

Oiles 500B Bronze bearings with embedded solid lubricant



Feature

- Serviceable without the need for lubrication.
- Demonstrates high performance under middle-load and middle-speed operations.
- Usable at high temperatures.
- Has superior chemical and corrosion resistances.
- Standard products are available in various sizes.

Service range	500B ₁ SL2	
Lubrication condition	Dry	periodic lubrication
Service temperature range °C	-40~+250	-40~+150
Allowable max. pressure P N/mm ² {kgf/cm ² }	15 (49.0) {153 (500)}	
Allowable max. velocity V m/s {m/min}	0.40 {24}	0.85 {51}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	1.00 {612}	1.65 {1,010}

The values in parentheses are static bearing pressures, which are the bearing pressures in applications with no motion or very small motion (≤ 0.0017 m/s [0.1 m/min]).

※Above values are applicable when solid lubricants SL2 are used.

Mechanical properties	500B ₁		500B ₂
Density	—	g/cm ³	8.8
Tensile strength	JIS Z 2241	N/mm ² {kgf/mm ² }	195 {20}
Tensile elongation at break	JIS Z 2241	%	15
Compressive strength	—	N/mm ² {kgf/mm ² }	95 {9.5} (Note1)
Impact strength	JIS Z 2242	J/cm ² {kgf·m/cm ² }	10 {1}
Hardness	JIS Z 2243	HBW	60
Modulus of longitudinal elasticity	—	N/mm ² {kgf/mm ² }	83,000 {8,500}
Co-efficient of linear expansion	—	$\times 10^{-5} \text{ } ^\circ\text{C}^{-1}$	1.8
Thermal conductivity	—	W/m°C {cal/sec°Ccm}	71.1 {0.17}

※The values shown above are typical values, not the standard values.

(Note) Compressive strength is 0.2%

⚠ Please indicate the type of motion (rotation, reciprocating, rotation & reciprocating) for custom-made products.

⚠ Base metal contains lead.

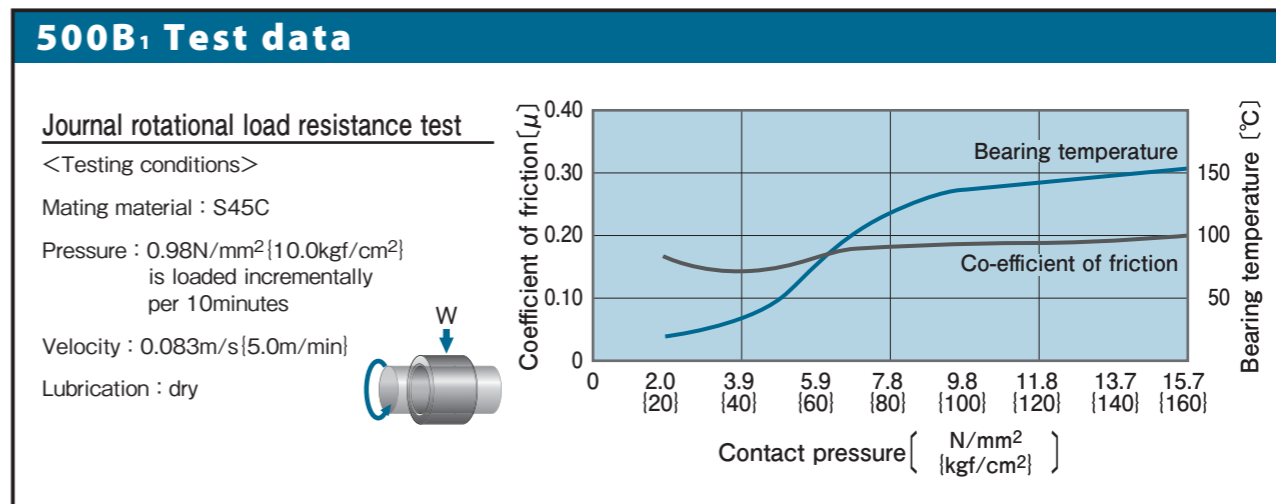
Lathe turning		
carbide tool (JIS)		
Cutting tool	Relief angle	5~10°
	Rake angle	2~5°
	Nose radius (mm)	0.40~0.80
Condition	Speed (m/min)	100~200
	Cut depth (mm)	0.05~0.30
	Feed (mm/rev)	0.08~0.30

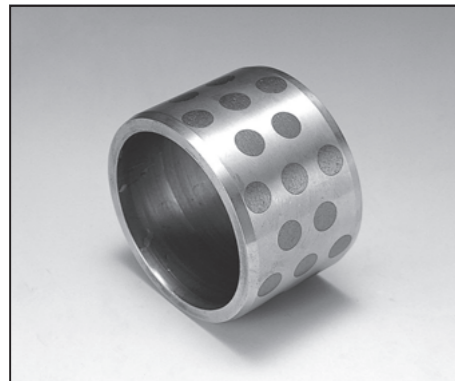
Apply solid lubricant or grease to the sliding surface after machining.

Machining accuracy (bushing)		
I.D.	O.D.	Length
class 7 to 8	class 6 to 7	class 8 to 9

Classes here are in JIS standard.

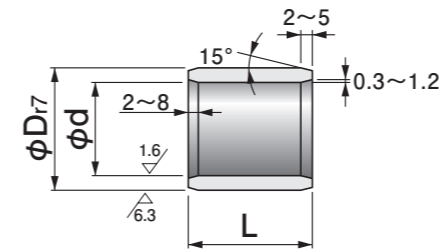
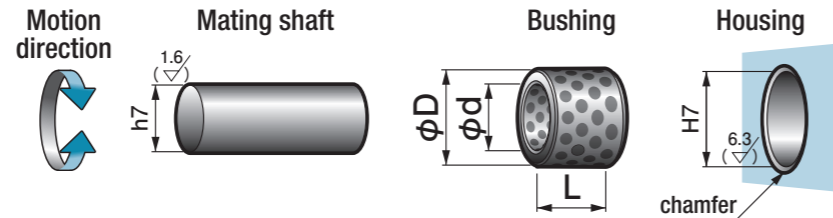
This product demonstrates satisfactory performance at the slide surface roughness of Rz6.3 to 12.5 μ m.





Specify Part No. by required I.D., O.D. and Length.
(e.g.) I.D. is 60mm, O.D. is 75mm, and length is 50mm.

BCB - 607550
Part No.



- Both ends have the same chamfering.
- Applicable to rotation and oscillating motion.
- Do not remove lubricant applied to the inner surface of the product. Otherwise, the product will not demonstrate its performance.

I.D.		O.D.		Length L				Tolerance $_{-0.2}$	
ϕd	Tolerance	ϕD	Tolerance	20	25	30	40	50	60
20	+0.105 +0.072	30	+0.049 +0.028	203020	203025	203030			
25	+0.105 +0.072	35	+0.059 +0.034	253520		253530	253540		
30	+0.105 +0.072	40	+0.059 +0.034		304025	304030	304040		
30	+0.105 +0.072	42	+0.059 +0.034		304225	304230	304240		
32	+0.144 +0.105	42	+0.059 +0.034			324230	324240		
32	+0.144 +0.105	45	+0.059 +0.034			324530	324540		
35	+0.144 +0.105	45	+0.059 +0.034			354530	354540	354550	
35	+0.144 +0.105	48	+0.059 +0.034			354830	354840	354850	
40	+0.144 +0.105	50	+0.059 +0.034			405030	405040	405050	
40	+0.144 +0.105	55	+0.071 +0.041			405530	405540	405550	
45	+0.144 +0.105	55	+0.071 +0.041				455540	455550	
45	+0.144 +0.105	60	+0.071 +0.041				456040	456050	
50	+0.144 +0.105	60	+0.071 +0.041				506040	506050	506060
50	+0.144 +0.105	65	+0.071 +0.041				506540	506550	506560
55	+0.190 +0.144	70	+0.073 +0.043					557050	557060
55	+0.190 +0.144	75	+0.073 +0.043					557550	557560
60	+0.190 +0.144	75	+0.073 +0.043					607550	607560
60	+0.190 +0.144	80	+0.073 +0.043					608050	608060
65	+0.190 +0.144	80	+0.073 +0.043						658060
65	+0.190 +0.144	85	+0.086 +0.051						658560
70	+0.190 +0.144	85	+0.086 +0.051						708560
70	+0.190 +0.144	90	+0.086 +0.051						709060
75	+0.190 +0.144	90	+0.086 +0.051						759060
75	+0.190 +0.144	95	+0.086 +0.051						759560
80	+0.190 +0.144	95	+0.086 +0.051						809560
80	+0.190 +0.144	100	+0.086 +0.051						8010060
85	+0.242 +0.188	100	+0.086 +0.051						
85	+0.242 +0.188	105	+0.089 +0.054						
90	+0.242 +0.188	110	+0.089 +0.054						
90	+0.242 +0.188	115	+0.089 +0.054						
95	+0.242 +0.188	115	+0.089 +0.054						
95	+0.242 +0.188	120	+0.089 +0.054						
100	+0.242 +0.188	120	+0.089 +0.054						
100	+0.242 +0.188	125	+0.103 +0.063						

※The I.D. tolerance after press fitting is for reference only.

▲The dimensional tolerances are the values measured at +25°C.

Length L			Tolerance $_{-0.2}$		I.D. tolerance after press fitting (reference)	I.D. ϕd
80	100	120				
					+0.077 +0.044	20
					+0.071 +0.038	25
					+0.071 +0.038	30
					+0.071 +0.038	30
					+0.110 +0.071	32
					+0.110 +0.071	32
					+0.110 +0.071	35
					+0.110 +0.071	35
					+0.110 +0.071	40
					+0.103 +0.064	40
					+0.103 +0.064	45
					+0.103 +0.064	45
					+0.103 +0.064	50
					+0.103 +0.064	50
					+0.147 +0.101	55
					+0.147 +0.101	55
607580					+0.147 +0.101	60
608080					+0.147 +0.101	60
658080					+0.147 +0.101	65
658580					+0.139 +0.093	65
708580					+0.139 +0.093	70
709080					+0.139 +0.093	70
759080					+0.139 +0.093	75
759580					+0.139 +0.093	75
809580	8095100				+0.139 +0.093	80
8010080	80100100				+0.139 +0.093	80
8510080	85100100				+0.191 +0.137	85
8510580	85105100				+0.188 +0.134	85
9011080	90110100				+0.188 +0.134	90
9011580	90115100				+0.188 +0.134	90
9511580	95115100				+0.188 +0.134	95
9512080	95120100				+0.188 +0.134	95
10012080	100120100	100120120			+0.188 +0.134	100
10012580	100125100	100125120			+0.179 +0.125	100