



AEROSPACE MATERIAL SPECIFICATION

AMS3787™

REV. B

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Superseding AMS3787A

Thread, Para-Aramid
Intermediate Modulus

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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Documents

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1. SCOPE:

1.1 Form:

This specification and its supplementary detail specifications cover para-aramid materials in the form of thread.

1.2 Application:

Primarily for use in sewing clothing, equipment, and air delivery and safety equipment.

1.3 Classification:

The requirements specified herein and in the applicable detail specifications define each type of thread by length per unit weight and breaking strength as shown in the detail specification titles.

1.4 Safety - Hazardous Materials:

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The applicable issue of referenced publications shall be the issue in effect on the date of the purchase order.

2.1 ASTM Publications:

Available from ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.

ASTM D 123 Terminology Relating to Textiles
ASTM D 1788 Rigid Acrylonitrile-Butadiene-Styrene (ABS) Plastics
ASTM D 4101 Propylene Plastic Injection and Extrusion Materials

2.2 U.S. Government Publications:

Available from Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

2.2.1 Federal Specifications:

PPP-P-50 Packaging and Packing of Thread for Domestic and Overseas Shipment

2.2.2 Federal Standards:

FED-STD-191 Textile Test Methods

2.2.3 Military Standards:

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes

3. TECHNICAL REQUIREMENTS:

3.1 Detail Specification:

The requirements for a specific thread shall consist of all requirements specified herein in addition to requirements specified in the applicable detail specification. In case of conflict between requirements of this specification and requirements of the applicable detail specification, requirements of the detail specification shall govern.

3.2 Material:

3.2.1 The yarn used in the thread shall be a para-aramid, intermediate modulus type.

3.2.2 Thread Finish: Thread shall be waxed or finished so that it will have a smooth, dressed surface suitable for high-speed machine sewing. For additional structural integrity, 0.5 to 1.0% by weight of a resinous finish, such as polyvinyl butyral, may be applied.

3.3 Properties:

Thread shall conform to the requirements specified in the applicable detail specification, determined on the thread supplied and in accordance with the following test methods:

- 3.3.1 Weight: FED-STD-191, Method 4010.
- 3.3.2 Breaking Strength: FED-STD-191, Method 4100. One determination per sample unit; report result as “pass” or “fail”.
- 3.3.3 Direction of Twist; Initial and Final: FED-STD-191, Method 4050.
- 3.3.4 Number of Plies and Composition of Plastic Tubes: A vendor’s certificate of conformance shall be acceptable for determining conformance to these requirements.
- 3.3.5 Finish: Visual inspection.
- 3.3.6 Twist; Turns per Unit Length: 4.5.1.

3.4 Quality:

Thread, as received by purchaser, shall be free from foreign materials and from imperfections detrimental to usage of the thread.

4. QUALITY ASSURANCE PROVISIONS:

4.1 Responsibility for Inspection:

The vendor of thread shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the thread conforms to the requirements of this specification and the applicable detail specification.

4.2 Classification of Tests:

- 4.2.1 Acceptance Tests: Tests for the following requirements are acceptance tests and shall be performed on each lot of thread:

Requirement	Paragraph Reference
Length per Unit Weight	See Detail Specification
Breaking Strength	See Detail Specification
Quality	3.4

- 4.2.2 Preproduction Tests: Tests for all technical requirements are preproduction tests and shall be performed prior to or on the initial shipment of thread to a purchaser, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.