

# LEADED RED BRASS C81500

CDA NUMBER	C81500	
Common Name	Chrome Copper	
COMPOSITION PERCENT	Min	Max
Copper (Cu)	98	
Tin (Sn)		0.1
Lead (Pb)		0.02
Zinc (Zn)		0.1
Iron (Fe)		0.1
Chromium (Cr)	.4	1.5
Nickel (Ni)		
Sulphur (S)		
Phosphorous (P)		
Aluminum (Al)		0.1
Maganese (Mn)		
Silicon (Si)		0.15
Cu + Sum of Named Elements, 99.5% min		
NEAREST APPLICABLE CASTING STANDARDS		
ASTM (B Series)		
SAE (J Series)		
Federal (QQ-C- Series)		
Military (Mil-C- Series)		
TYPICAL PROPERTIES	Typ	Min
Tensile Strength (ksi)	51	45
Yield Strength (.5% extension under load) (ksi)	40	35
Elongation (2 inch gauge length) (%)	17	12
Proportional Limit (ksi)	26	
Modulus of Elasticity (ksi)	16500	
Hardness (Brinell) (HB @ 500kg)	105	89
Machinability (% of free cutting brass)	20	
Fatigue Strength (10 <sup>8</sup> cycles) (ksi)	15	
Impact Strength (Charpy) (ft-lb)	20	
Impact Strength (Izod) (ft-lb)	30	
Shear Strength (ksi)		
Compressive Strength (0.001 in. set/in.) (ksi)		
Compressive Strength (0.010 in. set/in.) (ksi)		
Compressive Strength (0.100 in. set/in.) (ksi)		
Creep Strength (0.00001% per hour) (ksi)		
Melting Range (Liquidus-Solidus)(F)	1985-1967	
Coefficient of Thermal Expansion (per F @ 68-400F)	.0000095	
Thermal Conductivity (Btu/sq.ft/ft.hr/F @ 68F)	182	
Specific Heat (Btu/lb/F @ 68F)	.09	
Electrical Conductivity (% IACS @ 68F)	82	
Density (lb/cu.in. @ 68F)	.319	
Pouring Temperature (Light Castings) (F)		
Pouring Temperature (Heavy Castings) (F)		
Patternmakers Shrinkage (in/ft)	1/4	
Drossing	High	
Gassing	Medium	
Fluidity	Medium	
Shrinkage	High	
Casting Yield	Low	
<b>Corrosion Resistance:</b> Very good for hydrocarbons, and general corrosion.		
<b>Applications:</b> Low-pressure valve bodies, water pump parts and impellers, electrical hardware, boat hardware, plumbing goods, valve trim, fire equipment, small gears, ornamental fixtures, hydraulic pressure castings, injectors, gas and vapor valves and fittings, hydraulic-pressure castings.		

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.

St. Paul Brass and Aluminum does not currently pour this alloy, but will consider it if purchased volumes justify the inventory.



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