

C94300

Cast

Product Description:	High-Leaded Tin Bronze
Solids:	½" to 10" OD
Tubes:	1" to 16" OD
Rectangles:	Up to 10"
Standard Lengths:	144"
Shape/Form:	semi-finished, mill stock or near-net shapes, anode, bar stock, billet/bloom, squares, hex, plate, profile or structural shape, flats/rectangular bar

Typical Uses

Industrial high-speed bearings for light loads, soft bushings, soft metal applications, railroad applications, high-speed/light-to-medium pressure bushings

Similar or Equivalent Specification

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	MILITARY	OTHER
C94300	B505 B505M	520			QQ-C-390, E1 QQ-B-1005, COMP 18	MIL-B-16261, GRADE V	Soft Bronze

Chemical Composition

Cu%	Pb%	Sn%	Zn%	Fe%	P% ¹	Ni% ²	Al%	S% ³	Sb%	Si%
67.00- 72.00	23.00- 27.00	4.50- 6.00	0.80	0.15	0.08	1.00	0.005	0.08	0.80	0.005

Chemical Composition according to ASTM B505/B505M-14

¹For continuous castings, P shall be 1.5% max.

²Ni value includes Co.

³For continuous castings, S shall be 0.25% max.

Note: Cu + Sum of Named Elements, 99.0% min. Single values represent maximums.

Machinability

Alloy	Machinability Rating	Density (lb/cu in at 68° F)
C94300	80	0.336



Mechanical Properties

C94300 continued

Tensile Strength, min		Yield Strength, at .5% extension under load min		Elongation, in 2 in. or 50 mm min	Brinell Hardness	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
21	145	15	103	7	45 (500 kg)	

Mechanical Properties according to ASTM B505/B505M-14

Physical Properties

	US Customary	Metric
Incipient Melting	600° F	316° C
Density	0.336 lb/in ³ at 68° F	9.3 gm/cm ³ at 20° C
Specific Gravity	9.3	9.3
Electrical Conductivity	9% IACS at 68° F	0.053 MegaSiemens/cm at 20° C
Thermal Conductivity	36.2 Btu · ft/(hr · ft ² · °F) at 68° F	62.7 W/m at 20° C
Specific Heat Capacity	0.09 Btu/lb/°F at 68° F	377.1 J/kg at 293° C
Modulus of Elasticity in Tension	10500 ksi	72400 MPa
Magnetic Permeability	1	1

Physical Properties provided by CDA

Fabrication Properties

Joining Technique	Suitability
Soldering	Good
Brazing	Poor
Oxyacetylene Welding	Not Recommended
Gas Shielded 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		
Precipitation Value		
Precipitation Time		
Precipitation Medium		
Annealing Minimum		
Annealing Maximum		
Annealing Time		
Hot Treatment Minimum		
Hot Treatment Maximum		

Thermal Properties provided by CDA

