



## PHOSPHOR BRONZE PB1

### (BS 1400 1985 PB1)

Phosphor Bronzes have Phosphor added to the alloy to improve strength and hardness. PB1 is a copper based alloy containing 10-12% tin. This alloy combines high mechanical strength with good ductility, corrosion resistance and wear resistance. It also offers a good resistance to shock loading. PB1 can be soldered and brazed and is traditionally used in heavy load applications run at high speeds. It is suitable pump and valve components, flanges, etc.

### Chemical Composition - CuSn10P

Element		%
Tin	Sn	10.20 - 11.50
Phosphorus	P	0.60 - 1.00
Lead	Pb	0.25 maximum
Nickel	Ni	0.10 maximum
Iron	Fe	0.10 maximum
Zinc	Zn	0.05 maximum
Antimony	Sb	0.05 maximum
Sulphur	S	0.05 maximum
Manganese	Mn	0.04 maximum
Silicon	Si	0.02 maximum
Aluminium	Al	0.01 maximum
Copper	Cu	Balance
Total Impurities 0.60 maximum		

### Typical Mechanical Properties

Ultimate Tensile Strength	220 - 280 MPa
Elongation (minimum)	3 - 8 %
Typical Hardness	70 - 100 BHN
Compressive Strength	130 - 160 MPa
Specific Gravity	8.8

### Comparative Specifications

BS 1400 PB1	BS EN 1982-2008 GC CC481K
Def Stan 02 838 Part 1	NES 838 Part 1
CuSn11P-C	ASTM B 505 C90700
SAE 65c	NES 838
AS 1565 - 1985 C90710	AS 1565 - 1974 904D

**To discuss your requirements, call a member of NovaCast's team on +44 (0) 1225 707466, or email [sales@novacast.co.uk](mailto:sales@novacast.co.uk)**

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy options rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

**[WWW.NOVACAST.CO.UK](http://WWW.NOVACAST.CO.UK)**

A Single Source Solution for Precision Cast Components