

## KSOB-20 金属塑料边界润滑轴承 Metal-polymer marginal lubricating bearings



金属塑料边界润滑轴承

**Metal-polymer marginal lubricating bearings**



**结构特性 Structure Characteristics**

KSOB 金属复合边界润滑材料以优质低碳钢为基板，中间烧结球形多孔铜粉层，表面轧制以改性聚甲醛（POM）或聚醚醚酮（PEEK）为主的耐磨润滑材料作为轴承工作层，表面规则的油穴不但可以储存油脂，而且可以有效埋没外部入侵的粉尘，提高了轴承的使用寿命。这种材料具有优异的机械承载能力，中间铜粉层不但可以及时传递轴承运行过程中产生的热量，同时也提高了塑料层与基板的结合强度。以 POM 或 PEEK 为主的表面耐磨材料设计适用于油脂润滑工况，轴承表面有规律地排列着用于储存油脂的油穴以保证润滑剂在整个轴承表面的最佳分布。

Metal-polymer marginal lubricating composite materials consist of metal backing sintered porous bronze with POM or PEEK polymer as working layer. Steel backing provides exceptionally high load carrying capacity, excellent heat dissipation. Sintered bronze powder provides thermal conductivity away from the bearing surface, also serves as a reservoir for the resin mixture. And the POM or PEEK polymer layer provides high wear resistance and low friction even with only minute volume of lubricant are supplied, this bearing surface carries a pattern of circular indents which should be filled with grease on assembly of the bearing.

**产品应用 Application**

产品广泛应用于

- 汽车工业：踏板总成、平衡轴套、制动钳、转向主销轴套和卡车尾板轴套等；
- 物流机械：搬运车、起重机、车载吊车、森林机械、包装机械等；
- 以及液压马达、液压油缸、气动元件、农用机械等。

Recommended for applications involving intermittent operation or boundary lubrication...

Automotive: Pedal assembly, Balance shaft sleeve, Steering king pin shaft sleeve...

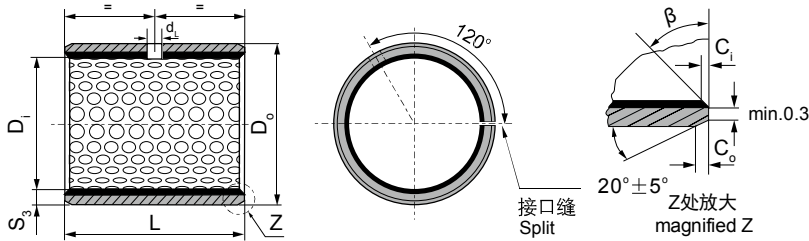
Logistics machine: carrier, chain block, Car crane, packaging machine....And hydraulic motor,Hydraulic cylinders, pneumatic element, agricultural machine...

实际运用中根据使用环境、工况和环保要求的不同，表面塑料层 POM/PEEK 里可以添加不同的填充材料。产品范围包括：KSOB-20 (黄)、KSOB-22 (橙)、KSOB-26 (蓝)、KSOB-28 (黑)、KSOB-800 (PEEK)。

According to the different working conditions and environmental protection, the POM or PEEK layer with different polymer filler, Surface tin or copper plating. product range includes KSOB-20 (yellow)、KSOB-22 (orange)、KSOB-26 (blue)、KSOB-28 (black)、KSOB-800 (PEEK)。

有关数据 Data	代号 Grade	<b>KSOB-20 (黄)</b> (lead free)	<b>KSOB-22 (橙)</b> (lead free)	<b>KSOB-26 (蓝)</b> (lead free)	<b>KSOB-28 (黑)</b>	<b>KSOB-800 (PEEK)</b>
	材料 Material	碳钢/Steel+铜粉/ Bronze+(POM+Pb)	碳钢/Steel+铜粉/ Bronze+POM	碳钢/Steel+铜粉/ Bronze+POM	碳钢/Steel+铜粉/ Bronze+POM	碳钢/Steel+铜粉/ Bronze +(PTFE+PEEK)
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.						
最大承载压力P Max load capacity P	静载 N/mm <sup>2</sup> Static load	140	140	110	140	140
	动载 N/mm <sup>2</sup> Dynamic load	70	70	45	70	100
最大线速度 V m/s Max line speed V		2.5	2.5	2.5	2.5	2.5
最高PV值 N/mm <sup>2</sup> ·m/s PV value limit	脂润滑 Greases lubrication	2.8	2.8	2.8	2.8	2.5
摩擦系数u Friction coef u		0.06~0.12	0.06~0.12	0.05~0.1	0.06~0.12	0.08~0.12
相配轴径 Mating Axis	硬度 HB Hardness	>270	>270	>270	>270	>270
	粗糙度 Ra Roughness	0.4~1.25	0.4~1.25	0.4~1.25	0.4~1.25	0.4~1.25
工作温度 °C Working temperature		-40~+120	-40~+120	-60~+120	-60~+120	-150~+250
导热系数 W/mk Thermal conductivity		52	52	52	52	52
线膨胀系数 (轴向) Coefficient of linear xpansion		11×10 <sup>-6</sup> /K	11×10 <sup>-6</sup> /K	11×10 <sup>-6</sup> /K	11×10 <sup>-6</sup> /K	11×10 <sup>-6</sup> /K
针对性运用领域 Pertinence applicaton		产品应用于汽车底盘、锻压机床、冶金机械、矿山机械、水利行业、轧钢行业等。 It's used in vehicle chassis, forming machine tools, steel metallurgical machinery, mineral mountain machinery, hydraulic industry and rolling steel industry, etc.				产品应用于锻压机床、冶金机械、矿山机械、液压马达等高端应用。 The product is applied in forging press, metallurgy machine, mine machine, irrigation industry, hydraulic moto high-end application, etc.

## KSOB-20 轴承规格及公差 KSOB-20 Sleeve Bushing Specification & Tolerance



内外倒角 ID and OD chamfers

S <sub>3</sub>	C <sub>o</sub>	C <sub>i</sub>	β
1.0	0.6±0.3	0.30±0.2	30°±5°
1.5	0.7±0.3	0.50±0.2	30°±5°

S <sub>3</sub>	C <sub>o</sub>	C <sub>i</sub>	β
2.00	1.2±0.4	0.50±0.3	30°±5°
2.50	1.8±0.6	0.80±0.3	45°±5°

单位Unit: mm

轴径 Shaft D <sub>s</sub> h8	座孔 Housing H7 D <sub>H</sub>	(OD) 外径公差 Tolerance D <sub>o</sub>	(ID)压装后 内孔公差 After fixed D <sub>i,a</sub>	配合间隙 Clearance D <sub>o</sub>	壁厚 Wall thick- ness S <sub>3</sub>	油孔 Oil hole d <sub>l</sub>	长度 L <sup>0</sup> <sub>-0.40</sub>														
							10	15	20	25	30	35	40	45	50	60					
10 -0.022	12 +0.018	12 +0.065 +0.030	10.108 10.040	0.130 0.040	0.980 0.955	4	1010	1015	1020												
12 -0.027	14 +0.018	14 +0.065 +0.030	12.108 12.040	0.135 0.040			1210	1215	1220												
14 -0.027	16 +0.018	16 +0.065 +0.030	14.108 14.040				1415	1420													
15 -0.027	17 +0.018	17 +0.065 +0.030	15.108 15.040				1515	1520	1525												
16 -0.027	18 +0.018	18 +0.065 +0.030	16.108 16.040				1615	1620	1625												
18 -0.027	20 +0.021	20 +0.075 +0.035	18.111 18.040				0.138 0.040	1815	1820	1825											
20 -0.033	23 +0.021	23 +0.075 +0.035	20.131 20.050	0.164 0.050	1.475 1.445	2015	2020	2025	2030												
22 -0.033	25 +0.021	25 +0.075 +0.035	22.131 22.050			2215	2220	2225	2230												
25 -0.033	28 +0.021	28 +0.075 +0.035	25.131 25.050			2515	2520	2525	2530												
28 -0.033	32 +0.025	32 +0.085 +0.045	28.155 28.060	0.188 0.060	1.970 1.935	6			2820	2825	2830										
30 -0.033	34 +0.025	34 +0.085 +0.045	30.155 30.060				3020	3025	3030	3035	3040										
35 -0.039	39 +0.025	39 +0.085 +0.045	35.155 35.060	0.194 0.060	2.460 2.415	8			3520	3525	3530	3535	3540								
40 -0.039	44 +0.025	44 +0.085 +0.045	40.155 40.060				4020	4025	4030	4035	4040	4045	4050								
45 -0.039	50 +0.025	50 +0.085 +0.045	45.195 45.080	0.234 0.080	2.460 2.415	8			4520	4525	4530	4535	4540	4545	4550						
50 -0.039	55 +0.030	55 +0.100 +0.055	50.200 50.080				5030	5035	5040	5045	5050	5060									
55 -0.046	60 +0.030	60 +0.100 +0.055	55.200 55.080	0.246 0.080	2.460 2.415	8			5530	5535	5540	5545	5550	5560							
60 -0.046	65 +0.030	65 +0.100 +0.055	60.200 60.080				6030	6035	6040	6045	6050	6060									

# KSOB-20 轴承规格及公差

## KSOB-20 Sleeve Bushing Specification & Tolerance

单位Unit: mm

轴径 Shaft D <sub>s</sub> h8	座孔 Housing H7 D <sub>H</sub>	(OD) 外径公差 Tolerance D <sub>O</sub>	(ID)压装后 内孔公差 After fixed D <sub>ia</sub>	配合间隙 Clearance D <sub>D</sub>	壁厚 Wall thick- ness S <sub>3</sub>	油孔 Oil hole d <sub>L</sub>	长度 L <sup>0</sup> -0.40													
							40	50	60	80	90	95	100	110	120					
65 -0.046	70 +0.030	70 +0.100 +0.055	65.200 65.080	0.246 0.080	2.460 2.415	8	6540	6550	6560											
70 -0.046	75 +0.030	75 +0.100 +0.055	70.200 70.080				7040	7050	7060	7080										
75 -0.046	80 +0.030	80 +0.100 +0.055	75.200 75.080				7540	7550	7560	7580										
80 -0.046	85 +0.035	85 +0.120 +0.070	80.265 80.100	0.313 0.100	2.450 2.385	9.5	8040	8050	8060	8080										
85 -0.054	90 +0.035	90 +0.120 +0.070	85.265 85.100	0.321 0.100			8540	8550	8560	8580										
90 -0.054	95 +0.035	95 +0.120 +0.070	90.265 90.100				9040	9050	9060	9080	9090									
100 -0.054	105 +0.035	105 +0.120 +0.070	100.265 100.100					10050	10060	10080	10090	10095								
105 -0.054	110 +0.035	110 +0.120 +0.070	105.265 105.100					10550	10560	10580	10590	10595	105100	105110						
110 -0.054	115 +0.035	115 +0.120 +0.070	110.265 110.110					11050	11060	11080	11090	11095	110100	110110						
120 -0.054	125 +0.040	125 +0.170 +0.100	120.270 120.110				0.324 0.100	12050	12060	12080	12090	12095	120100	120110						
125 -0.063	130 +0.040	130 +0.170 +0.100	125.270 125.110	12550				12560	12580	12590	12595	125100	125110							
130 -0.063	135 +0.040	135 +0.170 +0.100	130.270 130.110	13050				13060	13080	13090	13095	130100	130110							
140 -0.063	145 +0.040	145 +0.170 +0.100	140.270 140.110	14050				14060	14080	14090	14095	140100	140110							
150 -0.063	155 +0.040	155 +0.170 +0.100	150.270 150.110	15050				15060	15080	15090	15095	150100	150110							
160 -0.063	165 +0.040	165 +0.170 +0.100	160.270 160.110	0.339 0.110				16050	16060	16080	16090	16095	160100	160110						
170 -0.063	175 +0.040	175 +0.170 +0.100	170.270 170.110					17050	17060	17080	17090	17095	170100	170110						
180 -0.063	185 +0.046	185 +0.210 +0.130	180.276 180.110					18050	18060	18080	18090	18095	180100	180110						
190 -0.072	195 +0.046	195 +0.210 +0.130	190.276 190.110					19050	19060	19080	19090	19095	190100	190110	190120					
200 -0.072	205 +0.046	205 +0.210 +0.130	200.276 200.110		20050	20060	20080	20090	20095	200100	200110	200120								
220 -0.072	225 +0.046	225 +0.210 +0.130	220.276 220.110		22050	22060	22080	22090	22095	220100	220110	220120								
240 -0.072	245 +0.046	245 +0.210 +0.130	240.276 240.110	0.354 0.110	24050	24060	24080	24090	24095	240100	240110	240120								
250 -0.072	255 +0.052	255 +0.260 +0.170	250.282 250.110		25050	25060	25080	25090	25095	250100	250110	250120								
260 -0.081	265 +0.052	265 +0.260 +0.170	260.282 260.110		26050	26060	26080	26090	26095	260100	260110	260120								
280 -0.081	285 +0.052	285 +0.260 +0.170	280.282 280.110		28050	28060	28080	28090	28095	280100	280110	280120								
300 -0.081	305 +0.052	305 +0.260 +0.170	300.282 300.110		30050	30060	30080	30090	30095	300100	300110	300120								