



C18080 Copper Chromium Silver

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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/in ³
Electrical Resistivity (Annealed)	13 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	80% IACS @ 68 °F
Thermal Conductivity	185 Btu/ft ² /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)	1,700 °F
Melting Point (Liquidus)	1,900 °F

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Round Wire

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