

TIN BRONZE (C90300)

TYPICAL USES

C90300 SAE 620 Tin Bronze is often used in high load, low speed applications. C903 Bronze has excellent wear properties. As the name may imply “Navy G” bronze is used in various marine applications due to its excellent resistance to corrosion. A member of the High Tin Bronze Alloy family C90300 Bronze is used in similar ways as the other alloys of this family.



CONTACT US

360 Sheldon Drive
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519-622-7900
barstock@bearingbronze.com

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TYPICAL USES

Product Category	Product	Reason
Building	Heavy Construction Equipment	Corrosion Resistance, Wear Resistance, Moderate Strength, Pressure Tight up to 260 C
Fasteners	Swivel	Corrosion Resistance, Low Co-efficient of Friction, Wear Resistance, Moderate Strength
Industrial	Bearings	Corrosion Resistance, Low Co-efficient of Friction, Wear Resistance, Moderate Strength
	Bushings	Corrosion Resistance, Low Co-efficient of Friction, Wear Resistance, Moderate Strength
	Gear Blanks	Corrosion Resistance, Low Co-efficient of Friction, Wear Resistance, Moderate Strength
	Gears	Corrosion Resistance, Wear Resistance, Moderate Strength
	Piston Rings	Corrosion Resistance, Wear Resistance, Moderate Strength, Pressure Tight up to 260 C
	Pump Bodies	Corrosion Resistance, Moderate Strength, Pressure Tight up to 260 C
	Pump Impellers	Corrosion Resistance, Wear Resistance, Moderate Strength
	Valve Bodies	Corrosion Resistance, Wear Resistance, Machinability - Good, Moderate Strength, Pressure Tight up to 260 C
	Valves	Corrosion Resistance, Wear Resistance, Machinability - Good, Moderate Strength
Plumbing	Steam Fittings	Corrosion Resistance, Wear Resistance, Moderate Strength, Pressure Tight up to 260 C

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MECHANICAL PROPERTIES

Form	Temper Code	Tensile Strength (ksi)	YS-0.5% Ext (ksi)	Elongation (%)	Brinell Hardness, 500 kg load	Izod (ft-lbs)	Charpy V-Notch Impact Strength (ft-lbs)	Compressive Strength .001 in. set/in. (ksi)
As Centrifugal Cast	M02	40 Min for Standard 40 Min for Standard 45 Typ	18 Min for Standard 18 Min for Standard 21 Typ	20 Min for Standard 20 Min for Standard 30 Typ	70 Typ		14 Typ	13 Typ
As Continuous Cast	M07	44 Min for Standard 44 Min for Standard	22 Min for Standard 22 Min for Standard	18 Min for Standard 18 Min for Standard				
As Sand Cast	M01	40 Min for Standard 40 Min for Standard 45 Typ	18 Min for Standard 18 Min for Standard 21 Typ	20 Min for Standard 20 Min for Standard 30 Typ	70 Typ	14 Typ	14 Typ	13 Typ

* Measured at room temperature, 68°F (20°C).

CHEMICAL PROPERTIES

	Element										
	Cu(1,2)	Pb	Sn	Zn	Fe	P(3)	Ni(4)	Al	S	Sb	Si
Min (%)	86		7.5	3							
Max (%)	89	0.3	9	5	0.2	0.05	1	0.005	0.05	0.2	0.005

(1) In determining Cu min., Cu may be calculated as Cu + Ni.
(2) Cu + Sum of Named Elements 99.4% min.
(3) For continuous castings P shall be 1.5% max.
(4) Ni value includes Co.

FABRICATION PROPERTIES

Machining Technique	Suitability
Soldering	Excellent
Brazing	Good
Oxyacetylene Welding	Fair
Gas Shielded Arc Welding	Fair
Coated Metal Arc Welding	Fair
Machinability Rating	30

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