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AEROSPACE MATERIAL SPECIFICATION

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AMS 3901/6B

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Superseding AMS 3901/6A

Submitted for recognition as an American National Standard

**ROVING, ORGANIC FIBER (PARA-ARAMID), HIGH MODULUS
OY 500 (3447)/23.5 Tensile Strength, 17.5 (121)/800 Tensile Modulus
4560 Denier, 0.6% Finish**

1. SCOPE:

1.1 Form:

This specification covers one type of organic fiber in the form of roving. The product shall be formed as four ends of 1140 denier yarn (AMS 3901/3) collected into an approximately parallel arrangement without twist.

1.2 Classification:

Organic 4560 denier roving with 500 ksi (3447 MPa) or 23.5 g/d tensile strength and 17.5 Msi (121 GPa) or 800 g/d tensile modulus for use in filament winding requiring high tensile strength and high modulus of elasticity in tension.

2. APPLICABLE DOCUMENTS:

See AMS 3901.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification:

The complete requirements for procuring the organic roving described herein shall consist of this document and the latest issue of the basic specification.

3.2 Properties:

Shall be as shown in Table 1; no individual package, based on the average of five determinations, shall have less than 90% of the lot minimum values specified in 3.2.1 and 3.2.2.

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TABLE 1 - Properties

Paragraph	Requirement	Requirement Dry Twisted Roving	Requirement Impregnated Strand	Test Method
3.2.1	Tensile Strength, minimum	21.5 g/d	500 ksi (3447 MPa)	4.5.1 or 4.5.2 of AMS 3901
3.2.2	Modulus of Elasticity, minimum	760 g/d	17.5 Msi (121 GPa)	4.5.1 or 4.5.3 of AMS 3901
3.2.3	Denier (R)	4560 ± 240	4560 ± 240	4.5.4 of AMS 3901
3.2.4	Fiber Finish, by weight	0.6% ± 0.6	0.6% ± 0.6	4.5.5 of AMS 3901
3.2.5	Fiber Density	0.052 pound mass per cubic inch ± 0.001 (1.44 grams/cm ³ ± 0.03)	0.052 pound mass per cubic inch ± 0.001 (1.44 grams/cm ³ ± 0.03)	
3.2.6	Catenary	1 inch per 50 feet (25.4 mm/15m)	1 inch per 50 feet (25.4 mm/15m)	4.5.6 of AMS 3901

3.3 Splicing:

The number of spliced ends within a ball of roving shall not exceed two times the roving weight of the ball in pounds (four times the roving weight of the ball in kilograms). There shall be no more than one spliced end in the same perpendicular plane for roving. Distance between splices shall not be less than 200 yards (183 m).

4. QUALITY ASSURANCE PROVISIONS:

See AMS 3901.

5. PREPARATION FOR DELIVERY:

See AMS 3901.

6. ACKNOWLEDGMENT:

See AMS 3901.

7. REJECTIONS:

See AMS 3901.