

LEAD-FREE BRONZE (C86835)

TYPICAL USES

C89835 is a “Lead Free” alternative for C93200 Bearing Bronze. When an application requires the properties of C932 Bearing Bronze but needs to be “lead free”, C89835 Bismuth Tin Bronze can be used. C89835 Bismuth Tin Bronze utilizes Bismuth as a Lead replacement. Bismuth and Lead both have relatively low solubility in copper alloys. As such, during casting, these elements solidify into low melt point pools throughout the alloy matrix, filling porosity voids and providing advantages for chip breakage during machining.



CONTACT US

360 Sheldon Drive
Cambridge, ON N1T 1A9
519-622-7900
barstock@bearingbronze.com

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MECHANICAL PROPERTIES

Form	Temper Code	Tensile Strength (ksi)	YS-0.5% Ext (ksi)	Elongation (%)	Brinell Hardness, 500 kg load	Izod (ft-lbs)
As Sand Cast	M01	35 Typ	18 Typ	20 Typ	65 Typ	8 Typ
* Measured at room temperature, 68°F (20°C).						

CHEMICAL PROPERTIES

Element												
	Cu(1,2)	Pb	Sn	Zn	Fe	P	Ni(3)	Al	Bi	S	Sb	Si
Min (%)	85		6	2					1.7			
Max (%)	89	0.09	7.5	4	0.2	0.1	1	0.005	2.7	0.08	0.35	0.005
(1) Cu + Sum of Named Elements 99.0% min. (2) 0.01 - 2.0% as any single or combination of Ce La or other rare earth(x) elements as agreed upon. (x)ASM International definition: one of the group of chemically similar metals with atomic numbers 57 through 71 commonly referred to as lanthanides (3) Ni value includes Co.												

FABRICATION PROPERTIES

Machining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Not Recommended
Machinability Rating	70

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