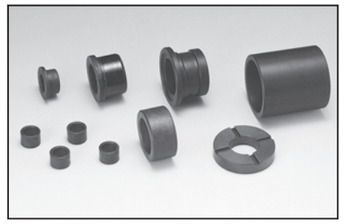
Oiles 250 Phenolic bearings



RoHS2 ELV Lead Free

Feature

- Reduces the frequency of lubrication.
- Maintains oil film, resulting in improved wear resistance.
- Has superior foreign matter immersion characteristics, impact resistance, and noise suppressing characteristics.
- Has superior chemical resistance and corrosion resistance.
- Materials for machining are also available.

Service range

Lubrication condition	Periodic lubrication	Oil lubrication
Service temperature range ℃	−40～+100	
Allowable max. pressure P N/mm² {kgf/cm²}	20 {204}	
Allowable max. velocity V m/s {m/min}	3.35 {201}	15.00 {900}
Allowable max. PV value N/mm²・m/s {kgf/cm²・m/min}	2.45 {1,500}	3.25 {1,990}

Condition: in atmosphere, bushing, shaft rotation.

Lathe turning

Cutting tool			Condition		
	carbide tool (JIS)・diamond (JIS)			Speed (m/min)	60～150
	Relief angle	5～10°		Cut depth (mm)	0.05～0.10
	Rake angle	5～10°		Feed (mm/rev)	0.05～0.20
	Nose radius (mm)	0.40～0.80			

Attention should be paid to dimensional variances due to thermal expansion, chucking, and bend of the material.
※Contact us for grinding and milling information.

Machining accuracy (bushing)

I.D.	O.D.	Length
class 8 to 9	class 7 to 8	class 9 to 10

Classes here are in JIS standard.

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

Dimensions may change due to thermal expansion, chucking pressure, moisture absorption deformation, etc. High accuracy is ensured if the product is installed on the housing and then ground.

Mechanical properties

Mechanical properties			250-03	250-06	250-07	250-17
Specific gravity	JIS K 6911	——	1.3～1.4	1.3～1.4	1.3～1.4	1.3～1.4
Tensile strength	JIS K 6911	N/mm² {kgf/mm²}	45 {4.6}	50 {5.1}	110 {11.2}	95 {9.7}
Flexural property	JIS K 6911	N/mm² {kgf/mm²}	70 {7.1}	100 {10.2}	110 {11.2}	105 {10.7}
Compressive strength	JIS K 6911	N/mm² {kgf/mm²}	124 {12.7}	——	195 {19.9}	——
Radial crushing strength	JIS Z 2507	N/mm² {kgf/mm²}	50 {5.1}	124 {12.7}	175 {17.9}	165 {16.8}
Hardness	JIS K 6911	HRM	91	60	95	100
Izod impact strength (with notch)	JIS K 6911	J/m {kgf·cm/cm}	78.5 {8}	196 {20}	157 {16}	186 {19}
Co-efficient of linear expansion	ASTM D 696	×10⁻⁵ ℃⁻¹	2～3	2～3	2～3	2～3
Swelling rate	——	%	1.5 (room temperature)	——	1.5 (room temperature)	0.6 (room temperature)
	——	%	3.0 (water temperature is 50℃)	——	3.6 (water temperature is 80℃)	1.2 (water temperature is 50℃)
Shape of base material (Note)	——	——	chip and others	sheet	sheet	sheet

※The values shown above are typical values, not the standard values.
(Note) Shape of base material→chip and others : Shape of base material→sheet
When chip-shaped base material is used, the tensile strength, compression strength and impact strength are measured at right angles to the forming direction and the bending strength is measured in parallel with the forming direction. When sheet-shaped base material is used, the bending strength, compression strength and impact strength are measured at right angles to the layers and the tensile strength is measured in parallel with the layers.

Test data

Effect of foreign matter (casting sand)

<Testing conditions>
Bearing dimension : φ40×φ50×ℓ30
Mating material : S45C quenched
(45HRC、surface roughness Rz3μm)
Pressure : 19.6N/mm² {200.0kgf/cm²}
Velocity : 0.014m/s {0.84m/min}
Oscillating cycle : 60cpm
Oscillating angle : ±10°
Lubrication : ① 1.8 gram lithium grease blended with 5% foreign particle is applied.
② Lithium grease 1.8 gram is applied.