

[INCH-POUND]

A-A-50195A

June 21, 2000

Superseding

A-A-50195

May 10, 1989

COMMERCIAL ITEM DESCRIPTION

THREAD, ARAMID

The General Services Administration has authorized the use of this commercial item description in preference to Military Specification MIL-T-43636.

1. **SCOPE.** This document covers 9 sizes of aramid thread. The thread is intended to be used for sewing heat and flame resistant type uniforms, equipage, or supportive end items.

2. **CLASSIFICATION.** The thread shall be in the following types and sizes:

2.1 **Type.** The thread shall be soft or bonded.

2.2 **Size.**

<u>Denier</u>	<u>Tex</u>
400d	40
600d	60
800d	80
1200d	120
1800d	200
2400d	270
3000d	300
3600d	350
4800d	500

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Defense Supply Center Philadelphia, Clothing and Textiles Directorate, Attn.: DSCP-COCT, 700 Robbins Ave., Philadelphia PA., 19111-5092.

AMSC N/A

FSC 8310

DISTRIBUTION STATEMENT A. *Approved for public release; distribution is unlimited*

A-A-50195A

3 SALIENT CHARACTERISTICS

3.1 General description. The thread shall be made of continuous multifilament aramid yarn having a minimum amount of non-flame propagating, non-staining type finish used to facilitate sewing. The direction of the twist for single ply shall be “S, and for the plied thread shall be “Z”, unless otherwise specified. Tex sizes 120 and finer shall average not more than one thread knot per 2 ounces, and tex sizes 180 and heavier shall average not more than one thread knot per 4 ounces.

3.2 Physical requirements of thread. The thread shall conform to the physical requirements specified in Table I.

TABLE I Physical requirements

Tex	Breaking Strength lbs. min.	Elongation % max.	Test Method
40	3.0	38	ASTM-D-204 <u>1/ 2/</u>
60	5.0	38	ASTM-D-204 <u>1/ 2/</u>
80	6.0	38	ASTM-D-204 <u>1/ 2/</u>
120	10.0	38	ASTM-D-204 <u>1/ 2/</u>
180	15.0	42	ASTM-D-204 <u>1/ 2/</u>
240	20.0	42	ASTM-D-204 <u>1/ 2/</u>
300	25.0	42	ASTM-D-204 <u>1/ 2/</u>
350	30.0	42	ASTM-D-204 <u>1/ 2/</u>
450	35.0	42	ASTM-D-204 <u>1/ 2/</u>

1/ Testing speed shall be 12 ± 0.5 in./min., and a 10 inch gauge length shall be used.

2/ Five determinations per sample unit.

3.3 Color. The color shall be as specified in the applicable end item specification or in the contract order and shall be producer dyed if available. The color of the finished thread, after removal of finish, shall be a good (good is defined as a perceptible not appreciable difference in color) match to 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. If no standard sample is available then the thread shall be a good match to the standard sample of the end item base cloth, 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.

3.3.1 Finish Removal Procedure. Before evaluation for color matching and testing for colorfastness, the thread shall be wet dry-cleaned in accordance with ASTM D-204. Excess solvent shall be removed by centrifuging or wringing. The sample shall be rinsed in distilled water at 120 degrees to 160 degrees F and dried at a temperature not exceeding 180 degrees F. The dried sample shall then be conditioned for a minimum of 4 hours prior to evaluation for shade matching or colorfastness testing.

A-A-50195A

3.4 Colorfastness. Unless otherwise specified in the end item specification or set forth in the contract, the thread shall show a colorfastness of 3.5 minimum on the AATCC Gray Scale for Color Change to laundering (after 3 cycles) in accordance with ASTM D 204, except that the specimens shall be dried after each of the 3 laundering cycles and the color transfer cloth evaluation shall not apply.

3.5 Aging resistance. The finished thread shall retain a minimum of 85 percent of its original breaking strength in accordance with paragraph 3.5.1, when subjected to oven aging at $500^{\circ} \pm 10^{\circ}\text{F}$ for 15 minutes.

3.5.1 Aging resistance test. Five specimens each of all sizes shall be used for the aging test. The specimens shall be exposed for 15 minutes to a temperature of $500^{\circ} \pm 10^{\circ}\text{F}$ using a circulating air oven. Upon removal, the specimens shall be conditioned at standard atmospheric conditions for 4 hours and then tested for breaking strength as specified in ASTM-D-204. Testing speed shall be 12 ± 0.5 in./min., and a 10 inch gauge length shall be used.

3.6 Finishing materials. No chemical finishes or treatments shall be applied for the purpose of increasing the breaking strength. The finished thread shall have no chemical finishes or treatments other than those commonly used on commercial threads which have been demonstrated to have no deleterious effects on the aramid fiber, including effects in prolonged storage, also, the use of dyes and compounds containing elementary sulfur capable of oxidation to sulfuric acid is prohibited.

3.7. Put-up. Unless otherwise specified, the thread shall be put-up on a nominal length per holder or commercial spools, cones, or tubes as specified in the contract. The thread shall be wound around the specified holder in one continuous piece, so that each turn and layer is free of entanglement. The outside ending of the thread shall be secured to prevent unwinding, loosening or slippage during handling, shipping or storage.

3.8 Labeling. Each holder shall have a label, adhered securely as to remain in place and be clearly legible until all thread has been removed. The label shall be printed with information related to length in yards, direction of twist, color, type (i.e. Soft, or Bonded), size (tex) and name of thread manufacturer.

4. REGULATORY REQUIREMENTS.

4.1 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible in accordance with paragraph 23.403 of the Federal Acquisition Regulation Act (FAR), provided that the material meets or exceeds the operational and maintenance requirements and promotes economically advantageous life cycle costs.

5. QUALITY ASSURANCE PROVISIONS

5.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description and conform to the producer's own specifications, standards and quality assurance practices. The Government reserves the right to require proof of such conformance.

A-A-50195A

5.2 Preservation, packing and marking. The preservation, packing and marking shall be as specified in the contract or order.

6. NOTES

6.1 Intended use. The thread is intended to be used for sewing heat and flame resistant type uniforms, equipage, or supportive end items.

6.2 Sources of Nongovernment Documents.

AMERICAN SOCIETY FOR TESTING AND MATERIALS

ASTM-D-204 - Standard Test Methods For Sewing Threads.

(Applications for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19426-2959.)

THE COLOR ASSOCIATION OF THE UNITED STATES, INC.

Standard Color Card of America

(Color cards are available from The color association of the United States. 589 Eight Avenue, 12th floor, New York, NY 10018. The web site is www.colorassociation.com)

6.3 Ordering data. Acquisition documents must specify the following:

- a. Title, number and date of this document.
- b. Type of thread (i.e. soft or bonded) (see 2.1)
- c. Size of thread required (see 2.2).
- d. Color required.(see 3.3)
- e. Selection of packaging, preservation, and marking (see 5.2)

6.4 Replacement data. In the previous document A-A-50195, there is only one type of aramid thread. Industry has stated that government/military customers have also asked for the bonded type of this thread, which is why it has been added as a type. All physical requirements for this thread either bonded or soft remain the same.

GSA — FSS

MILITARY INTERESTS:

Custodians:

Army-GL

Navy- NU

Air Force- 99

Preparing activity:
DLA - CT

Project NO. 8310- 0211

Review activities:

A-A-50195A

Army-MD
Navy - AS
Air Force- 11, 82