

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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PHOSPHOR BRONZE

95Cu - 5Sn

Hard Temper

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 tubing.
3. **APPLICATION:** Primarily for parts, such as bushings and bearings, where low coefficient of friction is required, and for parts requiring moderate strength and good electrical conductivity.
4. **COMPOSITION:**

Copper	93.0 min	} 99.5 min
Tin	3.5 - 5.8	
Phosphorus	0.03 - 0.35	
Zinc	0.30 max	
Iron	0.10 max	
Lead	0.05 max	

Note: In rounds and hexagons 1.25 in. and over in diameter or distance between parallel sides, iron may be as high as 1.0%, and manganese up to 0.50% may be added to the above composition; in such cases, manganese and iron shall both be considered named elements and the minimum copper requirement may be reduced to 92.0%.

5. **CONDITION:** Cold finished, hard temper.

6. **TECHNICAL REQUIREMENTS:**

6.1 **Tensile Properties:**

Nominal Diameter or Distance Between Parallel Sides, Inches	Tensile Strength, psi, min	Elongation, % in 4D, min
Rounds		
Under 0.25	80,000	12
Rounds, Hexagons		
0.25 to 0.50, incl	70,000	13
Over 0.50 to 1.00, incl	60,000	20
Over 1.00	55,000	25
Squares, Rectangles, Thickness		
0.375 and under	60,000	10
Over 0.375	55,000	15
Tubing, OD		
Over 1.0	55,000	12

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