

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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New York City

AMS 4615

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Revised

SILICON BRONZE

Rods and Bars

Hard

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

2. FORM: Rods, bars, or shapes.

3. COMPOSITION:

Silicon	2.75 - 3.35
Manganese or Zinc	1.50 max
Lead	0.20 - 0.80
Iron	0.25 max
Total Other Elements	0.50 max
Copper	remainder
(Lead free bronze may be furnished when agreed to by the purchaser)	

4. CONDITION: (a) Rods and bars shall be supplied either hot rolled or extruded, and cold finished, followed by stress relief anneal, and conforming to the following minimum physical properties:

Diameter or Distance Between Parallel Faces	Tensile Strengths p. s. i.	Yield Point	Elongation in 2 inches per cent	Bend Test * Angle of Bend, deg.
Up to 1/2 in., incl.	85,000	50,000	14	90
Over 1/2 to 1 in., incl.	85,000	50,000	18	90
Over 1 to 1-1/2 in., incl.	85,000	50,000	22	90

* The bend test specimen shall stand being bent cold around a radius equal to its diameter or thickness, without fracturing.

(b) A 6-inch length of test specimen shall stand, without cracking, an immersion for 15 minutes in an aqueous mercurous nitrate solution containing 100 grams of mercurous nitrate and 13 ml. of nitric acid (sp. gr. 1.42) per liter of solution.

5. QUALITY: The material shall be uniform in quality and temper, clean, sound, smooth, and free from foreign material and all internal and external defects which adversely affect its strength, use or machinability. If material defects are revealed while machining the parts, the material is subject to rejection.
6. TOLERANCE: Commercial tolerances for the products ordered shall apply.
7. REPORTS: Unless otherwise specified, the manufacturer shall furnish three copies of a notarized report of physical properties and the chemical composition representing each lot. This report shall include the purchase order number, material specification number, size, and quantity. If parts are supplied, the part number shall also be included.