AERONAUTICAL MATERIAL SPECIFICATION

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

AMS 4615 A

Issued 4-1-43
Revised 11-1-46

SILICON BRONZE BARS
Hard

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.

2. FORM: Rods and bars.

3. COMPOSITION:

Copper	94.8 min
Silicon	2.75 - 3.5
Manganese, Iron, or Zinc	1.6 max
Total Named Elements	99.5 min

The above composition may include lead 0.2-0.8 when agreed to by the purchaser and this element shall be considered as a named element.

4. CONDITION: (a)Cold finished, followed by a suitable stress relieving operation if necessary, conforming to the following minimum requirements.

Form	Nominal Diameter or Thickness	Tensile Strength	Yield Strength at 0.2% Offset or at Extension Indicated		Elongation
				Extension Under Load	
	inches	psi	psi	inch in 2 in.	% in 4D
Rounds, Hexagons and Octagons	0.5 and under	85,000	50,000	0.0107	14
	Over 0.5 to 1.0, incl	85,000	50,000	0.0107	18
	Over 1.0 to 1.5, incl	85,000	50,000	0.0107	22
Squares and Rectangles	1.0 and under	65,000			25
	Over 1.0 to 1.5, incl	60,000			25
	Over 1.5 to 3.0, incl	50,000			25

Note: Tension test specimens from bars over 1.5 in. in thickness shall have their axes located approximately midway between the center and surface.

(b)Material shall withstand, without cracking, bending at room temperature through an angle of 90° around a diameter equal to twice the diameter or thickness of the test specimen.

(c)Test specimens of full cross section having a length of either 6 in. or twice the diameter or minimum distance between parallel sides, whichever is greater, shall be capable of withstanding, without cracking, immersion for 15 minutes in an aqueous solution containing 100 g of mercurous nitrate and 13 ml of nitric acid (sp gr 1.42) per liter of solution, using at least 10 ml of solution per sq in. of test specimen surface area.