

AERONAUTICAL MATERIAL SPECIFICATION

Society of Automotive Engineers, Inc.
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AMS 4530A

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COPPER - BERYLLIUM ALLOY SHEET AND STRIP Solution Treated

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 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:** Unless otherwise specified, material shall be supplied solution heat treated in a suitable condition for precipitation heat treatment.
5. **TECHNICAL REQUIREMENTS:** (a) Physical Properties As Received.-

Nominal Thickness Inch	Tensile Strength psi, max	Elongation % in 2 in., min	Hardness Rockwell
Under 0.010	80,000	10	--
0.010 - 0.030, incl	80,000	25	15T 72 - 86
Over 0.030 - 0.050, incl	80,000	35	30T 40 - 68
Over 0.050 - 0.075, incl	80,000	35	F 103 max
Over 0.075	80,000	35	B 80 max

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

Nominal Thickness Inch	Tensile Strength psi, min	Yield Strength at 0.2% offset or at extension indicated		Hardness Rockwell
		psi, min	Extension Under Load, Inch in 2 in.	
Under 0.010	150,000	120,000	0.0170	--
0.010 - 0.020, incl	150,000	120,000	0.0170	15N 77 - 81
Over 0.020 - 0.065, incl	150,000	120,000	0.0170	30N 54 - 60
Over 0.065	150,000	120,000	0.0170	C 34 - 40

6. **QUALITY:** 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.