

Oiles 480 Oil-impregnated polyacetal bearings reinforced with carbon fibers.



Feature

- Serviceable without the need for lubrication.
- Non-organic filler improves strength.
- Demonstrates superior wear resistance in abrasive conditions.
- Serviceable under water.
- Features superior speed characteristics.
- Injection-molded and can be made in complicated shapes.
Has good mass productivity.

Service range

Lubrication condition	Dry
Service temperature range °C	-40~+120
Allowable max. pressure P N/mm ² {kgf/cm ² }	19.5 {199}
Allowable max. velocity V m/s {m/min}	0.65 {39}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	3.25 {1,990}

※These are values of the typical grade Oiles 480.

Mechanical properties

			480-01	480-02
Specific gravity	ASTM D 792	—	1.45	1.44
Tensile strength	ASTM D 638	N/mm ² {kgf/cm ² }	41.5 {423}	101.8 {1,038}
Tensile elongation at break	ASTM D 638	%	23	2.1
Flexural property	ASTM D 790	N/mm ² {kgf/cm ² }	67.6 {689}	143.0 {1,458}
Flexural modulus	ASTM D 790	N/mm ² {kgf/cm ² }	3,730 {38,000}	7,130 {72,700}
Hardness	ASTM D 785	HRM	69	74
Izod impact strength (with notch)	ASTM D 256	J/m {kgfcm/cm}	39.2 {4.00}	45.8 {4.67}
Co-efficient of linear expansion	ASTM D 696	×10 ⁻⁵ °C ⁻¹	2~10	3~10
Deflection temperature under load 1.82 MPa	ASTM D 648	°C	108	157
Melting point	DSC	°C	165	165
UL incombustibility	UL94	File No.E78113	—	HB

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

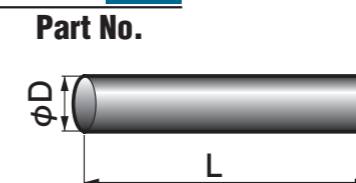
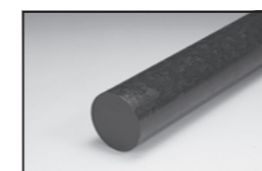
※For lathe turning or machining accuracy refer to page 67.

48M Oiles 480 Bar Stock



Specify Part No. by required diameter.

(e.g.) Diameter is 31.5mm. **48M - 30**



Part No.	Diameter		Length
	φD	Tolerance	L
48M-20	21.5	±0.4	500
48M-30	31.5	±0.4	500
48M-40	41.5	±0.5	500
48M-50	52	±0.5	500

※Standard bar stock is 480-01.

480-02 Test data

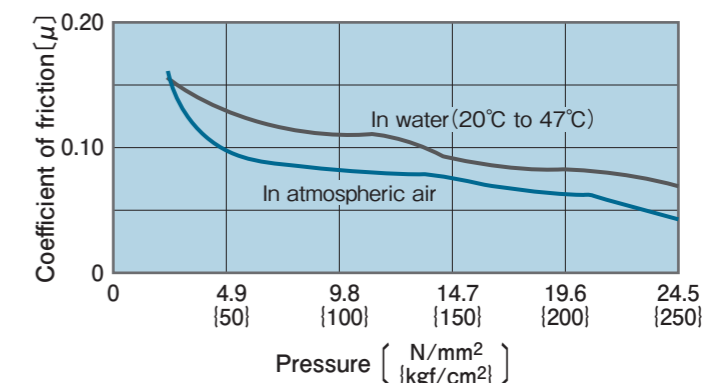
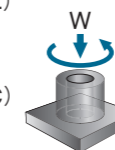
Thrust rotation test

<Testing conditions>

Mating material : S45C (surface roughness Rz3μm)
Pressure : 2.45 to 24.5N/mm²{25.0 to 250.0kgf/cm²}
(1.23N/mm²{12.5kgf/cm²} is added every 5 minutes.)

Velocity : 0.208m/s{12.5m/min}

Atmosphere : atmospheric air,
In water (20°C to 47°C)



Journal oscillation test

<Testing conditions>

Bearing dimension : φ30×φ38×ℓ 45

Mating material : SUP7 (surface roughness Rt18.7 to 23.2μm)

Pressure : 2.90N/mm²{30.0kgf/cm²}

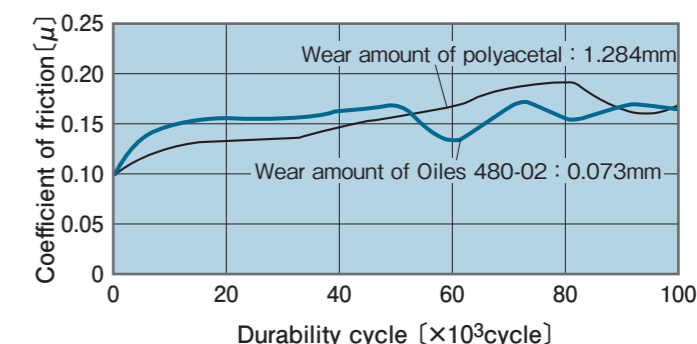
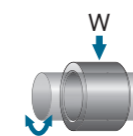
Velocity : 0.0183m/s{1.1m/min}

Oscillating cycle : 70cpm

Oscillating angle : ±15°

Durability cycle : 100,000cycle

Lubrication : grease is applied at assembly



Journal rotation test

<Testing conditions>

Bearing dimension : φ40×φ50×ℓ 30

Mating material : S45C (surface roughness Rz3μm)

Pressure : 1.96 to 19.6N/mm²{20.0 to 200.0kgf/cm²}
(0.98N/mm²{10.0kgf/cm²} is added every 10 minutes.)

Velocity : - - - - 0.0167m/s{1.0m/min}

———— 0.0500m/s{3.0m/min}

———— 0.0833m/s{5.0m/min}

Lubrication : dry

