

AEROSPACE MATERIAL SPECIFICATION

Issued 15 APR 1980
Revised 1 OCT 1993

Superseding AMS 3899/2A

Submitted for recognition as an American National Standard

CARBON FIBER TAPE AND SHEET
Polysulfone Resin Impregnated
C PS 140 (965) Tensile, 27 (186) Modulus, 120 (248)

1. SCOPE:

1.1 Form:

This specification covers one type of thermoplastic, polysulfone-resin-impregnated carbon fibers in the form of tape or sheet.

1.2 Application:

These products have been used typically in structural composites requiring high modulus of elasticity in tension up to 120 °C (248 °F), but usage is not limited to such applications.

1.3 Classification:

C PS 140 ksi (965 MPa) tensile strength, 27 Msi (186 GPa) tensile modulus carbon fiber impregnated with polysulfone resin for service up to 120 °C (248 °F).

2. APPLICABLE DOCUMENTS:

See 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.

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3.2 Material:

The product shall be AMS 3892/2 high-modulus carbon 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 test methods listed in the basic specification, AMS 3899.

3.3.1.1 Volatile Content by Weight: Shall be 5% maximum when tested at $260\text{ }^{\circ}\text{C} \pm 5$ ($500\text{ }^{\circ}\text{F} \pm 9$) for 30 minutes ± 5 .

3.3.1.2 Total Resin Solids Content by Weight: Shall be $34\% \pm 3$.

3.3.1.3 Resin Flow by Weight: Shall be 4.0% maximum.

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 test methods specified therein.

3.3.2.1 Mechanical Properties: Shall be as specified in Table 1.

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:

See AMS 3899.

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