C510 Bronze Alloy Wire

Introduction

Alloy C510 is an alloy with good strength, formability and stress relaxation characteristics and solderability. Applications include electronic parts, springs, switches, contacts and fasteners.

To learn more please contact our sales department.

Fisk Alloy Wire Inc.
P.O. Box 26
10 Thomas Road N.
Hawthorne, NJ 07506 U.S.A.

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Chemical Composition - Limits	Chemical Composition - Nominal
Cu rem (99.5 min incl named elements)	Cu 94.8
Sn 4.2-5.8	Sn 5.0
Pb 0.05 max	P 0.20
Zn 0.30 max	
Fe 0.10 max	
P 0.03-0.35	

Specifications	Fabrication Index	
ASTM B103	Soldering	5 - Excellent
ASTM B159	Hot Worked	2 - Fair
	Cold Worked	5 - Excellent
	Brazing	5 - Excellent
	Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	900 °F
Annealing Range (Max)	1250 °F
Density	0.32 lb/in³
Electrical Resistivity (Annealed)	69.1 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	15% IACS @ 68 °F
Thermal Conductivity	40 Btu/ft²/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.9 per °F (68-572 °F)
Modulus of Elasticity (Tension)	16 ksi
Modulus of Rigidity (Tension)	6 ksi
Melting Point (Solidus)	1,750 °F
Melting Point (Liquidus)	1,920 °F

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Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)	MILL LIMITS (inch)
Annealed	O61	43.0	58.0		.0010 - .1285 inch
1/4 Hard	H01	60.0	76.0		
1/2 Hard	H02	80.0	97.0		
3/4 Hard	H03	96.0	115		
Hard	H04	108	128		
Spring	H08	130		0.0625 - 0.1250	
Spring	H08	135		0.0250 - 0.0625	
Spring	H08	145		0.0010 - 0.0250	

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)	MILL LIMITS (inch)
Annealed	O61	43.0	58.0		.0100 - .0808 inch
1/4 Hard	H01	60.0	76.0		
1/2 Hard	H02	80.0	97.0		
3/4 Hard	H03	96.0	115		
Hard	H04	108	128		
Spring	H08	130		0.0625 - 0.1250	
Spring	H08	135		0.0250 - 0.0625	
Spring	H08	145		0.0010 - 0.0250	

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Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)
Annealed	O60	43.0	58.0	Thickness: .0100 - .0500 inch Width: .0150 - .2500 inch
1/2 Hard	H02	58.0	73.0	
Hard	H04	76.0	91.0	
Extra Hard	H06	88.0	103	
Spring	H08	95.0	110	

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