



# FISK MA36B Free-Cutting Brass

## UNS C36000 / CuZn36Pb3 / CW603N

MA36B is the US 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.

Fabrication Indices	
Machinability	100
Cold Working	fair
Hot Working	fair
Brazing	good
Soldering	excellent
Welding	poor

Available Forms
Rod and Wire, round
Typical Standards
ASTM B16
ASTM B249, B250
EN 12164, 12166

Chemical Composition
60-62% Copper
2.5-3.0% Lead
0.3% max Iron
Remainder Zinc (36% nominal)

### Mechanical Properties

#### ○ Round Rod

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION	MILL LIMITS
		min, ksi (MPa)	min, ksi (MPa) @ 0.5% EUL	min, %	
soft anneal	O60	48 (330)	20 (140)	15	0.0394 - 0.3150" (1 - 8 mm)
half-hard	H02	57 (395)	25 (170)	7	
hard	H04	80 (550)	45 (310)	-	0.0625 - 0.1875", incl. (1.6 - 4 mm, incl.)
		70 (480)	35 (240)	4	over 0.1875 - 0.3150" (over 4 - 8 mm)

#### ○ Round Wire

TEMPER NAME	TEMPER CODE	TENSILE STRENGTH	YIELD STRENGTH	ELONGATION	MILL LIMITS
		min, ksi (MPa)	min, ksi (MPa) @ 0.5% EUL	min, %	
soft anneal	O60	48 (330)	20 (140)	15	0.0100 - 0.2362" (0.25 - 6 mm)
half-hard	H02	57 (395)	25 (170)	4	
hard	H04	80 (550)	45 (310)	-	0.0625 - 0.1875", incl. (1.6 - 4 mm, incl.)
		70 (480)	35 (240)	4	over 0.1875 - 0.2362" (over 4 - 6 mm)

### Physical Properties

Melting Point (Liquidus)	1650 °F	900 °C
Melting Point (Solidus)	1630 °F	890 °C
Annealing Range (min - max)	800 - 1100 °F	425 - 595 °C
Density	0.307 lb/in <sup>3</sup>	8.50 gm/cm <sup>3</sup>
Electrical Resistivity (Annealed)	39.9 Ω-cir-mil/ft @ 68 °F	6.62 μΩ-cm @ 20 °C
Electrical Conductivity (Annealed)	26% IACS @ 68 °F	0.151 MS/cm @ 20 °C
Thermal Conductivity	67 Btu/ft <sup>2</sup> /ft-hr°F @ 68 °F	116 W/m-K @ 20 °C
Coefficient of Thermal Expansion	11.4 x 10 <sup>-6</sup> per °F (68-572 °F)	20.6 x 10 <sup>-6</sup> per °C (20-300 °C)
Modulus of Elasticity (Tension)	14,000 ksi	96,500 MPa
Modulus of Rigidity	5,300 ksi	36,500 MPa

The information provided on this page is for reference purposes only.

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