

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 3564 A

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VULCANIZED FIBRE SHEET

1. **ACKNOWLEDGMENT:** A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. **APPLICATION:** Primarily for gaskets and reinforcements on packaging enclosures.
3. **MATERIAL AND FABRICATION:** Material shall consist of cotton-base paper which has been partially gelatinized by the action of a chemical, usually zinc chloride, and then heavily compressed or rolled to the required thickness, leached free from gelatinizing agent, and dried.
4. **TECHNICAL REQUIREMENTS:**
 - 4.1 **Color:** Unless otherwise specified, the color shall be gray. (Black and red are also commercially standard.)
 - 4.2 **Chemical Composition:** The product shall conform to the following requirements; tests shall be performed in accordance with ASTM D619-46T, insofar as practicable:

Ash, %	3.0 max
Silica, %	0.3 max
Zinc Chloride %	0.2 max

Note: If red material is specified, ash may be as high as 7.0%.

- 4.3 **Physical Properties:** Unless otherwise specified, the product shall conform to the following requirements; tests shall be performed on the product supplied and in accordance with ASTM D619-46T, insofar as practicable:

Property	Value	
Tensile Strength, psi, min	Lengthwise	Crosswise
Thickness, nominal, in.		
1/8 and under	8000	6000
Over 1/8 - 1/2, incl	7500	5500
Over 1/2	7000	5000
Compressive Strength, flatwise, psi, min	20,000	
Density, g per cc, min		
Thickness, nominal, in.		
Under 0.010	0.90	
0.010 - 3/32, incl	1.15	
Over 3/32 - 5/8, incl	1.20	
Over 5/8 - 1, incl	1.10	
Over 1 - 1-1/4, incl	1.05	
Over 1-1/4	1.01	

Water Absorption at $77\text{ F} \pm 5$,
increase in weight, %, max
Thickness, nominal, in.

	<u>2 hr immersion</u>	<u>24 hr immersion</u>
1/8 and under	55	65
Over 1/8 - 3/8, incl	25	60
Over 3/8 - 1, incl	15	35
Over 1	8	20

4.4 Corrosion: Material shall not cause corrosion of steel, cadmium plate, aluminum, and magnesium, when tested as follows:

4.4.1 Test Specimens: Shall be approximately 1 in. square.

4.4.2 Procedure: Specimens shall be suitably clamped between pairs of 3-in. square panels of steel, cadmium plated steel, aluminum, and magnesium so that specimens will be in intimate contact with the metal. Duplicate specimens, using neutral filter paper in place of the fibre, shall be similarly prepared. All panel assemblies shall be exposed to an atmosphere of approximately 100% relative humidity at $120\text{ F} \pm 5$ for 24 hours. Any evidence of corrosion of any of the panels, in the areas contacted by the fibre, in excess of that on similar panels in the areas contacted by filter paper will be cause for rejection of the material.

4.5 Machinability: Material shall be capable of being drilled, tapped, sawed, machined, punched and stamped in any direction, without cracking or splitting. When material is machined, chips shall curl, not crumble.

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

6. TOLERANCES: Unless otherwise specified, tolerances shall be as follows:

<u>Nominal Thickness</u>	<u>Thickness Tolerance,</u>
<u>Inches</u>	<u>Inch or % T. plus and minus</u>
0.040 and under	10%
Over 0.040 - 3/64, incl	0.004
Over 3/64 - 1/16, incl	0.005
Over 1/16 - 3/32, incl	0.007
Over 3/32 - 1/8, incl	0.009
Over 1/8 - 3/8, incl	0.012
Over 3/8 - 5/8, incl	0.015
Over 5/8 - 7/8, incl	0.025
Over 7/8 - 1-1/4, incl	0.040
Over 1-1/4	0.060

7. REPORTS:

7.1 Unless otherwise specified, the vendor of sheet shall furnish with each shipment three copies of a notarized report stating that the sheet meets the requirements of this specification. This report shall include the purchase order number, material specification number, size, and quantity.