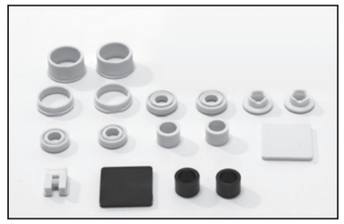
Oiles 88-03 PBT bearings with fillers



RoHS2 ELV

Best suited for aluminum shaft bearings!!

Feature

- Serviceable without the need for lubrication.
- Soft metal (such as aluminum) may be used as mating shafts.
- Features higher heat resistance than PE, POM, etc.
- Injection-molded and can be made in complicated shapes. Has good mass productivity.

Service range

Lubrication condition	Dry
Service temperature range ℃	−40～+120
Allowable max. pressure P N/mm² {kgf/cm²}	9.81 {100}
Allowable max. velocity V m/s {m/min}	1.67 {100}
Allowable max. PV value N/mm² · m/s {kgf/cm² · m/min}	0.327 {200}

※Soft metal such as aluminum alloy can be used as a mating shaft.

Mechanical properties

Specific gravity	ASTM D 792	——	1.27
Tensile strength	ASTM D 638	MPa {kgf/cm²}	49.6 {505.8}
Tensile elongation at break	ASTM D 638	%	4.2
Flexural property	ASTM D 790	MPa {kgf/cm²}	79.9 {814.8}
Flexural modulus	ASTM D 790	MPa {kgf/cm²}	2,578 {26,288}
Compressive stress 1% deformation	ASTM D 695	MPa {kgf/cm²}	22.8 {232.5}
Compressive stress 5% deformation			71.8 {732.2}
Modulus of compressive elasticity	ASTM D 695	MPa {kgf/cm²}	2,175 {22,179}
Hardness	ASTM D 785	HRM	72.5
Izod impact strength (with notch)	ASTM D 256	J/m {kgfcm/cm}	27.7 {2.8}
Water absorption rate	ASTM D 570	%	0.05
Deflection temperature under load 1.82 MPa	ASTM D 648	℃	68
Co-efficient of linear expansion	ASTM D 696	×10⁻⁵ ℃⁻¹	10～17
UL incombustibility	UL94	File No.E78113	HB

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

88-03 Test data

Journal rotation test

<Testing conditions>

Bearing dimension : φ10×φ14×ℓ10

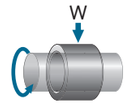
Mating material : aluminum alloy (A5056)

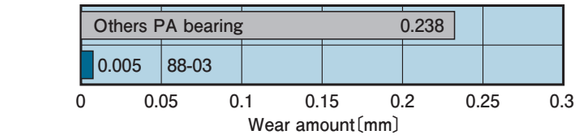
Pressure : 0.98N/mm² {10kgf/cm²}

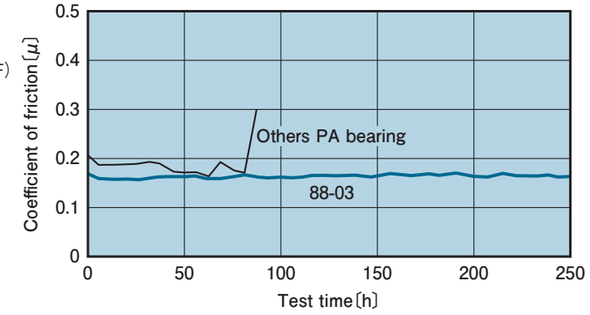
Velocity : 0.25m/s {15m/min}

Test time : 250h (intermittent, 12s ON and 1s OFF)

Lubrication : dry







Journal bearing rotation test

<Testing conditions>

Bearing dimension : φ10×φ14×ℓ10

Mating material : aluminum alloy
(A5056 surface roughness Ra0.6μm)

Pressure : 0.98N/mm² {10kgf/cm²}

Velocity : 0.17m/s {10m/min}

Test time : 50h

Lubrication : dry