C18080 Copper Chromium Silver

Fisk Alloy Wire Inc.
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Chemical Composition - Limits	Chemical Composition - Nominal
Cu rem - not incl Ag (99.8 min incl named elements)	Cu 99.4
Cr 0.20-0.70	Cr 0.40
Ag 0.10-0.30	Ag 0.20
Si 0.01-0.10	Si 0.05
Fe 0.02-0.20	
Ti 0.01-0.15	

Specifications	Fabrication Index	
ASTM B936	Soldering	5 - Excellent
	Hot Worked	5 - Excellent
	Cold Worked	5 - Excellent
	Brazing	4 - Very Good
	Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	1800 °F
Annealing Range (Max)	1850 °F
Density	0.322 lb/in³
Electrical Resistivity (Annealed)	13 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	80% IACS @ 68 °F
Thermal Conductivity	185 Btu/ft²/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.4 per °F (68-572 °F)
Modulus of Elasticity (Tension)	18 ksi
Modulus of Rigidity (Tension)	7 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	Max	MILL LIMITS (inch)
HM	TM04	70.0	81.0	.0010 - .1285 inch
XHMS	TM08	78.0	91.0	
Spring AT + SR	TR08	75.0	91.0	
Hard	TL04	80.0	95.0	
Spring	TL08	90.0	105	

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
HM	TM04	70.0	81.0	.0100 - .0808 inch
XHMS	TM08	78.0	91.0	
Spring AT + SR	TR08	75.0	91.0	
Hard	TL04	80.0	95.0	
Spring	TL08	90.0	105	

Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
HM	TM04	70.0	81.0	Thickness: .0100 - .0500 inch Width: .0150 - .2500 inch
XHMS	TM08	78.0	91.0	
Spring AT + SR	TR08	75.0	91.0	

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