C197 High Performance Alloy Wire

Introduction

Alloy C197 is a high conductivity copper alloy possessing an excellent combination of strength, conductivity and softening resistance. This alloy can be substituted for medium tempers of brass and bronze when higher electrical conductivity is required or better solderability is needed. Alloy C197 is an improved version of alloy C194 and has substantially greater conductivity at the same strength levels.

To learn more please contact our sales department.

Fisk Alloy Wire Inc.
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Chemical Composition - Limits	Chemical Composition - Nominal
Cu rem (99.8 min incl named elements)	Cu 99.0
Fe 0.30-1.2	Fe 0.70
Mg 0.01-0.20	P 0.25
P 0.10-0.40	Mg 0.10
Mn 0.05 max	
Ni 0.05 max	
Pb 0.05 max	
Sn 0.20 max	
Zn 0.20 max	
Co 0.05 max	

Specifications	Fabrication Index	
ASTM B465	Soldering	5 - Excellent
	Hot Worked	5 - Excellent
	Cold Worked	5 - Excellent
	Brazing	5 - Excellent
	Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	700 °F
Annealing Range (Max)	1200 °F
Density	0.319 lb/in^3
Electrical Resistivity (Annealed)	13 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	80% IACS @ 68 °F
Thermal Conductivity	150 Btu/ft^2/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.7 per °F (68-572 °F)

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Modulus of Elasticity (Tension)	17 ksi
Modulus of Rigidity (Tension)	6 ksi
Melting Point (Solidus)	1,700 °F
Melting Point (Liquidus)	1,900 °F

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Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed		39.0	47.0	.0010 - .1285 inch
1/4 Hard	H01	50.0	65.0	
1/2 Hard	H02	60.0	75.0	
3/4 Hard	H03	70.0	85.0	
Hard	H04	80.0	95.0	
Spring	H08	90.0		

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed		39.0	47.0	.0100 - .0808 inch
1/4 Hard	H01	50.0	65.0	
1/2 Hard	H02	60.0	75.0	
3/4 Hard	H03	70.0	85.0	
Hard	H04	80.0	95.0	
Spring	H08	90.0		

Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)

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Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)
1/2 Hard	H02	53.0	63.0	.0150 - .2500 inch
Annealed	O60	43.0	53.0	
Hard	H04	60.0	70.0	Thickness:
Spring	H08	70.0	76.0	.0100 - .0500 inch
				Width:

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