AEROSPACE
MATERIAL SPECIFICATIONS
SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York 17, N.Y.

AMS 3843

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Revised

POLYTETRAFLUOROETHYLENE SHEET
TFE Fluorocarbon Resin, Asbestos Fiber Reinforced
High Compressibility

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. FORM: Flat sheet.

3. APPLICATION: Primarily for gaskets requiring compatibility with liquid oxygen and a minimum of thickness variation.

4. MATERIAL AND FABRICATION: Material shall be made from selected short fiber chrysotile asbestos impregnated with approximately twice its own weight of polytetrafluoroethylene, felted, and sintered.

5. TECHNICAL REQUIREMENTS:

5.1 General:

5.1.1 Color: Shall be light grey to dark brown.

5.1.2 Weathering: When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.

5.1.3 Corrosion: The product shall not have a corrosive effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.

5.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the method listed.

5.2.1 Weight Loss at 600 F based on original dry weight, %, max	5	See Note 1
5.2.2 Weight Loss at 900 F based on original dry weight, %	65 - 70	See Note 1
5.2.3 Density, lb per cu ft	75 - 85	
5.2.4 Tensile Strength, psi, min	1500	ASTM D733-59
5.2.5 Compressibility (5000 psi load), %	20 - 40	ASTM D1147-59T, Procedure A
5.2.5.1 Recovery, %, min	15	ASTM D1147-59T
5.2.6 Liquid Oxygen Compatibility	No Reaction	See Note 2

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Note 1. Place a 2 g sample in a crucible and heat at 220 F ± 2 to constant weight (original dry weight) at room temperature. Heat at 600 F ± 10 for 24 hr, cool, and weigh. Heat the same sample at 900 F ± 25 for 3 hr, cool, weigh, and calculate separately the weight losses occurring during the 600 F and 900 F heatings. Heating should be done in a ventilated hood.

Note 2. Material immersed in liquid oxygen shall be tested under hammer impact using an impact energy of 300 ft-lb per sq in. obtained by dropping a 20 lb weight onto a hammer having a diameter of 0.50 in. using a testing procedure acceptable to the purchaser. An equivalent procedure may be used when agreed to by the purchaser.

6. QUALITY: The product shall be uniform in quality and condition, clean, sound, and free from foreign materials and from imperfections detrimental to fabrication, appearance, or performance of parts.

7. TOLERANCES:

7.1 Thickness:

Nominal Thickness Inches	Tolerance (See Note 3), Inch, Plus and Minus	Variation From Reading to Reading in Any One Sheet, Inch
0.016 to 0.030, incl	0.004	0.002
Over 0.030 to 0.060, incl	0.004	0.003
Over 0.060 to 0.090, incl	0.005	0.003
Over 0.090 to 0.120, incl	0.010	0.004
Over 0.120	0.015	0.004

Note 3. Based on the average of five readings made in accordance with ASTM D1170-59T.

8. REPORTS:

8.1 Unless otherwise specified, the vendor of the product shall furnish with each shipment three copies of a report stating that the product conforms to the requirements of this specification. This report shall include the purchase order number, material specification number, vendor's material designation, nominal thickness, size, and quantity.

8.2 Unless otherwise specified, the vendor of finished or semi-finished parts shall furnish with each shipment three copies of a report showing the purchase order number, material specification number, contractor or direct supplier of material, supplier's material designation, part number, and quantity. When material for making parts is produced or purchased by the parts vendor, that vendor shall inspect each lot of material to determine conformance to the requirements of this specification, and shall include in the report a statement that the material conforms, or shall include copies of laboratory reports showing the results of tests to determine conformance.