

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS4611A

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NAVAL BRASS Rods And Bars - Half 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 screw machine parts.

4. **COMPOSITION:**

Copper	59.0 - 62.0
Tin	0.5 - 1.0
Lead	0.20 max
Iron	0.10 max
Total Other Elements	0.10 max
Zinc	remainder

5. **CONDITION:** (a) Half hard temper conforming to the following minimum physical properties:

Nominal Diameter or Thickness	Tensile Strength	Yield Strength at 0.2% Offset or at Extension Indicated	Extension Under Load	Elongation
Inches	psi	psi	inch in 2 in.	% in 4D
0.5 and under	60,000	27,000	0.0076	25
Over 0.5 to 1.0 incl	60,000	27,000	0.0076	30
Over 1.0 to 2.5 incl	58,000	26,000	0.0075	30
Over 2.5 to 3.5 incl	54,000	25,000	0.0074	30
Over 3.5	54,000	22,000	0.0070	30

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

- (b) 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.