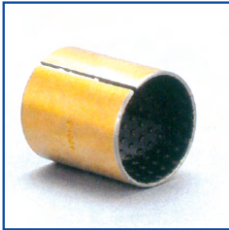


SF-2 MARGINAL LUBRICATING BEARING

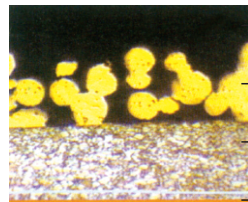
APPLICATION FEATURES

- 1、 Good load capacity and anti-wear.
- 2、 It is used in high load capacities and low speed with rotational, oscillating or frequent stop-start motion.
- 3、 It can work long time without oil in the condition of boundary lubrication, under oil or grease lubrication interval, the work is longer.
- 4、 It is machinable on POM layer.
- 5、 The bushes can be applied in auto chassis, forging machine. metallurgical, civil engineering, power station, strip rolling industries etc.



Application case

STRUCTURE



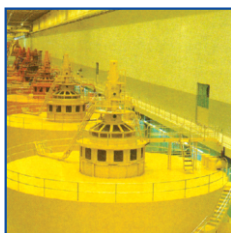
- 1、 POM with lead 0.3–0.5mm
- 2、 Porous bronze 0.2–0.3mm
- 3、 Steel backing 0.4–2.2mm
- 4、 Copper plating 0.008mm

Metallurgical structure

SF-2W MARGINAL LUBRICATING LEAD-FREE BEARING

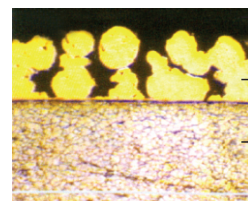
APPLICATION FEATURES

- 1、 Good load capacity and anti-wear.
- 2、 It is used in high load capacities and low speed with rotational, oscillating or frequent stop-start motion.
- 3、 It can work long time without oil in the condition of boundary lubrication, under oil or grease lubrication interval, the work is longer.
- 4、 It is machinable for the thicker of POM layer.
- 5、 The bushes can be applied in auto chassis, forging machine metallurgical, civil engineering, power station, strip rolling industries etc.
- 6、 It is widely used in the machine that lead is unacceptable.



Application case

STRUCTURE



- 1、 POM without lead 0.3–0.5mm
- 2、 Porous bronze 0.2–0.3mm
- 3、 Steel backing 0.4–2.2mm
- 4、 Tin-plating 0.005mm or copper plating 0.008mm

Metallurgical structure

BEARING OUTSIDE TOLERANCES TABLE

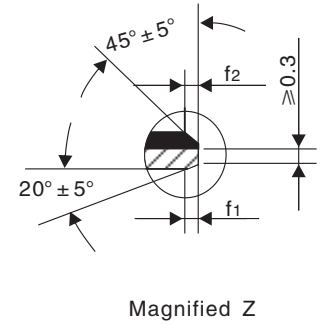
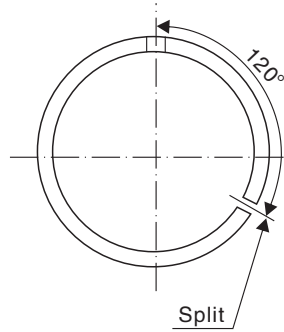
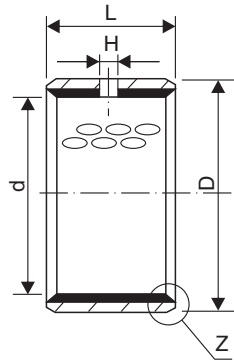
Outside diameter	Tolerance for outside diameter
≤ 10	+0.055 +0.025
$10 < d \leq 18$	+0.065 +0.030
$18 < d \leq 30$	+0.075 +0.035
$30 < d \leq 50$	+0.085 +0.045
$50 < d \leq 80$	+0.100 +0.055
$80 < d \leq 105$	+0.120 +0.070
$105 < d \leq 180$	+0.170 +0.100
$180 < d \leq 250$	+0.210 +0.130
$250 < d \leq 305$	+0.260 +0.170

THE TOLERANCE AND THICKNESS OF STANDARD METRIC BEARING

Inside diameter	Thickness	Tolerance for wall thickness
$8 \leq d < 20$	1.0	-0.020 -0.045
$20 \leq d < 28$	1.5	-0.025 -0.055
$28 \leq d < 45$	2.0	-0.030 -0.065
$45 \leq d < 80$	2.5	-0.040 -0.085
$80 \leq d$	2.5	-0.050 -0.115

PHYSICAL CHARACTERISTICS OF SF SERIES

Type	Load capacity (N/mm ²)			PV limit (N/mm ² · m/s)		Speed limit (in oil) (m/s)	Temp. Limit (°C)	μ Friction Coef.	Thermal conductivity (W/MK)	Linear expansion
	Static	Dynamic	Oscillating	Oil	Dry					
SF-2	250	140	60	22	2.8	2.5	-40~130	0.05~0.25	13	$11 \times 10^{-6}/k$
SF-2Y	250	140	60	22	2.8	2.5	-40~130	0.05~0.2	13	$11 \times 10^{-6}/k$



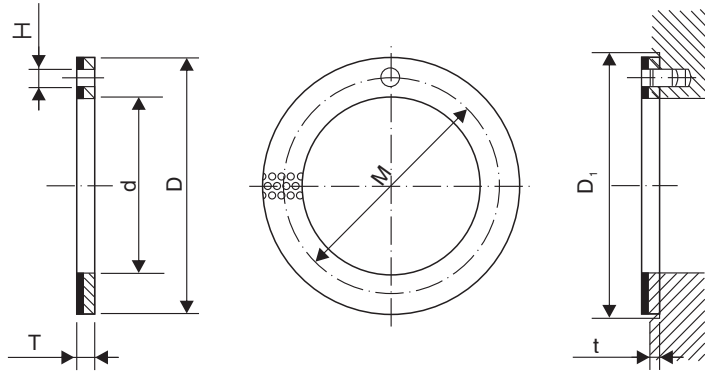
mm

d	D	Shaft Dia.	Housing Bore H7	Wall Thickness		Hole Dia.	f ₁	f ₂	L ⁰ _{-0.40}												
				Min.	Max.				10	12	15	20	25	30	35	40	45	50			
10	12	10 _{-0.022}	12 ^{+0.018}			4			1010		1015	1020									
12	14	12 _{-0.027}	14 ^{+0.018}			4			1210		1215	1220									
14	16	14 _{-0.027}	16 ^{+0.018}	0.955	0.980	4	0.5	0.3			1415	1420									
15	17	15 _{-0.027}	17 ^{+0.018}			4								1515	1520	1525					
16	18	16 _{-0.027}	18 ^{+0.018}			4					1615	1620	1625								
18	20	18 _{-0.027}	20 ^{+0.021}			4					1815	1820	1825								
20	23	20 _{-0.033}	23 ^{+0.021}			4					2015	2020	2025	2030							
22	25	22 _{-0.033}	25 ^{+0.021}	1.445	1.475	6	0.8	0.4			2215	2220	2225								
25	28	25 _{-0.033}	28 ^{+0.021}			6						2520	2525	2530							
28	32	28 _{-0.033}	32 ^{+0.025}			6						2820		2830							
30	34	30 _{-0.033}	34 ^{+0.025}	1.935	1.970	6	1.0	0.5				3020	3025	3030		3040					
35	39	35 _{-0.039}	39 ^{+0.025}			6									3520		3530	3535	3540		
40	44	40 _{-0.039}	44 ^{+0.025}			8						4020		4030		4040					4045
45	50	45 _{-0.039}	50 ^{+0.025}			8						4520		4530		4540	4545	4550			
50	55	50 _{-0.046}	55 ^{+0.030}	2.415	2.460	8	1.2	0.6						5030		5040		5050			
55	60	55 _{-0.046}	60 ^{+0.030}			8												5530		5540	
60	65	60 _{-0.046}	65 ^{+0.030}			8								6030		6040		6050			



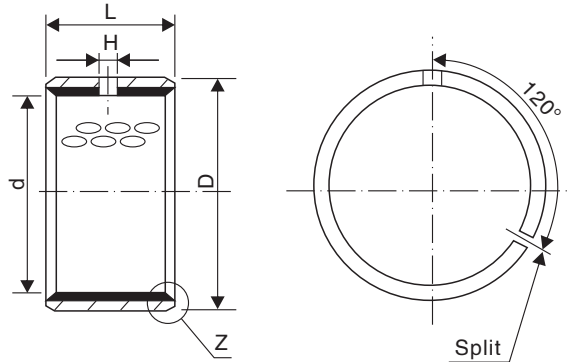
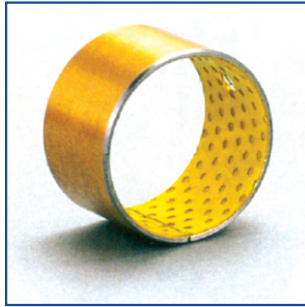
mm

d	D	Shaft Dia.	Housing Bore H7	Wall Thickness		Oil Hole Dia.	f ₁	f ₂	L ⁰ _{-0.40}									
				Min.	Max.				40	45	50	60	65	80	90	95	100	
65	70	65 _{-0.046}	70 ^{+0.030}			8			6540			6560						
70	75	70 _{-0.046}	75 ^{+0.030}	2.415	2.460	8	1.2	0.6	7040		7050		7065	7080				
75	80	75 _{-0.046}	80 ^{+0.030}			9.5			7540			7560		7580				
80	85	80 _{-0.046}	85 ^{+0.035}			9.5			8040			8060		8080				
85	90	85 _{0.054}	90 ^{+0.035}			9.5			8540			8560		8580				
90	95	90 _{-0.054}	95 ^{+0.035}			9.5	1.4	0.7	9040			9060		9080	9090			
100	105	100 _{-0.054}	105 ^{+0.035}			95					10050	10060		10080		10095		
105	110	105 _{-0.054}	110 ^{+0.035}			9.5						10560		10580		10595	105100	
110	115	110 _{-0.054}	115 ^{+0.035}			9.5						11060		11080		11095	110100	
120	125	120 _{-0.054}	125 ^{+0.035}			9.5						12060		12080				120100
125	130	125 _{-0.063}	130 ^{+0.040}			9.5	1.6	0.8				12560		12580				125100
130	135	130 _{-0.063}	135 ^{+0.040}			9.5					13050	13060		13080				130100
140	145	140 _{-0.063}	145 ^{+0.040}			9.5					14050	14060		14080				140100
150	155	150 _{-0.063}	155 ^{+0.040}	2.385	2.450	9.5					15050	15060		15080				150100
160	165	160 _{-0.063}	165 ^{+0.040}			11					16050	16060		16080				160100
170	175	170 _{-0.063}	175 ^{+0.040}			11					17050	17060		17080				170100
180	185	180 _{-0.072}	185 ^{+0.040}			11					18050	18060		18080				180100
190	195	190 _{-0.072}	195 ^{+0.046}			11					19050	19060		19080				190100
200	205	200 _{-0.072}	205 ^{+0.046}			11					20050	20060		20080				200100
220	225	220 _{-0.072}	225 ^{+0.046}			12					22050	22060		22080				220100
240	245	240 _{-0.072}	245 ^{+0.046}			12					24050	24060		24080				240100
250	255	250 _{-0.081}	255 ^{+0.052}			12					25050	25060		25080				250100
260	265	260 _{-0.081}	265 ^{+0.052}			12					26050	26060		26080				260100
280	285	280 _{-0.081}	285 ^{+0.052}			12					28050	28060		28080				280100
300	305	300 _{-0.081}	305 ^{+0.052}			12					30050	30060		30080				300100



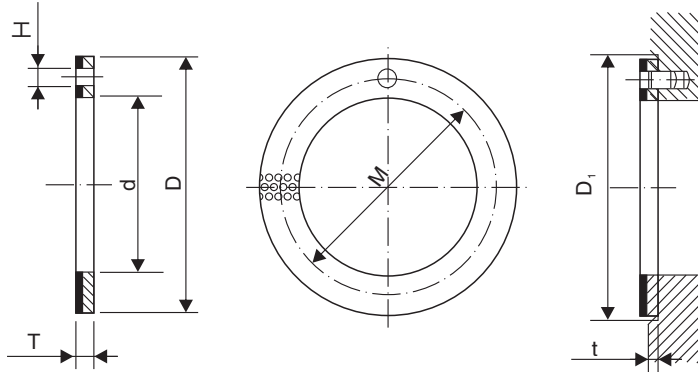
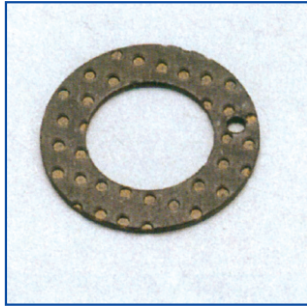
mm

Model No.	Shaft Dia.	Size Of Washer				Size For Installation		
		$d^{+0.25}$	$D_{-0.25}$	$T_{-0.05}$	$M_{-0.12}^{+0.12}$	$H_{+0.1}^{+0.4}$	$T_{-0.2}^{+0.2}$	$D_1^{+0.12}$
WC10SF-2	8	10	20	1.5	15	1.5	1	20
WC12SF-2	10	12	24	1.5	18	1.5	1	24
WC14SF-2	12	14	26	1.5	20	2	1	26
WC16SF-2	14	16	30	1.5	23	2	1	30
WC18SF-2	16	18	32	1.5	25	2	1	32
WC20SF-2	18	20	36	1.5	28	3	1	36
WC22SF-2	20	22	38	1.5	30	3	1	38
WC24SF-2	22	24	42	1.5	33	3	1	42
WC26SF-2	24	26	44	1.5	35	3	1	44
WC28SF-2	25	28	48	1.5	38	4	1	48
WC32SF-2	30	32	54	1.5	43	4	1	54
WC38SF-2	35	38	62	1.5	50	4	1	62
WC42SF-2	40	42	66	1.5	54	4	1	66
WC48SF-2	45	48	74	1.5	61	4	1.5	74
WC52SF-2	50	52	78	2	65	4	1.5	78
WC62SF-2	60	62	90	2	76	4	1.5	90



Inch

Nominal Bearing bore	Shaft Dia.	Housing bore	Installed bearing I.D.	Wall Thickness		L								
				Min.	Max.	3/8	1/2	5/8	3/4	1	1 1/2	2	2 1/4	2 1/2
1/2	.5000 .4990	.6345 .6352	.5007 .5038	0.500	0.510	08//06	08//08							
5/8	.6250 .6240	.7596 .7604	.6258 .6290						10//10	10//12				
3/4	.7500 .7488	.8846 .8854	.7508 .7540	0.657	0.824				12//12	12//16				
7/8	.8750 .8738	1.0097 1.0105	.8759 .8791							14//12	14//16			
1	1.0000 0.9988	1.1348 1.1356	1.0010 1.0042						16//12	16//16				
1 1/8	1.1250 1.1238	1.2598 1.2606	1.1260 1.1292						18//12	18//16				
1 1/4	1.2500 1.2484	1.4160 1.4170	1.2512 1.2550						20//12	20//16				
1 3/8	1.3750 1.3734	1.5410 1.5420	1.3762 1.3800	0.810	0.824					22//16	22//24			
1 1/2	1.5000 1.4984	1.6660 1.6670	1.5012 1.5050							24//16	24//24	24//32		
1 5/8	1.6250 1.6234	1.7910 1.7920	1.6262 1.6300							26//16	26//24	26//32		
1 3/4	1.7500 1.7484	1.9371 1.9381	1.7515 1.7577							28//16	28//24	28//32		
1 7/8	1.8750 1.8734	2.0621 2.0633	1.8765 1.8829	0.962	0.980					30//16	30//24	30//32	30//36	
2	2.0000 1.9982	2.1871 2.1883	2.0015 2.0079									32//16	32//24	32//32
2 1/2	2.5000 2.4982	2.6871 2.6883	2.5015 2.5079								40//24	40//32		40//40
3	3.0000 2.9982	3.1875 3.1889	3.0019 3.0085	0.965	0.991						48//24	48//32		48//40



Inch

Model No.	Inside Dia. $d^{+0.010}$	Outside Dia. $D_{-0.010}$	Thickness $T^{+0.0035}$	Pith hole dia. $H^{+0.010}$	Pith hole centre in $M_{-0.010}$	Housing recess depth $t^{+0.010}$
E08SF-2	.625	1.125	.0625	.099	.880	.040
E10SF-2	.750	1.250	.0625	.099	1.005	.040
E12SF-2	.875	1.500	.0625	.130	1.192	.040
E14SF-1	1.000	1.750	.0625	.130	1.380	.040
E16SF-2	1.125	2.000	.0625	.161	1.567	.040
E18SF-2	1.250	2.125	.0625	.161	1.692	.040
E20SF-2	1.375	2.250	.0625	.161	1.817	.040
E22SF-2	1.500	2.500	.0625	.192	2.005	.040
E24SF-2	1.625	2.625	.0625	.192	2.130	.040
E26SF-2	1.750	2.750	.0625	.192	2.255	.040
E28SF-2	2.000	3.000	.0895	.192	2.505	.070
E30SF-2	2.125	3.125	.0895	.192	2.630	.070
E32SF-2	2.250	3.250	.0895	.192	2.755	.070