

# C89520 EnviroBrass II

	Continuous cast	GreenAlloys™
Product description	Bismuth tin 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	
Compliance	C89520 is compliant with key legislation including (1) Federal Safe Drinking Water Act - SDWA, 2) S. 3874 Federal Reduction of Lead in Drinking Water Act, (3) California AB1953, and (4) Vermont Act 193	

## Typical uses

### Plumbing

Plumbing castings

## Similar or equivalent specification

CDA	ASTM	SAE	AMS	Federal	Military	Other
C89520	B584					

## Chemical composition

Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	Ni (%) <sup>1</sup>	Al (%)	Bi (%) <sup>2</sup>	S (%)	Sb (%)	Se (%) <sup>2</sup>
85.00-87.00	0.09	5.00-6.00	4.00-6.00	0.20	1.00	0.005	1.60-2.20	0.08	0.25	0.80-1.10

Chemical composition according to ASTM B505/B505M-23

<sup>1</sup>Ni value includes Co.

<sup>2</sup>Bi:Se >= 2:1

Note: Cu + sum of named elements, 99.5% min. Single values represent maximums.

## Machinability

Copper alloy UNS no.	Machinability rating	Density (lb/in <sup>3</sup> at 68 ° F)
C89520	85	0.318

## Mechanical properties

Tensile strength, min		Yield strength, at 0.5% extension under load, min		Elongation, in 2 in. or 50 mm, min	Brinell hardness (500 kg load)	Remarks
ksi	MPa	ksi	MPa	%	typical BHN	
25	172	18	124	6	54	

## Physical properties

	US customary	Metric
Melting point – liquidus	1842 °F	1006 °C
Melting point – solidus	353 °F	178 °C

Physical properties provided by CDA

## Fabrication properties

Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene welding	Not recommended
Gas shielded arc welding	Not recommended
Coated metal arc welding	Not recommended
Machinability rating	85

Fabrication properties provided by CDA

## Casting characteristics

Casting attribute	Level
Casting yield	High
Drossing	Medium
Effect of section size	Low
Fluidity	Medium
Gassing	Medium
Shrinkage in solidification	Medium

Casting characteristics provided by CDA