C425 Copper-Zinc-Tin Alloy Wire

Introduction

Alloy C425 is a low zinc-containing alloy with good combination of tensile strength, electrical conductivity, formability and corrosion resistance. Applications include electrical springs, connectors and terminals.

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
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Chemical Composition - Limits	Chemical Composition - Nominal
Cu 87.0-90.0 (99.7 min incl named elements)	Cu 88.5
Sn 1.5-3.0	Zn 9.5
Zn rem	Sn 2.0
Pb 0.05 max	
Fe 0.05 max	
P 0.35 max	

Specifications	Fabrication Index	
ASTM B591	Soldering	5 - Excellent
	Hot Worked	3 - Good
	Cold Worked	5 - Excellent
	Brazing	5 - Excellent
	Machinability	1 - Poor

Physical Properties

Annealing Range (Min)	800 °F
Annealing Range (Max)	1300 °F
Density	0.316 lb/in³
Electrical Resistivity (Annealed)	37 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	28% IACS @ 68 °F
Thermal Conductivity	69 Btu/ft²/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	10.2 per °F (68-572 °F)
Modulus of Elasticity (Tension)	16 ksi
Melting Point (Solidus)	1,750 °F
Melting Point (Liquidus)	1,920 °F

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Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed		42.0	52.0	.0010 - .1285 inch
1/4 Hard	H01	57.0	72.0	
1/2 Hard	H02	73.0	88.0	
3/4 Hard	H03	85.0	100	
Hard	H04	95.0	110	
Extra Hard	H06	105	120	
Spring	H08	115		

Square Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	Max	MILL LIMITS (inch)
Annealed		42.0	52.0	.0100 - .0808 inch
1/4 Hard	H01	57.0	72.0	
1/2 Hard	H02	73.0	88.0	
3/4 Hard	H03	85.0	100	
Hard	H04	95.0	110	
Extra Hard	H06	105	120	
Spring	H08	115		

Rolled Flat

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

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Rolled Flat

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi)		MILL LIMITS (inch)
		Min	Max	
1/4 Hard	H01	49.0	59.0	.0100 - .0500 inch
1/2 Hard	H02	57.0	69.0	Width: .0150 - .2500 inch
3/4 Hard	H03	62.0	74.0	
Annealed		40.0	50.0	
Hard	H04	70.0	82.0	Thickness:
Extra Hard	H06	76.0	88.0	
Spring	H08	84.0	94.0	
Extra Spring	H10	92.0		

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