SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS 3892/9B

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Superseding AMS 3892/9A

Tow, Carbon Fiber
For Structural Composites
500 (3447) Tensile Strength, 32 (221) Tensile Modulus

1. SCOPE:

1.1 Form:

This specification covers one type of carbon fiber in the form of tow.

1.2 Classification:

Carbon tow with 500 ksi (3447 MPa) tensile strength and 32 Msi (221 GPa) tensile modulus for use in general purpose structural composites requiring high tensile strength and high modulus of elasticity in tension.

2. APPLICABLE DOCUMENTS:

See AMS 3892.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification:

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

3.2 Storage Life:

The product shall be readily strippable from the spool and the filaments spreadable when tested at any time up to 12 months from date of receipt by purchaser provided it has been stored at room temperature in the original closed container.

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3.3 Properties:

Shall conform to the requirements shown in Table 1. 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 minimum average values specified. The tests of 3.3.1 and 3.3.2 are lamina tests, normalized to 100% fiber volume. Tensile strain (3.3.3) is a calculated value, tensile strength divided by modulus of elasticity.

TABLE 1 - Properties

Paragraph	Property	Requirement
3.3.1	Tensile Strength, minimum	500 ksi (3447 MPa)
3.3.2	Tensile Modulus, minimum	32 Msi (221 GPa)
3.3.3	Tensile Strain, minimum	1.6%
3.3.4	Mass per unit length nominal	Preproduction Value ± 5%
3.3.5	Finish Content, maximum	3% by weight
3.3.6	Density	0.0625 to 0.0660 pound per cubic inch (1.73 to 1.83 g/cm^3)

4. QUALITY ASSURANCE PROVISIONS:

See AMS 3892.

5. PREPARATION FOR DELIVERY:

See AMS 3892.

6. ACKNOWLEDGMENT:

See AMS 3892.