

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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AMS 3564B

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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:** Shall be gray unless otherwise specified. (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 D-619-49T, insofar as practicable:

Ash, %	3.0 max
Silica, %	0.3 max
Zinc Chloride, %	0.2 max
  - 4.2.1 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 D619-49T, insofar as practicable:

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

- 4.3.1 **Property** **Value**

Tensile Strength, psi, min	Lengthwise	Crosswise
Nominal Thickness, in.		
0.125 and under	8000	6000
Over 0.125 to 0.500, incl	7500	5500
Over 0.500	7000	5000
- 4.3.2 **Compressive Strength, flatwise, psi, min** 20,000

Section 7C of the SAE Technical Board rules provides that: "All technical reports, including standards approved and practices recommended, are advisory only. Their use by anyone engaged in industry or trade is entirely voluntary. There is no agreement to adhere to any SAE standard or recommended practice, and no commitment to conform to or be guided by any technical report. In formulating and approving technical reports, the Board and its Committees will not investigate or consider patents which may apply to the subject matter. Prospective users of the report are responsible for protecting themselves against liability for infringement of patents."

**4.3.3** **Density, g per cu cm, min**  
**Nominal Thickness, in.**

Under 0.010	0.90
0.010 to 0.094, incl	1.15
Over 0.094 to 0.625, incl	1.20
Over 0.625 to 1.00, incl	1.10
Over 1.00 to 1.25, incl	1.05
Over 1.25	1.01

**4.3.4** **Water Absorption at 77 F  $\pm$  5**  
**increase in weight, %, max**  
**Nominal Thickness, in.**

	2 hr immersion	24 hr immersion
0.125 and under	55	65
Over 0.125 to 0.375, incl	25	60
Over 0.375 to 1.00, incl	15	35
Over 1.00	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 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:** The product 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, the following tolerances apply:

Nominal Thickness Inches	Thickness Tolerance, Inch or $\frac{1}{4}$ T, Plus and Minus
0.040 and under	10%
Over 0.040 to 0.047, incl	0.004
Over 0.047 to 0.063, incl	0.005
Over 0.063 to 0.094, incl	0.007
Over 0.094 to 0.125, incl	0.009
Over 0.125 to 0.375, incl	0.012
Over 0.375 to 0.625, incl	0.015
Over 0.625 to 0.875, incl	0.025
Over 0.875 to 1.25, incl	0.040
Over 1.25	0.060

7. REPORTS:

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

7.2 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.

8. IDENTIFICATION: Unless otherwise specified, each sheet shall be marked on one corner with the manufacturer's identification, and AMS 3564B. The characters shall be not less than 3/8 in. in height, shall be applied using a suitable marking fluid, and shall not be obliterated by normal handling.

9. PACKAGING:

9.1 Packaging shall be accomplished in such a manner as to ensure that the product during shipment and storage, will not be permanently distorted, and will be protected against damage from exposure to weathering or any normal hazard.

9.2 Each package or lot shall be permanently and legibly marked to give the following information:

VULCANIZED FIBRE SHEET  
 AMS 3564B  
 PURCHASE ORDER NUMBER \_\_\_\_\_  
 SIZE \_\_\_\_\_  
 QUANTITY \_\_\_\_\_  
 MANUFACTURER'S IDENTIFICATION \_\_\_\_\_