



AEROSPACE MATERIAL SPECIFICATION	AMS3907™	REV. A
	Issued	1985-10
	Revised	1994-10
	Reaffirmed	2022-10
	Superseding AMS3907	
(R) Cloth, Aramid Basket and Plain Weave		

RATIONALE

AMS3907A has been reaffirmed to comply with the SAE Five-Year Review policy.

1. SCOPE:

1.1 Form:

This specification covers aramid fibers in the form of woven cloth.

1.2 Application:

This cloth has been used typically in fabricating special flight, shipboard, and ground combat clothing, but usage is not limited to such applications.

1.3 Classification:

Cloth shall be aramid blends of the following types and classes:

Class 1: 2 x 2 basket weave with a minimum weight of 5.0 ounces per square yard (170 g/m²)

Class 2: Plain weave with a minimum weight of 4.3 ounces per square yard (146 g/m²)

Type 5: Woodland camouflage printed

Type 6: Colored

Type 7: Desert camouflage printed (3 color)

2. APPLICABLE DOCUMENTS:

The following documents 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.

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<https://www.sae.org/standards/content/AMS3907A/>

Documents

Document Sharing Hub

2.1 ASTM Publications:

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

ASTM D 1424 Tear Resistance of Woven Fabrics by Falling-Pendulum (Elmendorf)
Apparatus

ASTM D 5034 Breaking Force and Elongation of Textile Fabrics (Grab Test)

2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

V-T-285 Thread, Polyester

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

FED-STD-4 Glossary of Fabric Imperfections

FED-STD-191 Textile Test Methods

DPSC Handbook 4120.1 List of Armed Service Colors for Clothing, Textiles and Equipment

2.2.1 Available from Federal Trade Commission, Washington, DC 20580.

Textile Fiber Products Identification Act, Rules and Regulations

2.3 Other Publications:

Available from American Association of Textile Chemists and Colorists,
P.O. Box 12215, Research Triangle Park, NC 27709.

Technical Manual of the AATCC

3. TECHNICAL REQUIREMENTS:

3.1 Material:

The blend used in construction of the cloth shall be the three fiber materials shown in Table 1 and the following, determined on the material in accordance with test methods of FED-STD-191, as specified in Table 1.

TABLE 1 - Material

Paragraph	Property	Requirement	Test Method
3.1.1	Composition, nominal		
3.1.1.1	Meta-aramid Fiber	92%	A
3.1.1.2	Para-aramid Fiber	5%	A
3.1.1.3	Conductive Fiber	3%	A,B
3.1.2	Denier	1.5 to 1.7 per filament	A
3.1.3	Staple Length	1 1/2 to 2 inches (38.1 to 51 mm)	A
3.1.4	Char Temperature, min	357 °C (675 °F), min	5903

A Unless otherwise specified, a certificate of compliance will be accepted for stated requirements.

B The conductive fiber shall be a sheathed carbon core fiber and shall be 3 denier per filament, and 1 1/2 to 2 inches (38.1 to 51 mm) in staple length.

3.2 Properties:

Cloth shall conform to requirements specified in Table 2 and the following, determined on the cloth supplied in accordance with test methods of FED-STD-191 and 4.5, except as specified in 3.2.5. Yarn shall be spun into single ply for Class 1 and 2 ply for Class 2 for both the warp and filling.

TABLE 2 - Properties

Paragraph	Property	Requirement	Test Method
3.2.1	Weave		Visual
	Class 1	Basket	
	Class 2	Plain	
3.2.2	Weight		5041
	Class 1, min	5.0 ounces per square yard (170 g/m ²)	
	Class 2		
	Types 5 and 7	4.7 to 6.0 ounces per square yard (160 to 204 g/m ²)	
	Type 6	4.3 to 5.0 ounces per square yard (146 to 170 g/m ²)	

TABLE 2 - (Continued)

Paragraph	Property	Requirement	Test Method
3.2.3	Yarn Count, min		5050
	Warp		
	Class 1	90 per inch (25 mm)	
	Class 2		
	Types 5 and 7	69 per inch (25 mm)	
	Type 6	70 per inch (25 mm)	
	Filling		
	Class 1	88 per inch (25 mm)	
	Class 2		
	Types 5 and 7	44 per inch (25 mm)	
	Type 6	47 per inch (25 mm)	
3.2.4	Breaking Strength, min		5104
	Class 1 (Ravel strip)		
	Warp	100 pounds force (445 N)	
	Filling	100 pounds force (445 N)	
	Class 2 (Grab)		5100 or ASTM D 5034
	Warp	180 pounds force (801 N)	
	Filling	100 pounds force (445 N)	
3.2.5	Tearing Strength, min		ASTM D 1424
	Warp		
	Class 1	15 pounds force (67 N)	
	Class 2		
	Types 5 and 7	8 pounds force (36 N)	
	Type 6	12 pounds force (53 N)	
	Filling		
	Class 1	15 pounds force (67 N)	
	Class 2		
	Types 5 and 7	5 pounds force (22 N)	
	Type 6	12 pounds force (53 N)	
3.2.6	Air Permeability at 1/2 Inch (12.7 mm) Water Pressure		5450
	Class 1, min	100 ft ³ /minute/ft ² (30.4 m ³ /minute/m ²)	
	Class 2	85 to 160 ft ³ /minute/ft ² (25.8 to 48.6 m ³ /minute/m ²)	