



C63000 Alloy from Concast

Concast Metal Products Co. has been successfully satisfying a broad range of applications and industries with our wrought products. Specifically, our **C63000 nickel aluminum bronze** alloy is used in the power generation/energy, power transmission and control, marine and aerospace markets.

Industrial Applications

- Valve Seats | Plunger Tips | Shafting | Pump Parts
- Condenser Tube for Power Stations and Desalting Units
- Cams | Gears | Valve Guides | Aircraft Parts
- Pump Shafts | Structural Members | Valve Balls
- Corrosion-Resistant Articles | Bushings | Bearings
- Hydraulic Bushings for Earth-Moving Equipment
- Tanks | Heat Exchanger Flanges
- Heat Exchangers | Headers

Marine Applications

- Nuts | Propellers | Pump Parts | Bolts



C63000 Is a Concast Standard-Stocked Alloy

P.O. Box 816 | Mars, PA 16046
800.626.7071 | **724.538.3956** fax
www.concast.com | sales@concast.com

► All Concast plants are ISO 9001 certified

www.concast.com



C63000 Alloy Similar or Equivalent Specification

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	MILITARY	OTHER
C63000	B150, B150M		J461, J463	4640	QQ-C-465B AMD1		

C63000 Alloy Chemical Composition

Cu%	Sn%	Zn%	Fe%	Ni%	Al%	Mn%	Si%	
Rem.	0.20	0.30	2.00-4.00	4.00-5.50	9.00-11.00	1.50	0.25	Chemical Composition according to ASTM B150/B150M-14. Note: Single values represent maximums.

C63000 Alloy Physical Properties

	US Customary	Metric	
Melting Point - Liquidus	1930° F	1054° C	Physical Properties provided by CDA.
Melting Point - Solidus	1895° F	1035° C	
Density	0.274 lb/in ³ at 68° F	7.58 gm/cm ³ at 20° C	
Specific Gravity	7.58	7.58	
Electrical Conductivity	7% IACS at 68° F	0.041 MegaSiemens/cm at 20° C	
Thermal Conductivity	22.6 Btu · ft/(hr · ft ² · °F) at 68° F	39.1 W/m · °K at 20° C	
Coefficient of Thermal Expansion	9 · 10 ⁻⁶ per °F (68°-572° F)	15.5 · 10 ⁻⁶ per °C (20°-300° C)	
Specific Heat Capacity	0.09 Btu/lb/°F at 68° F	377.1 J/kg at 293° K	
Modulus of Elasticity in Tension	17500 ksi	120650 MPa	
Modulus of Rigidity	6400 ksi	44130 MPa	

C63000 Alloy Mechanical Properties

SIZE RANGE: UP TO 1" ROD						Mechanical Properties according to ASTM B150/B150M-14. HR50 Drawn and Stress Relieved Temper.
Tensile Strength, min	Yield Strength, at .5% extension under load min		Elongation, 4x diameter or specimen thickness	Brinell Hardness (3000 kg load)	Remarks	
ksi	MPa	ksi	MPa	%	min to max BHN	
110	760	68	470	10	201 to 248	
SIZE RANGE: OVER 1" TO 2" INCLUSIVE ROD						
Tensile Strength, min	Yield Strength, at .5% extension under load min		Elongation, 4x diameter or specimen thickness	Brinell Hardness (3000 kg load)	Remarks	
ksi	MPa	ksi	MPa	%	min to max BHN	
110	760	60	415	10	201 to 248	
SIZE RANGE: OVER 2" TO 3" INCLUSIVE ROD						
Tensile Strength, min	Yield Strength, at .5% extension under load min		Elongation, 4x diameter or specimen thickness	Brinell Hardness (3000 kg load)	Remarks	
ksi	MPa	ksi	MPa	%	min to max BHN	
105	725	55	380	10	187 to 241	

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Copper Development Association Inc.
Copper Alliance

