



AEROSPACE MATERIAL SPECIFICATION

AMS3909™**REV. B**

Issued 1985-07
Revised 2008-01
Reaffirmed 2022-10

Superseding AMS3909A

Cloth, Aramid
Intermediate Modulus

RATIONALE

AMS3909B has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE

1.1 Form

This specification and its supplementary detail specifications cover an intermediate modulus aramid yarn in the form of cloth.

1.2 Application

This cloth has been used typically in construction of parachutes, but usage is not limited to such applications.

1.3 Classification

The requirements specified herein and in the applicable detail specifications define each cloth by weight and breaking strength, both of which are shown in the titles of the detail specifications.

2. APPLICABLE DOCUMENTS

The issue of the following documents in effect on the date of the purchase order forms a part of this specification to the extent specified herein. The supplier may work to a subsequent revision of a document unless a specific document issue is specified. When the referenced document has been cancelled and no superseding document has been specified, the last published issue of that document shall apply.

2.1 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM E 168 General Techniques of Infrared Quantitative Analysis

SAE Executive Standards Committee Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

Copyright © 2022 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)
Tel: +1 724-776-4970 (outside USA)
Fax: 724-776-0790
Email: CustomerService@sae.org
http://www.sae.org

SAE WEB ADDRESS:

Full document details: SAE AMS3909B

For more information on this standard, visit
<https://www.sae.org/standards/content/AMS3909B/>

Documents
Document Sharing Hub

2.2 U.S. Government Publications

Available from the Document Automation and Production Service (DAPS), Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094, Tel: 215-697-6257, <http://assist.daps.dla.mil/quicksearch/>.

FED-STD-191 Textile Test Methods

2.3 ASQ Publications

Available from American Society for Quality, 600 North Plankinton Avenue, Milwaukee, WI 53203, Tel: 800-248-1946 (North America) or +1-414-272-8575 (International), www.asq.org.

ANSI/ASQZ 21.4 Sampling Procedures and Tables for Inspection by Attributes

2.4 Federal Trade Commission Publications

Available from the Federal Trade Commission, 600 Pennsylvania Avenue, N.W., Washington, DC 20580, Tel: 202-326-2222 or www.ftc.gov.

Textile Fiber Products Identification Act, Rules and Regulations

3. TECHNICAL REQUIREMENTS

3.1 Detail Specifications

Requirements for a specific cloth shall consist of requirements specified herein in addition to 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

Cloth shall be woven from an intermediate modulus para-aramid yarn (See 8.3) as shown in Table 1. Yarn shall not carbonize at a temperature lower than 780 °F (416 °C) determined in accordance with FED-STD-191, Method 1534. Attenuated total reflectance infrared analysis methods in accordance with ASTM E 168 shall be used to identify the material.

TABLE 1 - INITIAL YARN MODULUS

Yarn Size Denier	Initial Modulus gms/denier $\pm 10\%$
200	740
400	670
1000	605
1500	565
3000	545

3.3 Properties

Shall conform to requirements specified in the applicable detail specifications. Tests shall be performed on the cloth supplied and in accordance with specified test methods.

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 manufacturer of the cloth shall supply all samples and shall be responsible for the performance of all required tests. Purchaser reserves the right to sample and to perform any confirmatory testing deemed necessary to ensure that the cloth conforms to specified requirements.

4.2 Classification of Tests

4.2.1 Acceptance Tests

Requirements shown in Table 2 are acceptance tests and shall be performed on each lot.

TABLE 2 - ACCEPTANCE TESTS

Requirement	Paragraph Reference
Material Identification	3.2
Weight	See Detail Specification
Breaking Strength	See Detail Specification
Quality	3.4

4.2.2 Preproduction Tests

All technical requirements are preproduction tests and shall be performed prior to or on the initial shipment of cloth by the manufacturer, when a change in ingredients and/or processing requires reapproval as in 4.4.2, and when purchaser deems confirmatory testing to be required.

4.3 Sampling and Testing

Shall be as follows:

4.3.1 For Acceptance Tests

Sufficient cloth shall be taken at random from each lot to perform all required 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 and breaking strength produced in a single production run under the same fixed conditions and presented for manufacturer's inspection at one time.

4.3.1.2 The sample unit shall be 4 yards (3.7 m), full width, of the finished cloth. The sample size shall be as shown in Table 3. Lot size shall be expressed in units of 1 yard (0.9 m). The lot shall be unacceptable if one or more sample units fail to meet any specified requirement.

TABLE 3 - CLOTH SAMPLING

Lot Size Yards		Lot Size Meters		Sample Size
Up to	800, incl	Up to	732, incl	2
Over	800 to 22, 000, incl	Over	732 to 20,117, incl	3
Over	22, 000	Over	20, 117	5