

Oiles Glitron S/SE Polyphenylene sulfide bearings with fillers



Feature

- Serviceable completely without the need for lubrication.
- Features small difference between the static and dynamic coefficient of frictions and offers stable friction characteristics free from stick slips.
- Features low coefficient of friction and superior wear resistance.
- Applicable to wide temperature ranges from low to high temperatures.
- Has superior chemical resistance.
- Soft metal (such as aluminum) may be used as mating shafts.
- Injection-molded and has good mass productivity. Features superior dimensional stability, allowing high-precision designs.
- Has antistatic-level conductivity. [Glitron SE]
- The standard products in various sizes applicable to miniature bearings are available. [Glitron SE]

Service range

Lubrication condition	Dry
Service temperature range °C	-60~+200
Allowable max. pressure P N/mm ² {kgf/cm ² }	14.5 {148}
Allowable max. velocity V m/s {m/min}	2.50 {150}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	0.65 {398}

Mechanical properties			Glitron S	Glitron SE
Specific gravity	ASTM D 792	—	1.6	1.6
Tensile strength	ASTM D 638	N/mm ² {kgf/cm ² }	53.9 {550}	41.3 {421.1}
Tensile elongation at break	ASTM D 638	%	2.50	0.99
Flexural property	ASTM D 790	N/mm ² {kgf/cm ² }	83.3 {850}	62.9 {641.6}
Flexural modulus	ASTM D 790	N/mm ² {kgf/cm ² }	3,430 {35,000}	3,430 {35,000}
Compressive stress 5% deformation	ASTM D 695	N/mm ² {kgf/cm ² }	68.6 {700}	72.4 {739}
Hardness	ASTM D 785	HRR	110	116
Izod impact strength (with notch)	ASTM D 256	J/m {kgfcm/cm}	14.7 {1.50}	15.2 {1.55}
Co-efficient of linear expansion	ASTM D 696	×10 ⁻⁵ °C ⁻¹	7	7
Deflection temperature under load 1.82 MPa	ASTM D 648	°C	150	167
Melting point	DSC	°C	281	281
Volume resistivity	ASTM D 257	Ωm {Ω · cm}	—	2.4×10 ² {2.4×10 ⁴ }
Surface resistivity	ASTM D 257	Ω	—	1.67×10 ⁵
UL incombustibility	UL94	File No.E78113	V-0	V-0

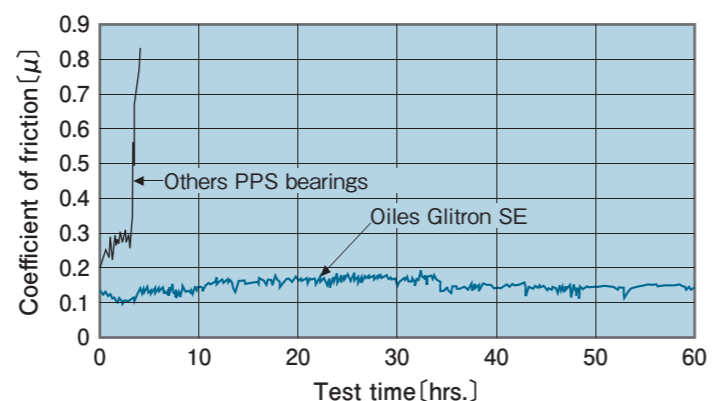
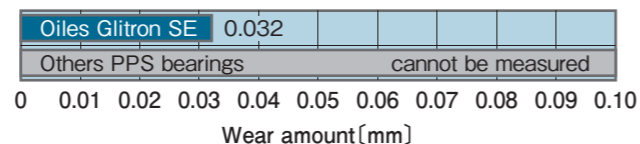
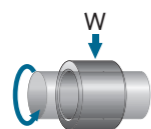
※The values shown above are typical values, not the standard values.

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Test data

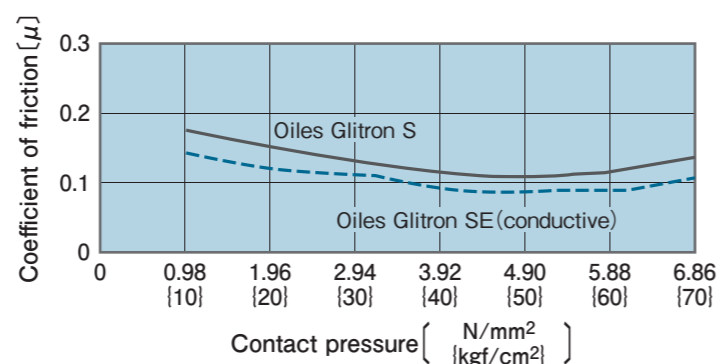
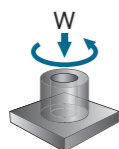
Journal rotation test

<Testing conditions>
 Bearing dimension : $\phi 10 \times \phi 14 \times l 10$
 Mating material : SUS440 (surface roughness $Ra 0.2 \mu m$)
 Pressure : $0.245 N/mm^2$ { $2.5 kgf/cm^2$ }
 Velocity : $1.049 m/s$ (2,000rpm) { $62.8 m/min$ }
 Test time : 60hrs.
 Lubrication : dry



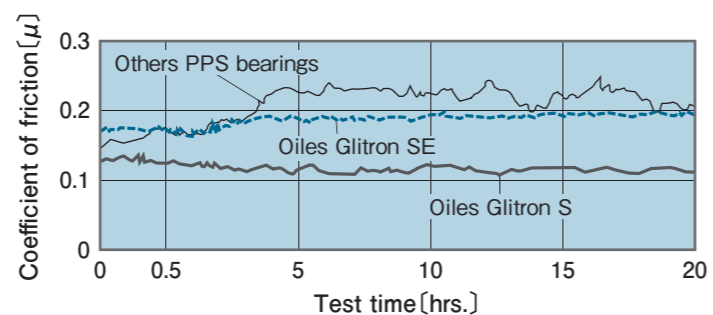
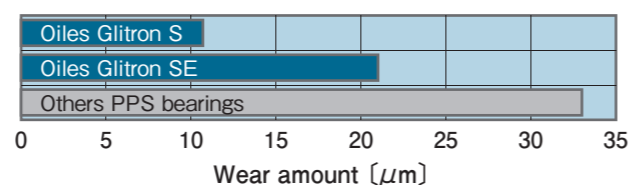
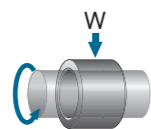
Thrust test

<Testing conditions>
 Mating material : SUS303
 (surface roughness $Rz 1.2 \mu m$)
 Velocity : $0.167 m/s$ { $10.0 m/min$ }
 Lubrication : dry



Journal rotation test

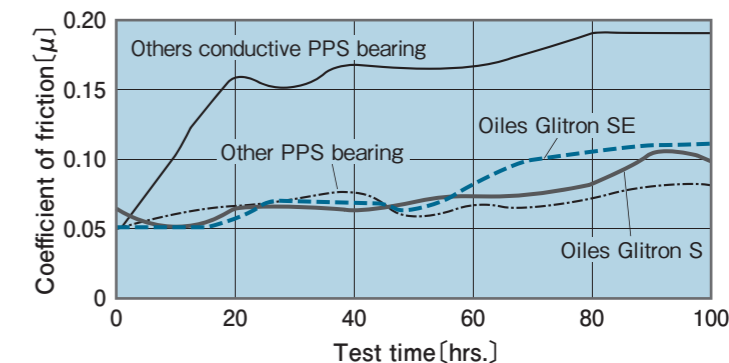
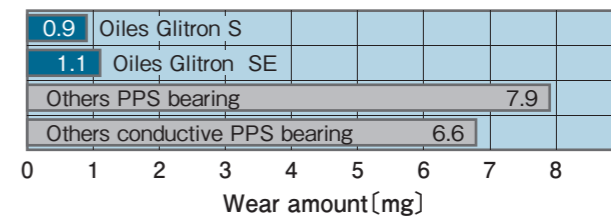
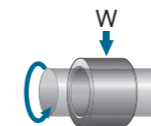
<Testing conditions>
 Mating material : SUS303
 (surface roughness $Rz 1.2 \mu m$)
 Pressure : $0.98 N/mm^2$ { $10.0 kgf/cm^2$ }
 Velocity : $0.333 m/s$ { $20.0 m/min$ }
 Test time : 20hrs.
 Lubrication : dry



Test data

High temperature journal rotation test

<Testing conditions>
 Mating material : aluminium (A5056)
 Pressure : $0.98 N/mm^2$ { $10.0 kgf/cm^2$ }
 Velocity : $0.06 m/s$ { $3.6 m/min$ }
 Atmospheric temperature : $160^\circ C$
 Test time : 100hrs.
 Lubrication : dry



High velocity journal bearing rotation test

<Testing conditions>
 Mating material : SUS303
 (surface roughness $Rz 2.5 \mu m$)
 Pressure : $0.49 N/mm^2$ { $5.0 kgf/cm^2$ }
 Velocity : $0.67 m/s$ { $40.0 m/min$ }
 Test time : 100hrs.
 Lubrication : dry

