



## MA38B Free-Cutting Brass

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### Introduction

MA38B is the European reference standard for free-cutting brass with machinability rating of 100, moderate strength, and good resistance to corrosion. The alloy is used in the widest range of applications where excellent machining performance is the key selection criteria, including all types of special machined or micro-machined components with or without electrical requirement.

To learn more please contact our [sales department](#).

# MA38B Free-Cutting Brass

Chemical Composition - Limits		Chemical Composition - Nominal	
Cu 55-59 (99.5 min incl named elements)		Cu 57.0	
Pb 2.5-3.5		Pb 3.0	
Zn rem		Zn 40.0	
Fe 0.35 max			
Specifications		Fabrication Index	
EN 12164		Soldering	5 - Excellent
EN 12166		Hot Worked	5 - Excellent
		Cold Worked	2 - Fair
		Brazing	4 - Very Good
		Machinability	5 - Excellent

## Physical Properties

Annealing Range (Min)	800 °F
Annealing Range (Max)	1100 °F
Density	0.306 lb/in <sup>3</sup>
Electrical Resistivity (Annealed)	37 Ω·cir-mil/ft @ 68 °F
Electrical Conductivity (Annealed)	28% IACS @ 68 °F
Thermal Conductivity	71 Btu/ft <sup>2</sup> /ft·hr/°F @ 68 °F
Coefficient of Thermal Expansion	11.6 per °F (68-572 °F)
Modulus of Elasticity (Tension)	14 ksi
Modulus of Rigidity (Tension)	5 ksi
Melting Point (Solidus)	1,620 °F
Melting Point (Liquidus)	1,880 °F

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## Round Wire - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	YIELD STRENGTH, 0.2% OFFSET (ksi)		MILL LIMITS (inch)	ELONGATION (%) 4" GL
			Min	Max		
Annealed	R360	52.0		46.0	.02363 - .289	15.0
1/2 Hard	R430	62.0	32.0		.0787 - .289	6.00
Hard	R500	73.0	51.0		.0787 - .289	2.00

## Round Rod - Pretempered

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH (ksi) Min	YIELD STRENGTH, 0.2% OFFSET (ksi)		MILL LIMITS (inch)	ELONGATION (%) 4" GL
			Min	Max		
Annealed	R360	52.0		46.0	.0625 - .250	15.0
1/2 Hard	R430	62.0	32.0		.0625 - .250	6.00
Hard	R500	73.0	51.0		.0625 - .250	2.00