C17510 Copper-Nickel-Beryllium Alloy Wire

As a low beryllium alloy, C17510 resides at the lower strength end of the beryllium copper strength spectrum but in comparison has a substantial increase in electrical conductivity. The alloy processes and heat treats like all beryllium coppers and can also be provided in a (HM) “Mill Hardened” temper.

Mechanical Properties

Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS
		MIN	MAX	
Annealed	TB00	35	240	.0010 - .1285 inch
Hard	TD04	65	450	
AT	TF00	100	690	
HT	TH04	110	760	

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS
		MIN	MAX	
Annealed	TB00	35	240	.0100 - .0808 inch
Hard	TD04	65	450	
AT	TF00	100	690	
HT	TH04	110	760	

Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS
		MIN	MAX	
Annealed	TB00	35	55	Thickness: .0100 - .0500 inch Width: .0150 - .2500 inch
1/4 Hard	TD02	60	75	
Hard	TD04	70	85	
AT	TF00	100	130	
1/2 AT	TH02	110	140	
HT	TH04	110	140	
1/2 HM	TM02	95	120	
HM	TM04	110	135	

Physical Properties

Melting Point (Liquidis)	1955°F
Melting Point (Solidus)	1885°F
Minimum Solutionizing Temperature	1550°F
Density	0.317 lbs/cu in
Electrical Resistivity (Annealed)	22.8 ?(cir mil/ft) @ 68°F
Electrical Conductivity (Rolled or Drawn)	48% IACS @ 68°F
Electrical Conductivity (Age Hardedned)	45% IACS @ 68°F
Thermal Conductivity (Solutionized-Aged)	120 Btu ft/sq ft hr °F @ 68°F
Coefficient of Thermal Expansion	0.0000098°F (68-572°F)
Modulus of Elasticity (Tension)	19200 ksi
Modulus of Rigidity	7500 ksi

Custom constructions are available, please contact the sales department

The information provided on this page is for reference purposes only.

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