

# AERONAUTICAL MATERIAL SPECIFICATION

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

## AMS 4610A

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### BRASS RODS AND BARS Free Cutting-Half Hard

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

2. <b>COMPOSITION:</b>	Copper	60.0 - 63.0
	Lead	2.5 - 3.75
	Iron	0.15 max
	Total Other Impurities	0.50 max
	Zinc	remainder

3. **CONDITION:** (a) Half-Hard temper conforming to the following minimum physical properties:

<u>Diameter or Thickness</u> inches	<u>Tensile Strength</u> lb per sq in.	<u>Yield Strength</u> lb per sq in.	<u>Elongation</u> % in 2 in.
0.50 and less	60,000	28,000	7.0
Over 0.50 to 1.0, incl.	55,000	25,000	15.0
Over 1.0 to 3.0, "	50,000	20,000	20.0
Over 2.0	45,000	15,000	25.0

(b) The material shall withstand the mercurous nitrate test conducted in accordance with ASTM B154-41T.

4. **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.

5. **TOLERANCES:** The following variations in diameter or thickness are permissible; all dimensions are in inches:

<u>Diameter or Thickness</u>	<u>Tolerance, plus and minus</u>	
	<u>Rounds</u>	<u>Other Shapes</u>
Up to 1.500, incl.	0.0015	0.003
Over 0.500 to 1.00, incl.	0.002	0.004
Over 1.00 to 2.50, incl.	0.0025	0.005
Over 2.50	0.15%	0.30%

6. **REPORTS:** Unless otherwise specified, the manufacturer shall furnish three copies of a notarized report stating that the chemical composition and physical properties of the material are within the requirements specified. This report shall include the purchase order number, material specification number, size, and quantity. If parts are supplied, the part number shall also be included.

7. **IDENTIFICATION:** The material shall be identified by painting each length on or near the ends with the standard color or combination of colors adopted for it, or as agreed upon by the manufacturer and the purchaser.