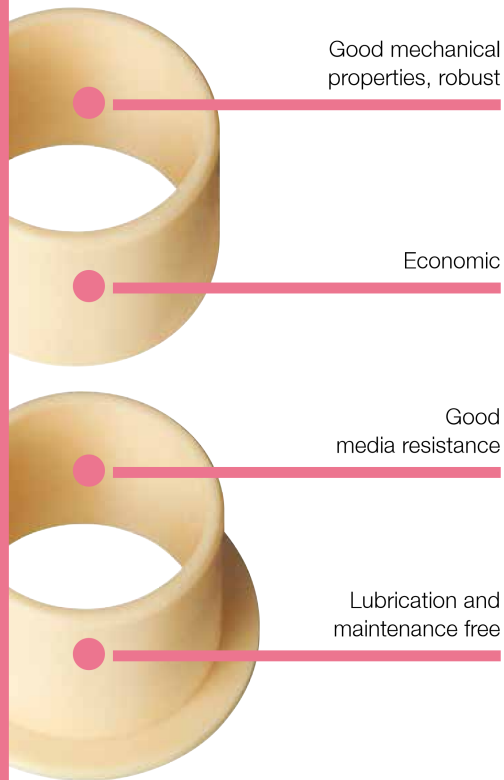


Versatile and cost-effective – iglidur® J2

- Good mechanical properties, robust
- Economic
- Good media resistance
- Lubrication and maintenance free
- Standard range from stock



iglidur® J2 has good universal media resistance, comparable to that of iglidur® J and similar materials. The mechanical specifications in sporadically moved applications are better although, in comparison, clear compromises have to be made with regard to friction and wear. Like all iglidur® materials, iglidur® J2 is PFOA-free.



When to use it?

- When low moisture absorption and good chemical resistance is required for primarily static load
- When a low-priced bearing is required for use in a wet environment with low p x v values
- When there is a basic lubrication of the bearing



When not to use it?

- When a highly wear-resistant bearing is required for continuous operation in dry running
▶ iglidur® J3, page 191
- When low moisture absorption and media resistance play a minor role
▶ iglidur® M250, page 111
- When a resistance to high temperatures and chemicals is required
▶ iglidur® X, page 133



Available from stock

Detailed information about delivery time online.



max. +90 °C
min. -50 °C



Block pricing online

No minimum order value. From batch size 1



Ø 6–25 mm
more dimensions on request



Typical application areas

- Jig construction
- Material handling, etc.

Material properties table

General properties	Unit	iglidur® J2	Testing method
Density	g/cm³	1.44	
Colour		light yellow	
Max. moisture absorption at +23 °C/50 % r.h.	% weight	0.2	DIN 53495
Max. water absorption	% weight	1.3	
Coefficient of sliding friction, dynamic against steel	μ	0.11–0.27	
pv value, max. (dry)	MPa · m/s	0.23	
Mechanical properties			
Modulus of elasticity	MPa	3,605	DIN 53457
Tensile strength at +20 °C	MPa	101	DIN 53452
Compressive strength	MPa	77	
Max. recommended surface pressure (+20 °C)	MPa	46	
Shore-D hardness		n.b.	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+90	
Max. short term application temperature	°C	+110	
Min. application temperature	°C	-50	
Thermal conductivity	W/m · K	0.25	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ⁻¹ · 10 ⁻⁶	7	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹³	DIN IEC 93
Surface resistance	Ω	> 10 ¹²	DIN 53482

Table 01: Material properties table

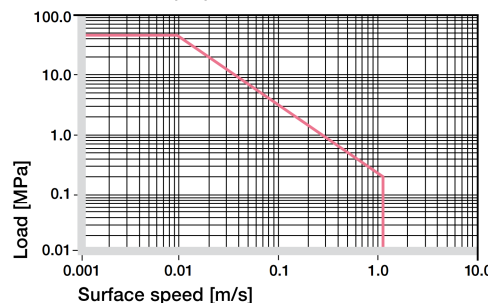


Diagram 01: Permissible pv values for iglidur® J2 bearings with a wall thickness of 1 mm dry running against a steel shaft, at +20 °C, mounted in a steel housing

Moisture absorption

The moisture absorption of iglidur® J2 plain bearings is approximately 0.2% in ambient conditions. The saturation limit submerged in water is 1.3%. Due to these low values considering expansion by moisture absorption is only required in extreme cases.

▶ **Diagram, www.igus.eu/j2-moisture**

Vacuum

In vacuum applications, any absorbed moisture content is outgassed. Use in vacuum is only possible with dehumidified bearings.

Radiation resistance

Plain bearings made from iglidur® J2 are resistant to radiation up to an intensity of applications 3 · 10² Gy.

UV resistance

iglidur® J2 plain bearings become discoloured under UV radiation. However, hardness, compressive strength and the wear resistance of the material do not change.

Medium	Resistance
Alcohols	+
Hydrocarbons	+
Greases, oils without additives	+
Fuels	+
Diluted acids	0 to –
Strong acids	–
Diluted alkalines	+
Strong alkalines	+ to 0

+ resistant 0 conditionally resistant – not resistant
All data given at room temperature [+20 °C]

Table 02: Chemical resistance

▶ **Chemical table, page 1226**

With respect to its general mechanical and thermal specifications, iglidur® J2 is directly comparable to our classic, iglidur® J. Therefore the iglidur® J2 is superior to iglidur® J with respect to the mechanical properties, such as maximum recommended surface pressure. However, wear resistance is reduced when running dry.

Mechanical properties

With increasing temperatures, the compressive strength of iglidur® J2 plain bearings decreases. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

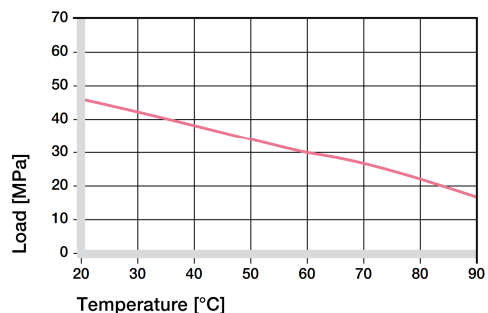


Diagram 02: Recommended maximum surface pressure of as a function of temperature (46 MPa at +20 °C)

Diagram 03 shows the elastic deformation of iglidur® J2 under different loads. A possible deformation could be, among others, dependant on the duty cycle of the load.

► Surface pressure, page 63

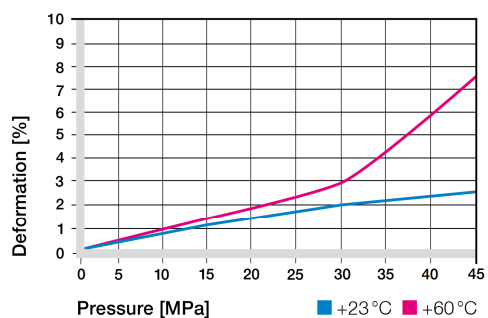


Diagram 03: Deformation under pressure and temperature

Permissible surface speeds

iglidur® J2 is mainly suitable for low speeds in dry running, but the specified values shown in table 03 can only be achieved at low pressures. At the given speeds, friction can cause a temperature increase to maximum permissible levels. In practice, though, this temperature level is rarely reached due to varying application conditions.

► Surface speed, page 65

m/s	Rotating	Oscillating	Linear
Continuous	0.8	0.7	3
Short term	1.9	1.1	5

Table 03: Maximum surface speeds

Temperatures

The ambient application temperature has a direct impact on bearing wear, an increase in temperature results in an increase in wear. With increasing temperatures, the wear increases and this effect is significant when temperatures rise over +90 °C. At temperatures over +60 °C an additional securing is required.

► Application temperatures, page 66

► Additional securing, page 67

Friction and wear

Coefficient of friction and wear resistance are dependent on the application parameters (diagrams 04 and 05).

► Coefficients of friction and surfaces, page 68

► Wear resistance, page 69

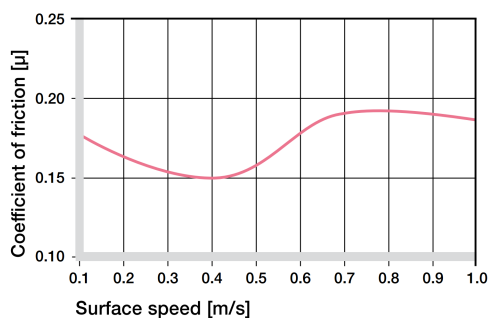


Diagram 04: Coefficient of friction as a function of the surface speed, p = 1.0 MPa

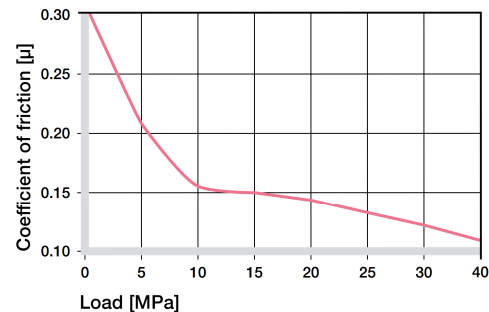


Diagram 05: Coefficient of friction as a function of the pressure, v = 0.01 m/s

Shaft materials

The friction and wear are also dependent to a large degree on the shaft material. Shafts that are too smooth, increase both the coefficient of friction and the wear of the bearing. Diagram 06 shows a summary of the results of tests with different shaft materials. Diagram 06 shows that iglidur® J2 delivers good wear values especially with cutting steel in rotation at 1 MPa. When running dry, the wear values are sometimes significantly higher on other shafts.

Unlike many other iglidur® materials, the wear rate in pivoting is slightly higher compared to the rate in rotation with otherwise identical parameters (diagram 07).

► Shaft materials, page 71

iglidur® J2	Dry	Greases	Oil	Water
C. o. f. μ	0.11–0.27	0.08	0.07	0.04

Table 04: Coefficient of friction against steel (Ra = 1 μm, 50 HRC)

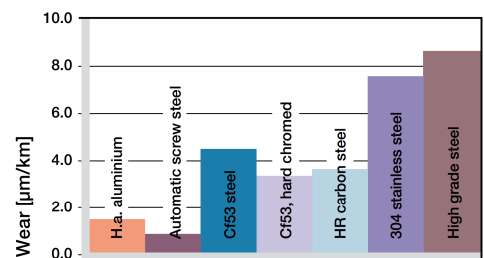


Diagram 06: Wear, rotating with different shaft materials, p = 1 MPa, v = 0.3 m/s

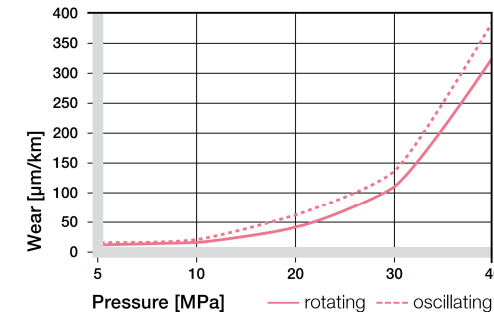


Diagram 07: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the pressure

Installation tolerances

iglidur® J2 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the E10 tolerances. In relation to the installation tolerance, the inner diameter changes with the absorption of humidity.

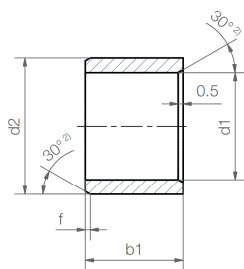
► Testing methods, page 75

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® J2 E10 [mm]	Housing H7 [mm]
up to 3	0–0.025	+0.014 +0.054	0 +0.010
> 3 to 6	0–0.030	+0.020 +0.068	0 +0.012
> 6 to 10	0–0.036	+0.025 +0.083	0 +0.015
> 10 to 18	0–0.043	+0.032 +0.102	0 +0.018
> 18 to 30	0–0.052	+0.040 +0.124	0 +0.021
> 30 to 50	0–0.062	+0.050 +0.150	0 +0.025
> 50 to 80	0–0.074	+0.060 +0.180	0 +0.030
> 80 to 120	0–0.087	+0.072 +0.212	0 +0.035
> 120 to 180	0–0.100	+0.085 +0.245	0 +0.040

Table 05: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

iglidur® J2 | Product range

Sleeve bearing (Form S)



Order key

Type	Dimensions
J2 S M-0608-06	
iglidur® material	
Form S	
Metric	
Inner-Ø d1 [mm]	
Outer-Ø d2 [mm]	
Length b1 [mm]	



Dimensions according to ISO 3547-1 and special dimensions

²⁾ thickness < 1 mm, chamfer = 20°

Chamfer in relation to the d1

d1 [mm]:	Ø 1-6	Ø 6-12	Ø 12-30	Ø > 30
f [mm]:	0.3	0.5	0.8	1.2

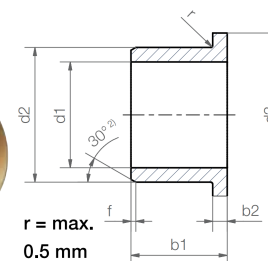
Dimensions [mm]

d1	d1-Tolerance ³⁾	d2	b1 h13	Part No.
6.0	+0.020 +0.068	8.0	6.0	J2SM-0608-06
8.0	+0.025 +0.083	10.0	10.0	J2SM-0810-10
10.0	+0.025 +0.083	12.0	10.0	J2SM-1012-10
12.0	+0.032 +0.102	14.0	12.0	J2SM-1214-12
16.0	+0.032 +0.102	18.0	15.0	J2SM-1618-15
20.0	+0.040 +0.124	23.0	20.0	J2SM-2023-20
25.0	+0.040 +0.124	28.0	20.0	J2SM-2528-20

³⁾ after pressfit. Testing methods ► Page 75

iglidur® J2 | Product range

Flange bearing (Form F)



Order key

Type	Dimensions
J2 F M-0608-06	
iglidur® material	
Form F	
Metric	
Inner-Ø d1 [mm]	
Outer-Ø d2 [mm]	
Length b1 [mm]	



Dimensions according to ISO 3547-1 and special dimensions

²⁾ thickness < 1 mm, chamfer = 20°

Chamfer in relation to the d1

d1 [mm]:	Ø 1-6	Ø 6-12	Ø 12-30	Ø > 30
f [mm]:	0.3	0.5	0.8	1.2

Dimensions [mm]

d1	d1-Tolerance ³⁾	d2	d3 d13	b1 h13	b2 -0.14	Part No.
6.0	+0.020 +0.068	8.0	12.0	6.0	1.0	J2FM-0608-06
8.0	+0.025 +0.083	10.0	15.0	10.0	1.0	J2FM-0810-10
10.0	+0.025 +0.083	12.0	18.0	10.0	1.0	J2FM-1012-10
12.0	+0.032 +0.102	14.0	20.0	12.0	1.0	J2FM-1214-12
16.0	+0.032 +0.102	18.0	24.0	17.0	1.0	J2FM-1618-17
20.0	+0.040 +0.124	23.0	30.0	21.5	1.5	J2FM-2023-21

³⁾ after pressfit. Testing methods ► Page 75



Don't find your size?

Do you need another length, other dimensions or tolerances? You need a particular design or alternative for your application? Please call us. igus® listens to your needs and provides you a solution in a very short time.



Even more dimensions from stock

More than 300 dimensions are now available. Search online for your required bearing.

► www.igus.eu/iglidur-specialbearings