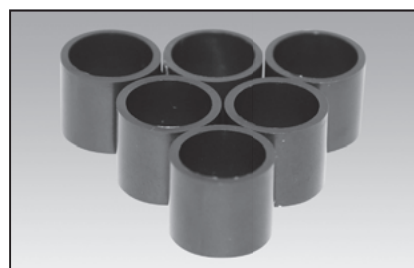


Oiles 83-B1

Biomass plastic bearings



RoHS2 ELV

Biomass plastic bearings made by adding fillers to plant-derived plastic

Reduction of CO₂ emission: 31%*

Weight ratio of biomass plastic: 45% or more

* Value obtained by subtracting CO₂ emissions during raw material production from production and disposal processes

Feature

- Serviceable without the need for lubrication.
- Easy dimensional setting due to low swelling rate.
- It features wear resistance and low coefficient of friction under a various conditions. It can be used as a substitute for polyacetal, which is widely used as a sliding product.
- Compared to Oiles 83 (petroleum-derived polyacetal bearing), it reduces CO₂ emissions and exhibits the same or better friction performance.

Service range

Lubrication condition	Dry
Service temperature range °C	-40 ~ +140
Allowable max. pressure P N/mm ² (kgf/cm ²)	19.5 {199}
Allowable max. velocity V m/s (m/min)	1.2 {72}
Allowable max. PV value N/mm ² · m/s (kgf/cm ² · m/min)	1.0 {612}

Mechanical properties

Specific gravity	ASTM D 792	g/cm ³	1.12	Flexural modulus	ASTM D 790	N/mm ²	1,800
Tensile strength	ASTM D 638	N/mm ²	58	Izod impact strength	ASTM D 256	J/m	26
Tensile elongation at break	ASTM D 628	%	6	Co-efficient of linear expansion	ASTM D 696	°C ⁻¹ × 10 ⁻⁵	8
Flexural property	ASTM D 790	N/mm ²	75	Water absorption rate	ASTM D 570	23°C Rh50%	0.68
Melting point				DSC	°C	315	

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

Test data

Journal rotation test

<Testing conditions>

Mating material : SUJ2(Ra0.1)

Pressure : 0.98N/mm²

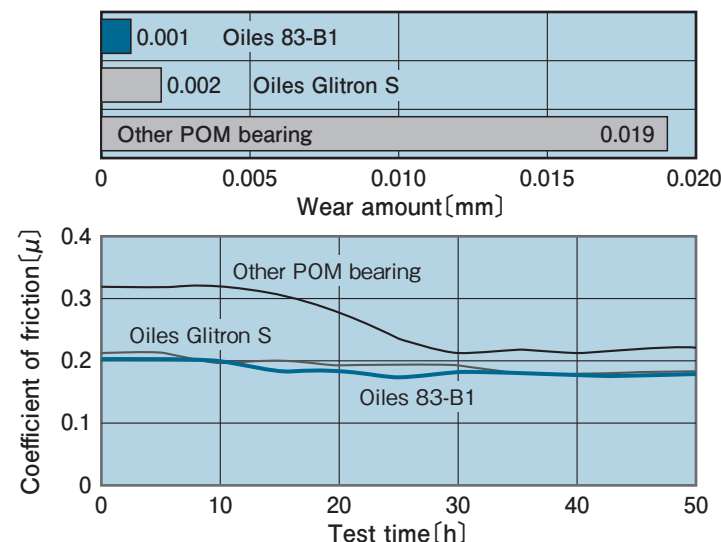
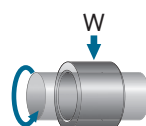
Velocity : 0.17m/s

Rotating cycle : 318rpm(Bearing I.D.φ10)

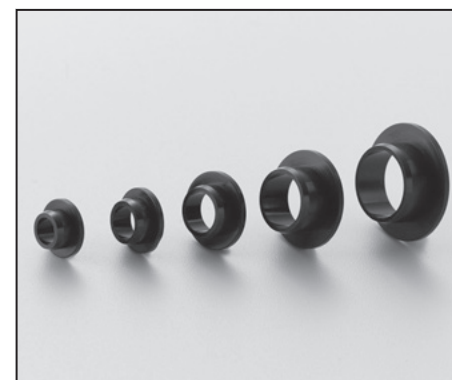
Temperature : 23°C

Lubrication : dry

Test time : 50h



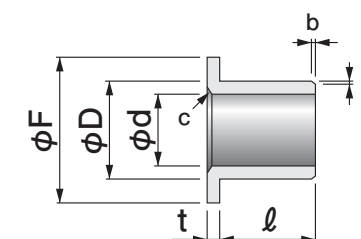
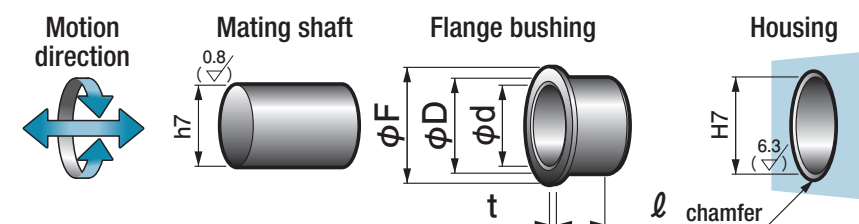
83BPF Oiles 83-B1 Flange Bushings



Specify Part No. by required I.D. and length.

(e.g.) I.D. is 10mm and length is 5mm.

83BPF - 1005
Part No.



a b: Chamfering for O.D.

ϕd	2	~35	~50
a	0.3	0.3	0.5
b	(Note)	1	2

(Note) $\ell 2\text{mm}:0.3, \ell 3/4\text{mm}:0.5$

c: Chamfering for I.D.

ϕd	~10	~35	~40	~50
c	R0.3	R0.4	R0.6	R0.8

- The 83-B1 are injection-molded.
- The inner diameter tolerances are the values after pressing into a ring gauge of $\phi D \pm 0.002$.
- A stopper is needed at the temperature of 0°C or less, since the bushing is dislocated due to thermal shrinkage.

I.D.		O.D.		Flange		Length ℓ		Tolerance -0.5		I.D.
ϕd	Tolerance	ϕD	Tolerance	ϕF	t	Tolerance	3	4	5	ϕd
4	+0.095 +0.045	6	+0.107 +0.032	9	1	0 -0.10	0403			4
5	+0.095 +0.045	7	+0.157 +0.045	10	1	0 -0.10	0503			5
6	+0.095 +0.045	8	+0.157 +0.045	12	1	0 -0.10	0603			6
8	+0.120 +0.060	10	+0.157 +0.045	15	1	0 -0.10			0805	8
10	+0.120 +0.060	12	+0.193 +0.058	18	1	0 -0.10			1005	10