

# Oiles 2000S Sintered oil-impregnated multi-layer bearings with dispersed solid lubricant



## Feature

- Serviceable without the need for lubrication. Demonstrates higher performance when greased.
- Distributed solid lubricant allows motions in any direction.
- Features low coefficient of friction and quite superior wear resistance.
- Lower prices than bearings with copper alloy bases.

## Service range

Lubrication condition	Dry (initial greasing recommended)
Service temperature range °C	-40~+120
Allowable max. pressure <b>P</b> N/mm <sup>2</sup> {kgf/cm <sup>2</sup> }	29 (49) {296 (500)}
Allowable max. velocity <b>V</b> m/s {m/min}	1.00 {60}
Allowable max. <b>PV</b> value N/mm <sup>2</sup> · m/s {kgf/cm <sup>2</sup> · m/min}	1.63 {1,000}

The values in parentheses are static bearing pressures, which are the bearing pressures in applications with no motion or very small motion ( $\leq 0.0017$ m/s [0.1m/min]).

## Mechanical properties

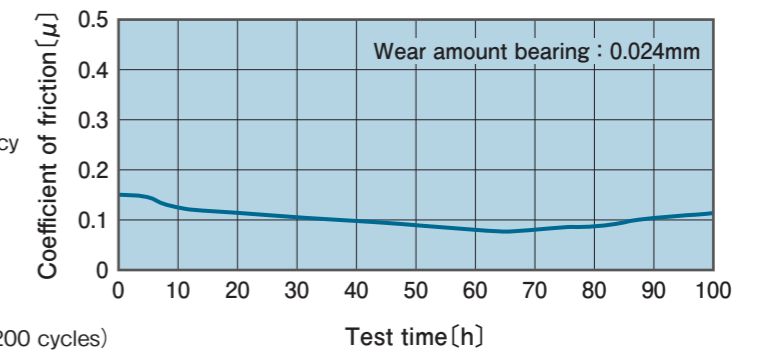
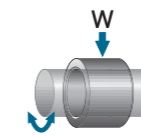
Density	—	g/cm <sup>3</sup>	5.7
Radial crushing strength	JIS Z 2507	N/mm <sup>2</sup> {kgf/mm <sup>2</sup> }	350 {36}
Hardness	JIS Z 2245	HRM	90
Oil impregnation rate	—	vol%	16
Co-efficient of thermal expansion	—	$\times 10^{-5} \text{ } ^\circ\text{C}^{-1}$	1.2

※The value shown above are for sintered layer.

## Test data

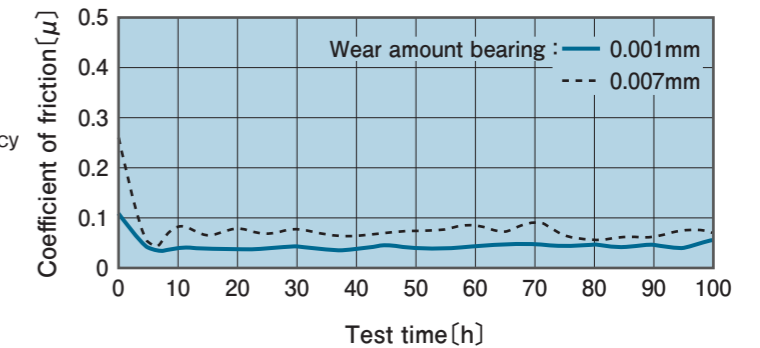
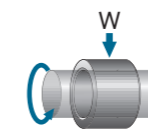
### Journal oscillation test

<Testing conditions>  
 Bearing dimension :  $\phi 60 \times \phi 75 \times \ell 50$   
 Mating material : S45C quenched by high frequency induction hardening  
 Pressure : 24.5N/mm<sup>2</sup> {250.0kgf/cm<sup>2</sup>}  
 Velocity : 0.033m/s {2.0m/min}  
 Oscillating cycle : 21.2cpm  
 Oscillating angle :  $\pm 45^\circ$   
 Test time : 100h (durable cycle frequency : 127,200 cycles)  
 Ambience : in the atmosphere, room temp.  
 Lubrication : initial greasing



### Journal rotation test

<Testing conditions>  
 Bearing dimension :  $\phi 40 \times \phi 50 \times \ell 30$   
 Mating material : S45C quenched by high frequency induction hardening  
 Test time : 100h  
 Ambience : in the atmosphere, room temp.  
 Pressure : — 9.8N/mm<sup>2</sup> {100.0kgf/cm<sup>2</sup>}  
 Velocity : 0.167m/s {10.0m/min}  
 Lubrication : Initial greasing  
 ——— 19.6N/mm<sup>2</sup> {200.0kgf/cm<sup>2</sup>}  
 0.083m/s {5.0m/min}  
 Dry



### Receprocation test

<Testing conditions>  
 Mating material : SCM440 hard-chrome plating  
 Pressure : 1.18N/mm<sup>2</sup> {12.0kgf/cm<sup>2</sup>}  
 Velocity : 1m/s {60m/min}  
 Test time : 27.8h  
 Lubrication : Initial greasing

