

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 4725

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Revised

COPPER - BERYLLIUM ALLOY WIRE Solution Treated

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

2. **APPLICATION:** Primarily for parts requiring high strength with good electrical conductivity or lack of magnetic susceptibility.

3. **COMPOSITION:**

Beryllium	1.90 - 2.15
Nickel or Cobalt	0.20 min
Nickel + Cobalt + Iron	0.60 max
Copper + total named elements	99.50 min

4. **CONDITION:** Cold drawn or rolled, and solution heat treated, in a suitable condition for precipitation heat treatment.

5. **TECHNICAL REQUIREMENTS:** (a) Physical Properties As Received.-

Tensile Strength, psi	80,000 max
Elongation, % in 2 in.	35 min

(b) Physical Properties After Precipitation Heat Treatment.- Wire after precipitation heat treatment at 600 F $\pm$ 5 for 3 hours and cooling in air shall conform to the following requirements:

Tensile Strength, psi	150,000 min
Elongation, % in 2 in.	1.5 min

6. **QUALITY:** Wire 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.

7. **TOLERANCES:** Unless otherwise specified, tolerances shall conform to the latest issue of AMS 2224 as applicable. Diameter or thickness, and width tolerances shall be as specified below:

(a) Rounds	Table I
(b) Hexagons, Octagons	Table II, Refractory
(c) Squares	Table III, Refractory
(d) Rectangles, thickness	Table III, Refractory
(e) Rectangles, width	Table IV, Refractory

8. **REPORTS:** (a) Unless otherwise specified, the vendor of wire shall furnish with each shipment three copies of a notarized report showing the results of tests to determine conformance to the requirements of this specification, or stating that the chemical composition and physical properties of the wire conform to the requirements specified. This report shall include the purchase order number, material specification number, size and quantity.