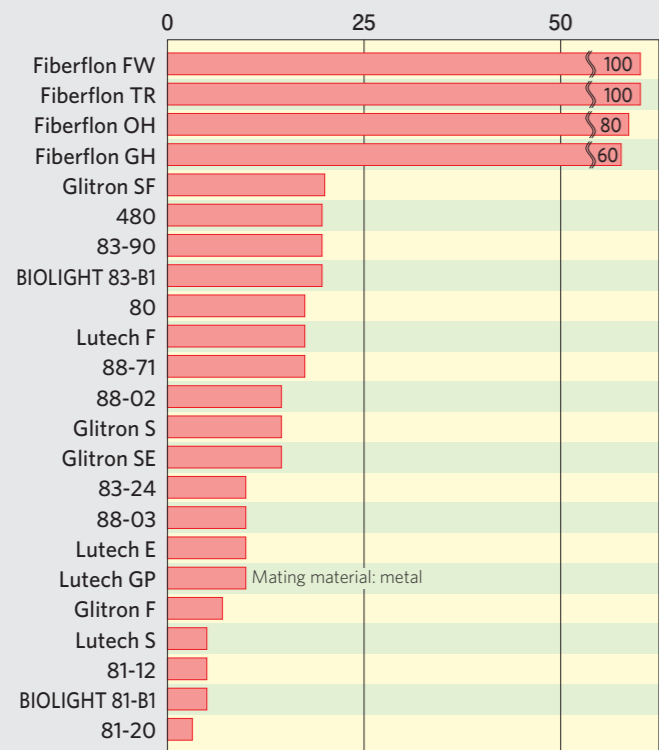
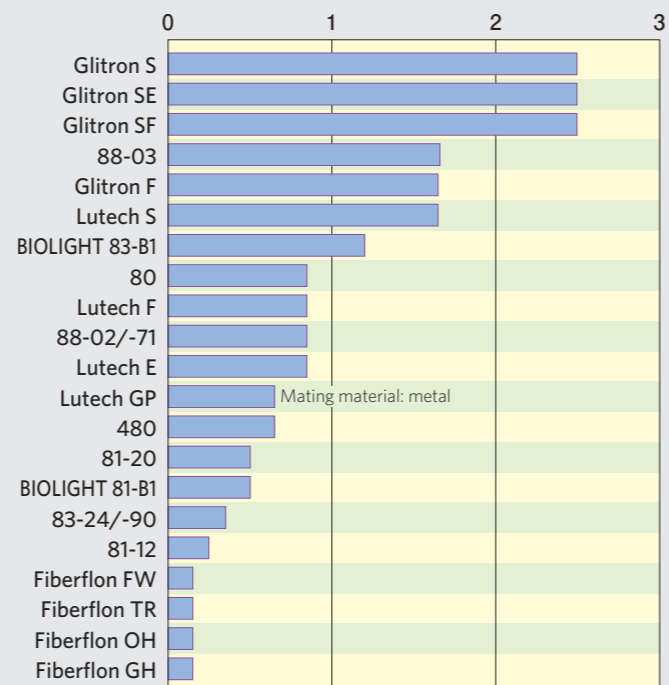


Selection Guide

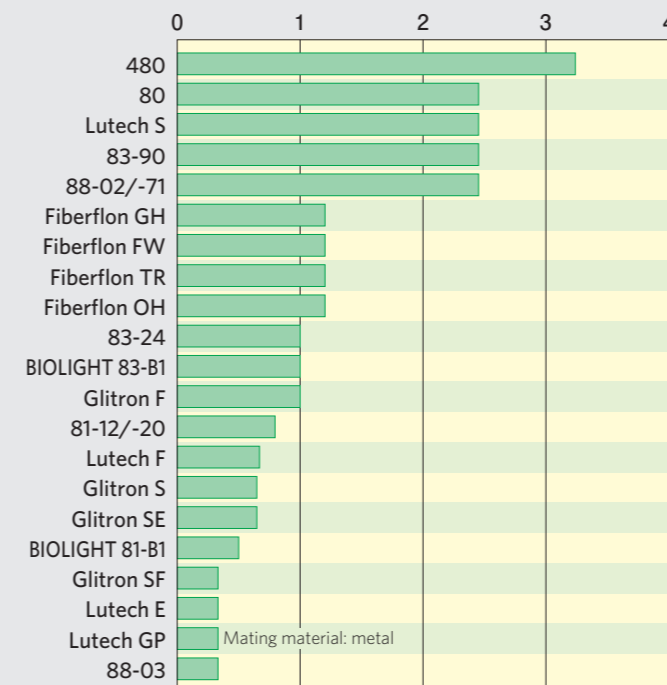
■ Allowable Pressure P (under high load applications) N/mm²



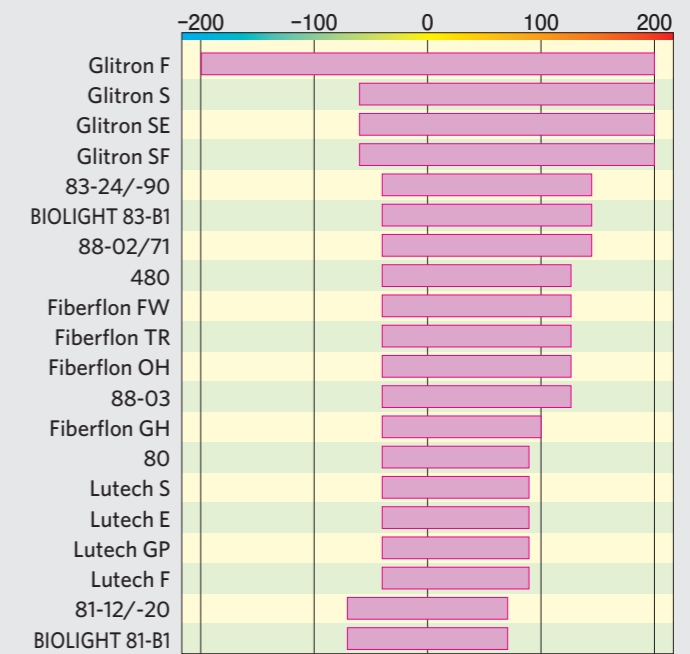
■ Allowable Velocity V (under high speed condition) m/s



■ Allowable PV Value N/mm² · m/s



■ Temperature Range (From low to high temperature range) °C



These graphs show the standard characteristics of bearings that can be used under self-lubricating conditions.

■ Definition of Lubrication Condition

- (1) Dry, lubrication-free
Grease or oil is not used at all. A small quantity of grease or oil is applied at the time of assembly.
- (2) Periodic lubrication, periodic greasing
Oil or grease is periodically supplied to the sliding surface.
- (3) Oil lubrication and forced lubrication
Oil or grease is always supplied to the sliding surface, such as oil bath, dripping lubrication, splashing lubrication, forced lubrication, etc.

■ Scope of Application

The value shown below is obtained in shaft rotation condition in the atmosphere.

Product	Product Name	Allowable max pressure P N/mm ² {kgf/cm ² }	Allowable max velocity V m/s {m/min}	Allowable max PV value N/mm ² · m/s {kgf/cm ² · m/min}	Temperature range °C {°F}
	Oiles 80 Values of the typical grade	17.5 {179}	0.85 {51}	2.45 {1,500}	-40 ~ +80 {-40 ~ +176}
	Oiles Pillow 80	2.0 {21}	Intermittent operation 0.40 {24}	Intermittent operation 0.50 {306}	-20 ~ +60 {-4 ~ +140}
			Continuous operation 0.25 {15}	Continuous operation 0.30 {184}	
	Oiles PS bearings	Allowable pressure W N {kgf}	Allowable rotation N s ⁻¹ {rpm}	Allowable max. WN value N · s ⁻¹ {kgf · rpm}	-40 ~ +80 {-40 ~ +176}
		11,700 ~ 49,000 {1,194 ~ 5,000}	4.00 ~ 1.50 {240 ~ 90}	1,470 ~ 2,450 {9,000 ~ 15,000}	
	Oiles Lutech S	5.0 {51}	1.65 {99}	2.45 {1,500}	-40 ~ +80 {-40 ~ +176}

⚠ Caution

- The values stated below are the product of testing in accordance with Oiles standard test methods. Please contact a sales representative to discuss applications with conditions outside those listed here.
- Conditions vary greatly by application. Please use these values only as guidelines.

Lubrication	Atmosphere	In water	In seawater	In chemical	Corrosive condition	Standard part codes	Product outline	Product detail	Dimensions
Dry	○	△	△	△	△	80 Bushings ————— 80B Flange bushings ————— 80F Washers ————— 80W Bar stock ————— 80M Plate material · Pipe stock — 80P·80S	P.41	P.63	P.65 P.67 P.69 P.71 P.73
—	○	△	△	△	△	Pillow 80 Flange units ————— 80FL Pillow units ————— 80UP	P.41	P.74	P.75 P.76
—	○	×	×	×	×	PS bearings ————— PST (plastic thrust bearing units)	P.41	P.77	P.78
Dry	○	△	△	△	△	Custom-made	P.42	P.79	—

○ = usable △ = usable under some condition × = unusable — = N/A, For detail, please refer to page 361.

Selection Guide

Scope of Application

The value shown below is obtained in shaft rotation condition in the atmosphere.

Product	Product Name	Allowable max pressure P N/mm ² {kgf/cm ² }	Allowable max velocity V m/s {m/min}	Allowable max PV value N/mm ² · m/s {kgf/cm ² · m/min}	Temperature range °C {°F}
	Oiles Lutech E	9.81 {100}	0.83 {50}	0.327 {200}	-40 ~ +80 {-40 ~ +176}
	Oiles Lutech AT	Toner-resistant self-lubricating bearings with various lubricants and fillers added to polyacetal.			
	Oiles Lutech GP	Mating material: resin 3.92 {40}	Mating material: resin 0.33 {20}	Mating material: resin 0.163 {100}	-40 ~ +80 {-40 ~ +176}
		Mating material: metal 9.81 {100}	Mating material: metal 0.67 {40}	Mating material: metal 0.327 {200}	
	Oiles Lutech F	17.5 {179}	0.85 {51}	0.68 {416}	-40 ~ +80
	Oiles 480	19.5 {199}	0.65 {39}	3.25 {1,990}	-40 ~ +120 {-40 ~ +248}
	Oiles 81-12	5.0 {51}	0.25 {15}	0.80 {489}	-60 ~ +60 {-76 ~ +140}
	Oiles 81-20	3.0 {31}	0.50 {30}		
	Oiles BIOLIGHT 81-B1	5.0 {51}	0.5 {30}	0.5 {306}	-60 ~ +60
	Oiles 83-24	10.0 {102}	0.35 {21}	1.00 {612}	-40 ~ +140 {-40 ~ +284}
	Oiles 83-90	19.5 {199}		2.45 {1,500}	
	Oiles BIOLIGHT 83-B1	19.5 {199}	1.2 {72}	1.0 {612}	-40 ~ +140
	Oiles 88-02	14.5 {148}	0.85 {51}	2.45 {1,500}	-40 ~ +140 {-40 ~ +284}
	Oiles 88-71	17.5 {179}			

= Conductive

Lubrication	Atmosphere	In water	In seawater	In chemical	Corrosive condition	Standard part codes	Product outline	Product detail	Dimensions
Dry	○	△	△	△	△	Lutech E Bushings ——— LED Snap-fit bushings ——— LES Bar stock ——— LEM	P.42	P.81	P.83 P.84
Dry	○	—	—	—	—	Custom-made	P.42	—	—
Dry	○	△	△	△	△	Custom-made	P.43	P.85	—
Dry	○	○	△	△	△	Lutech F Flange bushings ——— LTFF	P.43	P.87	P.88
Dry	○	○	△	△	△	480 Bar stock ——— 48M	P.43	P.89	P.90
Dry	○	△	△	△	△	Custom-made	P.44	P.91	—
	○	△	△	△	△				
Dry	○	△	△	△	△	Custom-made	P.44	P.92	—
Dry	○	△	△	△	△	83 Washers ——— 83W	P.44	P.93	P.70
	○	△	△	△	△				
Dry	○	△	△	△	△	BIOLIGHT 83-B1 Flange bushings — 83BPF	P.45	P.95	P.96
Dry	○	△	△	△	△	Custom-made	P.45	P.97	—
	○	△	△	△	△				

○ = usable △ = usable under some condition × = unusable — = N/A, For detail, please refer to page 361.

Selection Guide

Scope of Application

The value shown below are obtained in shaft rotation condition in the atmosphere.

Product	Product Name	Allowable max pressure P N/mm ² {kgf/cm ² }	Allowable max velocity V m/s {m/min}	Allowable max PV value N/mm ² · m/s {kgf/cm ² · m/min}	Temperature range °C {°F}
	Oiles 88-03	9.81 {100}	1.67 {100}	0.327 {200}	-40 ~ +120 {-40 ~ +248}
	Oiles 88 elastomer	Engineering elastomer made by mixing additives to thermoplastic elastomer.			
	Oiles Glitron F	7.0 {71}	1.65 {99}	1.00 {612}	-200 ~ +200 {-328 ~ +392}
	Oiles Glitron S	14.5 {148}	2.50 {150}	0.65 {398}	-60 ~ +200 {-76 ~ +392}
	Oiles Glitron SE	14.5 {148}	2.50 {150}	0.65 {398}	-60 ~ +200 {-76 ~ +392}
	Oiles Glitron SF	20.0 {204}	2.50 {150}	0.36 {220}	-60 ~ +200
	Oiles 50	Engineering elastomer made by mixing additives to thermoplastic polyurethane. Available in various grades.			
	Oiles Aramid M/F1	Oiles Aramid M is heat-resistant engineering plastic made of aromatic polyamide. Oiles Aramid F1 is an improved series of the Oiles Aramid M. It inherits the heat resistance and high hardness from the Oiles Aramid M and features improved wear resistance and low friction characteristics necessary for bearings.			
	Oiles 250	20 {204}	Periodic lubrication 3.35 {201}	Periodic lubrication 2.45 {1,500}	-40 ~ +100 {-40 ~ +212}
			oil lubrication 15 {900}	oil lubrication 3.25 {1,990}	
	Oiles 425	15 {153}	15 {900}	4.90 {3,000}	room temperature

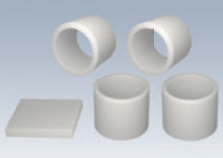




= Conductive

Lubrication	Atmosphere	In water	In seawater	In chemical	Corrosive condition	Standard part codes	Product outline	Product detail	Dimensions
Dry	○	△	△	△	△	Custom-made	P.46	P.99	—
—	○	△	△	△	△	Custom-made	P.45	P.98	—
Dry	○	○	○	○	○	Glitron F Bushings ————— 77B Flange bushings ————— 77F Bar stock ————— 77M Bushing-Plate material — 77S·77P Custom-made Custom-made Skiving sheet — 77SH	P.46	P.101	P.103 P.104 P.105 P.106 P.105
Dry	○	○	○	○	○	Custom-made	P.46	P.107	—
Dry	○	○	○	○	○	Glitron SE Bushings ————— GEB Flange bushings ————— GEF Bushings ————— GSB Flange bushings ————— GSF	P.47	P.107	P.111 P.112 P.113 P.114
Dry	○	○	○	○	○	Custom-made	P.47	P.115	—
—	○	△	△	△	△	Custom-made	P.47	P.116	—
—	○	△	△	△	○	Aramid M Bar stock·Bushings — AMM·AMS Disk-Plate material — AMD·AMP Balls ————— ABG Aramid F1 Bar stock·Disks — AF1M·AF1D	P.48	P.117 P.118	P.119 P.120 P.121 P.122
Periodic lubrication	○	—	—	—	△	250-07 (425-07) Pipe stock ————— 25S Bar stock ————— 25M Plate material ————— 25P	P.48	P.123	P.127 P.128
oil lubrication	○	—	—	—	△				
In water	—	○	○	△	△				

○ = usable △ = usable under some condition × = unusable — = N/A, For detail, please refer to page 361.

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Scope of Application The value shown below are obtained in shaft rotation condition in the atmosphere.

Product	Product Name	Allowable max pressure P N/mm ² {kgf/cm ² }	Allowable max velocity V m/s {m/min}	Allowable max PV value N/mm ² · m/s {kgf/cm ² · m/min}	Temperature range °C {°F}
	Oiles Fiberflon GH	60 {612} ※ 100 ※ {1,020}	0.15 {9}	1.2 {734}	-40 ~ +100
	Oiles Fiberflon FW	100 {1,020}	0.15 {9}	1.2 {734}	-40 ~ +120 {-40 ~ +248}
	Oiles Fiberflon TR	100 {1,020}	0.15 {9}	1.2 {734}	-40 ~ +120 {-40 ~ +248}
	Oiles Fiberflon OH	80 {815} ※ 150 ※ {1,530}	0.15 {9}	1.2 {734}	-40 ~ +120 {-40 ~ +248}
	Oiles 470-02	15 {153}	16.5 {990}	8.15 {4,990}	-40 ~ +90 {-40 ~ +194} <small>contact us when temperature exceeds the range.</small>
	Oiles 470-02W				

※ Static bearing pressures defined: Bearing pressures in applications with no motion or very small motion ($\leq 0.0017\text{m/s}$ {0.1m/min}).

Lubrication	Atmosphere	In water	In seawater	In chemical	Corrosive condition	Standard part codes	Product outline	Product detail	Dimensions
Dry	○	○	○	△	△	Custom-made	P.49	P.129	—
Dry	○	○	○	△	△	Fiberflon FW Bushings — FFB	P.49	P.131	P.132
Dry	○	○	○	△	△	Custom-made	P.49	P.133	—
Dry	○	○	○	△	△	Custom-made	P.50	P.134	—
In water	—	○	○	△	△	Custom-made 470-02 Split bearing for flocculator — 47H Flocculator bearing units — UPF	P.50	P.135	P.137 P.138

○ = usable △ = usable under some condition × = unusable — = N/A, For detail, please refer to page 361.