AEROSPACE
MATERIAL SPECIFICATIONS

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. 485 Lexington Ave., New York, N.Y. 10017

AMS 3667

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Revised

POLYTETRAFLUOROETHYLENE SHEET, MOLDED
General Purpose Grade, As Sintered

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

2. FORM: Molded sheet.

3. APPLICATION: Primarily for parts for use up to 260 C (500 F) requiring good mechanical and electrical properties and chemical resistance. When dimensional stability is important, material may be stress-relief annealed but best results will be obtained by machining almost to size, stress-relief annealing, and taking a thin finishing cut.

4. MATERIAL: Shall be molded from polytetrafluoroethylene powder without admixture of fillers, pigments, or adulterants.

5. TECHNICAL REQUIREMENTS:

5.1 General:

5.1.1 Color: May vary from white to mottled gray or brown. Small gray, brown, or black spots shall not in themselves be cause for rejection.

5.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of specified ASTM methods listed in the latest issue of AMS 2350, insofar as practicable. The requirements of 5.2.1, 5.2.2, and 5.2.4 apply only to material 0.250 in. and under in thickness; properties of material over 0.250 in. thick shall be as agreed upon by purchaser and vendor.

5.2.1	Tensile Strength at 23 C ± 1 (73.4 F ± 1.8), psi, min	3000	See Note 1
5.2.2	Elongation at 23 C ± 1 (73.4 F ± 1.8), %, min	200	See Note 1
5.2.3	Specific Gravity at 23 C/23 C (73.4 F/73.4 F)	2.14 - 2.19	ASTM D792 Add 2 drops of a wetting agent to the water
5.2.4	Dielectric Strength (Short time test), v per mil, min	500	ASTM D149 (See Note 2)

Note 1. Tensile strength and elongation shall be determined in accordance with ASTM D638, using the microtensile specimen of ASTM D1708. The initial jaw separation shall be 0.875 in. ± 0.005 and the speed of testing shall be 2.0 in. per minute. Material over 0.062 to 0.625 in., excl, in thickness shall be machined to 0.062 in. ± 0.010 thick before cutting specimens. From sheets 0.625 in. and over in thickness, a slice somewhat thicker than 0.062 in. shall be cut in a plane parallel to, and not less than 1/2 in. from, the plane of one end of the sheet, the slice machined on both faces to 0.062 in. ± 0.010 thick, and the specimens cut from the machined slice. In all cases of specimens reduced to specified thickness by machining, tool marks shall be removed by light sanding in a longitudinal direction.

Note 2. Specimens shall be 0.060 in. ± 0.010 thick. Test under oil using 1/4 in. diameter corrosion resistant steel electrodes with 1/32 in. radius at edges.

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

7. TOLERANCES: Unless otherwise specified, the following tolerances apply at 23 - 30 C (73.4 - 86 F):

7.1 Thickness:

Nominal Thickness (T) Inches	Tolerance, Inch plus	Tolerance, Inch minus
0.0312 to 0.0625, incl	0.015	0.005
Over 0.0625 to 0.0938, incl	0.020	0.005
Over 0.0938 to 0.125, incl	0.016	0.008
Over 0.125 to 0.1563, incl	0.018	0.009
Over 0.1563 to 0.1875, incl	0.022	0.011
Over 0.1875 to 0.250, incl	0.030	0.015
Over 0.250 to 0.375, incl	0.038	0.019
Over 0.375 to 0.500, incl	0.046	0.022
Over 0.500 to 0.625, incl	0.054	0.027
Over 0.625 to 0.750, incl	0.070	0.035
Over 0.750 to 1.000, incl	0.087	0.043
Over 1.000 to 1.250, incl	0.102	0.051
Over 1.250 to 1.500, incl	0.118	0.059
Over 1.500 to 1.750, incl	0.134	0.067
Over 1.750 to 2.000, incl	0.150	0.075
Over 2.000	0.10T	0.10T

7.2 Width and Length: Shall not vary more than +0.250 in., -0.

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, form or part number, 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 other direct supplier of material, 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.