



AEROSPACE MATERIAL

Society of Automotive Engineers, Inc.
400 COMMONWEALTH DRIVE, WARRENDALE, PA. 15096

SPECIFICATION

AMS 3899/1

Issued 4-15-80

Revised

GRAPHITE FIBER TAPE AND SHEET

Polysulfone Resin Impregnated

G PS 170,000 (1172) Tensile, 16,000,000 (110) Modulus, 120 (250)

1. SCOPE:

- 1.1 Form: This specification covers one type of thermoplastic, polysulfone resin-impregnated graphite fibers in the form of tape or sheet.
- 1.2 Application: Primarily for use in structural composites requiring high strength up to 120°C (250°F).
- 1.3 Classification: G 170,000 psi (1172 MPa) tensile strength, 16,000,000 psi (110 GPa) tensile modulus graphite fiber impregnated with polysulfone resin for service up to 120°C (250°F).

2. APPLICABLE DOCUMENTS: Shall be as shown in AMS 3899.

3. TECHNICAL REQUIREMENTS:

- 3.1 Basic Specification: The complete requirements for producing the product described herein shall consist of this document and the latest issue of the basic specification, AMS 3899.
- 3.2 Material: The product shall be AMS 3892/1 high-tensile-strength graphite fibers impregnated with heat-reactive, thermoplastic, polysulfone 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 one year from date of receipt by purchaser, provided it has been stored at room temperature in the original containers.
- 3.3 Properties: The product shall conform to the following requirements:
- 3.3.1 Resin Impregnated Fiber Tape and Sheet: Shall be as specified below; test shall be performed on the as-supplied product and in accordance with the test methods listed in the basic specification, AMS 3899.
- 3.3.1.1 Volatile Content by Weight, max: 5%
Test temperature: 260°C ± 5 (500°F ± 9)
Test time: 30 min. ± 5
- 3.3.1.2 Total Resin Solids Content by Weight: 34% ± 3
- 3.3.1.3 Resin Flow by Weight, max: 4.0%
- 3.3.2 Molded Laminates: Shall be determined on specimens cut from a test panel prepared as specified in the basic specification and tested in accordance with the test methods specified therein.

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- 3.3.2.1 Mechanical Properties: Shall be as specified in Table I.
- 3.3.2.2 Density: Shall be determined on each test panel used to determine mechanical properties; values shall be reported. Fiber density and resin density shall also be reported.
- 3.3.2.3 Void Content: Shall be not greater than 4%.
- 4. QUALITY ASSURANCE PROVISIONS: See AMS 3899.
- 5. PREPARATION FOR DELIVERY: See AMS 3899.
- 6. ACKNOWLEDGMENT: See AMS 3899.
- 7. REJECTIONS: See AMS 3899.
- 8. NOTES: None.

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