



ECO BRASS®
HIGH PERFORMANCE LEAD FREE BRASS

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ECO BRASS INGOT DELIVERS PERFORMANCE

Eco Brass ingot provides the best alternative for lead free casting applications requiring high strength and corrosion resistance while maintaining good machinability.

Eco Brass ingot (C87850) offers casting manufacturers several advantages compared to both leaded and lead-free casting product alternatives.

- Eco Brass has a lower pouring temperature compared to other copper based alloys.
- A shortened solidification range makes it less prone to dispersed microporosity
- The silicon content in the alloy and the low melting temperature result in reduced dross formation and fuming.
- The silicon addition gives Eco Brass excellent fluidity for replication of details
- Phosphorus additions to the melt are not required.



ECO BRASS INGOT (C87850) ADVANTAGES:

- Lead free consistent ingot weight
- Lower melting temperature - 1616°F Liquidus
- Fluidity - High
- Drossing - Low
- Gassing - Low
- Leaves furnace lining, skimming tools and ladles dross free

MINIMUM MECHANICAL PROPERTIES (ASTM B505, B584, B806)

Casting Method	Tensile Strength (ksi)	Yield Strength (ksi)	Elong. (%)	Brinell Hardness 500 Lb Load
Sand	59	22	16	
Permanent Mold	64	32	16	
Continuous Cast	65	25	8	103

CHEMISTRY SPECIFICATION (ASTM B30-14)

Cu (%)	Si (%)	P (%)	Pb (%)	Fe (%)	Sn (%)	Ni (%)	Mn (%)	Sb (%)
75-78	2.7-3.4	0.05-0.20	0.09 max	0.10 max	0.30 max	0.20 max	0.10 max	0.10 max



Visit www.ECOBRASS-USA.com to learn more
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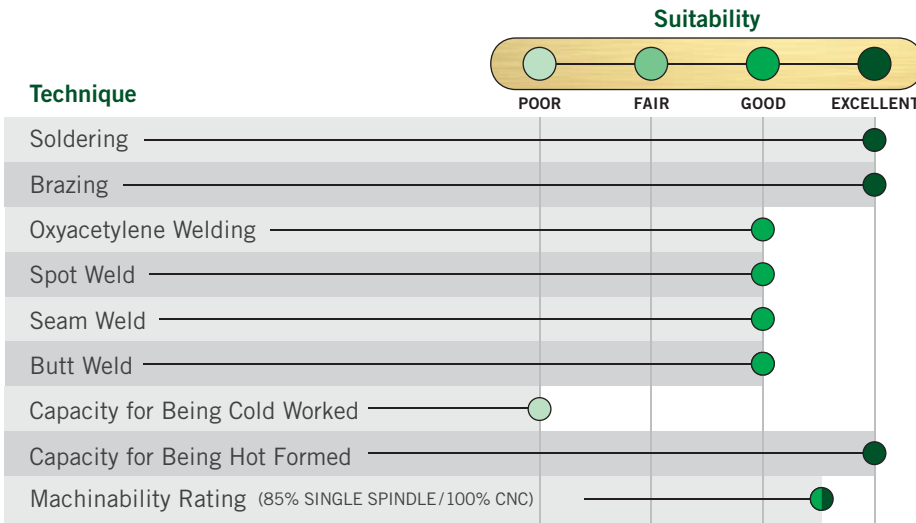
C87850 COPPER SILICON ALLOY PROPERTIES



PHYSICAL PROPERTIES:

Melting Point - Liquidus (°F)	1616
Melting Point - Solidus (°F)	1571
Density (lb/cu in.)	0.3
Electrical Conductivity (%IACS at 68°F)	8
Thermal Conductivity (Btu/sq ft/ft hr/°F at 68°F)	21.8
Coefficient of Thermal Expansion ($\times 10^{-6}/^{\circ}\text{F}$, 68-212°F)	10.3
Coefficient of Thermal Expansion ($\times 10^{-6}/^{\circ}\text{F}$, 68-392°F)	10.3
Coefficient of Thermal Expansion ($\times 10^{-6}/^{\circ}\text{F}$, 68-572°F)	10.4
Specific Heat Capacity (Btu/lb/°F at 68°F)	0.09

FABRICATION PROPERTIES:



DISCLAIMER:

The values listed on this page represent reasonable approximations suitable for general engineering use. Due to commercial variations in compositions and to manufacturing limitations, they should not be used for specification purposes. See applicable ASTM International specification references.

THERMAL TREATMENTS:

Treatment	Minimum*	Maximum*
Stress Relief	Not required	
Annealing	932°F	1112°F
Hot Working	1202°F	1400°F



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