



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](#).

MA18B Free-Machining Copper

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/in ³
Electrical Resistivity (Annealed)	10.8 Ω-cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	96% IACS @ 68 °F
Thermal Conductivity	218 Btu/ft ² /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 - 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