

LEADED RED BRASS C83450

CDA NUMBER	C83450	
Common Name	Oshalloy-1	
COMPOSITION PERCENT	Min	Max
Copper (Cu)	87	89
Tin (Sn)	2.0	3.5
Lead (Pb)	1.5	3
Zinc (Zn)	5.5	7.5
Iron (Fe)		0.3
Antimony (SB)		0.25
Nickel (Ni)	0.8	2
Sulphur (S)		0.08
Phosphorous (P)		0.03
Aluminum (Al)		0.005
Maganese (Mn)		
Silicon (Si)		0.005
Cu + Sum of Named Elements, 99.3% min		
In determining Cu min., Cu may be calculated as Cu + Ni.		
Ni value includes Co.		
For continuous castings, P shall be 1.5%. Max.		
NEAREST APPLICABLE CASTING STANDARDS		
ASTM (B Series)	B584	
SAE (J Series)		
Federal (QQ-C- Series)		
Military (Mil-C- Series)		
TYPICAL PROPERTIES	Typ	Min
Tensile Strength (ksi)	37	30
Yield Strength (.5% extension under load) (ksi)	15	14
Elongation (2 inch gauge length) (%)	34	25
Reduction of Area (%)	31	
Proportional Limit (ksi)		
Modulus of Elasticity (ksi)		
Hardness (Brinell) (HB @ 500kg)	62	
Machinability (% of free cutting brass)	75	
Fatigue Strength (10 ⁸ cycles) (ksi)	13	
Impact Strength (Charpy) (ft-lb)	16	
Impact Strength (Izod) (ft-lb)		
Shear Strength (ksi)		
Compressive Strength (0.001 in. set/in.) (ksi)	9.91	
Compressive Strength (0.010 in. set/in.) (ksi)	14.4	
Compressive Strength (0.100 in. set/in.) (ksi)	33.1	
Creep Strength (0.00001% per hour) (ksi)		
Melting Range (Liquidus-Solidus)(F)	1580-1860	
Coefficient of Thermal Expansion (per F @ 68-400F)		
Thermal Conductivity (Btu/sq.ft/ft./hr/F @ 68F)		
Specific Heat (Btu/lb/F @ 68F)		
Electrical Conductivity (% IACS @ 68F)	20	
Density (lb/cu.in. @ 68F)	0.319	
Pouring Temperature (Light Castings) (F)		
Pouring Temperature (Heavy Castings) (F)		
Patternmakers Shrinkage (in/ft)		
Drossing		
Gassing		
Fluidity		
Shrinkage		
Corrosion Resistance: Very good for hydrocarbons, and general corrosion.		
Applications: 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.

This alloy contains 2% lead. While we currently offer it, we recommend considering non leaded alternatives.

