MA19B Leaded Nickel Copper

Introduction

MA19B is a free machining, precipitation hardened leaded-nickel copper alloy. Like MA19C / C19160, the alloy features high strength, high electrical conductivity, and excellent resistance to thermal stress relaxation, however the lead content is reduced to accomodate forming applications including cold heading. Typical applications are in critical high power components.

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

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Chemical Composition - Limits	Chemical Composition - Nominal
Cu rem - incl Ag (99.5 min incl named elements)	Cu 98.2
Ni 0.8-1.2	Ni 1.0
Pb 0.5-1.0	Pb 0.8
Fe 0.05 max	
Sn 0.05 max	
P 0.15-0.35	

Fabrication Index	
Soldering	5 - Excellent
Hot Worked	2 - Fair
Cold Worked	4 - Very Good
Brazing	4 - Very Good
Machinability	4 - Very Good

Physical Properties

Annealing Range (Min)	1290 °F
Annealing Range (Max)	1380 °F
Density	0.32 lb/in³
Electrical Resistivity (Annealed)	18.9 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	55% IACS @ 68 °F
Thermal Conductivity	146 Btu/ft²/ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	9.8 per °F (68-572 °F)
Modulus of Elasticity (Tension)	18 ksi
Modulus of Rigidity (Tension)	6 ksi
Melting Point (Solidus)	1,750 °F
Melting Point (Liquidus)	1,920 °F

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Round Wire - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)	ELONGATION (%) 4" GL
1/4 HT	TH01	60.0	70.0	.01 - .2362	4.00
1/2 HT	TH02	70.0	80.0	.01 - .2362	3.00
3/4 HT	TH03	75.0	85.0	.01 - .2362	2.00
HT	TH04	80.0	90.0	.01 - .2362	1.00

Round Rod - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	TENSILE STRENGTH (ksi) Max	MILL LIMITS (inch)	ELONGATION (%) 4" GL
1/4 HT	TH01	60.0	70.0	.0625 - .2362	8.00
1/2 HT	TH02	70.0	80.0	.0625 - .2362	5.00
3/4 HT	TH03	75.0	85.0	.0625 - .2362	3.00
HT	TH04	80.0	90.0	.0625 - .2362	2.00

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