

Oiles 81 Oil-impregnated polyolefin bearings



Feature

- Serviceable without the need for lubrication.
- Features low coefficient of friction and superior impact resistance performance.
- Demonstrates superior wear resistance in abrasive conditions due to foreign matter, coarse surfaces of mating parts, rust, etc.
- Injection-molded and can be made in complicated shapes. Has good mass productivity.

Service range	81-12	81-20
Lubrication condition	Dry	
Service temperature range °C	-60~+60	-60~+60
Allowable max. pressure P N/mm ² {kgf/cm ² }	5.0 {51}	3.0 {31}
Allowable max. velocity V m/s {m/min}	0.25 {15}	0.50 {30}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	0.80 {489}	0.80 {489}

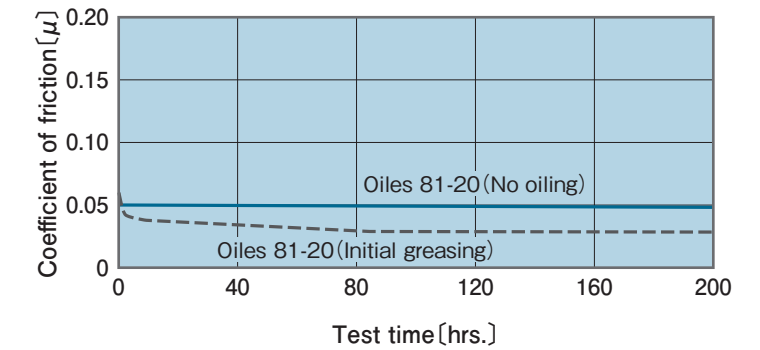
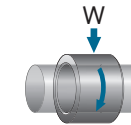
Mechanical properties		81-12	81-20	
Specific gravity	ASTM D 792	—	1.00	
Tensile strength	ASTM D 638	N/mm ² {kgf/cm ² }	26.5 {270}	
Tensile elongation at break	ASTM D 638	%	200	
Flexural property	ASTM D 790	N/mm ² {kgf/cm ² }	22.5 {230}	
Flexural modulus	ASTM D 790	N/mm ² {kgf/cm ² }	980 {10,000}	
Compressive stress	ASTM D 695	N/mm ² {kgf/cm ² }	1% deformation	8.3 {85}
			10% deformation	26.5 {270}
Hardness	ASTM D 785	HRR	35	
Izod impact strength (with notch)	ASTM D 256	J/m {kgfcm/cm}	147 {15.0}	
Co-efficient of linear expansion	ASTM D 696	×10 ⁻⁵ °C ⁻¹	11~13	
Deflection temperature under load 0.45 MPa	ASTM D 648	°C	—	
Melting point	DSC	°C	137	
UL incombustibility	UL94	File No.E78113	—	

※ The values shown above are typical values, not the standard values.
(Note) values by vicat softening point (ASTM D 1525)

81-20 Test data

Journal bearing rotation test

<Testing conditions>
 Bearing dimension : φ35×φ38×ℓ 20
 Mating material : SUS303
 (surface roughness Rz1.6μm)
 Pressure : 0.316N/mm² {3.0kgf/cm²}
 Velocity : 0.130m/s {7.8m/min} (120rpm)
 Test time : 200hrs.



Journal rotation test

<Testing conditions>
 Mating material : SUS303
 (surface roughness Rz1.6μm)
 Pressure : 1.96N/mm² {20.0kgf/cm²}
 Velocity : 0.047m/s {2.8m/min} (90rpm)
 Test time : 250hrs.

