



## TYPICAL USES

**Industrial** Cams, Gears, Wear Plates, Impellers for Mine Water, General Service Bearings, Pump Bodies, Worm Gears

**Bronze Family:** Leaded Nickel-Tin Bronze  
**Solids:** ½" to 13" 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
C92900	ASTM B505	102N				206		

## CHEMICAL COMPOSITION

Alloy	Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%
C92900	82.00-86.00	9.00-11.00	2.00-3.20	0.25	0.20	2.80-4.00	0.25	1.5	0.05	0.005	N/A	0.005

Chemical Composition according to ASTM B505-08

Note: Single values represent maximums.

## MACHINABILITY

Alloy	Machinability Rating	Density (lb/cu in.)
C92900	40	0.320

## MECHANICAL PROPERTIES

Tensile Strength, min		Yield Strength, at .5% extension under load min		Elongation in 2 in. or 50 mm min, %	Brinell Hardness, min	Remarks
ksi	MPa	ksi	MPa			
45	310	25	172	8		

Mechanical Properties according to ASTM B505-08

## PHYSICAL PROPERTIES

ALLOY: C92900 CONTINUED

	US Customary	Metric
Melting Point - Liquidus	1887 F	1031 C
Melting Point - Solidus	1575 F	857 C
Incipient Melting	600 F	316 C
Density	0.320 lb/in <sup>3</sup> at 68 F	8.86 gm/cm <sup>3</sup> @ 20 C
Specific Gravity	8.860	8.86
Electrical Resistivity	113.50 ohms-cmil/ft @ 68 F	18.87 microhm-cm @ 20 C
Electrical Conductivity	9 %IACS @ 68 F	0.053 MegaSiemens/cm @ 20 C
Thermal Conductivity	33.60 Btu · ft/(hr · ft <sup>2</sup> ·oF)at 68F	58.2 W/m · oK at 20 C
Coefficient of Thermal Expansion	9.50 ·10 <sup>-6</sup> per oF (68-392 F)	17.1 ·10 <sup>-6</sup> per oC (20-200 C)
Specific Heat Capacity	0.090 Btu/lb/oF at 68 F	377.1 J/kg · oK at 293 K
Modulus of Elasticity in Tension	14000 ksi	96500 MPa

Physical Properties provided by CDA

## FABRICATION PRACTICES

Joining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shield Arc Welding	Not Recommended
Coated Metal Arc Welding	Not Recommended

Fabrication Properties provided by CDA

## THERMAL PROPERTIES

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		

Thermal Properties provided by CDA