - 4.37
	1 ±1/16	.016 - .046	0.73	3.00 - 5.50
	1-1/2 ±1/16	.016 - .046	1.00	5.00 - 7.00
	2 ±1/16	.031 - .061	1.60	6.00 - 11.00
	2-1/2 ±1/16	.031 - .061	2.00	8.00 - 12.00
2	1-1/2 ±1/16	.094 - .156	2.30	7.20 - 17.50
3	1-1/2 ±1/16	.094 - .156	2.35	15.30 - 31.25
4	1-1/2 ±1/16	.094 - .156	2.35	15.30 - 31.25
TYPE II				
1	1 ±1/16	.030 - .060	0.80	3.00 - 6.00
	1-1/2 ±1/16	.030 - .060	1.20	4.00 - 7.50
2	1-1/2 ±1/16	.094 - .156	2.30	12.0 - 17.5

3.5.1 Weave construction. The weave for all Types and Classes may be supplied in either shuttle or shuttleless loom construction, except Type I, Class 4 which shall be manufactured on a shuttleless loom. See 3.5.1.1 for additional construction requirements for Type I, Class 4 webbing.

3.5.1.1 Type I, Class 4. The webbing shall be a double plain weave and constructed as follows:

Warp yarn size	Face and Back warp (minimum)	Binder yarn size	Total binder yarns (minimum)	Filling yarn size	Picks per inch	Total rubber cords (minimum)
12/2	117	24/2 or 30/2	18	24/2 or 30/2	74-88	40

3.6 Drift. The drift of the load on the webbing elongated and maintained at 50 percent elongation for 4 hours, shall be not more than 20 percent when tested as specified in 4.7.4.

3.7 Tension set. After the webbing has been elongated and maintained at 50 percent elongation for 10 minutes and then allowed to relax for 10 minutes, the webbing tension set