



## **C72900** Copper Nickel Tin (spinodal)

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# C72900 Copper Nickel Tin (spinodal)

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 <sup>3</sup>
Electrical Conductivity (Age Hardened)	7.8% IACS @ 68 °F
Thermal Conductivity	17 Btu/ft <sup>2</sup> /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)	1,620 °F

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Melting Point (Liquidus)

1,880 °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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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	