



C72900 Copper Nickel Tin (spinodal)

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Chemical Composition - Limits		Chemical Composition - Nominal	
Cu rem (99.5 min incl named elements)		Cu 77	
Ni 14.5-15.5 - incl Co		Ni 15	
Sn 7.5-8.5		Sn 8	
Zn 0.50 max			
Pb 0.02 max			
Fe 0.50 max			
Mg 0.15 max			
Mn 0.30 max			
Nb 0.10 max			

Specifications		Fabrication Index	
ASTM B740		Soldering	5 - Excellent
ASTM B929		Hot Worked	3 - Good
		Cold Worked	5 - Excellent
		Brazing	5 - Excellent
		Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	1515 °F
Density	0.323 lb/in ³
Electrical Conductivity (Age Hardened)	7.8% IACS @ 68 °F
Thermal Conductivity	17 Btu/ft ² /ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.1 per °F (68-572 °F)
Modulus of Elasticity (Tension)	18 ksi
Modulus of Rigidity (Tension)	7 ksi
Melting Point (Solidus)	1,700 °F

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Melting Point (Liquidus)

1,900 °F

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Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS (inch)
		Min	Max	
Annealed	TB00	64.0	85.0	.0010 - .1285 inch
1/4 Hard	TD01	75.0	100	
1/2 Hard	TD02	85.0	110	
3/4 Hard	TD03	95.0	120	
Hard	TD04	100	130	
Spring	TD08	122	145	
Special Spring	TD12	135	155	
TS	TX00	120	150	
1/4 TS	TS01	130	160	
1/2 TS	TS01	145	175	
3/4 TS	TS03	155	185	
Hard TS	TS04	165	195	
Spring TS	TS08	175	205	
Special Spring TS	TS12	180	225	
AM	TM00	95.0	115	
1/2 HM	TM02	105	125	
HM	TM04	115	135	
XHM	TM06	130	150	
XHMS	TM08	150	180	

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS (inch)
		Min	Max	
Annealed	TB00	64.0	85.0	.0100 - .0808 inch
1/4 Hard	TD01	75.0	100	

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Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS (inch)
		Min	Max	
1/2 Hard	TD02	85.0	110	
3/4 Hard	TD03	95.0	120	
Hard	TD04	100	130	
Spring	TD08	122	145	
Special Spring	TD12	135	155	
TS	TX00	120	150	
1/4 TS	TS01	130	160	
1/2 TS	TS01	145	175	
3/4 TS	TS03	155	185	
Hard TS	TS04	165	195	
Spring TS	TS08	175	205	
Special Spring TS	TS12	180	225	
AM	TM00	95.0	115	
1/2 HM	TM02	105	125	
HM	TM04	115	135	
XHM	TM06	130	150	
XHMS	TM08	150	180	