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

AMS 3666

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Revised

POLYTETRAFLUOROETHYLENE SHEET, GLASS FABRIC REINFORCED

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

2. APPLICATION: Primarily for electrical, electronic, and mechanical applications requiring a composite having the high strength and nondeforming characteristics of woven glass fibers and the electrical, chemical, and heat resistance, and the low-friction and antistick properties of tetrafluoroethylene resin.

3. MATERIAL AND FABRICATION: Woven glass fabric, impregnated and coated on both sides with tetrafluoroethylene resin and fused.

3.1 Color: Unbleached (light to dark brown), unless otherwise specified.

3.2 Fabric: Fabric shall be plain weave and shall conform to the following requirements, determined in accordance with the issue of ASTM D579 listed in the latest issue of AMS 2350.

Nominal Thickness of Coated Fabric, Inch	Fabric Style	Nominal Fabric Thickness Inch	Breaking Strength min, lb per in. width		Weight oz per sq yd	Thread Count	
			Warp	Fill		Warp	Fill
0.003	108	0.002	70	40	1.44	60	47
0.005	116	0.004	125	120	3.16	60	58
0.006	116	0.004	125	120	3.16	60	58
0.010	128	0.007	250	200	6.0	42	32

4. TECHNICAL REQUIREMENTS:

4.1 General:

4.1.1 Surface: The surface shall be smooth and free of pronounced ripples.

4.2 Properties: The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with the issue of listed ASTM methods specified in the latest issue of AMS 2350, insofar as practicable.

4.2.1 Breaking Strength, Warp Threads, lb per in. width, min — ASTM D902

Nominal Thickness, Inch	
0.003	35
0.005	50
0.006	50
0.010	200

4.2.2 Dielectric Strength, v per mil, min — ASTM D149, Short Time Test, Rod Electrodes; Condition in accordance with ASTM D618, Procedure A; Voltage rise 500 - 600 v per sec to breakdown

Nominal Thickness, Inch	
0.003	700
0.005	600
0.006	600
0.010	500

4.2.2.1 After conditioning 400 hr at 527 F (275 C) the product shall retain 60% of the dielectric strength determined in 4.2.2.

4.2.3 Volume Resistivity, ohm-cm, min — 1.0×10^{11} — ASTM D257; Condition in accordance with ASTM D618, Procedure A

4.2.4 Electrical Flaws: The product, excluding material 1 in. from the edge, shall be tested in accordance with ASTM D1389 at 200 - 250 v per mil and 25 ft ± 5 per minute. Flaws will be marked with a crayon within a 1 in. circle. A maximum of 10 flaws per linear yard of material is permissible.

4.2.5 Bursting Strength (in areas determined by 4.2.4 to be free from electrical flaws), psi, min — ASTM D774

Nominal Thickness, Inch	
0.003	25
0.005	25
0.006	25
0.010	100

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