

**AEROSPACE
MATERIAL
SPECIFICATION**



AMS3666

REV. E

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Revised 1993-07
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Stabilized 2012-01

Superseding AMS3666D

Polytetrafluoroethylene (PTFE) Sheet, Glass Cloth Reinforced

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 a glass-cloth-reinforced polytetrafluoroethylene (PTFE) resin in the form of sheet.

1.2 Application:

This sheet has been used typically for electrical, electronic, and mechanical applications requiring a composite having the high strength and nondeforming characteristics of woven glass cloth and the electrical, chemical, and heat resistance and the anti-stick and low-friction properties of PTFE resin, but usage is not limited to such applications.

1.3 Classification:

Sheet covered by this specification is classified as follows:

Type 1 - For parts requiring chemical inertness and good mechanical and electrical properties up to 260 °C (500 °F). Testing for all specified properties is required.

Type 2 - For parts requiring chemical inertness and good mechanical properties up to 260 °C (500 °F). Testing for dielectric strength and heat resistance is not required.

1.3.1 Unless a specific type is ordered, Type 1 shall be supplied.

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 SAE Publications:

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

AMS 3824 Cloth, Type "E" Glass, Finished for Resin Laminates

2.2 ASTM Publications:

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

ASTM D 149 Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
ASTM D 257 D-C Resistance or Conductance of Insulating Materials
ASTM D 618 Conditioning Plastics and Electrical Insulating Materials for Testing
ASTM D 774 Bursting Strength of Paper
ASTM D 902 Testing Flexible Resin-Coated Glass Fabrics and Glass Fabric Tapes Used for Electrical Insulation
ASTM D 1389 Dielectric Proof-Voltage Testing of Thin Solid Electrical Insulating Materials

2.3 U.S. Government Publications:

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

MIL-STD-2073-1 DOD Materiel, Procedures for Development and Application of Packaging Requirements

3. TECHNICAL REQUIREMENTS:

3.1 Material:

Shall consist of woven glass cloth impregnated and coated or laminated on both sides with polytetrafluoroethylene (PTFE) resin, the impregnated resin being fused after application to the cloth. The surfaces shall be smooth and free of pronounced ripples.

3.1.1 Glass Fabric: Shall conform to the requirements of AMS 3824 applicable to the style number shown in Table 1 for each nominal thickness.