

Kormax Alloy PB1 PHOSPHOR BRONZE (90-10)

Material Data Sheet

Kormax Alloy PB1 is a phosphor bronze conforming to the requirements of B.S. 1400 - 1985 alloy PB1. PB1 has good machining properties, high strength and good corrosion resistance to seawater and brine, making it suitable for pump and valve components.

PB1 is suitable for bearings having medium to high loads and speeds and good resistance to impact loading or pounding. PB1 bearings must have adequate lubrication and good alignment.

PB1 is suitable for heavy duty gears and wormwheels with high working loads and high speeds and adequate lubrication and alignment.

The composition of Kormax alloy PB1 is strictly controlled as are the casting conditions. PB1 products are manufactured using the latest continuous and centrifugal casting technology.

Chemical Composition (%)

Element		Nominal
Tin	Sn	10.0 - 11.0 10.5
Lead	Pb	0.25 maximum
Zinc	Zn	0.05 maximum
Nickel	Ni	0.10 maximum
Iron	Fe	0.10 maximum
Aluminium	Al	0.01 maximum
Phosphorus	P	0.50 - 1.0 0.7
Copper	Cu	Balance
Total Impurities		0.60 maximum

Mechanical Properties

	Continuous Cast	Centrifugal Cast
Yield Strength	170 MPa (24,500 psi)	170 MPa (24,500 psi)
Ultimate Tensile Strength	360 MPa (52,000 psi)	340 MPa (49,000 psi)
Elongation	10%	10%
Typical Hardness	100 - 150 BHN	100 - 150 BHN
Specific Gravity	8.8	
Machinability Rating (Free Machining Brass=100)	30	
Max. Operating Temperature	250°C (482°F)	
Stress Relieving Temperature	260°C (500°F)	
Time at Temperature	1 hour per 25mm of section thickness	

Comparative Specifications

BS1400-PB1; AS1565 90710; ASTM B505, B271 - C90700; SAE 65; JIS H5113 - PBC2C;
DIN 1705 - G-CuSn10; ISO 1338 - CuSn10P; BS EN 1982:1999 - CuSn11P

Notes for the user: The values given in this data sheet are based on a sheet with a 40mm thickness. Depending on the thickness the technical values may vary during processing.

The technical data given in this sheet correspond to our current state of knowledge and should not be construed as an agreement or guarantee regarding certain properties of our products. The decision on the suitability of a particular material for a specific application is up to the user. We reserve the right to modify the given data. Errors of the given data are reserved. The document was produced by machine and is valid without signature.