

C90300 High Tin Bronze

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- **Bronze C90300:** High Tin Bronze
- **Solids:** 1/2" to 10" OD
- **Tubes:** 1" to 16" OD
- **Rectangles:** Up to 20" wide
- **Type:** Copper alloy
- **Shape/Form:** Bar stock; flats/rectangular bar; hex; squares
- **Benefits:** Hardness, good corrosion resistance, high wear resistance, moderate machinability, proven alloys in wide uses

SIMILAR OR EQUIVALENT SPECIFICATION

CDA	ASTM	ASARCON	SAE	AMS	Federal	Ingot#	Military	Other Desc
C90300	B505-08							

CHEMICAL COMPOSITION (ACCORDING TO ASTM B505-08)

Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%	Bi%
86.00-89.00	7.50-9.00	0.30	3.00-5.00	0.20	1.00	0.20	1.50	0.05	0.005	N/A	0.005	N/A

Note: Single values represent maximums.

MECHANICAL PROPERTIES (ACCORDING TO ASTM B505-08)

Tensile Strength (min)		Yield Strength (at .5% extention under load min)		Elongation (in 2in. or 50mm min, %)	Hardness (typical Bhn - 500kg)	Remarks
Ksi	MPa	Ksi	MPa			
44		22		18	70	

MACHINABILITY

Alloy	Rating	Density
C90300	30	0.318

PHYSICAL PROPERTIES (PROVIDED BY CDA)

	US Customary	Metric
Melting Point - Liquidus	1832 F	1000 C

- * Field Strength 16 kA/m

	US Customary	Metric
Melting Point - Solidus	1570 F	854 C
Density	0.318 lb/in ³ at 68 F	8.8 gm/cm ³ @ 20 C
Specific Gravity	8.800	8.8
Electrical Conductivity	12 %IACS @ 68 F	0.069 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	100 · 10 ⁻⁶ per oF (68-212 F)	0.0 · 10 ⁻⁶ per °C (20-100 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	14000 ksi	96500 MPa
Magnetic Permeability	10	1.0

- * Field Strength 16 kA/m

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		
Hot Works Minimum		
Hot Works Maximum		

ADDEESS:

Conex Bronze Fittings

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KEYWORDS:

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