

C52100 Phosphorus Bronze

C52100 is a Phosphor Bronze which is well known for its high strength. With greater tin content C52100 has exceptional bearing, wear and spring properties together with excellent fatigue properties and corrosion fatigue resistance. C52100 is widely used in marine and other corrosive environments.



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Equivalent Specifications:

Specifications	BS	EN	JIS	DIN	IS	ISO	Russian
Designation	PB104	CW453K	H3110 (92) C5212 P/R	2.101/2.103	-	CuSn8	-

Chemical Composition:

	Cu	Pb	Sn	Zn	Fe	P
Min	-	-	7	-	-	0.03
Max	Rem.	0.05	9	0.2	0.1	0.35

Specifications:

Product	Specification
Bar	ASTM B103, ASTM B139/B139M
Electrode	AWS A5.6 / MILITARY MIL-E-23765/3
Plate	ASTM B103
Rod	ASTM B139/B139M / AWS A5.15
Shapes	ASTM B139/B139M
Sheet	ASTM B103 / SAE J461 / SAE J463
Strip	ASTM B103 / ASTM B888/B88M / SAE J461 / SAE J463

Fabrication Properties:

Joining Technique	Suitability
Soldering	Excellent
Brazing	Excellent
Oxyacetylene Welding	Fair
Gas Shielded Arc Welding	Good
Coated Metal Arc Welding	Fair
Spot Weld	Good
Seam Weld	Fair
Butt Weld	Excellent
Capacity for Being Cold Worked	Excellent
Capacity for Being Hot Formed	Poor
Machinability Rating	20

Physical Properties:

Melting Point - Liquidus	1880 °F
Melting Point - Solidus	1620 °F
Density	0.318 lb/cu in. at 68°F
Specific Gravity	8.8
Electrical Conductivity	13 % IACS at 68°F
Thermal Conductivity	36 Btu/ sq ft/ ft hr/ °F at 68°F
Coefficient of Thermal Expansion 68-572	10.1 10 ⁻⁶ per °F (68 – 572°F)
Specific Heat Capacity	0.09 Btu/ lb /°F at 68°F
Modulus of Elasticity in Tension	16000 ksi
Modulus of Rigidity	6000 ksi

Sizes Available:

TUBES	6.35 mm to 110mm
ROUND WIRES	1 mm to 11mm
ROUND RODS	1.2 to 250 mm
HEX RODS	Min. 5 mm to Max. 60 mm
SQUARE RODS	Min. 4 mm to Max. 60 mm
FLATS	Min. 4 mm thickness and max width of 120mm
PROFILES	As per customer drawings
HOLLOW RODS	Min Bore Size 20mm and Max OD 130mm