







SF-2 边界润滑轴套 Boundary Lubricating Bushing

产品介绍 Product introduction

SF-2边界润滑轴承，是以钢板为基体、中间烧结球形青铜粉，表面轧制改性聚甲醛（POM），并含有储油坑。此产品的特点是：适用于边界润滑下长期使用而无需维护；适用于重载低速下的旋转运动和摇摆运动；优秀的承载能力，较低的摩擦系数和很好的耐磨性；无吸水性和吸油性，尺寸稳定；轴承在压装时可以进行再次加工以得到更好的公差。建议初始安装时加入油脂，轴承表面的储油坑可以保证最佳的油脂分布，而过程加油可以大大提高产品的使用寿命。产品广泛应用于：卡车踏板总成、平衡轴、制动钳、转向主销和尾板等；物流机械：搬运车、起重机、车载吊车；森林机械；包装机械等；以及农用机械等。

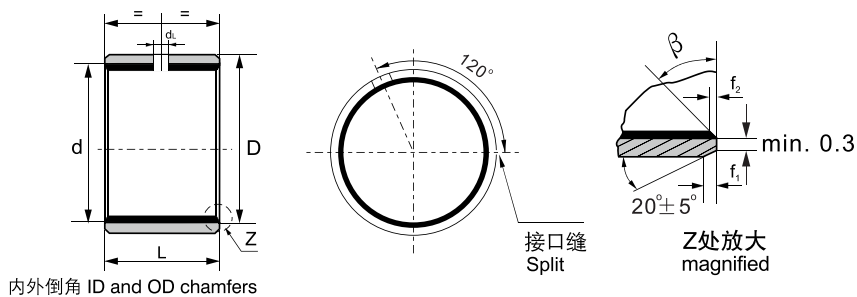
SF-2 pre-lubricating bushing, backed on mild steel sintered with bronze powder and coating with POM. The POM surface carries a pattern of regular indents for grease. The characteristics are: Suitable for rotary and oscillating movement, lower maintenance requirements, lower wear, lower susceptibility to edge loading, no absorption of water and therefore no swelling, good resistance to shock loads. Suggestion: add grease into the indents when assembling can make bushing maintenance free, add grease during working can increase bushing's life time. Application: Automotive suspension joints, king pin assemblies and stub axles of trucks, automobile driving joint hinges, steering and other linkages, truck tail, tractor, harvest machine, and so on.

使用参数 The use of parameters

参数 Parameters	SF-2 边界润滑轴承 Marginal Bearing	SF-2H 无铅边界润滑轴承 Lead Free Marginal Bearing	SF-2S 无铅边界润滑轴承 Lead Free Marginal Bearing	SF-2L 无铅边界润滑轴承 Lead Free Marginal Bearing
				
最大承载压力P(静) Max load capacity P(Static)	250 N/mm ²	250 N/mm ²	250 N/mm ²	250 N/mm ²
最大承载压力P(动) Max load capacity P(Dynamic)	140 N/mm ²	140 N/mm ²	140 N/mm ²	140 N/mm ²
最大线速度 V(脂) Max line speed V(Grease)	2.5m/s	2.5m/s	2.5m/s	2.5m/s
最高 PV 值(脂) Max imum PV value(Grease)	3 N/mm ² .m/s	3 N/mm ² .m/s	3 N/mm ² .m/s	3 N/mm ² .m/s
摩擦系数 μ(脂) Friction coef μ(Grease)	0.05~0.25	0.05~0.25	0.05~0.25	0.05~0.25
工作温度 Working temperature	-40℃~+110℃	-40℃~+110℃	-40℃~+110℃	-40℃~+110℃
导热系数 Thermal conductivity	4 W/(m.k)	4 W/(m.k)	4 W/(m.k)	4 W/(m.k)
线膨胀系数 Coefficient of linear expansion	11 × 10 ⁻⁶ /k	11 × 10 ⁻⁶ /k	11 × 10 ⁻⁶ /k	11 × 10 ⁻⁶ /k

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内外倒角 ID and OD chamfers

S_3	f_1	f_2	β
1.0	0.6 ± 0.3	0.3 ± 0.2	$30^\circ \pm 5^\circ$
1.5	0.7 ± 0.3	0.5 ± 0.2	$30^\circ \pm 5^\circ$

S_3	f_1	f_2	β
2.00	1.2 ± 0.4	0.5 ± 0.3	$30^\circ \pm 5^\circ$
2.50	1.8 ± 0.6	0.8 ± 0.3	$45^\circ \pm 5^\circ$

轴径 Shaft D_s h8	座孔 Housing H7 D_H	(OD) 外径公差 Tolerance D_O	(ID)压装后 内孔公差 After fixed $D_{I,a}$	配合间隙 Clearance D_D	壁厚 Wall thick- ness S_3	油孔 Oil hole d_L	长度 L $^{0}_{-0.40}$														
							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	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			3520	3525	3530	3535	3540											
40 -0.039	44 $+0.025$	44 $+0.085$ $+0.045$	40.155 40.060	0.194 0.060	2.460 2.415	4020	4025	4030	4035	4040	4045	4050									
45 -0.039	50 $+0.025$	50 $+0.085$ $+0.045$	45.195 45.080			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	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											

How to order: Part No. d L
订单方式: SF-2 10 10

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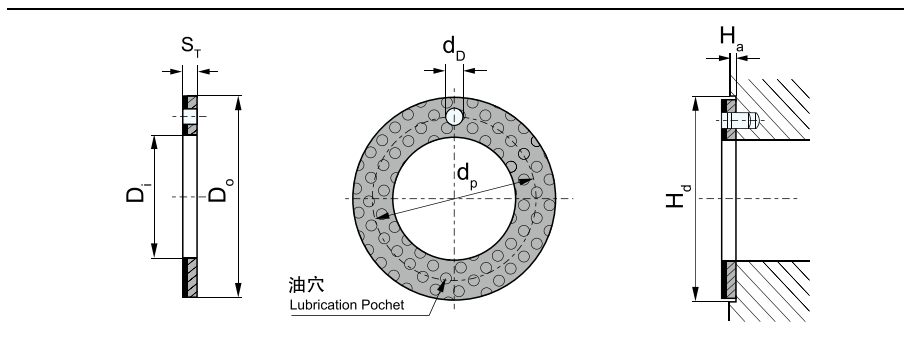
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轴径 Shaft D _s h8	座孔 Housing H7 D _H	(OD) 外径公差 Tolerance D _O	(ID)压装后 内孔公差 After fixed D _{i,a}	配合间隙 Clearance D _D	壁厚 Wall thick- ness S ₃	油孔 Oil hole d _L	长度 L ⁰ _{-0.40}												
							40	50	60	80	90	95	100	110	120				
65 _{-0.046}	70 ^{+0.030}	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	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	0.321 0.100				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					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	0.339 0.110				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	0.354 0.110		22050	22060	22080	22090	22095	220100	220110	220120						
240 _{-0.072}	245 ^{+0.046}	245 ^{+0.210} _{+0.130}	240.276 240.110			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							

SF-2WC 垫片规格及公差 SF-2WC Thrust Washer Specification & Tolerance

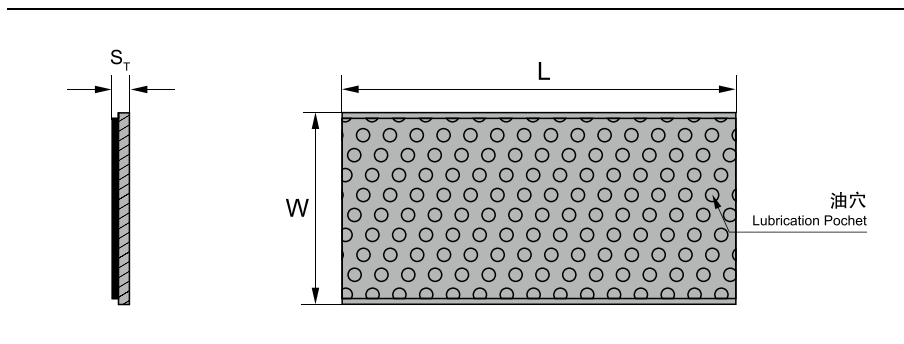
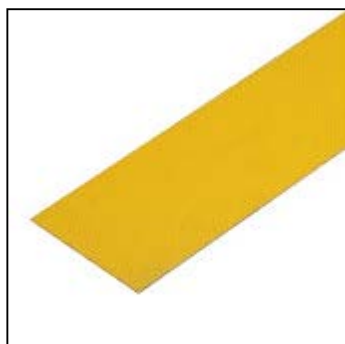
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单位Unit: mm

轴径 Shaft D_s	型号规格 Standard No.	垫片尺寸 Washer size				安装尺寸 Assemble size		$H_d+0.12$
		$D_i+0.25$	$D_o-0.25$	$S_r-0.05$	$d_p \pm 0.125$	$d_D^{+0.4}_{+0.1}$	$H_a \pm 0.2$	
8	W10	10	20	1.5	15	1.5	1	20
10	W12	12	24		18			
12	W14	14	26		20			
14	W16	16	30		23			
16	W18	18	32		25			
18	W20	20	36		28			
20	W22	22	38		30			
22	W24	24	42		33			
24	W26	26	44		35			
26	W28	28	48		38			
30	W32	32	54		43			
36	W38	38	62		50			
40	W42	42	66		54			
46	W48	48	74		61			
50	W52	52	78	2	65	1.5	78	
60	W62	62	90		76		90	

SF-2SP 板材规格及公差 SF-2SP Strip Specification & Tolerance



单位Unit: mm

型号规格 Standard No.	长度 $L \pm 1$	宽度 $W \pm 1$	厚壁 Wall thickness $S_s-0.05$
SP	500	150	1.0
SP	500	150	1.5
SP	500	150	2.0
SP	500	150	2.5