AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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New York City

AMS 4872A

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ALUMINUM BRONZE CASTINGS, SAND
85Cu - 11.2Al - 3.6Fe
As Cast

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

2. **APPLICATION:** Primarily for high strength.

3. **COMPOSITION:**

Copper	83.5 min
Aluminum	10.5 - 12.0
Iron	3.0 - 4.25
Manganese	0.50 max
Nickel	0.50 max
Total Named Elements	99.7 min

4. **CONDITION** As cast.

5. **TECHNICAL REQUIREMENTS:**

5.1 **Casting:** A melt shall be the metal withdrawn from a batch furnce charge of 2000 pounds or less as melted for pouring castings.

5.2 **Tensile Test Coupons:** Shall be cast with each melt of metal for castings and when requested, shall be supplied with the castings. Coupons shall be of such size that a standard (0.5-inch diameter at the reduced parallel section) tensile test specimen may be machined from each coupon, and shall be cast in molds made with the regular foundry mix of green sand, without using chills. Metal for the coupons shall be part of the melt which is used for the castings. The temperature of the metal during pouring of the coupons shall be not lower than the temperature of the metal during pouring of the castings.

5.3 **Tensile Properties:**

5.3.1 Tensile test specimens cut from the coupons shall conform to the following requirements:

Tensile Strength, psi	80,000 min
Yield Strength at 0.2% offset or at 0.0088 inch in 2 in. extension under load, psi	36,000 min
Elongation, % in 4D	6 min

5.3.2 If castings are cut for examination, tensile properties of specimens cut from sections of castings 1 in. and under in thickness shall conform to the requirements of 5.3.1; specimens cut from sections of castings over 1 in. in thickness shall conform to the following requirements:

Tensile Strength, psi	72,000 min
Yield Strength at 0.2% offset or at 0.0077 inch in 2 in. extension under load, psi	28,000 min
Elongation, % in 4D	5 min

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