

C90500 TIN BRONZE

High Tin Bronze



C90500 Tin Bronze, also known as Navy G, provides good mechanical properties and corrosion resistance. NBM Metals maintains a large inventory of hollow and solid bar of this C90500 Tin Bronze. Common applications include gears & gear blanks, worm gears, bearings & bushings, seals & seal rings, piston rings, lead free applications, plumbing fixtures, potable water applications, pump impellers, steam fittings, valve components, pump bodies, expansion bearings and many more.



Sizes Available from NBM

Solid Bar	3/8" - 16" diameter
Hollow Bar (Continuous Cast)	1/2" I.D. x 1" O.D. thru 14" I.D. x 16" O.D.
Hollow Bar (Centrifugal)	up to 30" O.D. (stock) / 100" O.D. plus, special order
Square Bar	up to 10" square
Hex Bar	5/8" AF - 4" AF
Wear Plate	1/4" - 10" thick thru 16" widths (up to 22" upon request)

Similar or Equivalent Specifications

Continuous

ASTM B505, SAE J462, J461

Ingot

ASTM B30

Centrifugal

ASTM B271, SAE J462, J461

Sand

ASTM B763, B584, SAE J461, J462

Typical Uses

- worm gears
- bearings & bushings
- piston rings
- lead free applications
- plumbing fixtures
- potable water applications
- pump impellers
- gears & gear blanks
- seals & seal rings
- steam fittings
- valve components
- pump bodies
- expansion bearings

Benefits

High wear resistance, hardness, good corrosion resistance, moderate machinability, proven alloys in wide uses. C90500 Tin Bronze has a solder rating of excellent and offers good brazing.

Items on this page are stocked for quick shipment on a global basis at competitive prices.

NBM Metals can maintain lead at lower limits, upon request.

 **NBM Metals**
www.nbmmetals.com

The Leading USA Manufacturer & Master Distributor
of Brass, Bronze, & Copper Alloys

C90500 TIN BRONZE/NAVY G

Chemical Composition, Tensile & Hardness, Physical Properties

Chemical Composition

	Cu	Sn	Pb	Zn	Ni + Co	Fe	Si	Al	P	Sb	S
min/max	86 - 89	9.0 - 11.0	0.3 max	1.0 - 3.0	1.0 max	0.2 max	0.005 max	0.005 max	0.05 max	0.2 max	0.05 max

1. Cu + sum of named elements: 99.4% min
2. In determining Cu min, Cu may be calculated as Cu + Ni
3. For continuous castings, P shall be 1.5% max
4. Ni value includes Co.
5. Lead can be maintained at lower limits, upon request

Room Temp Tensile & Hardness Data

Casting Process	Temper	Tensile (KSI) Min	Yield (KSI) Min	Elongation In Hd Min	Brinell (3000 Kg)
Continuous	M07	44	22	18	-
Centrifugal	M02	40	18	20	-

Physical Properties

Melting Point - Liquidus °F.....	1830
Melting Point - Solidus °F.....	1570
Density lb/cu in @ 68 °F.....	0.315
Specific Gravity.....	8.72
Electrical Conductivity %IACS @ 68 °F.....	11
Coefficient of Thermal Expansion 10 ⁻⁶ per °F (68-212 °F).....	11
Specific Heat Capacity Btu/lb/°F @ 68 °F.....	0.09
Modulus of Elasticity in Tension ksi.....	15000
Machinability Rating.....	30

The values listed on this document represent reasonable approximations suitable for general engineering use. Due to commercial variations in composition and to manufacturing limitations, they should not be used for specification purposes. See applicable A.S.T.M. Specification references.

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