

## DESCRIPTION

Bismuth brass is a copper alloy which typically contains 1-3% bismuth by weight. It is being marketed as a green alternative to leaded brass/bronze bearings and bushings as pressure for the substitution of hazardous metals has increased.

This alloy is very corrosion-resistant, a property which makes it suitable for use in environments such as the ocean. Bismuth brasses are more malleable, thermally conductive and polish better than regular brasses.

## CHEMICAL COMPOSITION

Elements	Min (%)	Max (%)
Cu	57.00	64.00
Bi	0.50	4.00
Sn	0.10	3.00
P	-	0.20
Pb	0.01	0.10
Fe	-	0.70
Cd	-	0.0075
Zn	Remainder	

## MECHANICAL PROPERTIES: JIS H3250: 2015 (AS PER TEMPER BD)

Range (mm)	From	To	UTS Min (N/mm <sup>2</sup> )	PS Min	Elongation Min (%)	Hardness Min (HV)	Hardness Max
Round (Dia)	1.5	75.00	315.00	-	5.00	75.00	-
Hex (A/F)	3.00	70.00	315.00	-	5.00	75.00	-
Square (A/F)	3.00	65.00	315.00	-	5.00	75.00	-
Rectangle	3.00	50.00	315.00	-	5.00	75.00	-

## PHYSICAL PROPERTIES

Melting Point - Liquidus	1650° F
Solidus	1630° F
Density	0.304 lb/in <sup>3</sup> at 68° F Specific
Gravity	8.41 Electrical
Conductivity	26% IACS @68° F Thermal
Expansion	11.8 -10 -6 per °F (68-572° F) Modulus of Elasticity

## FABRICATION PROPERTIES

Machinability	Closest machinability to the traditional material with lead in all aspects including machining resistance, shape of chips and tool life etc.
Capability of being cold work	Good
Capability of being Hot work	Good

## TYPICAL USES

- › Suitable for Environment Purpose of Brass with Excellent Machinability.
- › Plumbing
- › Computer
- › Electronic Clock
- › Rivet Nut Gear
- › Medical Valve
- › Camera Parts
- › Hardware Parts