

C90500 Tin Bronze

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- **Bronze C90500:** High Tin Bronze
- **Solids:** 1/2" to 10" OD
- **Tubes:** 1" to 16" OD
- **Rectangles:** Up to 20"
- **Standard Lengths:** 144"

SIMILAR OR EQUIVALENT SPECIFICATION

CDA	ASTM	ASARCON	SAE	AMS	Federal	Ingot#	Military	Other Desc
C90500	ASTM B505	100	SAE 62	AMS 4845	QQ-C-390B TYPE III	225	MIL-B-11553 COMP 16	GUN METAL
	ASTM B22		SAE J461		QQ-B-1005 COMP. 16			
			SAE J462					

CHEMICAL COMPOSITION (ACCORDING TO ASTM B505-08)

Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%
86.00-89.99	9.00-11.00	0.30	1.00-3.00	0.20	1.00†	0.20	1.5	0.05	0.005	N/A	0.005

Note: Single values represent maximums.

- A In determining copper minimum, copper may be calculated as copper plus nickel.

MECHANICAL PROPERTIES (ACCORDING TO ASTM B505-08)

Tensile Strength (min)		Yield Strength (at .5% extention under load min)		Elongation (in 2in. or 50mm min, %)	Brinell Hardness (min)	Remarks
Ksi	MPa	Ksi	MPa			
44	303	25	172	10	N/A	

MACHINABILITY

Alloy	Rating	Density
C90500	30	0.315

PHYSICAL PROPERTIES (PROVIDED BY CDA)

	US Customary	Metric
Melting Point - Liquidus	1830 F	999 C
Melting Point - Solidus	1570 F	854 C
Density	0.315 lb/in ³ at 68 F	8.72 gm/cm ³ @ 20 C
Specific Gravity	8.720	8.72
Electrical Resistivity	940 ohms-cmil/ft @ 68 F	15.63 microhm-cm @ 20 C
Electrical Conductivity	11 %IACS @ 68 F	0.064 MegaSiemens/cm @ 20 C
Thermal Conductivity	43.20 Btu · ft/(hr · ft ² ·°F)at 68F	74.8 W/m · °K at 20 C
Coefficient of Thermal Expansion	11 ·10 ⁻⁶ per oF (68-392 F)	19.8 ·10 ⁻⁶ per °C (20-200 C)
Specific Heat Capacity	0.090 Btu/lb/°F at 68 F	377.1 J/kg · °K at 293 K
Modulus of Elasticity in Tension	15000 ksi	103400 MPa
Magnetic Permeability	1	1.0

FABRICATION PROPERTIES (PROVIDED BY CDA)

Joining Technique	Suitability
Soldering	<i>Excellent</i>
Brazing	<i>Good</i>
Oxyacetylene Welding	<i>Fair</i>
Gas Shielded Arc Welding	<i>Fair</i>
Coated Metal Arc Welding	<i>Fair</i>

THERMAL PROPERTIES (PROVIDED BY CDA)

Treatment	Temp./Time - US	Temp./Time - SI
Stress Temperature	500	260
Solution Minimum		
Solution Maximum		
Solution Time	0.0	
Solution Medium	None	
Precipitation Value		
Precipitation Time		
Precipitation Medium	None	
Annealing Minimum		
Annealing Maximum		
Annealing Time		

Treatment	Temp./Time - US	Temp./Time - SI
Hot Works Minimum		
Hot Works Maximum		

ADDEESS:

Conex Bronze Fittings

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KEYWORDS:

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