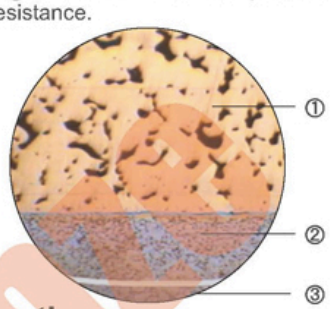
Wrapped Bimetal Bearings

Structure

1. Sinter bronze powder: good wear resistance and excellent load carrying capacity.

2. Steel backing: provides exceptionally high load carrying capacity, excellent heat dissipation.

3. Copper plating thickness 0.002mm provides good corrosion resistance.



Features

Steel shell backed with a lead bronze lining bearing material for oil lubricated applications. This material has high load capacity and good fatigue properties. It is widely used in automotive applications such as compressors, steering gear, power steering, pedal bearings, king-pin bushes, tailgate pivots, mechanical handling and lifting equipment, hydraulic motors, agricultural machinery etc.

Surface Coating

Copper-coating | Tin-coating

Available Structures

Available Bronze Alloy List

Material	Alloy composition	International standard	Alloy hardness
SB-797	CuPb10Sn10	JIS-LBC3/SAE-797	HB70-100
SB-799	CuPb24Sn4	JIS-LBC6/SAE-799	HB45-70
SB-48	CuPb30	JIS-KJ3/SAE-48	HB30-45
SB-783	AlSn20Cu	JIS-AJL/SAE-783	HB30-40

双金属轴套合金化学成分
Composition analysis of bronze alloys

化学元素 chemical elements	SB-797 CuPb10Sn10	SB-799 CuPb24Sn4	SB-48 CuPb30	SB-783 AlSn20Cu
Cu	余量 Remainder	余量 Remainder	余量 Remainder	1.7~1.3
Pb	9.0~11.0	21.0~27.0	26.0~33.0	——
Sn	9.0~11.0	3.0~4.5	0.5	17.5~22.5
Zn	0.5	0.5	0.5	——
P	0.1	0.1	0.1	——
Fe	0.7	0.7	0.7	0.7
Ni	0.5	0.5	0.5	0.1
Sb	0.2	0.2	0.2	——
Al	——	——	——	余量 Remainder
Si	——	——	——	0.7
Mn	——	——	——	0.7
Ti	——	——	——	0.2
其他 Other	0.5	0.5	0.5	0.5

Normal thickness of the bimetal bearings and their tolerances

公差厚度 Tolerance Thickness	1	1.5	2	2.5	3	3.5	4	5
钢基厚度 Thickness of steel backing	0.6	1	1.4	1.9	2.3	2.8	3.2	4
有效合金厚度 Thickness of bronze leyer	0.4	0.5	0.6	0.6	0.7	0.7	0.8	1.0
可加工轴承壁厚 Manufactuable wall thickness	$1^{+0.25}_{+0.15}$	$1.5^{+0.25}_{+0.15}$	$2^{+0.25}_{+0.15}$	$2.5^{+0.25}_{+0.15}$	$3^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$	$1^{+0.25}_{+0.15}$
已加工轴承壁厚 Manufactued wall thickness	$1^{-0.025}$	$1.5^{-0.03}$	$2^{-0.035}$	$2.5^{-0.04}$	$3^{-0.045}$	$3.5^{-0.05}$	$4^{-0.055}$	$5^{-0.06}$

The thickness of the plate alloy should be according to customer's request.

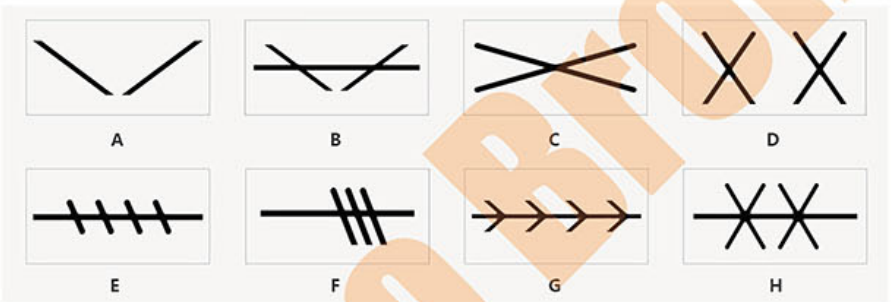
The designing of oil indentations

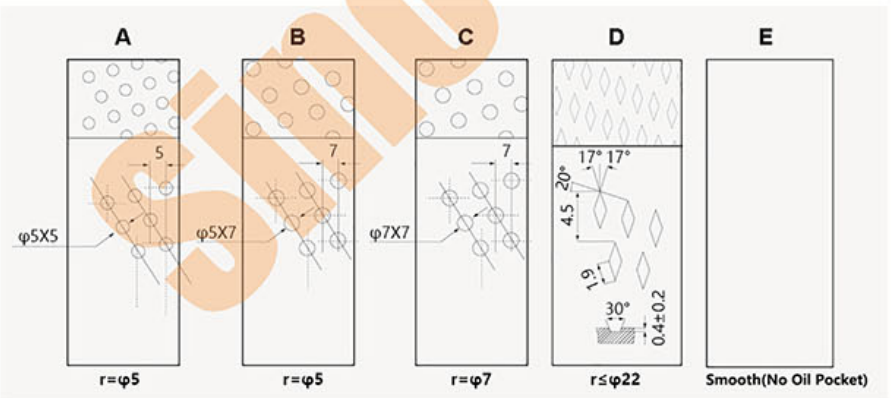
In order to fully lubricate the bush when in the performance, the indentations with size as follow are recommended. They should be manufactured according to the standard below if without special requirements.

轴承外径 Bush O.D	12~23	25~39	42~80	85~155
油孔直径 Lubricating hole	4	6	8	9.5

the lubricating hole should be away from butt joint and loading area and designed to be easy-oil-feding as well.

Type for Bi-Metaltic Bushing Grooves and Indents





Lock Types for Bi-Metaltic Bushing