SAE Aerospace
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS 3894/7B

Issued JUN 1974
Revised JAN 1989
Reaffirmed JUN 2005

Superseding AMS 3894/7A

Carbon Fiber Tape and Sheet
Epoxy Resin Impregnated
G 90,000 (621) Tensile, 40,000,000 (276) Modulus, 80 (176)

1. SCOPE:

1.1 Form: This specification covers one type of epoxy-resin-impregnated carbon fibers in the form of tape and sheet.

1.2 Application: Primarily for use in structural composites requiring very high modulus of elasticity in tension and high tensile strength up to 80°C (176°F).

1.3 Classification: G 90,000 psi (621 MPa) tensile strength, 40,000,000 psi (276 GPa) tensile modulus carbon fiber impregnated with epoxy resin for service up to 80°C (176°F).

2. APPLICABLE DOCUMENTS: See AMS 3894.

3. TECHNICAL REQUIREMENTS:

3.1 Basic Specification: The complete requirements for procuring the product described herein shall consist of this document and the latest issue of the basic specification, AMS 3894.

3.2 Material: The product shall be AMS 3892/4 very high modulus carbon fibers impregnated with epoxy resin formulated to meet the requirements specified herein.

3.2.1 Storage Life: The product shall meet the requirements of this specification when tested at any time up to six months from date of receipt by purchaser provided it has been stored in the original unopened containers at not higher than -18°C (0°F).

TO PLACE A DOCUMENT ORDER:
Tel: 877-606-7323 (inside USA and Canada)
Tel: 724-776-4970 (outside USA)
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3.2.2 Working Life: The product shall meet the requirements of this specification when tested after continuous exposure for up to 20 days within the relative humidity and temperature limits shown in Fig, 1.

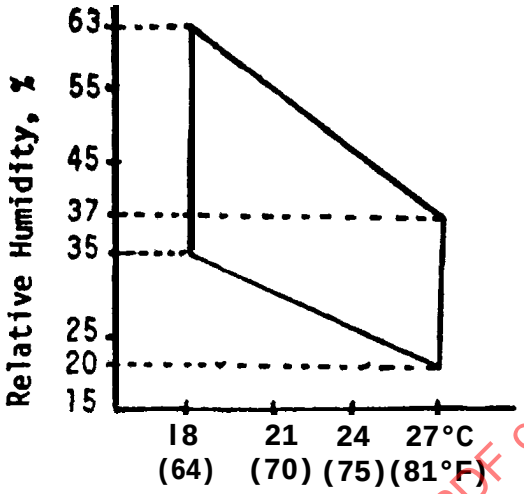

Figure 1

3.3 Properties of Uncured Impregnated Product: Shall be as specified in 3.3.1 through 3.3.5. Tests shall be performed on the product after warming to above the dew point prior to sampling and in accordance with test methods listed in the basic specification.

3.3.1 Volatile Content, % of resin weight, maximum Test temperature: 150°C ± 5 (302°F ± 9) Test time: 15 - 60 minutes	1.5
3.3.2 Resin Solids Content, % by weight	Preproduction Value ±3
3.3.3 Resin Flow, % by weight	10 - 30
3.3.4 Gel Time, minimum	Preproduction Value ±10%
3.3.5 Tack	Shall adhere for not less than 30 minutes

3.4 Properties of Cured Laminates: Shall be as follows, determined on specimens cut from a test panel prepared as specified in the basic specification and tested in accordance with test methods specified therein:

3.4.1 Mechanical Properties: Shall be as specified in Table I.

3.4.2 Density: Shall be determined on the test laminate used to determine mechanical properties;values for each test laminate shall be reported. Fiber density and cured resin density shall also be reported.

3.4.3 Void Content: Shall be not greater than 1%.

4. QUALITY ASSURANCE PROVISIONS: See AMS 3894,

5. PREPARATION FOR DELIVERY: Shall be in accordance with AMS 3894 and the following:

5.1 Exterior package marking shall indicate storage temperature of "-18°C (0°F), maximum".

6. ACKNOWLEDGMENT: See AMS 3894.

7. REJECTIONS: See AMS 3894.

8. NOTES: See AMS 3894.