Oiles Fiberflon TR Multi-layer phenol resin bearings

RoHS2 ELV

Feature

- Can be used without lubrication, offers excellent wear resistance, and provides a low coefficient of friction.
- Offers superior performance under high-load, low-speed conditions.
- Has superior heat, cold and chemical resistance.
- Back materials are selectable according to applications.
- May be used in water, seawater, and atmospheric environments.

Service range

Lubrication condition	Dry
Service temperature range ℃	−40～+120
Allowable max. pressure P N/mm² {kgf/cm²}	100 {1,020}
Allowable max. velocity V m/s {m/min}	0.15 {9}
Allowable max. PV value N/mm² · m/s {kgf/cm² · m/min}	1.20 {734}

Condition: in atmosphere, bushing, shaft rotation.

Mechanical properties

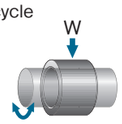
Specific gravity	JIS K 6911	——	1.4	Hardness	JIS K 6911	HRM	80
Tensile strength	JIS K 6911	N/mm² {kgf/mm²}	95 {9.7}	Izod impact strength (with notch)	JIS K 6911	J/m {kgf·cm/cm}	177 {18}
Flexural property	JIS K 6911	N/mm² {kgf/mm²}	110 {11.2}	Co-efficient of linear expansion	ASTM D 696	×10⁻⁵ ℃⁻¹	2～3
Compressive strength	JIS K 6911	N/mm² {kgf/mm²}	195 {19.9}				

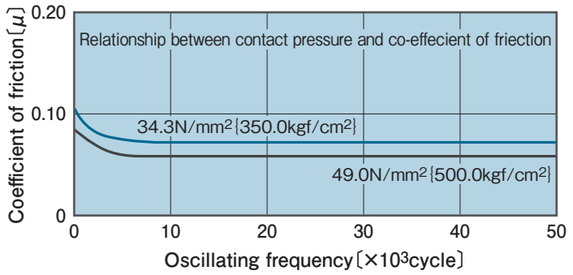
※The values shown above are typical values, not the standard values.

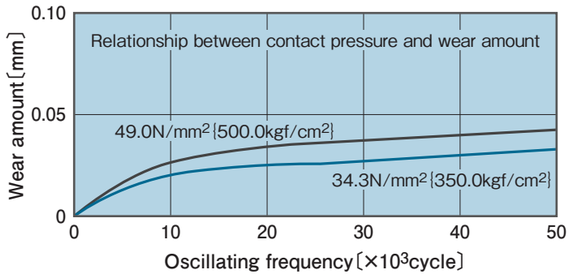
Test data

Journal oscillation test

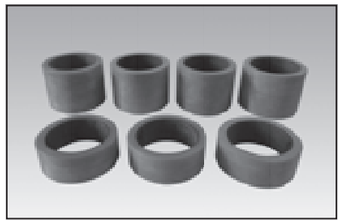
<Testing conditions>
Bearing dimension : φ40×φ50×ℓ30
Mating material : S45C (surface roughness Rz2μm)
Pressure : 49.0N/mm² {500.0kgf/cm²}
34.3N/mm² {350.0kgf/cm²}
Velocity : 0.005m/s {0.31m/min}
Oscillating cycle : 5cpm
Oscillating angle : ±45°
Oscillating frequency : 50,000cycle
Test time : 167h
Clearance : 0.170mm
Lubrication : dry







Oiles Fiberflon OH Multi-layer special phenol resin bearings



RoHS2 ELV

This product is registered in the New Technology Information System (NETIS) managed by MLIT.
Technology name : Solid-lubricant dispersed bearing FIBERFLON OH/Registration No. : KT-130060-VE (for water gates/underwater pumps)

Feature

- This product can be used in air, water or seawater.
- Demonstrates superior wear resistance under micro-motion.
- Due to the two-layer structure of the sliding layer and the backing material, this product offers load bearing characteristics equivalent to those of metal bearings.
- Easy dimensional setting due to a low swelling rate.
- Machining on the inner surface is possible.

Service range

Lubrication condition	Dry
Service temperature range ℃	−40～+120
Allowable max. pressure P N/mm² {kgf/cm²}	80 (150) {815 (1,530)}
Allowable max. velocity V m/s {m/min}	0.15 {9}
Allowable max. PV value N/mm² · m/s {kgf/cm² · m/min}	1.2 {734}

Condition: in atmosphere, bushing, shaft rotation.
The values in parentheses are static bearing pressures, which are the bearing pressures in applications with no motion or very small motion (≦0.0017m/s[0.1m/min]).

Mechanical properties

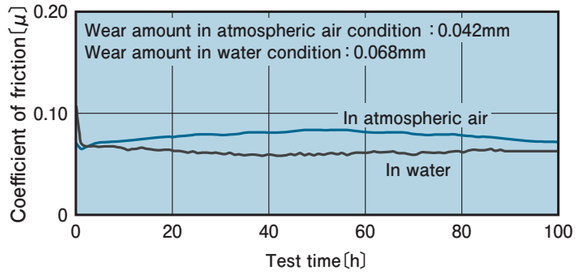
Specific gravity	JIS K 6911	——	1.7	Hardness	JIS K 6911	HRM	60
Tensile strength	JIS K 6911	N/mm² {kgf/mm²}	165 {16.8}	Izod impact strength (with notch)	JIS K 6911	J/m {kgf·cm/cm}	1,010 {103}
Compressive strength	JIS K 6911	N/mm² {kgf/mm²}	238 {24.3}	Co-efficient of linear expansion	ASTM D 696	×10⁻⁵ ℃⁻¹	5 ～ 8
Flexural property	JIS K 6911	N/mm² {kgf/mm²}	127 {13.0}	Swelling rate	——	%	0.35

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

Test data

Journal oscillation test

<Testing conditions>
Environment: : In atmospheric air, In water
Bearing dimension : φ60×φ75×ℓ50
Mating material : SUS403
Pressure : 24.5N/mm²
Velocity : 0.019m/s
Oscillating angle : ±45°
Oscillating cycle : 12cpm
Test time : 100h
Lubrication : dry



Journal oscillation test

<Testing conditions>
Environment: : In atmospheric air, In water
Bearing dimension : φ60×φ75×ℓ50
Mating material : SUS403
Pressure : 24.5N/mm²
Velocity : 0.0084m/s
Oscillating angle : ±2°
Oscillating cycle : 120cpm
Test time : 100h
Lubrication : dry