

ANCELLED

# AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 3565A

Issued 5-1-48

Revised 2-15-53

## VULCANIZED FIBRE

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. FORM: Rod and tube.
3. APPLICATION: Primarily for pins, spacers, and sleeves for prevention of galvanic corrosion.
4. 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.
5. TECHNICAL REQUIREMENTS:
  - 5.1 Color: Shall be gray, unless otherwise specified. (Black and red are also commercially standard.)
  - 5.2 Chemical Composition: The product shall conform to the following requirements; tests shall be performed in accordance with ASTM D619-49T, insofar as practicable.

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

- 5.2.1 If red material is specified, ash may be as high as 7.0%.
- 5.3 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:

### 5.3.1 Rod:

Property	Value
5.3.1.1 Tensile Strength, psi, min	
Nominal Diameter, in.	
0.50 and under	7500
Over 0.50	7000
5.3.1.2 Compressive Strength, psi, min	6000

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## Property

## Value

5.3.1.3 Density, g per cu cm, min  
Nominal Diameter, in.

0.094 and under	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

5.3.1.4 Water Absorption at 77 F  $\pm$  5,  
increase in weight, %, max  
Nominal Diameter, in.

## 2 hr immersion

## 24 hr immersion

0.188 and under	40	80
Over 0.188 to 0.500, incl	20	60
Over 0.500 to 1.00, incl	10	30
Over 1.00	8	25

5.3.2 Tube:

## 5.3.2.1 Tensile Strength, psi, min

6,500

5.3.2.2 Compressive Strength, Axial, psi  
Nominal Wall Thickness, in.0.125 and under  
Over 0.12510,000  
9,0005.3.2.3 Water Absorption at 77 F  $\pm$  5,  
increase in weight, %, max  
Nominal Wall Thickness, in.

## 2 hr immersion

## 24 hr immersion

0.125 and under	50	75
Over 0.125 to 0.250, incl	20	50
Over 0.250	10	25

5.4 Corrosion: Material shall not cause corrosion of steel, cadmium plate,  
aluminum, and magnesium, when tested as follows:5.4.1 Test Specimens:5.4.1.1 Rod: Discs approximately 1/16 in. thick, or longitudinal sections  
approximately 2 in. long and machined to have parallel flat surfaces.5.4.1.2 Tube: Rings, or segments of rings, approximately 1/16 in. thick.

5.4.2 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.

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

6. 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.

7. TOLERANCES: Unless otherwise specified, the following tolerances apply:

7.1 Rod:

Nominal Diameter Inches	Diameter Tolerance, Inch, Plus and Minus
0.250 and under	0.005
Over 0.250 to 1.00, incl	0.006
Over 1.00	0.010

7.2 Tube:

Nominal OD Inches	ID and OD Tolerance, Inch, Plus and Minus
0.250 and under	0.004
Over 0.250 to 1.00, incl	0.005
Over 1.00 to 2.00, incl	0.008
Over 2.00	0.010

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 meets the requirements of this specification. This report shall include the purchase order number, material specification number, size, and quantity.