MA18B Free-Machining Copper

Introduction

MA18B is a free-machining high copper with machinability rating of 85, very high electrical conductivity, and good capacity for cold work. The alloy is used in applications where machined components from copper are required such as high current contacts, pins, and switch parts, as well as various hardware components with an expected electrical capacity.

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 99.5 min - incl Ag + Pb	Cu 99.8
Pb 0.8-1.5	Pb 1.2

Specifications	Fabrication Index	
ASTM B301	Soldering	5 - Excellent
EN 12164	Hot Worked	2 - Fair
	Cold Worked	4 - Very Good
	Brazing	4 - Very Good
	Machinability	5 - Excellent

Physical Properties

Annealing Range (Min)	800 °F
Annealing Range (Max)	1200 °F
Density	0.323 lb/in³
Electrical Resistivity (Annealed)	10.8 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	96% IACS @ 68 °F
Thermal Conductivity	218 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)	1,750 °F
Melting Point (Liquidus)	1,920 °F

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Round Wire - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Typical	MILL LIMITS (inch)	ELONGATION (%) 1" GL
1/2 Hard	H02	38.0	.01 - .2362	6.00
Hard	H04	48.0	.01 - .2362	4.00

Round Rod - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Typical	YIELD STRENGTH, 0.5% EUL (ksi) Typical	MILL LIMITS (inch)	ELONGATION (%) 1" GL
1/2 Hard	H02	38.0	30.0	.0625 - .250	8.00
Hard	H04	48.0	40.0	.0625 - .250	4.00

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