



AEROSPACE MATERIAL SPECIFICATION

AMS3806™**REV. G**

Issued	1946-01
Reaffirmed	2006-01
Revised	2013-11
Stabilized	2018-07

Superseding AMS3806F

Cloth, Airplane, Mercerized Cotton
80 Pounds Force (356 N) Breaking Strength

RATIONALE

This standard has been revised as a result of the normal 5 year review process. The revisions made update some of the test methods and reference documents for more specific detail and methodology.

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1. SCOPE

1.1 Form

This specification covers one strength and one weave of mercerized cotton cloth known as "airplane cloth."

1.2 Application

This cloth has been used typically for covering aircraft surfaces, such as wings, fuselage, ailerons, elevators, and other airfoil surfaces, but usage is not limited to such applications.

1.3 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 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 D 629	Quantitative Analysis of Textiles
ASTM D 3775	Standard Test Method for Warp (End) and Filling (Pick) Count of Woven Fabrics
ASTM D 3776/D3776M	Mass per Unit Area (Weight) of Woven Fabric
ASTM D 5034	Breaking Force and Elongation of Textile Fabrics (Grab Test)
ASTM D 5035	Breaking Force and Elongation of Textile Fabrics (Strip Test)

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://quicksearch.dla.mil/>.

MIL-STD-2073-1	DOD Materiel, Procedures for Development and Application of Packaging Requirements
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3. TECHNICAL REQUIREMENTS

3.1 Material

3.1.1 Mercerization

The cloth shall be piece mercerized, or the yarn may be mercerized under tension.

3.1.2 Yarn

The cloth shall be woven from 2-ply, combed cotton yarn.

3.1.3 Weave

The weave shall be plain (one up and one down).

3.1.4 Finishing

The cloth shall be uniformly finished in accordance with the best practice for high-grade airplane cloth. Finishing shall consist of washing, framing, and calendering. The calendering shall be sufficient to lay any nap present and shall provide a smooth, even surface. Nap may be removed by singeing.

3.2 Properties

The cloth shall conform to requirements shown in Table 1; tests shall be performed on the cloth supplied and in accordance with specified test methods.