

C95400 ALUMINUM BRONZE

CDA NUMBER	C95400	
Common Name	9C Aluminum Bronze	
COMPOSITION PERCENT	Min	Max
Copper (Cu)	83.0	
Tin (Sn)		
Lead (Pb)		
Zinc (Zn)		
Iron (Fe)	3	5
Antimony (SB)		
Nickel (Ni)		1.5
Sulphur (S)		
Phosphorous (P)		
Aluminum (Al)	10	11.5
Manganese (Mn)		0.5
Silicon (Si)		
Other (Total)		
Ni value includes Co.		
Cu + Sum of Named Elements, 99.5% min.		
NEAREST APPLICABLE CASTING STANDARDS		
ASTM (B Series)	B148	
SAE (J Series)	J462 (was 68C)	
Federal (QQ-C- Series)	390	
Military (Mil-C- Series)	22229	
TYPICAL PROPERTIES	Typ	Min
Tensile Strength (ksi)	90	75
Yield Strength (.5% extension under load) (ksi)	37	30
Elongation (2 inch gauge length) (%)	17	12
Reduction of Area (%)	20	
Proportional Limit (ksi)	17	
Modulus of Elasticity (ksi)	16000	
Hardness (Brinell) (HB @ 3000kg)	170	
Machinability (% of free cutting brass)	60	
Fatigue Strength (10 ⁸ cycles) (ksi)	30	
Impact Strength (Charpy) (ft-lb)	11	
Impact Strength (Izod) (ft-lb)	15	
Shear Strength (ksi)	48	
Compressive Strength (0.001 in. set/in.) (ksi)		
Compressive Strength (0.010 in. set/in.) (ksi)		
Compressive Strength (0.100 in. set/in.) (ksi)	100	
Creep Strength (0.00001% per hour) (ksi)	7.3 @ 600F	
Melting Range (Liquidus-Solidus)(F)	1880-1900	
Coefficient of Thermal Expansion (per F @ 68-400F)	0.0000090	
Thermal Conductivity (Btu/sq.ft/ft.hr/F @ 68F)	33.9	
Specific Heat (Btu/lb/F @ 68F)	0.09	
Electrical Conductivity (% IACS @ 68F)	13	
Density (lb/cu.in. @ 68F)	0.269	
Pouring Temperature (Light Castings) (F)	2100-2250	
Pouring Temperature (Heavy Castings) (F)	2000-2150	
Patternmakers Shrinkage (in/ft)	7/32	
Drossing	High	
Gassing	Medium	
Fluidity	Medium	
Shrinkage	High	
Casting Yield	Low	
Corrosion Resistanc : Excellent among all metals. Not for use in oxidizing acids.		
Wear Resistance : Excellent		
Applications : Pumps, impellers, gears, worms, bushings, bearings, valve seats, pickling hardware, nuts, rolling mill slippers, marine equipment, welding jaws, non-spark tools, valve bodies.		

Always use the design principles outlined on page two of this information sheet or at our website.

Consult your foundry early in the design process.

We routinely pour and inventory this alloy.



St. Paul
Brass and Aluminum
Foundry