Alloy: C95400

Bronze Family: Aluminum Bronze
Solids: 1/2” to 9” OD
Tubes: 1-1/8” to 9” OD
Rectangles: Up to 15”
Standard Lengths: 144”

Typical Uses

Automotive Weld Guns
Fasteners Nuts, Large Hold Down Screws
Industrial Bushings, High Strength Clamps, Gears, Valves, Bearings, Pawl, Valve Bodies, Landing Gear Parts, Worm Gears, Machine Parts, Pressure Blocks for the Steel Industry, Bearing Segments for the Steel Industry, Valve Seats, Valve Guides, Pickling Hooks, Spur Gears, Heavily Loaded Worm Gears, Pump Parts
Marine Covers for Marine Hardware, Ship Building
Ordnance Government Fittings

Similar or Equivalent Specification

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	INGOT	MILITARY	OTHER
C95400	ASTM B505		SAE J461 SAE J462		QQ-C-390B TYPE III QQ-B-671 CLASS 3	415	MIL-C-16033 CLASS 3	Aluminum Bronze 9C

Chemical Composition

Alloy	Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%
C95400	83.00-MIN	N/A	N/A	N/A	3.00-5.00	1.5	N/A	N/A	N/A	10.00-11.50	0.50	N/A

Chemical Composition according to ASTM B505-08
Note: Single values represent maximums.

Machinability

Alloy	Machinability Rating	Density (lb/cu in.)
C95400	60	0.269

Dura-Bar® Metal Services

Alloy: C95400

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			
85	586	32	221	12	170 typical Bhn (3000kg)	

Mechanical Properties according to ASTM B505-08

Physical Properties

	US Customary	Metric
Melting Point - Liquidus	1900 F	1038 C
Melting Point - Solidus	1880 F	1027 C
Density	0.269 lb/in3 at 68 F	7.45 gm/cm3 @ 20 C
Specific Gravity	7.450	7.45
Electrical Resistivity	80.20 ohms-cmil/ft @ 68 F	13.33 microhm-cm @ 20 C
Electrical Conductivity	13 %IACS @ 68 F	0.075 MegaSiemens/cm @ 20 C
Thermal Conductivity	33.90 Btu · ft/(hr · ft2·oF)at 68F	58.7 W/m · oK at 20 C
Coefficient of Thermal Expansion	9 ·10-6 per oF (68-572 F)	16.2 ·10-6 per oC (20-300 C)
Specific Heat Capacity	0.10 Btu/lb/oF at 68 F	419.0 J/kg · oK at 293 K
Modulas of Elasticity in Tension	15500 ksi	107000 MPa
Magnetic Permeability*	1.20	1.2
Magnetic Permeability**	1.270	1.27

Physical Properties provided by CDA
*TQ 50 Temper, Field Strength 16 kA/m **As Cast, Field Strength 16 kA/m

Fabrication Properties

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

Fabrication Properties provided by CDA

Thermal Properties

Treatment	Temp./Time - US	Temp./Time - SI
Stress Temperature	600	316
Solution Minimum	1600	872
Solution Maximum	1675	914
Solution Time	1.0	
Solution Medium	Water	
Precipitation Value		
Precipitation Time		
Precipitation Medium	Water	
Annealing Minimum	1150	622
Annealing Maximum	1225	663
Annealing Time	1.0	
Hot Works Minimum		
Hot Works Maximum		

Thermal Properties provided by CDA

For more information contact Dura-Bar Metal Services
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