



AEROSPACE MATERIAL SPECIFICATION

AMS3828™

REV. D

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Stabilized 2016-11

Superseding AMS3828C

Glass Roving, Epoxy Resin Preimpregnated
Type E Glass

RATIONALE

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

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1. SCOPE:

1.1 Form:

This specification covers glass roving impregnated with epoxy resin, the resin being partially processed to a "B" stage condition.

1.2 Application:

This roving has been used typically in high strength filament-wound structures for aircraft, missiles, and related structures, but usage is not limited to such applications.

1.3 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 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

AMS 2825 Material Safety Data Sheets

2.2 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

- | | |
|-------------|--|
| ASTM D 2290 | Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method |
| ASTM D 2343 | Tensile Properties of Glass Fiber Strands, Yarns, and Rovings Used in Reinforced Plastics |
| ASTM D 2344 | Apparent Interlaminar Shear Strength of Parallel Fiber Composites by Short Beam Method |
| ASTM D 2584 | Ignition Loss of Cured Reinforced Resins |

2.3 U.S. Government Publications:

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

- | | |
|----------------|---|
| MIL-C-9084 | Cloth, Glass, Finished for Resin Laminates |
| MIL-R-9300 | Resin, Epoxy, Low Pressure Laminating |
| MIL-R-60346 | Roving, Glass, Fibrous (For Prepreg Tape and Roving, Filament Winding, and Pultrusion Applications) |
| MIL-STD-2073-1 | DoD Materiel, Procedures for Development and Application of Packaging Requirements |

3. TECHNICAL REQUIREMENTS:

3.1 Material:

Shall be glass roving conforming to MIL-R-60346, Type II, Class ECG 135-140, impregnated with epoxy resin formulated to meet MIL-R-9300, Type I, Class 1, the resin being processed to "B" stage condition.

- 3.1.1 Splices: No splices or knots shall be introduced during the impregnation process except as shall have been previously agreed upon by purchaser and vendor.
- 3.1.2 Shelf Life: When packaged in vapor-proof, heat-sealed bags, the preimpregnated roving shall have a shelf life of not less than three weeks when stored at not higher than 4 °C (39 °F), and not less than three months when stored at not higher than -18 °C (0 °F).
- 3.1.3 Cure: Roving shall be fully cured by filament winding under 12 to 15 psi (83 to 103 kPa) tension and curing for one hour at 95 °C ± 15 (203 °F ± 27) plus two hours at 175 °C ± 15 (347 °F ± 27), or as recommended by the manufacturer.