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INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

AEROSPACE MATERIAL SPECIFICATION

SAE AMS 3901/16A

Issued FEB 1996
Revised SEP 1998

Superseding AMS 3901/16

Submitted for recognition as an American National Standard

(R)

Roving, Organic Fiber (Para-Aramid), High Modulus OR 400 (2758)/22.7 Tensile Strength, 16.5 (114)/935 Tensile Modulus 8520 Denier, (9500 d tex), 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 three ends of 2840 (3160 d tex) denier yarn (AMS 3901/14) collected into an approximately parallel arrangement without twist.

1.2 Classification:

Organic 8520 denier (9500 d tex) roving with 400 ksi (2758 MPa) minimum or 22.7 g/d nominal tensile strength and 16.5 Msi (114 GPa) minimum or 935 g/d nominal tensile modulus for use in filament winding requiring high tensile strength and high modulus of elasticity in tension.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

See AMS 3901.

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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.

TABLE 1 - Properties

Paragraph	Requirement	Requirement Dry Twisted Roving	Requirement Impregnated Strand	Test Method
3.2.1	Tensile Strength, min	20.2 g/d	400 ksi (2758 MPa)	4.5.1 of AMS 3901
3.2.2	Modulus of Elasticity, min	835 g/d	16.5 Msi (114 GPa)	4.5.1 of AMS 3901
3.2.3	Linear Density	8520 ± 270 denier (9500 ± 300 d tex)	8520 ± 270 denier (9500 ± 300 d tex)	4.5.2 of AMS 3901
3.2.4	Fiber Finish, by weight	0.6% ± 0.4	0.6% ± 0.4	4.5.3 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/15 m)	1 inch per 50 feet (25.4 mm/15 m)	4.5.4 of AMS 3901