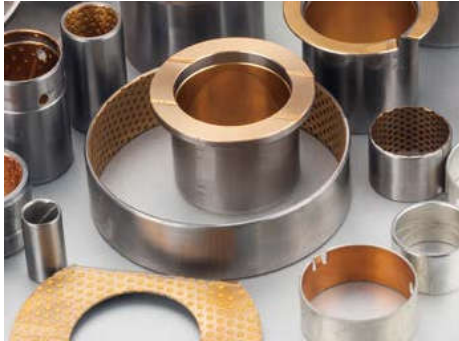


KSOB-800 双金属复合轴承 Bi-metallic composite bearings



KSOB-800 双金属复合轴承
Bi-metallic composite bearings



结构特性 Structure Characteristics

双金属复合轴承以优质低碳钢为基体，表面烧结具有低摩擦特性的铜合金 (CuPb10Sn10、CuPb6Sn6Zn3、CuPb24Sn4、CuPb30、AlSn20Cu、CuSn8Ni) 作为轴承的耐磨层，铜合金表面可以根据使用工况需要加工出各种类型的油槽、油孔、油穴等，以适合于无法持续加油或者难以加油的场合。材料通过二次烧结二次挤压可以得到很好的接合强度和最佳的承载能力。

KSOB Bi-metallic composite bearing material consists of steel backing with lead bronze or lead-free copper alloy (CuPb10Sn10、CuPb6Sn6Zn3、CuPb24Sn4、CuPb30、AlSn20Cu) lining, bearing material for oil/grease lubricated applications. The copper alloy forms a continuously frame for thermal conductivity. These bearing structures are with high load capacity and good fatigue property. Higher tolerance can be achieved after re-machined from the customers. Lead-free bronze lining bearing material conforms to the European RoHS directive.

产品应用 Application

工程机械：底盘行走机构支重轮轴套、拖带轮轴套、张紧轮轴套；

汽车行业：平衡轴衬套、钢板销衬套、转向节主肖轴套、连杆轴套、气门摇臂轴套、凸轮轴轴套、差速器轴套、变速箱轴套、内燃机主轴瓦、止推垫片；

以及柱塞泵侧片，齿轮泵侧片等。







Engineering machine: underpan, thrust wheel, Towing wheel, Steering knuckle,tension pulley...

Automotive:trunnion shaft, connecting rod, valve rocker, camshaft, gear box, internal-combustion engine,

And Plunger pump friction plate, gear pump friction plate...

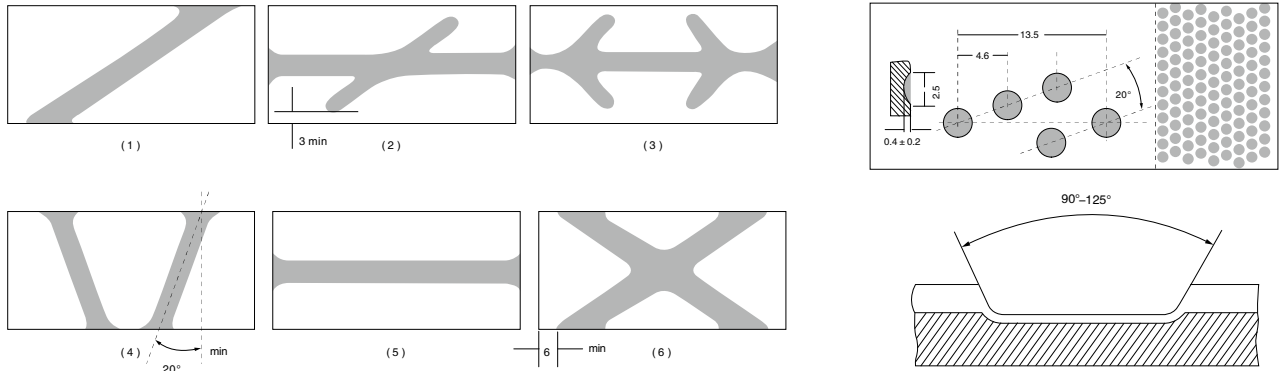
实际运用中根据使用工况的不同，表面可以烧结不同牌号的合金，产品范围包括：KSOB-820、KSOB-800、KSOB-720、KSOB-700、KSOB-200、KSOB-08G。

According to the different working conditions, different alloy material (CuPb10Sn10、CuPb6Sn6Zn3、CuPb24Sn4、CuPb30、AlSn20Cu、CuSn8Ni) can be sintered on steel backing. product range includes KSOB-820、KSOB-800、KSOB-720、KSOB-700、KSOB-200、KSOB-08G.

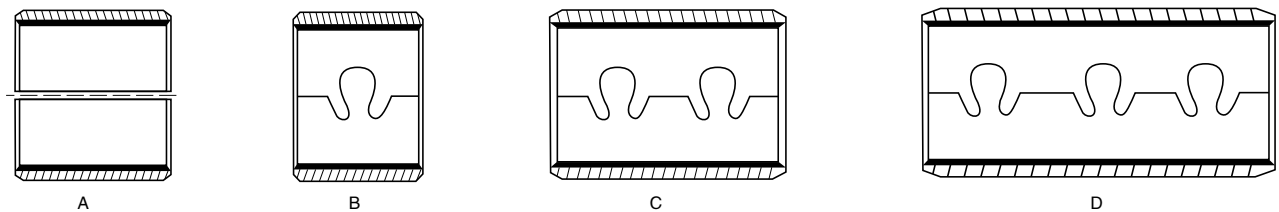
有关数据 Data	代号 Grade	KSOB-820 (lead free)	KSOB-800	KSOB-720	KSOB-700	KSOB-200	KSOB-08G	
	材料 Material	碳钢/Steel + CuSn8Ni	碳钢/Steel + CuPb ₁₀ Sn ₁₀	碳钢/Steel + CuPb ₂₄ Sn ₄	碳钢/Steel + CuPb ₃₀	碳钢/Steel + AlSn ₂₀ Cu	碳钢/Steel + CuPb ₁₀ Sn ₁₀ +石墨/Graphite	
除了目录中显示的标准产品外，还可以提供非标产品或根据客户要求订购。 We can also develop according to customers special request while out of this table.								
最大动载 P N/mm ² Max dynamic Load P		140	140	140	120	120	90	
最大线速度 V m/s Max line speed V		2.5	2.5	2.5	2.5	—	—	
最高PV值 N/mm ² ·m/s Max PV value		2.8	2.8	2.8	2.8	—	—	
摩擦系数u Friction coef u		0.05~0.12	0.05~0.15	0.05~0.15	0.05~0.15	—	—	
最大线速度 V m/sMax line speed V		2.5	10	10	15	20	—	
最高PV值 N/mm ² ·m/s Max PV value		2.8	10	10	8	15	—	
摩擦系数u Friction coef u		0.04~0.12	0.04~0.12	0.04~0.12	0.04~0.12	0.04~0.12	—	
最高温度 °C Max Working temperature		150	150	150	150	150	150	
相配轴径 Mating Axis		硬度 HRC Hardness	≥53	≥53	≥45	≥48	≥270	≥53
		粗糙度 Ra Roughness	0.32~0.63	0.32~0.63	0.32~0.63	0.16~0.63	0.16~0.63	0.16~0.63
合金层硬度 HB Alloy layer hardness		69~90	70~100	45~70	35~45	30~40	60~90	
导热系数 W/mk Thermal conductivity		47	47	60	60	47	47	
线膨胀系数 (轴向) Coefficient of linear expansion		18×10 ⁻⁶ /K	18×10 ⁻⁶ /K	18×10 ⁻⁶ /K	19×10 ⁻⁶ /K	19×10 ⁻⁶ /K	18×10 ⁻⁶ /K	
针对性运用领域 Pertinence applicaton		适用于中等负载，以及有大的冲击载荷的轴承，如发动机连杆轴套、转向销轴套等。 Lead free, For use in medium load conditions, such as the engine connecting rod bushings, steering pin covers.	产品适用于汽车发动机连杆，工程机械、农业机械等。 Application: con-rod of automobile engines, engineering and agriculture machinery, heavy duty construction machinery etc.	产品适用于高速、重载的内燃机主轴和变速齿轮。 Application: High speed, heavy load engine main shaft and ransmission gearbox, etc.	用作高速、中低载荷的内燃机主轴承、连杆衬套、摇臂衬套、油泵侧摩擦片。 high speed and middle load working situation, as engine main bearing, connect-rod bushing, rocket arm bushing and oil pump side plate.	产品适用于内燃机主轴和连杆轴承、空压机、制冷机用轴承。 Application: High speed, heavy load engine main shaft and air compressor, cooling machine.etc.	产品适用于启动马达机械。 Application: starting motor.	

**KSOB-800 双金属复合轴承
Bi-metallic composite bearings**

双金属自润滑轴承的油槽油穴形式 Type for Bi-Metallic Bushing Grooves and Indents



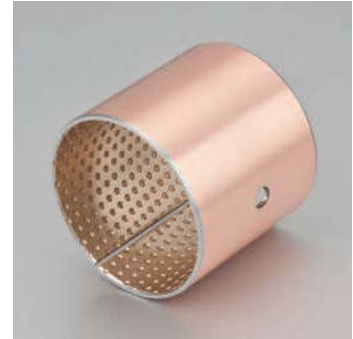
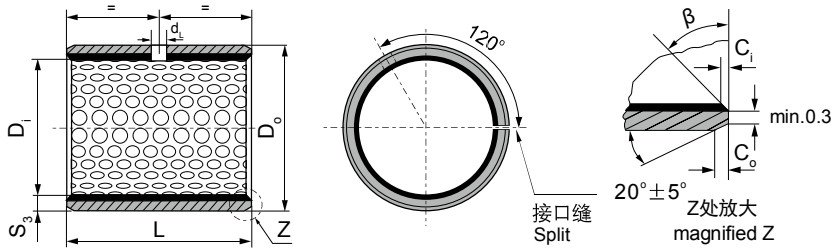
双金属轴承的搭扣形式 Lock Types for Bi-Metallic Bushing



材料特性 Material Characteristic

材料牌号 Material Trademark	合金成份 Alloy Composition	合金硬度 Alloy Hardness	国际标准 International Standard
KSOB-800	CuPb10Sn10	70 ~ 100HB	SAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B. D57. Federal Mogul HF2. Glacier SY. Glyco66. Miba2. 1010. Taiho HF2. Kar Schmiat KS940SSAE-797. DIN CuPb10Sn. JIS-LBC3. UNS C93700. Clevite F100. Daido L10. D. A. B D57. Federal Mogul HF2 Glacier SY. Glyco66. Miba2. 1010. Taiho HF2. Karl Schmiat Ks940s
KSOB-720	CuPb24Sn4	45 ~ 70HB	SAE=799. GLYCO 68. JIS-LBC6. DAIDO L23. Claciersx. ACLF250
KSOB-700	CuPb30	30 ~ 45HB	SAE-783. GLYCO74. JIS-AJL
KSOB-200	AlSn20Cu	30 ~ 40HB	SAE-48. JIS-KJ3
KSOB-820	CuSn8Ni	69 ~ 90HB	

KSOB-800 双金属轴承规格及公差 KSOB-800 Bimetal Sleeve Bushing Specification & Tolerance



内外倒角 ID and OD chamfers

S ₃	C ₀	C _i	β
0.75	0.5±0.3	0.25±0.2	35°±5°
1.00	0.6±0.3	0.30±0.2	35°±5°
1.50	0.7±0.3	0.50±0.3	35°±5°

S ₃	C ₀	C _i	β
2.00	1.2±0.4	0.50±0.3	35°±5°
2.50	1.8±0.6	0.60±0.3	45°±5°

单位unit:mm

内径 D _i φd	外径 D _o φD	轴径(h8) Shaft D _s	座孔(H7) Housing D _H	压装后 内孔公差 Arter fixed D _{ia}	配合间隙 Clearance C ₀	壁厚 Wall thickness S ₃	油孔 Oil hole d _i	长度 L $\begin{matrix} 0 \\ -0.40 \end{matrix}$						
								10	15	20	25	30	40	50
10	12	10 -0.022	12 +0.018	+0.148 +0.010	0.170 0.010	0.995 0.935	4	1010	1015	1020				
12	14	12 -0.027	14 +0.018		1210			1215	1220					
14	16	14 -0.027	16 +0.018		1410			1415	1420					
15	17	15 -0.027	17 +0.018		1510			1515	1520					
16	18	16 -0.027	18 +0.018		1610			1615	1620					
18	20	18 -0.027	20 +0.021		1810			1815	1820	1825				
20	23	20 -0.033	23 +0.021	+0.161 +0.020	0.194 0.020	1.490 1.430	6	2010	2015	2020	2025			
22	25	22 -0.033	25 +0.021					2210	2215	2220	2225			
24	27	24 -0.033	27 +0.021					2410	2415	2420	2425	2430		
25	28	25 -0.033	28 +0.021						2515	2520	2525	2530		
26	30	26 -0.033	30 +0.021	+0.181 +0.040	0.214 0.040	1.980 1.920	8		2615	2620	2625	2630		
28	32	28 -0.033	32 +0.025	+0.185 +0.040	0.218 0.040				2815	2820	2825	2830	2840	
30	34	30 -0.033	34 +0.025						3015	3020	3025	3030	3040	
32	36	32 -0.039	36 +0.025						3215	3220	3225	3230	3240	
35	39	35 -0.039	39 +0.025	0.224 0.040						3520	3525	3530	3540	3550
38	42	38 -0.039	42 +0.025							3820	3825	3830	3840	3850
40	44	40 -0.039	44 +0.025					4020	4025	4030	4040	4050		

KSOB-800 双金属轴承规格及公差 KSOB-800 Bimetal Sleeve Bushing Specification & Tolerance

单位unit:mm

内径 D _i φd	外径 D _o φD	轴径(h8) Shaft D _s	座孔(H7) Housing D _H	压装后 内孔公差 Arter fixed D _{i,a}	配合间隙 Clearance C _D	壁厚 Wall thickness S ₃	油孔 Oil hole d _L	长度 L $\begin{matrix} 0 \\ -0.40 \end{matrix}$														
								25	30	40	50	60	80	90	100							
45	50	45 -0.039	50 +0.025	+0.225 +0.080	0.264 0.080	2.460 2.400	8	4525	4530	4540	4550											
50	55	50 -0.039	55 +0.030	+0.230 +0.080	0.269 0.080				5030	5040	5050	5060										
55	60	55 -0.046	60 +0.030					0.276 0.080		5530	5540	5550	5560									
60	65	60 -0.046	65 +0.030							6030	6040	6050	6060									
65	70	65 -0.046	70 +0.030							6530	6540	6550	6560									
70	75	70 -0.046	75 +0.030							7030	7040	7050	7060	7080								
75	80	75 -0.046	80 +0.030							7530	7540	7550	7560	7580								
80	85	80 -0.046	85 +0.035	+0.235 +0.080	0.281 0.080					8030	8040	8050	8060	8080	8090							
85	90	85 -0.054	90 +0.035					0.289 0.080			8530	8540	8550	8560	8580	8590	85100					
90	95	90 -0.054	95 +0.035									9040	9050	9060	9080	9090	90100					
95	100	95 -0.054	100 +0.035									9550	9560	9580	9590	95100						
100	105	100 -0.054	105 +0.035										10050	10060	10080	10090	100100					
105	110	105 -0.054	110 +0.035											10550	10560	10580	105100					
110	115	110 -0.054	115 +0.035												11050	11060	11080	11090	110100			
115	120	115 -0.054	120 +0.035													11550	11560	11580	11590	115100		
120	125	120 -0.054	125 +0.040														12050	12060	12080	12090	120100	
125	130	125 -0.063	130 +0.040		+0.240 +0.080		0.303 0.080										12560	12580	12590	125100		
130	135	130 -0.063	135 +0.040															13060	13080	13090	130100	
135	140	135 -0.063	140 +0.040																13560	13580	13590	135100
140	145	140 -0.063	145 +0.040																	14060	14080	14090
150	155	150 -0.063	155 +0.040																	15060	15080	15090
							9.5															