

Oiles 500AB Aluminum bronze bearings with embedded solid lubricant



Features

- Usable in seawater.
- Has superior heat resistance.
- Not brittle at low temperatures and may be used at very low temperatures.

Service range	500AB SL1		500AB SL4
Lubrication condition	Dry	periodic lubrication	Dry
Service temperature range °C	-250~+400	-40~+150	-40~+80
Allowable max. pressure P N/mm ² {kgf/cm ² }	24 (100) {245 (1,020)}		34 (100) {347 (1,020)}
Allowable max. velocity V m/s {m/min}	0.25 {15}	0.50 {30}	0.25 {15}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	1.25 {765}	2.45 {1,500}	1.65 {1,010}

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

※Above values are applicable when solid lubricants SL1 are used.

When you use standard #500AB series in the temperature and over, contact us for more information.

Mechanical properties

Density	—	g/cm ³	7.6
Tensile strength	JIS Z 2241	N/mm ² {kgf/mm ² }	590 {60}
Tensile elongation at break	JIS Z 2241	%	15
Compressive strength	—	N/mm ² {kgf/mm ² }	240 {24} (Note)
Impact strength	JIS Z 2242	J/cm ² {kgf·m/cm ² }	25 {2.5}
Hardness	JIS Z 2243	HBW	160
Modulus of longitudinal elasticity	—	N/mm ² {kgf/mm ² }	108,000 {11,000}
Co-efficient of linear expansion	—	$\times 10^{-5}$ °C ⁻¹	1.6
Thermal conductivity	—	W/m°C {cal/sec°Ccm}	58.6 {0.14}

※The values shown above are typical values, not the standard values.
(Note) Compressive strength is 0.2%

⚠ Please indicate the type of motion (rotation, reciprocating, rotation & reciprocating) for custom-made products.

Test data

Journal oscillation test in sea water

<Testing conditions>

Mating material : SUS304

Pressure : 15.7N/mm² {160.0kgf/cm²}

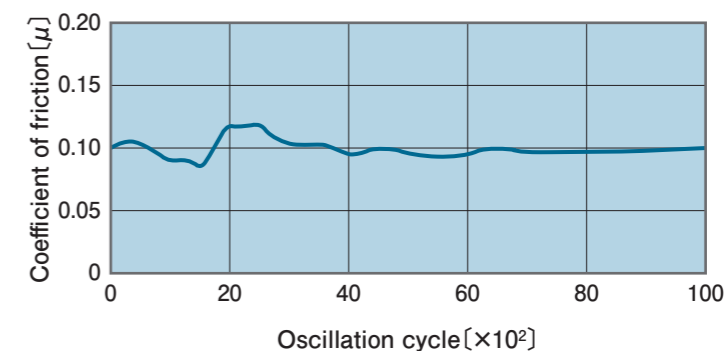
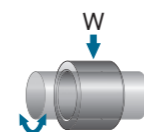
Oscillating cycle : 60cpm

Oscillating angle : $\pm 10^\circ$

Test cycle (time) : 100,000cycle (27.8h)

Ambience : in artificial sea water
temperature 20 \pm 5°

*SL4 is used for this test data.



Journal oscillation test in water

<Testing conditions>

Bearing dimension : $\phi 80 \times \phi 100 \times l 60$

Mating material : S45C hard chrome plating

Pressure : 19.6N/mm² {200.0kgf/cm²}

29.4N/mm² {300.0kgf/cm²}

Velocity : 0.004m/s {0.25m/min}

Oscillating cycle : 6cpm

Oscillating angle : $\pm 15^\circ$

Test cycle (time) : 100,000cycle (278h)

Ambience : in the purified water

Lubrication : SL4L coating

