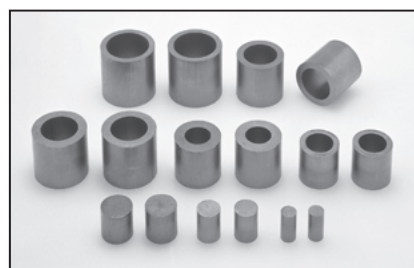


Oiles Cermet G Sintered bearings with dispersed solid lubricant



Feature

- Serviceable without the need for lubrication.
- Features superior heat resistance.
- Demonstrates superior performance in hot and hard-to-lubricate positions.
- Materials for machining are available.

Service range

Lubrication condition	Dry	periodic lubrication
Service temperature range °C	-40~+250	-40~+150
Allowable max. pressure P N/mm ² [kgf/cm ²]	10 {102}	
Allowable max. velocity V m/s {m/min}	0.50 {30}	0.85 {51}
Allowable max. PV value N/mm ² · m/s [kgf/cm ² · m/min]	0.86 {490}	1.65 {1,010}

Mechanical properties

Density	—	g/cm ³	6.4
Radial crushing strength	JIS Z 2507	N/mm ² [kgf/mm ²]	137 {14}
Hardness	JIS K 7202-2	HRM	43
Co-efficient of linear expansion	—	×10 ⁻⁵ °C ⁻¹	2.0

※The value shown above are for sintered layer.

●About the material for machining

Although it is not oil-bearing material, it can be used as-is without lubrication.

By applying an oil-bearing process or grease after machining, the reduction of wear and extension of life can be achieved.

Lathe turning

	carbide tool (JIS)	
	Relief angle	2~5°
	Rake angle	10~20°
Cutting tool	Nose radius (mm)	0.40~0.80
	Speed (m/min)	100~120
	Cut depth (mm)	0.20~0.30
	Feed (mm/rev)	0.03~0.10
Condition		

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 12.5μm.

Test data

Thrust test

<Testing conditions>

Bearing dimension : $\phi 16 \times \phi 28 \times \ell 15$

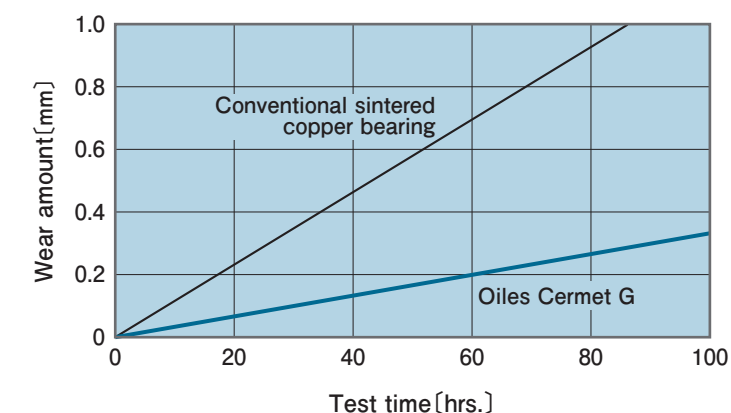
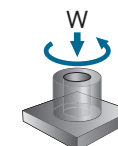
Mating material : 0.49N/mm² {5.0kgf/cm²}

Velocity : 0.033m/s {2.0m/min}

Ambience : 300°C

Test time : 100hrs.

Lubrication : dry



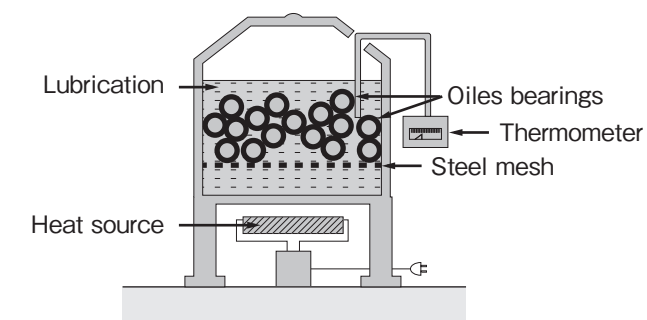
Oil impregnation method

When you oil-impregnate Cermet G, please follow the procedure below to impregnate finished products with lubrication oil before installation. If these bearings are stored for a long time or if the bearings are washed, re-impregnate before installation.

Immerse the products into an oil bath. Heat the bath up to 100 °C to 110 °C. Keep the temperature for 30 to 60 minutes until no more air bubbles come up.

Cut the heat source and let it cool down to the room temperature.

Take products out of the bath to install. If oil impregnation by heating is not possible, leave the products in the oil bath for 24 hours or more.

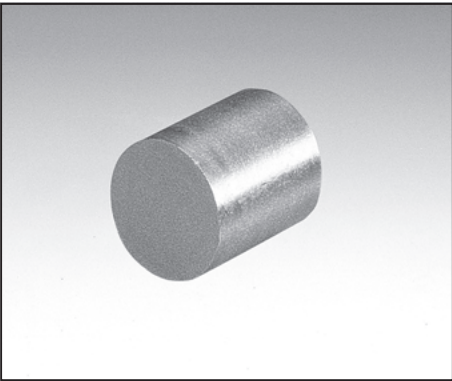


Selectoin of lubrication oil

Operation conditions	Types of oil	Viscosity	i.e.
Low load / high speed	Lubrication oil of low viscosity	8 to 17cst(30°C)	Spindle oil
Mid load / mid velocity	Lubrication oil with limited viscosity change by temp.	8 to 15cst(98.9°C)	Motor oil
High load / low velocity	Lubrication oil with high viscosity	100 to 1000cst(37°C)	Gear oil

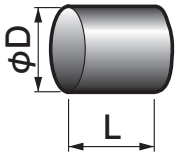
55M

Oiles Cermet G Bar Stock



Specify Part No. by required diameter.
(e.g.) Diameter is 18mm.

55M - 18
Part No.

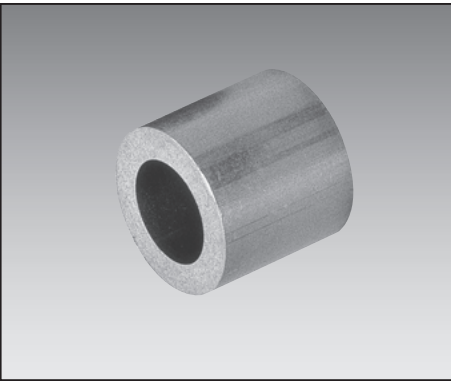


● Please refer to page 256 for the method for oil-bearing treatment.

Part No.	Diameter		Length	
	φD	Tolerance	L	Tolerance
55M-11	11	+0.8 0	21	+3.0 0
55M-15	15	+0.8 0	31	+3.0 0
55M-18	18	+0.8 0	21	+3.0 0
55M-23	23	+0.8 0	31	+3.0 0
55M-31	31	+0.8 0	31	+3.0 0

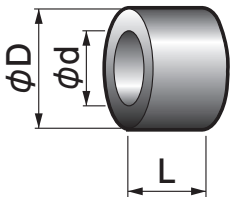
55S

Oiles Cermet G Bushing Material



Specify Part No. by required I.D., O.D., and Length.
(e.g.) I.D. is 44mm, O.D. is 56mm, and length is 51mm.

55S - 445651
Part No.



● Please refer to page 256 for the method for oil-bearing treatment.

Part No.	I.D.		O.D.		Length	
	φd	Tolerance	φD	Tolerance	L	Tolerance
55S-193126	19	+0.3 -0.5	31	+0.3 -0.5	26	+3.0 0
55S-243631	24	+0.3 -0.5	36	+0.3 -0.5	31	+3.0 0
55S-284846	28	0 -1.2	48	+1.2 0	46	+3.0 0
55S-294141	29	+0.3 -0.5	41	+0.3 -0.5	41	+4.0 0
55S-344641	34	+0.3 -0.5	46	+0.3 -0.5	41	+4.0 0
55S-345151	34	0 -1.2	51	+1.2 0	51	+4.0 0
55S-395651	39	+0.3 -0.5	56	+1.2 0	51	+4.0 0
55S-445651	44	+0.3 -0.5	56	+1.2 0	51	+4.0 0
55S-496661	49	0 -1.2	66	+1.2 0	61	+4.0 0
55S-517361	51	0 -1.2	73	+1.2 0	61	+4.0 0
55S-547661	54	0 -1.2	76	+1.2 0	61	+4.0 0
55S-568161	56	0 -1.2	81	+1.2 0	61	+4.0 0

Selection Guide

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Multi-layer Bearing

Metallic Bearing

Air Bearings

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