Oiles BIOLIGHT 83-B1 Biomass plastic bearings

RoHS2 ELV

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

Reduction of CO_2 emission: 31%*

Weight ratio of biomass plastic: 45% or more

* Value obtained by subtracting CO_2 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 CO_2 emissions and exhibits the same or better friction performance.

Service range

Lubrication condition	Dry
Service temperature range ℃	−40 ～+140
Allowable max. pressure P N/mm² {kgf/cm²}	19.5 {199}
Allowable max. velocity V m/s {m/min}	1.2 {72}
Allowable max. PV value N/mm²・m/s {kgf/cm²・m/min}	1.0 {612}

Mechanical properties

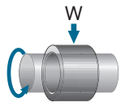
Specific gravity	ASTM D 792	——	1.12	Flexural modulus	ASTM D 790	N/mm²	1,800
Tensile strength	ASTM D 638	N/mm²	58	Izod impact strength	ASTM D 256	J/m	26
Tensile elongation at break	ASTM D 628	%	6	Co-efficient of linear expansion	ASTM D 696	10^{-5}×℃$^{-1}$	8
Flexural property	ASTM D 790	N/mm²	75	Water absorption rate	ASTM D 570	23℃ Rh50%	0.68
				Melting point	DSC	℃	315

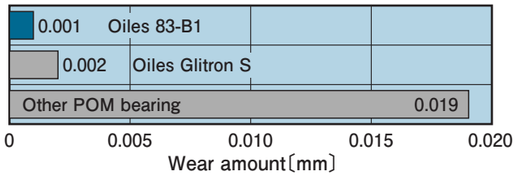
※The values shown above are typical values, not the standard values.

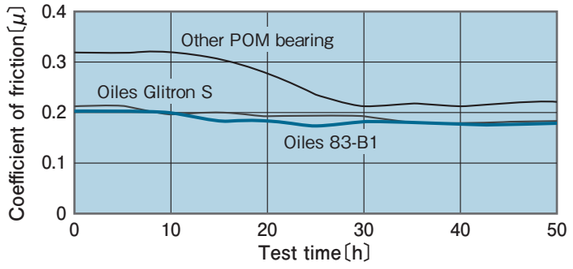
Test data

Journal rotation test

<Testing conditions>
Meting material : SUJ2(Ra0.1)
Pressure : 0.98N/mm²
Velocity : 0.17m/s
Rotating cycle : 318rpm(Bearing I.Dϕ10)
Temperature : 23℃
Lubrication : dry
Test time : 50h



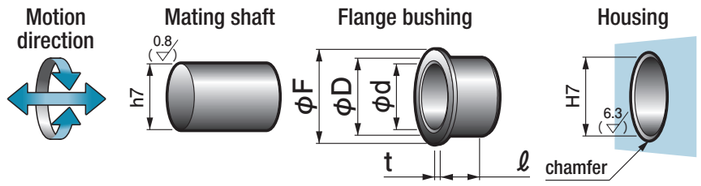


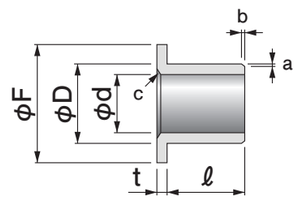


83BPF Oiles BIOLIGHT 83-B1 Flange Bushings

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

(mm)

(Note) ℓ2㎜:0.3、ℓ3/4㎜:0.5

c: Chamfering for I.D.

ϕd	～10	～35	～40	～50
c	C0.3	R0.4	R0.6	R0.8

(mm)

- Oiles BIOLIGHT 83-B1 are injection-molded.
- The inner diameter tolerances are the values after pressing into a ring gauge of ϕ D ±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 $^{0}_{-0.5}$			I.D.
ϕd	Tolerance	ϕD	Tolerance	ϕF	t	Tolerance t	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