

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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ALUMINUM 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. APPLICATION: Primarily for strength and corrosion resistance at elevated temperatures.

4. COMPOSITION:

Copper	87.0 min
Aluminum	7.0 - 10.0
Iron	1.5 max
Other additions including Nickel, Tin and Manganese	2.0 max
Total Named Elements	99.8 min

5. CONDITION: (a) Material shall be supplied hot rolled, drawn or extruded, but may be cold finished, conforming to the following minimum physical properties:

Nominal Diameter or Thickness Inches	Tensile Strength psi	Elongation % in 4D
0.5 and under	80,000	5
Over 0.5 to 1.0, incl	75,000	5
Over 1.0 to 2.0, incl	72,000	5

- (b) Material shall have hardness not lower than Brinell 165, using 1000 kg load, on the surface, except on rounds, where a flat, as necessary for Brinell accuracy, shall be made, or not lower than Rockwell B-91 when taken on the 1/2 radius section.

- (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 min 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.

6. QUALITY: (a) Material shall be uniform in quality and condition, clean, sound, smooth, and free from foreign materials and from internal and external defects detrimental to fabrication or to performance of parts. Material in which defects are revealed during fabrication will be subject to rejection.

(b) Material and parts shall be subject to inspection by any method which will reveal harmful defects.