

**POLYTETRAFLUOROETHYLENE SHEET
Asbestos Fiber Reinforced**

This specification has been declared "NONCURRENT" by the Aerospace Materials Division, SAE, as of March 30, 1987. It is recommended that this specification not be specified for new designs.

This cover sheet should be attached to the "C" Revision of the subject specification.

Noncurrent refers to those materials which have previously been widely used and which may be required on some existing designs in the future. The Aerospace Materials Division does not recommend these as standard materials for future use in new designs. Each of these "Noncurrent" specifications is available on request.

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**AEROSPACE
MATERIAL
SPECIFICATION**

Submitted for recognition as an American National Standard

AMS 3842C
Superseding AMS 3842B

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**POLYTETRAFLUOROETHYLENE SHEET
Asbestos Fiber Reinforced**
1. SCOPE:

- 1.1 Form: This specification covers polytetrafluoroethylene resin in the form of asbestos-fiber-reinforced sheet.
- 1.2 Application: Primarily for gaskets requiring a minimum of thickness variation and compatibility with liquid oxygen.
- 1.3 WARNING: Numerous scientific studies have determined that asbestos presents a health hazard to those who are exposed to asbestos-containing products.

2. APPLICABLE DOCUMENTS: The following publications form a part of this specification to the extent specified herein. The latest issue of Aerospace Material Specifications shall apply. The applicable issue of other documents shall be as specified in AMS 2350.

2.1 SAE Publications: Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096.

2.1.1 Aerospace Material Specifications:

AMS 2350 - Standards and Test Methods

2.2 ASTM Publications: Available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

ASTM D792 - Specific Gravity and Density of Plastics by Displacement
ASTM F36 - Compressibility and Recovery of Gasket Materials
ASTM F104 - Classification System for Nonmetallic Gasket Materials
ASTM F152 - Tension Testing of Nonmetallic Gasket Materials

2.3 U.S. Government Publications: Available from Commanding Officer, Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, PA 19120.

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2.3.1 Military Standards:

MIL-STD-794 - Parts and Equipment, Procedures for Packaging and Packing of

3. TECHNICAL REQUIREMENTS:

3.1 Material and Fabrication: Sheet shall be made from selected short-fiber chrysotile asbestos fibers impregnated with approximately twice its own weight of polytetrafluoroethylene, felted, and thermally sintered.

3.1.1 Color: Shall be light grey to dark brown.

3.2 Properties: Sheet shall conform to the following requirements; tests shall be performed on the sheet supplied and in accordance with specified methods:

- | | | | |
|---------|--|--|------------------------|
| 3.2.1 | Weight loss at 315°C (600°F) based on original dry weight, max | 5% | 4.5.1 |
| 3.2.2 | Weight loss at 480°C (900°F) based on original dry weight | 65 - 70% | 4.5.1 |
| 3.2.3 | Density | 110 - 120 lb per cu ft
(1.76 - 1.92 Mg/m ³) | ASTM D792,
Method B |
| 3.2.4 | Tensile Strength, min | 2500 psi
(17.0 MPa) | ASTM F152 |
| 3.2.5 | Compressibility using 5000 psi (35 MPa) load | 5 - 15% | ASTM F36 |
| 3.2.5.1 | Recovery, min | 50% | ASTM F36 |
| 3.2.6 | Liquid Oxygen Compatibility | No Reaction | 4.5.2 |
| 3.2.7 | <u>Weather Resistance:</u> When specified, sheet shall have weather resistance acceptable to purchaser, determined by a procedure agreed upon by purchaser and vendor. | | |
| 3.2.8 | <u>Corrosion:</u> Sheet shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metals shall not be considered objectionable. Method of test and acceptance standards shall be as agreed upon by purchaser and vendor. | | |
| 3.3 | <u>Quality:</u> Sheet, as received by purchaser, shall be uniform in quality and condition, clean, sound, and free from foreign materials and from imperfections detrimental to fabrication, appearance, or usage of the sheet. | | |
| 3.4 | <u>Tolerances:</u> Shall be as follows, based on the average of five determinations in accordance with ASTM F104: | | |