



CA-17500 Alloy 10 / CA-17510 Alloy 3

Characteristics

- * Conductivity to 60% IACS
- * Tensile Strength to 140 ksi.
- * Provided as a Mill Hardened Product
- * Great Alloy for High Reliability Weld Tip Applications

Description

Copper Alloy, CDA-17500 and CDA-17510 Mill Hardened Beryllium Copper combines moderate yield strength, up to 125 ksi, with electrical conductivity from 45 to 60 percent of pure copper. Alloys 3 and 10 are available in wrought product forms and can be supplied fully hardened by our producing mill. Alloy 3 product provides increased thermal conductivity.

Specifications

ASTM-B-441 ASTM-B-937 SAE-J-461 SAE-J-463 RWMA Class 3

Forms Available

ROD & TUBE Diameters: .250 to 6.000
 WIRE Diameters: .001 to .060
 PLATE Gauge: .125 to 3.000 Width: .250 to 24.500

Typical Property Values

CHEMICAL

Beryllium: 0.15 - .050%
 Cobalt: 0.35 - 0.60%
 Copper: Balance

PHYSICAL

	Alloy 10	Alloy 3	
Density	0.319	0.319	lbs per cu. in. @ 68°F (annealed)
Modulus of Elasticity	20.0	20.0	x 10 ⁶ PSI Tension
Thermal Conductivity	115	140	BTU per sq. ft. per hr. @ 68°F
Coef. Of Thermal Expansion	9.8	9.8	inches/inch/ F x 10 ⁻⁶ from 68°F to 572°F

MECHANICAL

	Ann. (TB00)	Hard (TD04)	
AS EXTRUDED			
Tensile Strength	35 - 55	65 - 80	x 1000
Yield (2% offset)	10 - 30	50 - 75	x 1000
Elongation	20 - 35	10 - 15	% in 2 inches
Rockwell Hardness (30T)	B20 - 50	B60 - 80	.020 gauge and above
Electrical Conductivity	20 - 30	20 - 30	% IACS @ 68°F (annealed)
	AT (TF00)	HT (TH04)	
AFTER MILL HARDENING			
Heat Treat Time At Temperature	3 hr. 900°	2 hr. 900°	Fahrenheit
Tensile Strength	100 - 130	110 - 140	x 1000
Yield (2% offset)	80 - 100	95 - 125	x 1000
Elongation	10 - 25	5 - 25	% in 2 inches
Rockwell Hardness (30T)	B92 - 100	B95 - 102	.020 gauge and above
Electrical Conductivity	45 - 60	45 - 60	% IACS @ 68°F (annealed)

(Properties listed above are provided for reference only)