



TYPICAL USES

- Builders Hardware** Window Hardware
- Consumer** Musical Instruments, Piano Keys
- Electrical** Electrical Hardware
- Fasteners** Stuffing Box Nuts
- Industrial** Machine Parts, Glass Molds, Welding Jaws, Wear Plates, Air Craft Components, Pickling Equipment, Valve Guides, Piston Guides, Valve Seats, Pump Fluid Ends, Glands, Worms, Worm Wheels, Hot Mill Guides, Landing Gear Parts, Sewage Treatment Applications, Valve Components, Bearings, Gears, Bushings, Valve Bodies, Hand Gun Recoil Mechanisms
- Marine** Ship Building, Covers for Marine Hardware, Marine Hardware
- Ordnance** Government Fittings

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

SIMILAR OR EQUIVALENT SPECIFICATION

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	INGOT	MILITARY	OTHER
C95500	ASTM B505				QQ-C-390B TYPE III		MIL-C-16033 CLASS 4	Aluminum Bronze 9D

CHEMICAL COMPOSITION

Alloy	Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%
C95500	78.00- MIN	N/A	N/A	N/A	3.00- 5.00	3.00- 5.50	N/A	N/A	N/A	10.00- 11.50	3.50	N/A

Chemical Composition according to ASTM B505-08

Note: Single values represent maximums.

MACHINABILITY

Alloy	Machinability Rating	Density (lb/cu in.)
C95500	50	0.272

MECHANICAL PROPERTIES

ALLOY: C95500 CONTINUED

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			
95	655	42	290	10	N/A	

Mechanical Properties according to ASTM B505-08

PHYSICAL PROPERTIES

	US Customary	Metric
Melting Point - Liquidus	1930 F	1054 C
Melting Point - Solidus	1900 F	1038 C
Density	0.272 lb/in ³ at 68 F	7.53 gm/cm ³ @ 20 C
Specific Gravity	7.530	7.53
Electrical Resistivity	122.80 ohms-cmil/ft @ 68 F	20.41 microhm-cm @ 20 C
Electrical Conductivity	8 %IACS @ 68 F	0.049 MegaSiemens/cm @ 20 C
Thermal Conductivity	24.20 Btu · ft/(hr · ft ² ·oF) at 68F	41.9 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
Modulus of Elasticity in Tension	16000 ksi	110000 MPa
Magnetic Permeability*	1.20	1.2
Magnetic Permeability**	1.320	1.32
Poisson's Ratio	0.320	0.32

Physical Properties provided by CDA

*TQ 50 Temper, Field Strength 16 kA/m **As Cast, Field Strength 16 kA/m

FABRICATION PRACTICES

Joining Technique	Suitability
Soldering	Good
Brazing	Fair
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