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400 Commonwealth Drive, Warrendale, PA 15096-0001

# AEROSPACE MATERIAL SPECIFICATION

Submitted for recognition as an American National Standard

**SAE**

AMS 3901/15

Issued FEB 1996

ROVING, ORGANIC FIBER (PARA-ARAMID), HIGH MODULUS  
OY 400 (2758)/22.5 Tensile Strength, 16.5 (114)/900 Tensile Modulus  
7350 Denier, 0.6% Finish

## 1. SCOPE:

### 1.1 Form: (R)

This specification covers one type of organic fiber in the form of roving. The product shall be formed as three ends of 2450 denier yarn (AMS 3901/13) collected into an approximately parallel arrangement without twist.

### 1.2 Classification: (R)

Organic 7350 denier roving with 400 ksi (2758 MPa) minimum or 22.5 g/d nominal tensile strength and 16.5 Msi (114 GPa) minimum or 900 g/d nominal tensile modulus for use in filament winding requiring high tensile strength and high modulus of elasticity in tension.

### 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:

### 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.

(R) TABLE 1 - Properties

Paragraph	Requirement	Requirement Dry Twisted Roving	Requirement Impregnated Strand	Test Method
3.2.1	Tensile Strength, minimum	20 g/d	400 ksi (2758 MPa)	4.5.1 or 4.5.2 of AMS 3901
3.2.2	Modulus of Elasticity, minimum	820 g/d	16.5 Msi (114 GPa)	4.5.1 or 4.5.3 of AMS 3901
3.2.3	Denier	7350 ± 240	7350 ± 240	4.5.4 of AMS 3901
3.2.4	Fiber Finish, by weight	0.6% ± 0.4	0.6% ± 0.4	4.5.5 of AMS 3901
3.2.5	Fiber Density	0.052 pound mass per cubic inch ± 0.001 (1.44 grams/cm <sup>3</sup> ± 0.03)	0.052 pound mass per cubic inch ± 0.001 (1.44 grams/cm <sup>3</sup> ± 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)	4.5.6 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:**