

AEROSPACE
MATERIAL
SPECIFICATION

AMS 3790

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Revised

CLOTH, MONOFILAMENT, NETTING

1. SCOPE:

- 1.1 Form: This specification and its supplemental detail specifications cover a plastic mesh fabric in the form of cloth.
- 1.2 Application: Primarily for use in construction of radar tow targets and in the manufacture of space suits.
- 1.3 Classification: This product shall be classified by weight, breaking strength, and usage as shown in the detail specifications.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

- 2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

- 2.2 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120 except as specified in 2.2.3.

2.2.1 Federal Specifications:

PPP-P-1133 - Packaging and Packing of Synthetic Fiber Fabric

2.2.2 Federal Standards:

FED-STD-4 - Glossary of Fabric Imperfections
FED-STD-191 - Textile Test Methods

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- 2.2.3 Other Publications: Available from Federal Trade Commission, Washington, DC 20580.

Textile Fiber Products Identification Act, Rules and Regulations

3. TECHNICAL REQUIREMENTS:

- 3.1 Detail Specifications: The requirements for a specific cloth shall consist of all the requirements specified herein in addition to the requirements specified in the applicable detail specification. In case of conflict between requirements of this specification and an applicable detail specification, requirements of the detail specification shall govern.
- 3.2 Material: Shall be a continuous extruded monofilament of vinylidene chloride as defined in the rules and regulations of the Textile Fiber Products Identification Act.
- 3.3 Properties: Shall be as specified in the applicable detail specification; tests shall be performed on the product supplied and in accordance with the following specified test methods, insofar as practicable:

Requirement	FED-STD-191 Test Method No.
Warp ends per in. (25 mm)	5050
Picks per in. (25 mm)	5050
Thickness	5030
Weight	5041
Elongation	5104
Breaking Strength	5104

- 3.4 Quality: Cloth, as received by purchaser, shall be clean, evenly woven, and free from foreign materials and from imperfections detrimental to usage of the cloth.

4. QUALITY ASSURANCE PROVISIONS:

- 4.1 Responsibility for Inspection: The vendor of cloth shall supply all samples for vendor's tests and shall be responsible for performing all required tests. Results of such tests shall be reported to the purchaser as required by 4.5. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the cloth conforms to the requirements of this specification and the applicable detail specification.

4.2 Classification of Tests: Tests to determine conformance to all technical requirements of this specification and the applicable detail specification are classified as acceptance tests and as preproduction tests and shall be performed prior to or on the initial shipment of cloth to a purchaser, on each lot, when a change in material or processing, or both, requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.2.1 For direct U.S. Military procurement, substantiating test data, and, when requested, preproduction test material shall be submitted to the cognizant agency as directed by the procuring activity, the contracting officer, or the request for procurement.

4.3 Sampling: Shall be as follows:

4.3.1 For Acceptance Tests: Each lot of cloth shall be visually examined for quality (3.4) and sampled at random for all other tests; the number of determinations for each requirement shall be as specified in the applicable test procedure or, if not specified therein, not less than three.

4.3.1.1 A lot shall be all cloth of a single weight produced in a single production run under the same fixed conditions and presented for vendor's inspection at one time. A lot may be packaged in small quantities under the basic lot approval provided lot identification is maintained.

4.3.1.2 Samples for test shall be at least 1 yd (1 m) long, full width. When an inspection lot exceeds 5000 yd (4575 m), an additional sample for each 5000 yd (4575 m) or fraction thereof of the excess shall be taken.

4.3.1.3 Yard-by-Yard Examination: Thirty yd (27 m) from each roll in the sample shall be examined on the face side only. The sample size shall be in accordance with the following:

Lot Size		Sample Size
Yards	Metres	
Up to 500, incl	Up to 450, incl	2
Over 500 to 1500, incl	Over 450 to 1375, incl	3
Over 1500	Over 1375	5

- 4.3.1.4 All defects, as defined in Section III of FED-STD-4, visible at normal inspection distance of three ft (1 m) shall be scored and assigned demerit points as listed in 4.3.1.4.1. No linear yard (linear metre) from any one roll within the sample shall be penalized more than four points. The lot shall be unacceptable if the points per 100 sq yd (85 m²) of the total yardage examined exceeds 30 points. Points shall be computed as follows:

$$\frac{\text{Total points scored in sample} \times 3600}{\text{Width of cloth, in.} \times \text{total length, yd, inspected}} = \text{Points per 100 sq yd}$$

$$\frac{\text{Total points scored in sample} \times 100,000}{\text{Width of cloth, mm,} \times \text{total length, m, inspected}} = \text{Points per 85 m}^2$$

- 4.3.1.4.1 Demerit Points: Shall be assigned as follows:

Defects 3 in. (75 mm) and under in any dimension	1 point
Defects over 3 to 6 in. (over 75 to 150 mm), incl, in any dimension	2 points
Defects over 6 to 9 in. (over 150 to 225 mm), incl, in any dimension	3 points
Defects over 9 in. (225 mm) in any dimension	4 points

- 4.3.1.5 When a statistical sampling plan and acceptance quality level (AQL) have been agreed upon by purchaser and vendor, sampling shall be in accordance with such plan in lieu of sampling as in 4.3.1 and the report of 4.5.1 shall state that such plan was used.

- 4.3.2 For Preproduction Tests: As agreed upon by purchaser and vendor.

4.4 Approval:

- 4.4.1 Sample cloth shall be approved by purchaser before cloth for production use is supplied, unless such approval be waived by purchaser. Results of tests on production cloth shall be essentially equivalent to those on the approved sample.
- 4.4.2 Vendor shall use ingredients, manufacturing procedures, processes, and methods of inspection on production cloth which are essentially the same as those used on the approved sample cloth. If necessary to make any change in ingredients, in type of equipment for processing, or in manufacturing procedures, vendor shall submit for reapproval a statement of the proposed changes in material or processing, or both, and, when requested, sample cloth. Production cloth made by the revised procedure shall not be shipped prior to receipt of reapproval.

4.5 Reports:

- 4.5.1 The vendor of cloth shall furnish with each shipment a report showing the results of tests to determine conformance to the technical requirements of this specification and the applicable detail specification. This report shall include the purchase order number, AMS 3790 and applicable detail specification number, vendor's material designation, lot number, quantity, and specified cloth weight.
- 4.5.2 The vendor of finished or semi-finished parts shall furnish with each shipment a report showing the purchase order number, AMS 3790 and the applicable detail specification number, contractor or other direct supplier of cloth, supplier's product identification, part number, and quantity. When cloth for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of cloth to determine conformance to the requirements of this specification and shall include in the report either a statement that the cloth conforms or copies of laboratory reports showing the results of tests to determine conformance.
- 4.6 Resampling and Retesting: If any specimen used in the above tests fails to meet the specified requirements, disposition of the cloth may be based on the results of testing three additional specimens for each original nonconforming specimen. Failure of any retest specimen to meet the specified requirements shall be cause for rejection of the cloth represented and no additional testing shall be permitted. Results of all tests shall be reported.

5. PREPARATION FOR DELIVERY:

5.1 Packaging and Identification:

- 5.1.1 Cloth shall be supplied in rolls of a width specified in the applicable detail specification. Cloth shall be supplied in rolls containing 90 to 110 yd (82 to 100 m) in length. Each roll shall contain not more than three pieces. No piece shall be less than 10 yd (9 m) in length.
- 5.1.2 Each roll shall have a label or tag marked with not less than the following information and attached in such a manner as to remain in place until all cloth has been removed from the roll:

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WIDTH _____ WEAVE _____

WEIGHT PER YARD (METRE) _____

MANUFACTURER'S IDENTIFICATION _____

PRODUCT DESIGNATION _____

QUANTITY _____

LOT NUMBER _____

ROLL NUMBER (if used) _____

DATE OF MANUFACTURE _____

* Insert applicable detail specification number