

# C89835 Lead-Free Replacement for C932, C836, C844

Cast • GreenAlloy™

<b>Product Description:</b>	Bismuth Tin Bronze
<b>Solids:</b>	½" to 10" O.D.
<b>Tubes:</b>	1⅝" to 9" O.D.
<b>Rectangles:</b>	Up to 15"
<b>Standard Lengths:</b>	105"
<b>Shape/Form:</b>	semi-finished, mill stock or near-net shapes, anode, bar stock, billet/bloom, squares, hex, plate, profile or structural shape, flats/rectangular bar
<b>Compliance:</b>	C89835 is compliant with key legislation including (1) Federal Safe Drinking Water Act 1974 – SDWA, (2) Federal Reduction of Lead in Drinking Water Act of 2011 and (3) California AF1953

## Typical Uses

**Plumbing** faucets, pump components, pipe fittings, plumbing goods, water pump impellers

**Industrial** housings, small gears

## Chemical Composition

Cu%	Pb%	Sn%	Zn%	Fe%	P%	Ni% <sup>1</sup>	Al%	Bi%	S%	Sb%	Si%
85.00- 89.00	0.09	6.00- 7.50	2.00- 4.00	0.20	0.10	1.00	0.005	1.70- 2.70	0.08	0.35	0.005

<sup>1</sup>Ni value includes Co.  
Note: Cu + Sum of Named Elements, 99.0% min. Single values represent maximums.

## Machinability

Copper Alloy UNS No.	Machinability Rating	Density (lb/cu in at 68° F)
C89835	70	0.321

## Mechanical Properties

Tensile Strength, min		Yield Strength, at .5% Extension Under Load, min		Elongation, in 2 in. or 50 mm min	Brinell Hardness	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
30	207	14	97	6	65 (500 kg)	

## Physical Properties

C89835 continued

	US Customary	Metric
Melting Point – Liquidus	1855° F	1012° C
Melting Point – Solidus	1445° F	785° C
Density	0.321 lb/in <sup>3</sup> at 68° F	8.89 gm/cm <sup>3</sup> at 20° C
Specific Gravity	8.89	8.89
Electrical Conductivity	14.5% IACS at 68° F	0.084 MegaSiemens/cm at 20° C
Thermal Conductivity	38.0 Btu · ft/(hr · ft <sup>2</sup> · °F) at 68° F	65.8 W/m at 20° C
Coefficient of Thermal Expansion	10 · 10 <sup>-6</sup> per °F (68°-392° F)	17.3 · 10 <sup>-6</sup> per °C (20°-200° C)
Specific Heat Capacity	0.093 Btu/lb/°F at 68° F	389.6 J/kg at 293° C
Modulus of Elasticity in Tension	16900 ksi	116522 MPa

Physical Properties provided by CDA