



AEROSPACE MATERIAL SPECIFICATION

AMS3892™**REV. C**

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Superseding AMS3892B

Fibers, Carbon, Tow and Yarn
For Structural Composites

RATIONALE

This document has been determined to contain basic and stable technology which is not dynamic in nature.

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AMS3892C

1. SCOPE:

1.1 Form:

This specification and its supplementary detail specifications cover carbon fibers in the form of continuous multifilament tow and yarn.

1.2 Application:

This product has been used typically as reinforcement in composites for structural applications, but usage is not limited to such applications.

1.3 Classification:

The fibers shall be as specified in the applicable detail specifications, wherein each product is defined by form and property characteristics. An example is shown in 8.2. The product covered by each detail specification appears as part of the title.

1.4 Safety - Hazardous Materials:

While the materials, methods, applications, and processes described or referenced in this specification may involve the use of hazardous materials, this specification does not address the hazards which may be involved in such use. It is the sole responsibility of the user to ensure familiarity with the safe and proper use of any hazardous materials and to take necessary precautionary measures to ensure the health and safety of all personnel involved.

2. APPLICABLE DOCUMENTS:

The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

MIL-STD-414 Sampling Procedure and Table for Inspection by Variables for Percent Defective
MIL-STD-2073-1 DOD Materiel, Procedures for Development and Application of Packaging Requirements

2.2 SACMA Publications:

Available from Suppliers of Advanced Composite Materials Association, 1600 Wilson Boulevard, Arlington, VA 22209.

SRM 12 Lot Acceptance of Carbon Fibers

3. TECHNICAL REQUIREMENTS:

3.1 Detail Specifications:

The requirements for a specific fiber shall consist of all requirements specified herein in addition to requirements specified in the applicable detail specification. In case of conflict between requirements of this basic specification and an applicable detail specification, requirements of the detail specification shall govern.

3.2 Material:

3.2.1 Construction: Carbon tow and yarn shall be formed from parallel lays of carbon filaments, lightly stranded when required, to produce a product that may be handled with care without material or property degradation. The product shall be supplied in the following forms:

3.2.1.1 Tow: Untwisted (UT) or never twisted (NT) bundle of continuous filaments.

3.2.1.2 Yarn: Tow with some degree of intentional twist in its final form twisted tow (TT).

3.2.2 Finish: A finish or treatment may be applied to the fiber during or after manufacture to improve handling or to improve properties of the resultant composite structure.

3.2.2.1 Surface Treatment: A surface treatment which normally enhances coupling of the matrix resin to the fibers may be applied to the fiber. Surface treatment differences require separate lot designations.

3.2.2.2 Sizing: Sizing may be applied to the fiber during or after manufacture to improve the handling properties during subsequent processing. Changes in sizing content or type require separate lot designations.