



PIA-C-5651C
29 June 2015

Superseding
PIA-C-5651B
19 June 2013

The following commercial specification is adopted from the military document. 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.

CORD, ELASTIC, EXERCISER AND SHOCK ABSORBER, FOR AERONAUTICAL USE

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 the requirements for three types of elastic shock absorbing and exerciser cord for aeronautical use.

1.2 Classification.

1.2.1 Type Designation. The elastic cord shall be furnished in the following types, as specified (see 6.1):

- Type I - Straight cord with double braided cover (shock absorbing)
- Type II - Endless ring (Bungee) with double braided cover (shock absorbing)
- Type III - Straight cord with single braided cover (exerciser cord).

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 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 publication forms a part of this document.

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FEDERAL TRADE COMMISSION (FTC)

16CFR 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. Electronic copies may also be obtained from www.access.gpo.gov/.)

2.3 Non-government publications. The following documents form a part of this document.

AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC)

AATCC 20A - Fiber Analysis: Quantitative
AATCC 81 - pH of Water-Extract from Wet Processed Textiles

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

ASTM INTERNATIONAL (ASTM)

ASTM D276 - Standard Test Method for Identification of Fibers in Textiles
ASTM D1776 - Standard Practice for Conditioning and Testing Textiles

(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.)

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 from the American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203.)

PARACHUTE INDUSTRY ASSOCIATION (PIA)

PIA-TEST METHOD-6004 - LENGTH PER UNIT WEIGHT; CORDAGE
PIA-TEST METHOD-6016 - STRENGTH AND ELONGATION OF CORDAGE;
NON-SPLICED METHOD

(Electronic copies may be obtained from www.pia.com.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, 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 document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.1), samples shall be subjected to first article inspection in accordance with 4.3.

3.2 Materials.

3.2.1 Strands. The strands shall be made from natural, synthetic, or a mixture thereof of synthetic natural rubber compound, having such qualities that when encased in a braided cover (Types I and II double braided, Type III single braided), the finished cord shall conform to the requirements specified herein. Reclaimed rubber shall not be used.

3.2.2 Yarns. The yarns for the braid shall be spun from a good grade and staple of cotton that shall be free of imperfections and impurities.

3.3 Design and construction. The elastic shock absorber cord (Types I and II) and the elastic exerciser cord (Type III) shall be composed of multiple strands tightly encased within a double layer of cotton braid for Types I and II and a single layer of cotton braid for Type III.

3.3.1 Strands. The strands shall be continuous throughout the length of the cord and, in a given cord, shall be of uniform size and configuration. Strands shall be thoroughly treated with soapstone or talc to prevent them from adhering to each other in the finished cord.

3.3.2 Braid. All cord shall be braided with a sufficient number of ends that, when the cord is elongated 100 percent, the braid shall be tight and prevent dirt from entering between the individual yarns of the braid. The minimum number of ends in the braid for all cords shall be as specified in TABLE I.

3.3.2.1 Type I braid. The Type I cord shall be double braided from natural color cotton ply yarns. The outer braid shall consist of glazed (polished) yarns and the inner braid shall consist of soft finished yarns.

3.3.2.2 Type II braid. Type II bungee ring cord shall be double braided from natural color cotton ply yarns. The inner and outer braid shall be fabricated from glazed yarns.

3.3.2.3 Type III braid. Type III cord shall be a single cotton braid consisting of ply yarns of a colorfast color specified by the acquisition activity (see 6.1).

3.4 Size and tolerance.

3.4.1 Diameters. The elastic cord shall be furnished in the diameters specified in TABLE I. The tolerances, as applicable, shall be as follows:

Types I and II: +.047, -0 inch (+0.119, -0 cm)
Type III: +.031, -0 inch (+0.079, -0 cm).

3.4.2 Lengths. Unless otherwise specified (see 6.1), the cord lengths shall be as specified in TABLE II.



3.5 Physical properties. The physical properties of the cords shall conform to TABLE III. Type II bungee ring cord shall meet all the requirements for Type I cord in addition to those for Type II.

3.6 Age limitation. Elastic cord furnished under this specification shall be not more than six (6) months old from date of manufacture to date of delivery (see 6.1).

TABLE I Number of ends in braid.

Size, outside dimension (O.D.) of finished cord, inch (centimeters)	Number of ends	
	Inner braid	Outer braid
TYPE I:		
.250 (.635)	16	24
.375 (.953)	24	48
.500 (1.27)	32	72
.625 (1.59)	48	72
.750 (1.91)	60	96
TYPE II:		
.250 (.635)	32	32
.375 (.953)	48	48
.437 (1.11)	48	48
.500 (1.27)	48	48
.562 (1.43)	48	48
.625 (1.59)	48	48
.687 (1.75)	48	48
.750 (1.91)	64	64
.812 (2.06)	64	64
TYPE III:		
.125 (.32)	—	32
.187 (.476)	—	32
.312 (.794)	—	32

TABLE II Cord lengths, spools, and reels ^{1/}.

Cord size, diameter, inch (centimeters)	Length, feet (metres) (±5 percent) ^{2/}
.250(.635), .375(.953), .500 (1.27)	500 (150)
.187(.474), .312(.792), .625 (1.588)	250 (75)
.750 (1.905)	200 (60)

Notes:

^{1/} Cord acquired in lengths not exceeding 50 feet (15 m) shall be furnished as coils.

^{2/} Short lengths may be furnished; however, no individual length shall be less than 50 feet (15 m).

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