

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
29 West 39th Street
New York City

AMS 3602

Issued 11-1-49

Revised

PLASTIC SHEET AND PLATE, ELECTRICAL AND HEAT RESISTANT Glass Fabric Reinforced Melamine-Formaldehyde

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for panels and insulators in electrical systems.
3. **MATERIAL AND FABRICATION:** Sheet and plate shall consist of laminations of glass fabric which have been impregnated with a thermosetting, melamine type of synthetic resin, and properly cured.
4. **TECHNICAL REQUIREMENTS:**
 - 4.1 **General:**
 - 4.1.1 **Color:** Unless otherwise specified, the color shall be natural. Supplementary coloring, when specified, shall be substantially uniform throughout the sheet. The faces of the sheet shall not contain more than minor streaks and stains.
 - 4.1.2 **Finish:** Semi-gloss.
 - 4.1.3 **Weathering:** When specified, the product shall have weather resistance acceptable to the purchaser as determined by a procedure agreed upon by purchaser and vendor.
 - 4.1.4 **Corrosion:** The product shall not have a corrosive or other deleterious effect on other materials when exposed to conditions normally encountered in service. Discoloration of metal shall not be considered objectionable.
 - 4.2 **Properties:** The product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with listed ASTM methods insofar as practicable:

<u>Property</u>	<u>Value</u>		<u>Test Method</u>
	<u>Warp</u>	<u>Filling</u>	
4.2.1 Tensile Strength, psi, min	25,000	20,000	ASTM D229-46
4.2.2 Compressive Strength, psi, min			ASTM D229-46
Flatwise	60,000	60,000	
Edgewise	21,600	21,600	
4.2.3 Flexural Strength, Flatwise, psi, min			ASTM D790-45T
Nominal Thickness, inch			
1/8 and under	46,000	36,000	
Over 1/8	31,200	20,000	

Approved and practices recommended, are advisory only. Their use is not a commitment of the SAE standard or recommended practice, and no commitment is made by the SAE Board and its Committees will not investigate or consider patent infringement of patents.

TC of the SAE Technical Board provides that: "All technical reports, including standard reports, are advisory only. There is no agreement to adhere to any standard or recommended practice, and no commitment is made by the SAE Board and its Committees will not investigate or consider patent infringement of patents."



Documents

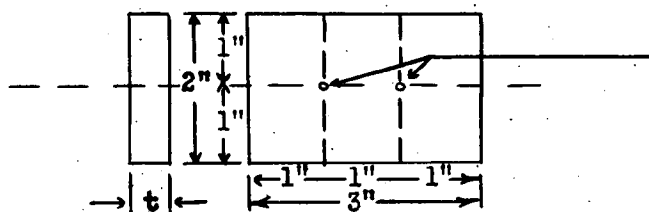
Document Sharing Hub

Property	Value		Test Method
	Warp	Filling	
4.2.4 Water Absorption			ASTM D570-42
Weight Increase, %, max			24-hr immersion
1/2 in. thickness	1.00		
1/8 in. thickness	1.45		
4.2.5 Heat Resistance	No visible deterioration		Note 1
4.2.6 Volatile Matter, loss on heating			ASTM D229-46
% by weight, max	0.90		
4.2.7 Dielectric Strength, KV, min			Note 2
Parallel to laminations, short time			
Conditioned	7.0		
As received	23.0		
4.2.8 Arc Resistance, sec, min	180		ASTM D495-48T
			Avg of 5 specimens
4.2.9 Fire Resistance	Pass		AMS 3851

Note 1: The heat resistance shall be determined by exposure of a 1 x 3 inch specimen to dry heat at 350 F $\pm$ 2 for a period of 5 hr.

Note 2: To be tested in accordance with ASTM D149-44 except that:

(a) Test specimen to be:



3/16 in. hole, reamed to fit
No. 3 taper pin

- (b) Electrodes to be No. 3 standard taper pins, not over 1 in. long.
- (c) Conditioned specimen to be immersed in distilled water for 48 hr at 122 F $\pm$ 5, wiped dry and tested in oil.
- (d) As received specimen to be tested in oil.

4.3 Machinability: Sheet and plate shall not split, crack, chip or delaminate when drilled, sawed, tapped or machined in any direction.

5. QUALITY: Sheet and plate shall be uniform in quality and condition, free from blisters, wrinkles, cracks, crazing, and surface roughness, and reasonably free from other small defects such as scratches and dents.

6. SIZES AND TOLERANCES: Unless otherwise specified, the following shall apply:

6.1 Length and Width: Shall not vary more than plus and minus 1 in. from the nominal dimensions.