

C95600

Continuous cast

Product description	Nickel-aluminum bronze
Solids	1/2" to 9" O.D.
Tubes	1 1/8" to 9" O.D.
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

Electrical

Cable connectors, terminals

Industrial

Gears, valve stems, worms

Chemical composition

Cu (%)	Ni (%) ¹	Al (%)	Si (%)
88.00 min	0.25	6.00-8.00	1.80-3.20

Chemical composition provided by CDA

¹Ni value includes Co.

Note: Cu + sum of named elements, 99.0% min. Unless otherwise noted, single values represent maximums.

Machinability

Copper alloy UNS no.	Machinability rating	Density (lb/in ³ at 68 ° F)
C95600	60	0.278

Mechanical properties

Tensile strength, typ		Yield strength at 0.5% extension typ		Elongation	Brinell hardness (3000 kg load)	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
75	517	34	234	18	140	

Mechanical properties provided by CDA

Physical properties

	US customary	Metric
Melting point – liquidus	1840 °F	1004 °C
Melting point – solidus	1800 °F	982 °C
Density	0.278 lb/in ³ at 68 °F	7.7 gm/cm ³ at 20 °C
Specific gravity	7.7	7.7
Electrical conductivity	8% IACS at 68 °F	0.046 MegaSiemens/cm at 20 °C
Thermal conductivity	22.3 Btu/sq ft/ft hr/°F at 68 °F	38.6 W/m at 20 °C
Coefficient of thermal expansion 68-572	9.2 · 10 ⁻⁶ per °F (68-572 °F)	15.9 · 10 ⁻⁶ per °C (20-300 °C)
Specific heat capacity	0.1 Btu/lb/°F at 68 °F	419 J/kg at 20 °C
Modulus of elasticity in tension	15000 ksi	103422 MPa

Physical properties provided by CDA

Fabrication properties

Technique	Suitability
Soldering	Good
Brazing	Good
Oxyacetylene welding	Not recommended
Gas shielded arc welding	Good
Coated metal arc welding	Fair
Machinability rating	60

Fabrication properties provided by CDA.

Casting characteristics

Casting attribute	Level
Casting yield	Low
Drossing	High
Effect of section size	Low
Fluidity	Medium
Gassing	High
Patternmakers shrinkage (inches per foot)	3/16
Shrinkage in solidification	High

Casting characteristics provided by CDA