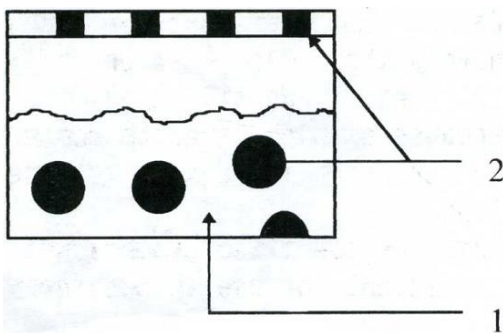


# Self-lubricating Bronze Plain Bearing Technical Information

## STRUCTURE

Embedded bearing are series of composite self-lubricating metals on the surface of which embedded with reasonably spread small rods of solid lubricants. It composes both the advantages of metals and non-metallic lubricating solids.

The base metal of the embedded bearing materials may be Sn-bronze, strong brass, gray cast iron and stainless steels, and the solid lubricants may be natural graphite, artificial graphite, MoS<sub>2</sub> and PTFE based materials. By the appropriate combination of the base metal and the solid lubricant, according to the requirement of the user. The products may satisfy various temperatures loads, condition of motion, environmental medium, in order to obtain a reliable life of the mechanism.



1 : Base metal : strong brass, snbronze, gray cast iron.

2 . Lubricant : natural graphite, MoS<sub>2</sub>, PTFE.

Fig. 13



Fig.14 SPB Oilles Busher, Flanged, Plate, Washers.

# Self-lubricating Bronze Plain Bearing Technical Information

## APPLICATION CHARACTERISTICS

- 1 · Eliminates the need for design and installation of an oil supply system.
- 2 · Resists impacts and abrasion at high load.
- 3 · Suitable for use in water, in chemicals or in hostile environments.
- 4 · Can be used where lubricating oil would not be effective.
- 5 · Can be used in machinery for food and medicine industries, and in automated machinery.
- 6 · Types of motion : rotation, oscillation, reciprocating motion.
- 7 · Can be used where ball bearings would have a short life span or difficulties in receiving an oil supply.
- 8 · Because of high-strength copper alloy construction, life span is especially long.
- 9 · Numerous specified dimensions : convenient for use in machinery design.

## APPLICATION LIMITS

Type	Kind of metal	Lubrication	Max. load P N/mm <sup>2</sup> (kgf/cm <sup>2</sup> )	Max. speed m/s (m/min)	Max. PV value N/mm <sup>2</sup> · m/s (kgf/cm <sup>2</sup> · m/min)	Max. temp. °C -40~
SPB (HBSC)	Strong brass	no oil	28(285)	0.25(15)	1.6(980)	+300
		oil	15(153)	1.0(60)	2.5(1530)	+150
JBCB (BC3)	Sn-bronze	no oil	15(153)	0.4(24)	1.0(612)	+350
		oil	15(153)	1.5(90)	1.6(980)	+200
FGB (FC25)	Gray cast iron	no oil	5(51)	0.15(9)	0.6(367)	+400
		oil	8(82)	0.5(30)	1.0(612)	+200

## PROPERTIES

Kinds of metal	Strong brass	Bronze	Gray cast iron
Density(g/cm <sup>3</sup> )	7.8	8.9	7.1
Impact strength(KJ/m <sup>2</sup> )	350 ~ 450	150 ~ 250	20 ~ 40
Tensile strength(N/mm <sup>2</sup> )	720	> 240	> 150
Hardness(HB)	220	70	160
Heat conductivity(W/m · K)	38~55	46~63	42~55
Linear expansion(×10 <sup>-5</sup> /°C)	1.5 ~ 2.0	1.7 ~ 1.9	1.0 ~ 1.3
Elastic modulus(KN/mm <sup>2</sup> )	110 ~ 120	80 ~ 100	78 ~ 90
Elongation(%)	10	14	-