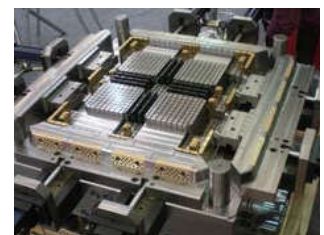
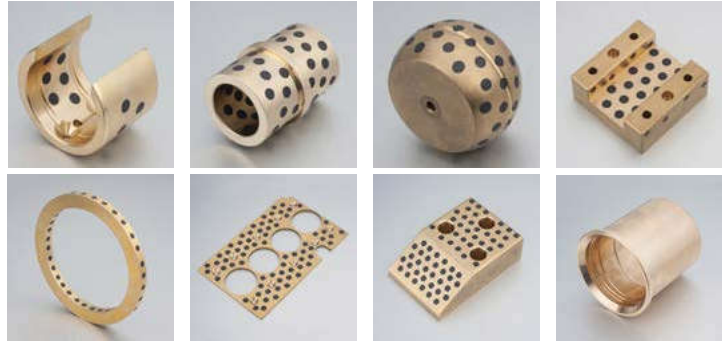


## KSOB650 固体自润滑轴承 Metallic self-lubricating bearings



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### 结构特性 Structure Characteristics

KSOB650 系列固体自润滑轴承以高强度铜合金为基体并按工况需要有规律的排布一定比列的固体润滑剂，这种铜基镶嵌式固体润滑轴承结合了铜合金的高承载高耐磨及固体润滑剂的自润滑性能，使其在使用过程中大大降低了轴承和设备的维护成本。在此基础上开发了适合于经济型和耐冲击型运用的 KSOB550 钢基铜合金镶嵌型固体润滑轴承、KSOB250 铸铁镶嵌型固体润滑轴承和 KSOB850 弥散型固体润滑轴承。

KSOB solid self-lubricating bearing materials consist of high strength metal with solid lubricants embedded, the metal has high load capacity and solid lubricants provided low friction during the operation, this construction reduces maintenance cost for both bearing and machinery. Based on the above technique theory, we developed KSOB550 steel shell cast bronze with graphite plug bearings for economic and impact load application, KSOB250 steel with graphite plug bearings and KSOB850 dispersed solid lubrication bearings for lower friction applications.

### 材料特点 Material Properties

- 可以长期使用而无需维护；
  - 设计用于很高的静承载和动承载；
  - 具有很低的且平稳的摩擦系数，无“粘着”现象；
  - 具有耐粉尘、耐腐蚀、耐冲击和耐边缘负载能力；
  - 金属基材具有很好的吸震能力；
  - 能够在很宽的温度范围内使用；
  - 适合于往复、旋转和摆动等启动频繁又难以形成油膜的场合；
  - 具有极低的磨损率，使用寿命长。
- Allows maintenance-free and long-life operation;
  - Suitable for high static and dynamic loads;
  - With low and smoothly coefficient of friction and without stick-slip effects;
  - Suitable for dirty, corrosion, impact load and edge loading;
  - The base material provided a good shock-absorbing capacity;
  - Can be used over a large temperature range;
  - Suitable for reciprocating, rotating and oscillating movement with start frequency and difficulty to form oil film occasions;
  - With low wear rate and long life service.

### 产品应用 Application

注塑机模架、汽车模具、工程机械、液压油缸、大型齿轮箱、冶金连铸机、列车支架、轧钢设备、矿山机械、船舶、气轮机、吊车支撑、食品机械、水轮机轴承等

Injection molding machine, automotive moulds, hydrocylinder, gear case, gas turbine, water turbine, Crane support...

实际运用中根据使用工况的不同，基体可以采用不同牌号的合金，产品范围包括：KSOB650、KSOB650S1、KSOB550、KSOB250、KSOB600各系列产品。

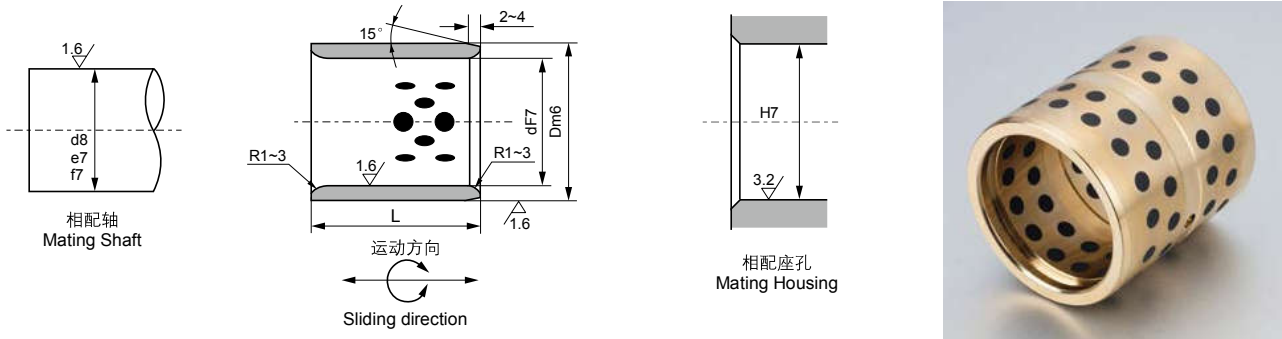
According to the different working conditions, different type of alloy can be chosen, product range includes KSOB650, KSOB650S1, KSOB550, KSOB250, KSOB600.

代号 Grade	KSOB650	KSOB650S1	KSOB550	KSOB250	KSOB600	
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.						
材料 Material	CuZn25Al5Mn4Fe3	CuSn5Pb5Zn5	钢/steel+CuZn25Al5Mn4Fe3	250铸铁/250castiron	CuZn25Al5Mn4Fe3	
密度 g/cm <sup>3</sup> Density	8.0	8.7	-	6.8	8.0	
硬度 HB Hardness	>210	>70	>210	>160	>210	
抗拉强度N/mm <sup>2</sup> Tensile strength	>750	>200	-	>150	>750	
屈服强度N/mm <sup>2</sup> Yeild strength	>450	>90	-	-	>450	
延伸率% Elongation	>8	>15	-	-	>12	
线胀系数 10 <sup>-5</sup> /°C Coefficient of linear expansion	1.9	1.8	1.2	-	-	
导热系数W/(m.k) Heat-conducting Coefficient	38~55	46~63	-	-	-	
弹性系数KN/mm <sup>2</sup> Flexibility Coefficient	100~140	85~115	-	-	-	
使用温度 °C Temp. Limits	-40~+300	-40~+250	1.0	1	1.2	
最大动载N/mm <sup>2</sup> Max. Dynamic Load	120	60	1.5	0.8	-	
最大线速度 m/s Max.speed	干摩擦 Dry Lubrication	0.4	0.3	3.25	1.55	-
	油润滑 Oil Lubrication	1.0	0.85	0.12~0.16	0.13~0.2	<0.16
最大PV值 Max.PV N/mm <sup>2</sup> *m/s	干摩擦 Dry Lubrication	1.5	1.0	0.03~0.08	0.04~0.08	-
	油润滑 Oil Lubrication	3.25	1.65	-	-	-
摩擦系数 Friction	干摩擦 Dry Lubrication	0.12~0.16	0.12~0.16	-	-	-
	油润滑 Oil Lubrication	0.03~0.08	0.03~0.08	-	-	-

## 固体润滑剂 Solid Lubricants

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

# KSOB650 自润滑直套轴承标准公制尺寸 KSOB650 Self-lubricating Sleeve Bearings Standard Metric Size



单位Unit: mm

d	D	d F7	D m6	L $\begin{matrix} -0.10 \\ -0.30 \end{matrix}$																
				8	10	12	15	16	20	25	30	35	40	50	60	70	80			
8	12	8	12	+0.028 +0.013	081208	081210	081212	081215												
10	14	10	14		+0.018 +0.007	101408	101410	101412	101415	101416	101420									
12	18	12	18	+0.034 +0.016		121810	121812	121815	121816	121820	121825	121830								
13	19	13	19			131910	131912	131915	131916	131920	131925	131930								
14	20	14	20			142010	142012	142015	142016	142020	142025	142030								
15	21	15	21			152110	152112	152115	152116	152120	152125	152130	152135							
16	22	16	22		+0.021 +0.008		162210	162212	162215	162216	162220	162225	162230	162235	162240					
18	24	18	24				182410	182412	182415	182416	182420	182425	182430	182435	182440					
20	28	20	28				202810	202812	202815	202816	202820	202825	202830	202835	202840	202850				
22	32	22	32		+0.041 +0.020			223212	223215	223216	223220	223225	223230	223235	223240	223250				
25	33	25	33						253312	253315	253316	253320	253325	253330	253335	253340	253350	253360		
30	38	30	38						303812	303815	303816	303820	303825	303830	303835	303840	303850	303860		
35	45	35	45	+0.025 +0.009							354520	354525	354530	354535	354540	354550	354560	354570		
40	50	40	50									405020	405025	405030	405035	405040	405050	405060	405070	405080
45	55	45	55											455530	455535	455540	455550	455560	455570	455580
50	60	50	60												506030	506035	506040	506050	506060	506070

**KSOB650 自润滑直套轴承标准公制尺寸**

**KSOB650 Self-lubricating Sleeve Bearings Standard Metric Size**

单位Unit: mm

d	D	dF7		Dm6		L -0.10 -0.30												
						30	35	40	50	60	70	80	100	120	130	140	150	
50	62	50	+0.050 +0.025	62		506230	506235	506240	506250	506260	506270							
50	65	50		65		506530	506535	506540	506550	506560	506570	506580	5065100					
55	70	55		70		557030	557035	557040	557050	557060	557070	557080	5570100					
60	74	60		75		+0.030 +0.011	607430	607435	607440	607450	607460	607470	607480	6074100				
60	75	60		75			607530	607535	607540	607550	607560	607570	607580	6075100				
63	75	63		75				637535	637540	637550	637560	637570	637580	6375100				
65	80	65		80				658035	658040	658050	658060	658070	658080	6580100				
70	85	70		+0.060 +0.030		85			708535	708540	708550	708560	708570	708580	7085100			
70	90	70	90			709035		709040	709050	709060	709070	709080	7090100					
75	90	75	90					759040	759050	759060	759070	759080	7590100					
75	95	75	95					759540	759550	759560	759570	759580	7595100	7595120				
80	96	80	96	+0.035 +0.013				809640	809650	809660	809670	809680	8096100	8096120	8096130			
80	100	80	100					8010040	8010050	8010060	8010070	8010080	80100100	80100120	80100130	80100140		
90	110	90	+0.071 +0.036	110				9011050	9011060	9011070	9011080	90110100	90110120	90110130	90110140			
100	120	100		120						10012060	10012070	10012080	100120100	100120120	100120130	100120140		
110	130	110	130								11013080	110130100	110130120	110130130	110130140			
120	140	120	140								12014080	120140100	120140120	120140130	120140140			
125	145	125	145									125145100	125145120	125145130	125145140			
130	150	130	150	+0.040 +0.015								130150100	130150120	130150130	130150140	130150150		
140	160	140	+0.083 +0.043	160								140160100	140160120	140160130	140160140	140160150		
150	170	150	170									150170100	150170120	150170130	150170140	150170150		
160	180	160	180									160180100	160180120	160180130	160180140	160180150		