

HIGH STRENGTH YELLOW BRASS C86300

CDA NUMBER	C86300	
Common Name	424; 110,000 Tensile	
COMPOSITION PERCENT	Min	Max
Copper (Cu)	60	66
Tin (Sn)		0.2
Lead (Pb)		0.2
Zinc (Zn)	22	28
Iron (Fe)	2	4
Antimony (SB)		
Nickel (Ni)		1
Sulphur (S)		
Phosphorous (P)		
Aluminum (Al)	5	7.5
Manganese (Mn)	2.5	5
Other (Total)		
Cu + Sum of Named Elements, 99.0% min		
In determining Cu min., Cu may be calculated as Cu + Ni.		
Ni value includes Co.		
NEAREST APPLICABLE CASTING STANDARDS		
ASTM (B Series)	B584	
SAE (J Series)	461, 462 (was 430B)	
Federal (QQ-C- Series)	390	
Military (Mil-C- Series)	22229	
TYPICAL PROPERTIES	Typ	Min
Tensile Strength (ksi)	119	110
Yield Strength (.5% extension under load) (ksi)	68	60
Elongation (2 inch gauge length) (%)	18	12
Reduction of Area (%)	20	
Proportional Limit (ksi)	45	
Modulus of Elasticity (ksi)	14200	
Hardness (Brinell) (HB @ 3000kg)	225	
Machinability (% of free cutting brass)	8	
Fatigue Strength (10 ⁸ cycles) (ksi)	25	
Impact Strength (Charpy) (ft-lb)	12	
Impact Strength (Izod) (ft-lb)	15	
Shear Strength (ksi)		
Compressive Strength (0.001 in. set/in.) (ksi)	71	
Compressive Strength (0.010 in. set/in.) (ksi)	97	
Compressive Strength (0.100 in. set/in.) (ksi)	100	
Creep Strength (0.00001% per hour) (ksi)	56.5 @ 250F	
Melting Range (Liquidus-Solidus)(F)	1625-1693	
Coefficient of Thermal Expansion (per F @ 68-400F)	0.0000119	
Thermal Conductivity (Btu/sq.ft/ft./hr/F @ 68F)	20.5	
Specific Heat (Btu/lb/F @ 68F)	0.09	
Electrical Conductivity (% IACS @ 68F)	8	
Density (lb/cu.in. @ 68F)	0.283	
Pouring Temperature (Light Castings) (F)	1950-2150	
Pouring Temperature (Heavy Castings) (F)	1800-1950	
Patternmakers Shrinkage (in/ft)	9/32	
Drossing	High	
Gassing	Low	
Fluidity	Medium	
Shrinkage	High	
Corrosion Resistance: Very good although C86400 and C86500 are superior. Avoid seawater, ammonia, acids and		
Wear Resistance: Outstanding		
Applications: C86300: Extra heavy duty, high strength alloy, gears, cams, slow speed heavy load bearings, screw down nuts, hydraulic cylinder parts.		

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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