

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. CLASSIFICATION

1.1 Classification. The thread shall demonstrate the following characteristics:

Approximate denier	Approximate or tex	Ply	Twist final min. turns per inch <u>1/</u>	Breaking strength pounds, minimum <u>2/</u>	Elongation maximum percent <u>2/</u>
400	40	2	7.0	3.0	38
600	60	3	6.0	5.0	38
800	80	4	5.0	6.0	38
1200	120	3	4.0	10.0	38
1800	180	3	4.5	15.0	42
2400	240	3	4.0	20.0	42
3000	300	3	3.5	25.0	42
3500	350	3	3.0	30.0	42
4200	450	3	3.0	35.0	42

1/ Characteristics were determined based on Test Method 4050 of FED-STD-191.

2/ Characteristics were determined based on Test Method 4100 of FED-STD-191.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent by letter to: Commander, U.S. Army Natick Research, Development, and Engineering Center, ATTN: STRNC-ES, Natick, MA 01760-5014.

AMSC N/A

FSC 8310

DISTRIBUTION STATEMENT A. Approved for public release; distribution in unlimited.

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2. SALIENT CHARACTERISTICS

2.1 General description. The thread shall be made of continuous multifilament aramid yarn having a minimum amount of soft, 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.

2.2 Color. The color shall be as specified in the applicable end item specification or in the contract order and shall be producer dyed. The dyed thread shall conform to the applicable approved shade standard. Shade designations by letter (e.g., Olive Drab S-1) and related cable numbers (e.g., C.A. 66022), refer to Standard Shade for Sewing Threads (see 5.3.1).

2.3 Colorfastness. Unless otherwise specified in the end item specification or set forth in the contract or order, the thread shall show "good" fastness to laundering (after 3 cycles) in accordance with Method 5614 of FED-STD-191, except that the specimens shall be dried after each of the 3 laundering cycles and the color transfer cloth evaluation shall not apply.

2.4 Finish removal procedure. Before evaluation for shade matching, and testing for colorfastness, the thread shall be wet drycleaned in accordance with Method 5622 of FED-STD-191 (disregarding reference to the standard sample). Excess solvent shall be removed by centrifuging or wringing. The sample shall then be rinsed in distilled water at 120° to 160°F and dried at a temperature not exceeding 180°F. The dried sample shall then be conditioned for a minimum of 4 hours prior to evaluation for shade matching or colorfastness.

2.5 Shade matching. The color of the finished thread, after removal of finish, 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.

2.6 Aging resistance. The finished thread shall retain a minimum of 85 percent of its original breaking strength when subjected to over aging at $500^\circ \pm 10^\circ\text{F}$ for 4 hours.

2.6.1 Aging resistance test. Five specimens each of all sizes shall be used for the aging test. The specimens shall be exposed for 4 hours to a temperature of $500^\circ \pm 10^\circ\text{F}$ using a circulating air oven. Upon removal, the

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specimens shall be conditioned at standard atmospheric conditions for 4 hours and then tested for breaking strength as specified in Method 4100 of FED-STD-191. The aging resistance shall be calculated as follows:

$$\text{Aging resistance (percent)} = \frac{\text{Average breaking strength after aging} \times 100}{\text{Original breaking strength}}$$

The results shall be reported to the nearest 1 percent.

2.7 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 polyester fiber, including effects in prolonged storage. Also, the use of dyes and compounds containing elementary sulfur capable of oxidation to sulfuric acid is prohibited.

2.8 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.

2.9 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, ply, size (denier or tex) and name of thread manufacturer.

3. QUALITY ASSURANCE

3.1 Certification. The contractor shall certify that the product offered meets the salient characteristics and colorfastness requirements of this description and conforms to the producer's own drawings, specifications, standards and quality assurance practices. When specific quality assurance provisions are specified for any commercial characteristic, the contractor shall furnish data resulting from inspection conducted in accordance with specific quality assurance provisions. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

4. PACKAGING

4.1 Packaging. Tubes, cones, or spools of thread, of like description, weighing less than 8 ounces each, shall be packaged in set-up paperboard or folding paperboard boxes. Those weighing more than 8 ounces each shall be individually packaged in a snug-fitting clear plastic film bag. The bag shall be closed by means of a twist tie, or by tucking the open end into the end of the tube, cone, or spool.

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4.2 Packing. Thread of like description, packaged as specified, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC-L, type CF, class domestic, variety SW, grade 275 of PPP-B-636. The inside of each fiberboard container shall be fitted with a liner conforming to type CF, variety DW, class domestic, grade 275 of PPP-B-636. The fiberboard liner is not required when thread is packaged in paperboard boxes. The shipping container shall be of a size that can be palletized in accordance with MIL-STD-147. The weight of a packed shipping container shall not exceed 50 pounds. Shipping containers shall be closed in accordance with the appendix of PPP-B-636.

4.3 Palletization. When specified (see 5.2), thread, packed as specified, shall be palletized on a 4-way entry pallet in accordance with load type Ia of MIL-STD-147. Pallet types shall be type I (4-way entry), type IV or type V which shall be fabricated from wood groups I, II, III, or IV of MIL-STD-731. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means K and L or film bonding means O or P.

4.4 Marking. In addition to any special markings required by the contract or purchase order, unit packs, shipping containers and palletized unit loads shall be marked in accordance with MIL-STD-129.

5. NOTES

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

5.2 Ordering data. Acquisition documents must specify the following:

- a. Title, number and date of this document.
- b. Size of thread required (see 1.1).
- c. Color required (see 2.2).
- d. Colorfastness properties required (see 2.3).
- e. When palletization is required (see 4.3).

5.3 Sources of documents.

5.3.1 Source of nongovernment association documents.

THE COLOR ASSOCIATION OF THE UNITED STATES, INC.

Standard Color Card of America

Department of Defense Standard Shades for Sewing Threads

(Color cards may be available from the Color Association of the United States, Inc., 343 Lexington Avenue, New York, NY 10016-0927. If color cards are not available from the Color Association, individual color samples may be obtained from the contracting activity or as directed by the contracting activity.)

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5.3.2 Source of government documents.. Copies of military and Federal documents are available from:

Naval Publications and Forms Center
ATTN: NPODS
5801 Tabor Avenue
Philadelphia, PA 19120-5099

MILITARY INTERESTS:

Custodians:

Army - GL
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CIVIL AGENCY COORDINATING ACTIVITY:

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