

Oiles 81 Oil-impregnated polyolefin bearings



Feature

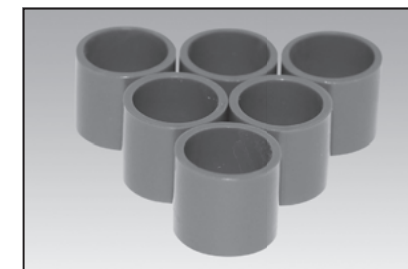
- Serviceable without the need for lubrication.
- Features low coefficient of friction and superior impact resistance performance.
- Demonstrates superior wear resistance in abrasive conditions due to foreign matter, coarse surfaces of mating parts, rust, etc.
- Injection-molded and can be made in complicated 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 }	8.3 {85}
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	85
Melting point	DSC °C	137
UL incombustibility	UL94 File No.E78113	HB

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

Oiles 81-B1 Biomass plastic bearings



Biomass plastic bearings made by adding fillers to plant-derived plastic

Reduction of CO₂ emission: 64%*

Weight ratio of biomass plastic: 90%

* Value obtained by subtracting CO₂ emissions during raw material production from production and disposal processes

Feature

- Serviceable without the need for lubrication.
- Features superior wear resistance in low load conditions.
- Compared to Oiles 81 (petroleum-derived polyolefin bearing), it reduces CO₂ emissions and exhibits the same or better friction performance.
- Easy dimensional setting due to low swelling rate.
- Features superior impact resistance performance.

Service range	
Lubrication condition	Dry
Service temperature range °C	-60 ~ +60
Allowable max. pressure P N/mm ² {kgf/cm ² }	5.0 {51}
Allowable max. velocity V m/s {m/min}	0.5 {30}
Allowable max. PV value N/mm ² · m/s {kgf/cm ² · m/min}	0.50 {306}

Mechanical properties							
Specific gravity	ASTM D 792	g/cm ³	0.91	Flexural modulus	ASTM D 790	N/mm ²	500
Tensile strength	ASTM D 638	N/mm ²	16	Izod impact strength	ASTM D 256	J/m	87
Tensile elongation at break	ASTM D 638	%	>400	Co-efficient of linear expansion	ASTM D 696	°C ⁻¹ ×10 ⁻⁵	11
Flexural property	ASTM D 790	N/mm ²	14	Melting point	DSC	°C	134

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