

INCH-POUND

A-A-59987

26 January 2018

COMMERCIAL ITEM DESCRIPTION

THREAD, META-ARAMID AND POLYESTER CORE

The General Services Administration has authorized the use of this Commercial Item Description as a replacement for all federal agencies.

1. **SCOPE.** This Commercial Item Description (CID) covers the requirements for a spun staple, meta-aramid sheath –polyester core Flame Resistant (FR) thread. The thread is used in sewing FR protective combat apparel and flight safety equipment.

2. **CLASSIFICATION.** The meta-aramid and polyester cord, thread are as specified in this document.

3. SALIENT CHARACTERISTICS.

3.1 **Description.** The thread yarn shall be made using 1.5 to 2.0 denier per filament meta-aramid spun fiber wrapped around a 55 to 220 denier polyester high tenacity filament fiber core that has a FR treatment. The finished thread shall conform to the requirements of Table I. Unless otherwise specified, the direction of the final twist shall be “Z” for the thread. Each of the individual plies of yarn shall be initially twisted with no less than the number of turns per inch to be used in the final twist, and in the opposite direction of the final twist. The thread shall have a soft finished and contain only the minimum amount of lubricant to facilitate sewing. Only non-staining and non-flame propagating finishes commonly used shall be permitted as sewing finishes. Unless otherwise specified, the issues are those cited in the solicitation or contract.

Comments, suggestions, or questions on this document should be addressed to: DLA Troop Support Standardization Team, 700 Robbins Avenue, Philadelphia, PA 19111-5096.

Since contact information can change, you may want to verify the currency of the address information using Acquisition Streamlining and Standardization Information System

(ASSIST) online database <https://assist.dla.mil>.

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3.2 Physical characteristics and requirements. The thread shall conform to the physical characteristics specified in Table I when tested as specified in Table II.

TABLE I. Physical characteristics.

Tex <u>1/</u>	Ply	Breaking strength (lbs), minimum	Elongation (%), maximum
27	2	1.9	35
40	2-3	2.5	35
60	2-3	4.5	35
80	2-4	6.0	35

1/ Tex size based on weight in grams/1,000 meters thread.

TABLE II. Physical requirements and test methods.

Characteristic	Requirement	Test method
Fiber identification	3.1	AATCC 20 or ASTM D276 <u>1/</u>
Denier per filament	3.1	ASTM D204
Direction of twist	3.1	ASTM D204
Tex	Table I	ASTM D204 <u>2/</u>
Ply	Table I	ASTM D204
Breaking strength (lbs.): <u>2/</u>	Table I	ASTM D204
Elongation (%), (maximum)	Table I	ASTM D204 <u>3/</u>
Colorfastness (minimum):		
Laundering (after 3 cycles)	3-4 minimum	AATCC 61 2A, <u>4/</u> , <u>5/</u> , <u>6/</u> <u>7/</u>
Visual shade matching	3.4	AATCC Procedure 9

1/ In cases of dispute, The ASTM method prevails

2/ One (1) determination per sample unit shall be made and the result reported as “pass” or “fail”

3/ Elongation at sewing forces test

4/ Two to six grams of the yarn, held together to form a unit for testing

5/ The specimens shall be dried after each laundering cycle

6/ AATCC Evaluation Procedure 1, Gray Scale for Color Change

7/ AATCC Evaluation Procedure 2, Gray Scale for Staining – Only the stain on the nylon fiber of the color transfer cloth shall be evaluated for the color transfer evaluation

3.3 Color. The color shall be as specified in the applicable end item specification or in the contract (see 7.5).

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3.4 Visual shade matching. The color and appearance of the finished thread shall match the standard sample when viewed using the AATCC Evaluation Procedure 9, Option A, with sources simulating artificial daylight D75 illuminant with a color temperature of 7500K (± 200) illumination of 100 (± 20) foot candles, and shall be a good match to the standard sample under incandescent A illuminant with a color temperature of 2856K (± 200).

3.5 Finishing materials. The finished thread shall have no chemical finishes or treatments other than those commonly used on commercial threads or as specified in the contract which have been demonstrated to have no harmful effects on the fiber, including effects of prolonged storage. No finish or treatment shall be applied for the purpose of increasing breaking strength. There shall be no noticeable wicking of the treatment on the thread to adjacent material when sewn. No finish shall be used that will diminish flame resistance.

3.6 Toxicity. The finished thread shall not present a health hazard and shall show compatibility with prolonged, direct skin contact when tested as specified in 5.3. Chemicals recognized by the Environmental Protection Agency (EPA) as human carcinogens shall not be used.

3.7 Put-up. Unless otherwise specified, the thread shall be put-up on holders such as commercial spools, cones, tubes or bobbins. The thread shall be wound around the specified holder in one continuous length, 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 thread holder shall have a label, adhered securely so as to remain in place and be clearly legible until all thread has been removed. The label shall be printed and include information related to length in yards, direction of twist, or weight of cone, color, Tex or ticket number, number of plies, National Stock Number (NSN), the contractor or purchase order number, name of thread manufacturer, and nomenclature specifying Type and construction.

3.9 Workmanship. The finished thread shall conform to the quality of product established by this document. The occurrence of defects shall not exceed the contractor's own quality assurance standards and the quality assurance standards defined by the technical data in the bid package.

4. **REGULATORY REQUIREMENTS**. Unless otherwise specified the offer/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. **PRODUCT CONFORMANCE PROVISIONS**.

5.1 Product conformance. The thread provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The Government reserves the right to require proof of such conformance.

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5.2 Visual examination. Thread shall be examined for the defects listed in Table III.

TABLE III. Visual examination defects.

Knots: Tex 45 and finer thread not more than one (1) thread knot per 8-ounces in singles. All other thread Tex shall average not more than one (1) full thread knot or splice per 1,000 yards.
Color: Not as specified.
Labels: Label missing, incorrect, or illegible. Required information missing from the label.
Packaging: Not packaged in accordance with the contract or purchase order.

5.3 Toxicity test. When required (see 7.5), an acute dermal irritation study and a skin sensitization study shall be conducted on laboratory animals. When the results of the studies indicate the thread is not a sensitizer or irritant, a Repeat Insult Patch Test shall be performed in accordance with the Modified Draize Procedure (see 7.2.3). If the toxicity requirement (see 3.6) can be demonstrated with historical use data, toxicity testing may not be required (see 7.5).

5.4 Acceptance criteria. Acceptance criteria shall be as specified in the contract or purchase order (see 7.5).

6. PACKAGING.

6.1 Packaging. Preservation, packing, and marking shall be as specified in the contract or purchase order (see 7.5).

7. NOTES.

7.1 Sources of Government documents. Copies of Military and Federal documents are available online at <http://quicksearch.dla.mil>.

7.1.1 Other Government documents.

FEDERAL ACQUISITION REGULATIONS (FAR). Copies are available online at <http://acquisition.gov/far/index.htm.l>.

7.2 Non-Government publications.

7.2.1 AMERICAN ASSOCIATION OF TEXTILE CHEMISTS AND COLORISTS (AATCC) Copies are available online at <http://www.aatcc.org>.

7.2.2 ASTM INTERNATIONAL - Copies are available online at <http://www.astm.org>.

7.2.3 Repeat Insult Patch Test - Modified Draize Procedure – Principles and Methods of Toxicology, A Wallace Hayes (editor). Copies are available online at <https://www.crcpress.com>.

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7.3 Intended use. The thread is intended for sewing heat and FR uniforms, equipage, or supportive end items.

7.4 Standard samples. For access to standard shade samples of thread, address the contracting activity issuing the invitation for bids or request for proposal.

7.5 Ordering data. Acquisition documents should specify the following:

- a. Title, number, and date of this Commercial Item Description (CID)
- b. Color required (see 3.3)
- c. When toxicity testing is required (see 3.6)
- d. Put-up required if other than specified (see 3.7)
- e. Product conformance provisions (see 5.1)
- f. Acceptance criteria provisions (see 5.4)
- g. Packaging requirement (see 6.1)

7.6 Key words.

Coat
 Combat Shirt
 Flame Resistant (FR)
 Flight Safety
 Pants
 Protective
 Trousers

MILITARY INTERESTS:

Custodian:

Army-GL
 Navy- NU
 Air Force- 11

Review Activities:

Army- MD
 Navy- AS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

PREPARING ACTIVITY:

DLA –CT

Project: 8310-2018-001

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using ASSIST Online database at <https://assist.dla.mil/>.