

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS4625C

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PHOSPHOR 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, bars and tubes.

3. **COMPOSITION:**

Copper	93.0 min
Tin	3.5 - 5.8
Phosphorus	0.03 - 0.35
Zinc	0.30 max
Iron	0.10 max
Lead	0.05 max
Total Named Elements	99.8 min

In rods 1.25 in. and over in diameter or thickness the iron may be 1.0 max and the manganese may be 0.5 max and these two elements shall be considered as named elements.

4. **CONDITION:** Hard temper conforming to the following minimum requirements.

Form	Nominal Diameter or Thickness	Tensile Strength	Yield Strength at 0.2% Offset or at Extension Indicated	Elongation
	inches	psi	psi	% in 4D
			Extension Under Load	
			inches in 2 in.	
	0.5 and under	80,000	60,000	12
Rounds	Over 0.5 to 1.0, incl.	60,000	40,000	20
and	Over 1.0 to 3.0, incl.	55,000	30,000	25
Hexagons	Over 3.0 to 4.5, incl.	50,000	25,000	25
Squares	0.25 to 0.38, incl.	60,000		10
and	Over 0.38	55,000		15
Rectangles				
Tubes	Over 1.0	55,000	30,000	12

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

5. **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 or parts shall be subject to inspection by any method which will reveal defects.