

Application 应用特点

HDB-JDB-10 solid lubricant embedded bushing is a new type made from strong brass and homogeneously embedded with solid lubricant in its body. It breaks through the limit of general bearing whose lubrication depends on oil film. So it is suitable for high temperature, heavy load, anti-corrosion, or where oil is hard to be introduced. Its performance doubles both on hardness and wear-friction. It is now widely applied in successive casting machines, steel rollers in metallography, mineral machine, ships, steam turbine, and injection molding machines for plastics.

HDB-JDB-20 suitable for low load position, wear performance worsens greatly when under middle or high load, it can be applied in furnace door linage, furnace, conveyor, tool machines, light industries, etc.

HDB-JDB-30 suitable for low load position, wear performance worsens when under middle or high load. The mating layer is same as HDB-JDB-20 so that more cost-saving than HDB-JDB-2 whereas compression strength increases and weldable. Most suitable for dry position in construction machinery, metallurgical machines, conveyor machines etc.

HDB-JDB-40 can be used under low speed rotation, middle and high load. Due to its super high hardness, when under high load, it over performs than other JDB type. Not suitable for water. Acid, alkali circumstances. Most suitable for the supporting position of hoisting machine, e.g. Bulldozer supporter, hoister supporter, Crane supporter etc.

HDB-JDB-50 is a typical material product. It can instead of material of HDB-JDB-10 when the mechanical performance requirement not very high. It can reduce the cost and meet the operation requirement. Such as dieguide, plastic injection machines etc.

HDB-JDB-10 is a new product embedded with solid lubricant on a high-strength brass base, breaking through the limit of general bearings which rely on oil film lubrication. It is suitable for high temperature, high load, corrosion, and cannot be oiled under certain conditions. Its hardness is higher than general brass bushings, and its wear resistance is also higher. It is currently widely applied in metal casting machines, rolling equipment, mining machinery, ships, turbines, injection molding machines, and equipment production flow lines.

HDB-JDB-20 is mainly adapted for low load, high temperature, and medium speed use cases, such as furnace door hinges, furnace rollers, light machinery, and machine tool industries.

HDB-JDB-30's inner material is the same as HDB-JDB-20, besides having the function of HDB-JDB-20, it also reflects cost savings, improves compressive strength, and can be welded to the base for installation, suitable for building machinery, metalworking machinery, and conveying machinery without oil lubrication parts.

HDB-JDB-40 is a reinforced product, it has extremely high compressive strength, especially adapted for supporting parts of lifting machinery, e.g.: excavator support, crane support, hoist support, etc. But because the base is steel, it is not suitable for use in water or acidic/alkaline environments.

HDB-JDB-50 is a typical material-saving product. In mechanical performance requirements that are not very high, it can replace HDB-JDB-10 for material use, which can greatly reduce costs and meet requirements, e.g.: mold guide columns, injection molding machine frames, etc.

The Advantages of the Solid-lubricant-Embedded Bearings 镶嵌式固体润滑轴承的优点

Dry operation.

1、无给油可使用

Can be Performed well with high load and low speed.

2、高载荷、低转速的情况，仍可发挥优越的性能

Reciprocating motion, wagging motion, start and stop frequently are difficulty for keeping oil film. It still may play advantageous of wear-resistance.

3、往返运动、摇摆运动、起动停止频繁等油膜形成困难的场所，仍可发挥优越的耐磨性

Excellent chemical resistance and anti-corrosion.

4、优越的耐药品性及耐腐蚀性

Flexible, simple, convenient and abundant designing of standard, can be choosed by standard axes.

5、设计灵活、简单、方便，丰富的标准品，可配标准轴心使用

Solid Lubricants 固体润滑剂

Lubricant 固体润滑剂	高纯石墨+添加剂 SL1 Graphite	SL4+MoS ₂ PTFE+MoS ₂ +CF
Features 特性	Good wear performance and chemical stability, temperature limit 400°C 很好的耐磨性和化学稳定性, 使用温度 < 400°C	Lowest friction coefficient and good water lubrication, temperature limit 300°C 极低的摩擦系数和很好的水润滑性, 使用温度 < 300°C
Typical application 典型用途	Suit for general machines and under atmosphere 应用于一般机械, 在大气中使用	Suit for water and seawater lubricant, such as ship 应用于水、海水润滑、如船舶

Alloy 合金材料

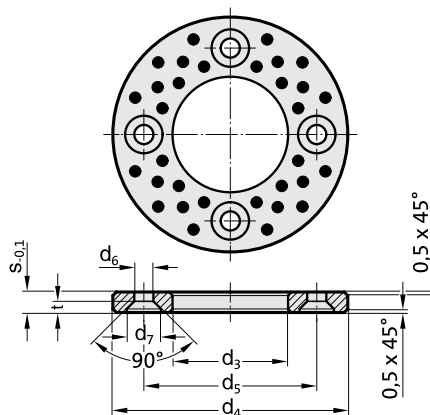
Project 项目	Model 型号	HDB-JDB-50	HDB-JDB-52	HDB-JDB-53	HDB-JDB-54	HDB-JDB-56
Alloy material standard comparison table 合金材料各标准对照表	Chinese brand 中国牌号 GB1776-87	CuZn25Al5Fe3Mn3	CuAl9Fe4Ni4Mn2	CuSn5Pb5Zn5	GCr15	GB5675-85HT250
	International 国际 ISO1338	GCuZn25Al5Fe3Mn3	CuAl10Fe5Ni5	QSn5-5-5	B1	185Gr250
	Germany 德国 DIN	DIN1709G- CuZn25A15/2.0598	DIN17656 GB-CuAl9Ni/2.1096	DIN1705 G-CuSn5Znpb/2.1096	100Cr16	DIN17007 GG25/0.6025
	Japan 日本 JIS	H5102 CAC304	H5114 CAC703	H5111 CAC406	SUJ2	FC250
	United States 美国 ASTM/UNS	B30-92 C86300	B30-92 C95800	B30-92 C83600	E52100	ASTM Class40
Alloy material chemical composition 合金材料化学成分	Cu(%)	Rest	Rest	Rest	*	*
	Sn(%)	*	*	4.0~6.0	*	*
	Zn(%)	22.0~28.0	*	4.0~6.0	*	*
	Ni(%)	*	4.0-5.0	*	*	*
	Al(%)	5.0~7.0	8.5-9.5	*	*	*
	Fe(%)	2.5~4.0	3.0-4.5	*	Rest	Rest
	Mn(%)	2.5~5.0	0.8-1.5	*	0.20-0.40	0.905-1.3
	Cr(%)	*	*	*	1.30-1.65	*
	C(%)	*	*	*	0.95-1.05	2.5-4.0
	Si(%)	*	*	*	0.15-0.35	1.0-1.3
	Pb(%)	*	*	4.0~6.0	*	*

1210
1211

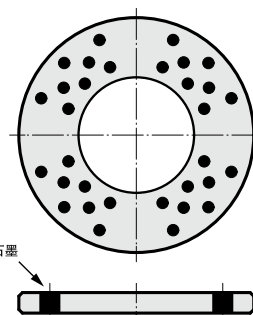
Self lubricating gasket
自润滑垫片



1210.



1211.



Material 材料:

CuZn25Al5Fe3Mn3+ 固体润滑剂 Solid lubricant



1210/1211. Self lubricating gasket
1210/1211. 自润滑垫片

d ₁	10	12	13	14	15	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	90	100	120
d ₃	10.2	12.2	13.2	14.2	15.2	16.2	18.2	20.2	25.2	30.2	35.2	40.2	45.3	50.3	55.3	60.3	65.3	70.3	75.3	80.3	90.5	100.5	120.5
d ₄	30	40	40	40	50	50	50	50	55	60	70	80	90	100	170	120	125	130	140	150	170	190	200
d ₅	20	28	28	28	28	28	35	35	40	45	50	60	67.5	75	85	90	95	100	110	120	140	160	175
d ₆	3.4	3.4	3.4	3.4	3.4	3.4	3.4	5.5	5.5	5.5	5.5	6.6	6.6	6.6	6.6	9	9	9	9	9	11	11	11
d ₇	6.9	6.9	6.9	6.9	6.9	6.9	6.9	11.5	11.5	11.5	11.5	13.7	13.7	13.7	13.7	18.3	18.3	18.3	18.3	18.3	22.7	22.7	22.7
s	3	3	3	3	3	3	3	5	5	5	5	7	7	8	8	8	8	10	10	10	10	10	10
t	1.8	1.8	1.8	1.8	1.8	1.8	1.8	3	3	3	3	3.6	3.6	3.6	3.6	4.6	4.6	4.6	4.6	4.6	5.9	5.9	5.9



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1220.

Material 材料:

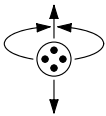
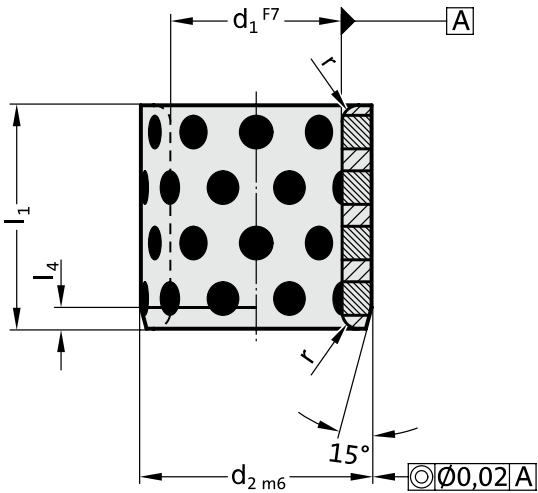
CuZn25Al5Fe3Mn3+ 固体润滑剂 Solid lubricant

Description 说明:

shaft sleeve can be used in the radial and axial.
轴套可以在径向和轴向使用。

Note 注意:

The inner diameter contracts when pressed.
压入时内径收缩。



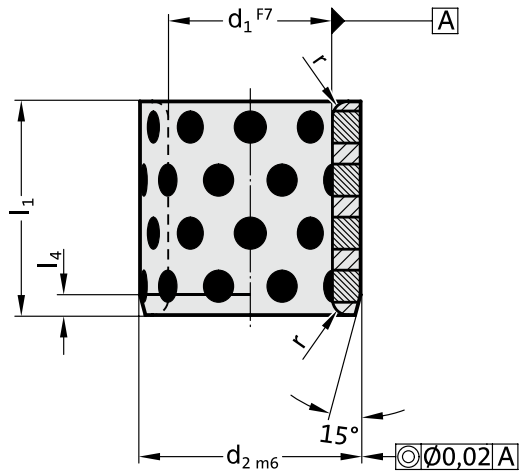
1220. Self-Lubricating Guide bush

1220. 自润滑导套

d ₁	8	10	10	12	13	14	15	16	18	19	20	20	20	24	25	25	25	28	30	30	30	31.5	32	35	35	38	40	40
d ₂	12	14	15	18	19	20	21	22	24	25	26	28	30	32	32	33	35	38	38	40	42	40	42	44	45	48	50	55
r	0.5	0.5	0.5	0.5	0.5	0.5	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	1.5	1.5	1.5	
l ₁	2	2	2	2	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
l ₂																												
8	●	●																										
10	●	●	●	●	●	●	●	●																				
12	●	●		●		●	●	●																				
15	●	●			●	●		●	●			●	●															
16				●	●	●	●	●	●			●	●			●	●											
20		●		●	●	●	●	●	●			●	●			●	●		●	●				●		●		
25				●		●	●	●	●			●	●			●	●		●	●				●	●	●	●	
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37										●		●																
40								●	●		●	●	●			●	●	●	●	●		●	●	●	●	●	●	
47														●		●		●		●								
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60																●			●	●	●		●	●		●	●	
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1220.

**Material 材料:**

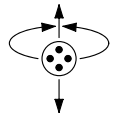
CuZn25Al5Fe3Mn3+ 固体润滑剂 Solid lubricant

Description 说明:

shaft sleeve can be used in the radial and axial.
轴套可以在径向和轴向使用。

Note 注意:

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压入时内径收缩。



1220. Self-Lubricating Guide bush

1220. 自润滑导套

d ₁	45	45	45	50	50	50	55	60	60	63	65	70	70	75	75	80	80	90	100	110	120	125	130	140	150	160
d ₂	55	56	60	60	62	65	70	74	75	75	80	85	90	95	96	100	100	110	120	130	140	145	150	160	170	180
r	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
l ₄	4	4	4	4	4	4	4	4		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
l ₁																										
30	●	●	●	●	●	●		●	●																	
35	●	●	●	●	●	●		●	●			●														
40	●	●	●	●	●	●	●	●	●			●				●	●									
50	●	●	●	●	●	●	●	●	●		●	●	●			●	●									
60	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●						
70			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
80			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●				
95				●																						
100						●			●			●		●	●				●	●	●	●	●	●	●	●
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140																	●				●			●		●
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