C151 Zirconium Copper Alloy Wire

Introduction

Alloy C151 has excellent solderability, high conductivity, and good strength. C151 has superior softening resistance compared to pure copper C110, which will soften upon heating, limiting the application environment. Applications can be found in high current interconnects, pin grids, welding wire, or other elevated temperature applications.

To learn more please contact our sales department.

Fisk Alloy Wire Inc.
P.O. Box 26
10 Thomas Road N.
Hawthorne, NJ 07506 U.S.A.

Phone: (973) 825-8500
Fax: (973) 427-4585
E-mail: sales@fiskalloy.com

C151 Zirconium Copper Alloy Wire

Chemical Composition - Limits	Chemical Composition - Nominal
Cu 99.80 min - incl Ag (99.9 min incl named elements)	Cu 99.9
Zr 0.05-0.15	Zr 0.10

Specifications	Fabrication Index	
ASTM B246	Soldering	5 - Excellent
ASTM B747	Hot Worked	5 - Excellent
ASTM B888	Cold Worked	5 - Excellent
	Brazing	4 - Very Good
	Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	840 °F
Annealing Range (Max)	1025 °F
Density	0.323 lb/in³
Electrical Resistivity (Annealed)	10.9 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	95% IACS @ 68 °F
Thermal Conductivity	208 Btu/ft²/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.8 per °F (68-572 °F)
Modulus of Elasticity (Tension)	17 ksi
Modulus of Rigidity (Tension)	6 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) Min	Max	MILL LIMITS (inch)
Annealed	OS15	34.0	40.0	.0010 - .1285 inch
1/4 Hard	H01	40.0	55.0	
1/2 Hard	H02	50.0	62.0	
Hard	H04	60.0	72.0	
Spring	H08	70.0		

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed	OS15	34.0	40.0	.0100 - .0808 inch
1/4 Hard	H01	40.0	55.0	
1/2 Hard	H02	50.0	62.0	
Hard	H04	60.0	72.0	
Spring	H08	70.0		

Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed	OS15	37.0	42.0	Thickness: .0100 - .0500 inch Width: .0150 - .2500 inch
1/2 Hard	H02	43.0	51.0	
Hard	H04	53.0	62.0	
Spring	H08	64.0	71.0	

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