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AEROSPACE MATERIAL SPECIFICATION

AMS 3901/5

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Revised

ROVING, ORGANIC FIBER
For Structural Composites
OR 450,000 (3100) Tensile Strength, 17,500,000 (121) Tensile Modulus
7100 Denier

1. SCOPE:

1.1 Form: This specification covers organic fibers in the form of roving produced by gathering yarns into an approximately parallel arrangement without twist.

1.2 Classification: Organic 7100 denier roving with 450,000 psi (3100 MPa) tensile strength and 17,500,000 psi (121 GPa) tensile modulus for use in general purpose composites requiring high tensile strength and moderate modulus of elasticity in tension.

2. APPLICABLE DOCUMENTS: Shall be as shown in AMS 3901.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification: The complete requirements for procuring organic roving described herein shall consist of this document and the latest issue of the basic specification, AMS 3901.

3.2 Material: Roving shall be formed by gathering five 1420 denier yarns into an approximately parallel arrangement without twist.

3.3 Properties: Shall be as follows; the requirements of 3.3.1 and 3.3.2 apply to the average of four determinations for each property; no individual value shall be less than 90% of the average values specified:

3.3.1	Tensile Strength, min	450,000 psi (3100 MPa)
3.3.2	Modulus of Elasticity, min	17,500,000 psi (121,000 MPa)
3.3.3	Denier, nominal	7100
3.3.4	Fiber Finish, by weight, when ordered finished, max	0.5%
3.3.5	Fiber Density	0.052 lb per cu in. ±0.001 (1.45 g/cm^3 ±0.03)

3.4 Splices: The product shall not contain splices of the entire roving bundle. Yarn splices shall be made with methyl methacrylate, cellulose acetate, or a material compatible with the resin system to be used for impregnation. Mechanical splices may be used if strength is equivalent to chemical splice. Yarn splices shall have a maximum of 1 in. (25 mm) overlap with the overlapping portion of the splice securely attached along its entire length. Yarn splices shall be at least 3 ft (914 mm) apart. The number of yarn splices within a package of roving shall not exceed 2 x package weight of roving in pounds (4.4 x package weight in kilograms). There shall be no more than one splice in the same perpendicular plane.

4. QUALITY ASSURANCE PROVISIONS: See AMS 3901.

5. PREPARATION FOR DELIVERY: See AMS 3901.

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