

# C95300

## Continuous cast

Product description	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

Connectors

### Fasteners

Stripped nuts

### Industrial

Bearing segment for the steel industry, cams, gears, high-strength clamps, high-temperature applications, large hold-down screws, mining machine parts, pickling baskets, pickling hooks, pressure blocks for the steel industry, valve bodies, welding jaws

### Marine

Covers for marine hardware, marine equipment

*Note: Also available in a heat-treated condition.*

## Similar or equivalent specification

CDA	ASTM	SAE	AMS	Federal	Military	Other
C95300	B505 B505M	68B J461 J462		QQ-C-390, G7 QQ-B-671, Class 2	MIL-B-16033, Class 2	Aluminum bronze 9B

## Chemical composition

Cu (%)	Fe (%)	Al (%)
86.00 min	0.80-1.50	9.00-11.00

Chemical composition according to ASTM B505/B505M-23

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

## C95300 continued

### Machinability

Copper alloy UNS no.	Machinability rating	Density (lb/in <sup>3</sup> at 68 °F)
C95300	55	0.272

### Mechanical properties

Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 2 in. or 50 mm, min	Brinell hardness (3000 kg load)	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
70	483	26	179	25	125	

Mechanical properties according to ASTM B505/B505M-23

### Physical properties

	US customary	Metric
Melting point – liquidus	1913 °F	1045 °C
Melting point – solidus	1904 °F	1040 °C
Density	0.272 lb/in <sup>3</sup> at 68 °F	7.53 gm/cm <sup>3</sup> at 20 °C
Specific gravity	7.53	7.53
Electrical conductivity	13% IACS at 68 °F	0.075 MegaSiemens/cm at 20 °C
Thermal conductivity	36.3 Btu/sq ft/ft hr/°F at 68 °F	62.8 W/m at 20 °C
Coefficient of thermal expansion 68-572	9 · 10 <sup>-6</sup> per °F (68-572 °F)	15.5 · 10 <sup>-6</sup> per °C (20-300 °C)
Specific heat capacity	0.09 Btu/lb/°F at 68 °F	377.1 J/kg at 20 °C
Modulus of elasticity in tension	16000 ksi	110000 MPa
Magnetic permeability*	1.07	1.07

Physical properties provided by CDA

\*Field strength 8 kA/m

### Fabrication properties

Technique	Suitability
Soldering	Good
Brazing	Good
Oxyacetylene welding	Not recommended
Gas shielded arc welding	Excellent
Coated metal arc welding	Good
Machinability rating	55

Fabrication properties provided by CDA.

### Casting characteristics

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

Casting characteristics provided by CDA