

# AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.  
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## AMS4625 B

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### P H O S P H O R   B R O N Z E

Rods and Bars

(Hard)

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

2. FORM: Rods, bars, tubes, or shapes.

3. COMPOSITION:

Copper	94.00 - 96.00	99.50 min
Tin	3.50 - 5.80	
✓ Phosphorus	0.03 - 0.35	
Zinc	0.30 max	
Iron	0.10 max	
Lead	0.05 max	

+ For sizes 1.25 inches diameter and over the iron may be 1.00 max and the manganese 0.50 max.

4. CONDITION: (a) Hard temper conforming to the following minimum physical properties:

Diameter or Thickness  inches	Tensile Strength  lb per sq in.	Yield Strength at 0.2% Set or at Extension Indicated		Elongation  % in 2 in.
		Extension Under Load inch in 2"	Extension Under Load inch in 2"	
0.50 and less	80,000	60,000	0.0120	12
Over 0.50 to 1.00, incl.	60,000	40,000	0.0093	20
Over 1.00 to 3.00, incl.	55,000	30,000	0.0080	25
Over 3.00 to 4.50, incl.	50,000	25,000	0.0073	25

Tubes:

Over 1.00	55,000	30,000	0.0080	12
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(b) If smaller tubes, or shapes, are ordered to this specification, the physical properties must be specified.

(c) Test specimens from rods and bars over 1.5 inches in diameter or thickness shall be taken half-way between the center and the surface.

5. QUALITY: The material shall be uniform in quality and temper, clean, sound, smooth, commercially straight, 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. TOLERANCES: Commercial tolerances for the product ordered shall apply.