



C725 Copper-Nickel-Tin Alloy Wire

Introduction

Alloy C725 is a moderate strength, low conductivity alloy with excellent bare solderability and corrosion resistance. Applications include electronic parts, springs, connectors and wire wrap terminals.

To learn more please contact our [sales department](#).

C725 Copper-Nickel-Tin Alloy Wire

Chemical Composition - Limits	Chemical Composition - Nominal
Cu rem (99.8 min incl named elements)	Cu 88.2
Ni 8.5-10.5 - incl Co	Ni 9.5
Sn 1.8-2.8	Sn 2.3
Zn 0.50 max	
Pb 0.05 max	
Fe 0.60 max	
Mn 0.20 max	
Specifications	Fabrication Index
ASTM B122	Soldering 5 - Excellent
	Hot Worked 5 - Excellent
	Cold Worked 5 - Excellent
	Brazing 5 - Excellent
	Machinability 1 - Poor

Physical Properties

Annealing Range (Min)	1200 °F
Annealing Range (Max)	1475 °F
Density	0.321 lb/in ³
Electrical Resistivity (Annealed)	94.3 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	11% IACS @ 68 °F
Thermal Conductivity	31 Btu/ft ² /ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.2 per °F (68-572 °F)
Modulus of Elasticity (Tension)	20 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		55.0	65.0	.0010 - .1285 inch
1/4 Hard	H01	65.0	80.0	
1/2 Hard	H02	75.0	90.0	
3/4 Hard	H03	80.0	95.0	
Hard	H04	95.0	110	
Spring	H08	110	125	

Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS (inch)
		Min	Max	
Annealed		45.0	65.0	Thickness: .0100 - .0500 inch Width: .0150 - .2500 inch
1/4 Hard	H01	55.0	75.0	
1/2 Hard	H02	65.0	80.0	
3/4 Hard	H03	75.0	90.0	
Hard	H04	80.0	95.0	
Spring	H08	85.0	100	