

PB104 / BSB24 / DTD265A is a high performance wrought phosphor bronze containing approximately 8% tin. The tin addition gives exceptional bearing, wear and spring properties, together with excellent fatigue and corrosion fatigue properties in marine and other corrosive environments.

The combination of properties on offer from PB104 / BSB24 material enables its utilisation in a wide spectrum of industries. Individual applications include high strength fasteners, bearing bushes, drive shafts, pump and valve components, valve guides, electrical clamps, connectors and switchgear.

### Related Specifications

PB104	CW453K
BSB24	DTD265A
C52100	CuSn8 / CuSn8P

### Chemical Composition

Copper	Rem
Tin	7.5-9.0%
Phosphorus	0.02-0.40%
Zinc	0.30% max
Nickel	0.30% max
Iron	0.10% max
Lead	0.05% max
Total Imps	0.30% max

### Mechanical Properties (specification minima 18mm to 40mm dia)

Tensile Strength	500N/mm <sup>2</sup>
0.2% Proof Stress	360N/mm <sup>2</sup>
Elongation	18%

### Key Features

- High strength and hardness
- Very good corrosion resistance
- Excellent wear resistance
- Resistance to shock loading

### Typical Physical Properties

Melting Point	1020 °C
Density	8.8 g/cm <sup>3</sup>
Specific Heat	377 J/Kg°C
Coefficient of thermal Expansion	17 x 10 <sup>-6</sup> per °C
Thermal Conductivity	46 W/m °C
Electrical Conductivity	12% IACS
Electrical Resistivity	15 microhm cm
Modulus of Elasticity	105,000 N/mm <sup>2</sup>
Modulus of Rigidity	39,000 N/mm <sup>2</sup>

## Fabrication Properties

Annealing temperature	475-675°C
Stress relieving temperature	200-350°C
Hot formability	Poor
Cold formability	Good
Machinability rating	20%

## Joining Methods

Soldering	Excellent
Brazing	Good
Oxyacetylene welding	Fair
Gas Shielded arc welding	Good
Resistance Welding: Butt	Excellent
Spot	Good
Seam	Fair

## Typical Uses

The PB104 / BSB24 material is commonly used in aerospace and marine fasteners, nuts, bolts, thrust washers, lock washers, pinions, heavy duty bearings, bushes, pump components and connecting rods. The high wear resistance also lends itself to other applications including press guide bushes and gears; driving pinions, axels, hinges, engine valve guides and seats as well as components in the chemical, textile, papermaking and other manufacturing industries.

This technical information is given by Holme Dodsworth Metals without charge and the user shall employ such information at their own discretion and risk. For more detailed technical advice on temper selection, fabrication, joining, machining, physical and mechanical data please contact us as space does not permit the listing of every feature of the material.