

C85700

Cast

Product Description:	Leaded Naval Brass
Solids:	½" to 13" OD
Tubes:	1⅝" to 9" OD
Rectangles:	Up to 15"
Standard Lengths:	144"
Shape/Form:	semi-finished, mill stock or near-net shapes, anode, bar stock, billet/bloom, squares, hex, plate, profile or structural shape, flats/rectangular bar

Typical Uses

Builders Hardware	door hardware for prisons, ornamental hardware, window hardware
Consumer	musical instruments
Industrial	mechanical components where aesthetics are important
Marine	ship trim, marine hardware, bushings, bearings
Plumbing	fittings, flanges

Similar or Equivalent Specification

CDA	ASTM	ASARCON	SAE	AMS	FEDERAL	MILITARY	OTHER
C85700	B505 B505M				QQ-C-390, A1 QQ-B-621, CLASS A	MIL-C-15345, ALLOY 3	Leaded Yellow Brass

Chemical Composition

Cu% ¹	Pb%	Sn%	Zn%	Fe%	Ni% ²	Al%	Si%
58.00- 64.00	0.80- 1.50	0.50- 1.50	32.00- 40.00	0.70	1.00	0.80	0.05

Chemical Composition according to ASTM B505/B505M-14

Machinability

Copper Alloy UNS No.	Machinability Rating	Density (lb/cu in at 68° F)
C85700	80	0.304



Mechanical Properties

C85700 continued

Tensile Strength, min		Yield Strength, at .5% extension under load min		Elongation, in 2 in. or 50 mm min	Brinell Hardness	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
40	276	14	97	15	75 (500 kg)	

Mechanical Properties according to ASTM B505/B505M-14

Physical Properties

	US Customary	Metric
Melting Point – Liquidus	1725° F	941° C
Melting Point – Solidus	1675° F	913° C
Density	0.304 lb/in ³ at 68° F	8.41 gm/cm ³ at 20° C
Specific Gravity	8.41	8.41
Electrical Conductivity	22% IACS at 68° F	0.128 MegaSiemens/cm at 20° C
Thermal Conductivity	48.50 Btu · ft/(hr · ft ² · °F) at 68° F	83.9 W/m at 20° C
Coefficient of Thermal Expansion	12 · 10 ⁻⁶ per °F (68°-572° F)	20.7 · 10 ⁻⁶ per °C (20°-300° C)
Specific Heat Capacity	0.09 Btu/lb/°F at 68° F	377.1 J/kg at 293° C
Modulus of Elasticity in Tension	14000 ksi	87000 MPa
Magnetic Permeability	1	1

Physical Properties provided by CDA

Fabrication Properties

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

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		
Precipitation Value		
Precipitation Time		
Precipitation Medium		
Annealing Minimum		
Annealing Maximum		
Annealing Time		
Hot Treatment Minimum		
Hot Treatment Maximum		

Thermal Properties provided by CDA

