



TYPICAL USES

Architecture	Ornamental Fixtures
Builders Hardware	Hardware
Building	Heating Equipment, Cooling Equipment, Lightning Protection, Trowels for Cement Working
Electrical	Switches, Electrical Equipment, Electrical Hardware
Fasteners	Large Hold Down Screws
Industrial	Couplings, Handles for Dental Equipment, Air Actuators, Pressure Blocks and Bearing Segments for Steel Industry, Valve Bodies, Valves, Bushings, Pump Parts, Transducer Housings, Rings, Printing Presses, Furnaces, Pumps, Low Pressure Valves, Small Gears, Bearings, Pump Fixtures, Impellers
Marine	Parts for Boats, Marine Products
Plumbing	Pipe Fittings, Fixtures, Faucets

Bronze Family: Leaded Red Brass
Solids: 1/2" to 13" OD
Tubes: 1" to 16" OD
Rectangles: Up to 20"
Standard Lengths: 144"

SIMILAR OR EQUIVALENT SPECIFICATION

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	INGOT	MILITARY	OTHER
C83600	ASTM B62 ASTM B505	55	SAE 40 SAE J461 SAE J462	AMS 4855	QQ-C-390B TYPE III QQ-B-1005, COMP. 2	115	MIL-B-11553 COMP 2 MIL-C-14345 ALLOY 1	Ounce Metal

CHEMICAL COMPOSITION

Alloy	Cu%	Sn%	Pb%	Zn%	Fe%	Ni%	Sb%	P%	S%	Al%	Mn%	Si%
C83600	84.00- 86.00	4.00- 6.00	4.00- 6.00	4.00- 6.00	0.30	1.00*	0.25	1.5	0.08	0.005	N/A	0.005

Chemical Composition according to ASTM B505-08

Note: Single values represent maximums.

*In determining copper minimum, copper may be calculated as copper plus nickel.

MACHINABILITY

Alloy	Machinability Rating	Density (lb/cu in.)
C83600	84	0.318

MECHANICAL PROPERTIES

ALLOY: C83600 CONTINUED

Tensile Strength, min		Yield Strength, at .5% extension under load min		Elongation in 2 in. or 50 mm min, %	Brinell Hardness, min	Remarks
ksi	MPa	ksi	MPa			
36	248	19	131	15	N/A	

Mechanical Properties according to ASTM B505-08

PHYSICAL PROPERTIES

	US Customary	Metric
Melting Point - Liquidus	1850 F	1010 C
Melting Point - Solidus	1570 F	854 C
Density	0.318 lb/in ³ at 68 F	8.83 gm/cm ³ @ 20 C
Specific Gravity	8.830	8.83
Electrical Resistivity	69.10 ohms-cmil/ft @ 68 F	11.49 microhm-cm @ 20 C
Electrical Conductivity	15 %IACS @ 68 F	0.087 MegaSiemens/cm @ 20 C
Thermal Conductivity	41.60 Btu · ft/(hr · ft ² ·oF) at 68F	72.0 W/m · oK at 20 C
Coefficient of Thermal Expansion	10 · 10 ⁻⁶ per oF (68-392 F)	18.0 · 10 ⁻⁶ per oC (20-300 C)
Specific Heat Capacity	0.090 Btu/lb/oF at 68 F	377.1 J/kg · oK at 293 K
Modulus of Elasticity in Tension	13500 ksi	93100 MPa
Magnetic Permeability	1	1.0

Physical Properties provided by CDA

FABRICATION PRACTICES

Joining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Not Recommended
Gas Shielded Arc Welding	Not Recommended
Coated Metal Arc Welding	Fair

Fabrication Properties provided by CDA

THERMAL PROPERTIES

Treatment	Temp./Time - US	Temp./Time - SI
Stress Temperature	500	260
Solution Minimum		
Solution Maximum		
Solution Time	0.0	
Solution Medium	None	
Precipitation Value		
Precipitation Time		
Precipitation Medium	None	
Annealing Minimum		
Annealing Maximum		
Annealing Time		
Hot Works Minimum		
Hot Works Maximum		

Thermal Properties provided by CDA