

C95800 ALUMINUM BRONZE

CDA NUMBER	C95800	
Common Name	Nickel Aluminum Bronze	
COMPOSITION PERCENT	Min	Max
Copper (Cu)	79	
Tin (Sn)		
Lead (Pb)		0.03
Zinc (Zn)		
Iron (Fe)	3.5	4.5
Antimony (SB)		
Nickel (Ni)	4	5
Silicon (Si)		0.1
Aluminum (Al)	8.5	9.5
Manganese (Mn)	0.8	1.5
Other (Total)		
Cu + Sum of Named Elements, 99.5% min.		
Fe content shall not exceed Ni content.		
NEAREST APPLICABLE CASTING STANDARDS		
ASTM (B Series)	B148	
SAE (J Series)	J462	
Federal (QQ-C- Series)	390	
Military (Mil-C- Series)	22229	
TYPICAL PROPERTIES	Typ	Min
Tensile Strength (ksi)	96	85
Yield Strength (.5% extension under load) (ksi)	37	35
Elongation (2 inch gauge length) (%)	25	15
Reduction of Area (%)	20	
Proportional Limit (ksi)	23	
Modulus of Elasticity (ksi)	19000	
Hardness (Brinell) (HB @ 3000kg)	160	
Machinability (% of free cutting brass)	50	
Fatigue Strength (10 ⁸ cycles) (ksi)	32	
Impact Strength (Charpy) (ft-lb)	15	
Impact Strength (Izod) (ft-lb)	20	
Shear Strength (ksi)	58	
Compressive Strength (0.001 in. set/in.) (ksi)	35	
Compressive Strength (0.010 in. set/in.) (ksi)	48	
Compressive Strength (0.100 in. set/in.) (ksi)	100	
Creep Strength (0.00001% per hour) (ksi)		
Melting Range (Liquidus-Solidus)(F)	1910-1940	
Coefficient of Thermal Expansion (per F @ 68-400F)	0.0000090	
Thermal Conductivity (Btu/sq.ft/ft.hr/F @ 68F)	20.8	
Specific Heat (Btu/lb/F @ 68F)	0.105	
Electrical Conductivity (% IACS @ 68F)	7.1	
Density (lb/cu.in. @ 68F)	0.276	
Pouring Temperature (Light Castings) (F)	2250-2350	
Pouring Temperature (Heavy Castings) (F)	2150-2250	
Patternmakers Shrinkage (in/ft)	3/16	
Drossing	High	
Gassing	Medium	
Fluidity	Medium	
Shrinkage	High	
Casting Yield	Low	
<p>Corrosion Resistance: Outstanding, C95800 the best of all bronzes.</p> <p>Wear Resistance: Outstanding, C95500 the best of all bronzes.</p> <p>Applications: C95800: Propeller blades and hubs for fresh and seawater service, desalination hardware, agitated acidic saltwater environments.</p>		

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

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