

Up to 3.5 m/s rotating

Temperature resistant up to +210°C (long-term)

Low moisture absorption

Good price / performance ratio

iglidur® L350 is extremely long-lasting. Developed for the best friction coefficients and wear rates at speeds of 1.5 m/s and more, this material outperforms classic bearings in high-speed rotation operation.



### When to use it?

- For rotating applications at high speed
- If highest service life is required
- For high pv values with low loads
- At operating temperatures up to +180°C (long-term, short-term up to max. +210°C)



### When not to use it?

- If a universal bearing for high temperatures is needed
  - ▶ iglidur® X, page 245
- If moderate to high pressure loads occur
  - ▶ iglidur® G, page 79
  - ▶ iglidur® Q, page 423
- For oscillating applications
  - ▶ iglidur® W300, page 153
  - ▶ iglidur® J350, page 173

### Typical application areas

- Electric motors
- Fans
- Household appliances



### Available from stock

Detailed information about delivery time online.



### Block pricing online

No minimum order value. From batch size 1.



**Max. +180°C**  
**Min. -100°C**



**Ø 3–10 mm**

More dimensions upon request



### Online product finder

▶ [www.igus.eu/iglidur-finder](http://www.igus.eu/iglidur-finder)

## Material properties

General properties	Unit	iglidur® L350	Testing method
Density	g/cm³	1.54	
Colour		dark grey	
Max. moisture absorption at +23°C/50% r.h.	% weight	0.4	DIN 53495
Max. water absorption	% weight	1.4	
Coefficient of sliding friction, dynamic, against steel	μ	0.15–0.20	
pv value, max. (dry)	MPa · m/s	3.0	
Mechanical properties			
Flexural modulus	MPa	15,882	DIN 53457
Flexural strength at +20°C	MPa	210	DIN 53452
Compressive strength	MPa	210	
Max. recommended surface pressure (+20°C)	MPa	59	
Shore-D hardness		80	DIN 53505
Physical and thermal properties			
Max. long-term application temperature	°C	+180	
Max. short-term application temperature	°C	+210	
Min. long-term application temperature	°C	-100	
Heat conductivity	W/m · K	0.61	ASTM C 177
Coefficient of thermal expansion (at +23°C)	K <sup>-1</sup> · 10 <sup>-6</sup>	7	DIN 53752
Electrical properties			
Specific contact resistance	Ωcm	> 10 <sup>5</sup>	DIN IEC 93
Surface resistance	Ω	> 10 <sup>5</sup>	DIN 53482

Table 01: Material properties table

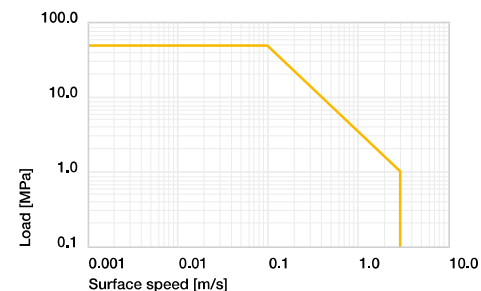


Diagram 01: Permissible pv values for iglidur® L350 running dry against a steel shaft, at +20°C, mounted in a steel housing

### Moisture absorption

The very low moisture absorption of 0.4% weight in a normal climate and 1.4% weight at maximum water absorption also enables continuous operation in high humidity or in liquid media.

▶ Diagram, [www.igus.eu/I350-moisture](http://www.igus.eu/I350-moisture)

### Vacuum

In vacuum, the moisture content is released as vapour. Due to its low moisture absorption, use in a vacuum is possible.

### Radiation resistance

Plain bearings made from iglidur® L350 are resistant up to a radiation intensity of 2 · 10<sup>2</sup> Gy. Higher radiation affects the material and may result in a significant decrease in mechanical properties.

### UV resistance

The material properties of iglidur® L350 bearings do not change under UV rays or other weathering influences.

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

+ resistant 0 conditionally resistant – not resistant

All data given at room temperature [+20°C]

Table 02: Chemical resistance

▶ Chemical table, page 1432

With iglidur® L350, another lubrication and maintenance-free material is now available, which is designed for permanently high speeds. Due to the low thermal expansion and low moisture absorption, bearings can be manufactured with minimal potential to expand. iglidur® L350 is especially suitable for use in fans, blowers or electric motors – and the costs are also lower.

### Mechanical properties

With increasing temperatures, the compressive strength of iglidur® L350 plain bearings decreases. The diagram 02 shows this inverse relationship. The permissible maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

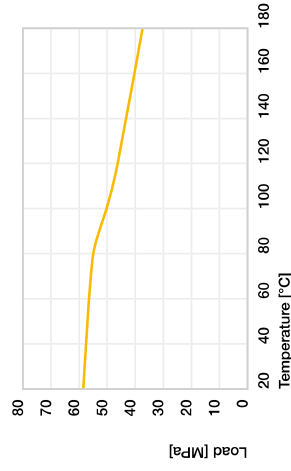


Diagram 02: Permissible maximum surface pressure of iglidur® L350 as a function of temperature (59 MPa at +20°C)

Diagram 03 shows the elastic deformation of iglidur® L350 under different loads. At the recommended maximum surface pressure of 70 MPa the deformation is less than 2.5% at room temperature. A plastic deformation can be negligible up to this value. However, it is also dependent on the duty cycle of the application.

### Surface pressure, page 41

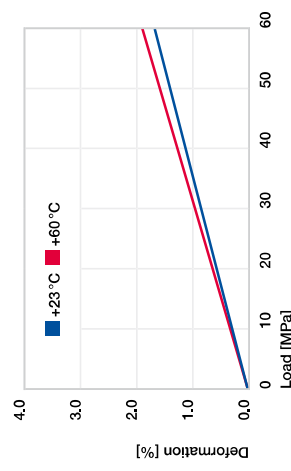


Diagram 03: Deformation under pressure and temperature

### Permissible surface speeds

iglidur® L350 has been developed especially for high surface speeds with low loads. Due to the high temperature-resistance of iglidur® L350, the physical limit created from heating of the bearing has been shifted upward significantly. In addition, the extremely low wear allows the high acceleration speeds to be reached and maintained. The maximum speeds are shown in table 03.

### Surface speed, page 44

m/s	Rotating	Oscillating	Linear
Continuous	3.0	1.5	4.0
Short-term	4.0	3.0	6.0

Table 03: Maximum surface speeds

### Temperatures

The iglidur® L350 bearings can be used in temperatures up to +210 °C for the short-term. Note that a mechanical securing of the bearing is required from temperatures of +140 °C. Higher temperatures can also cause the bearing to lose its press-fit seating and move in the bore.

### Application temperatures, page 49

### Additional securing, page 49

### Friction and wear

The very low coefficient of friction is constantly low, even at high speeds. The diagram 04 shows this with the example of a steel shaft where the surface pressure is 0.75 MPa.

### Coefficients of friction and surfaces, page 47

### Wear resistance, page 50

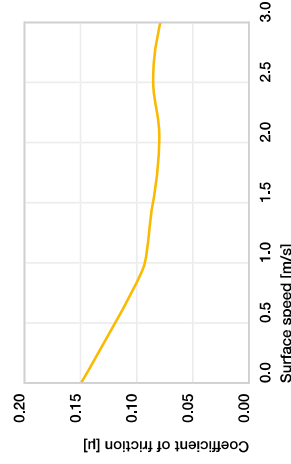


Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75 MPa

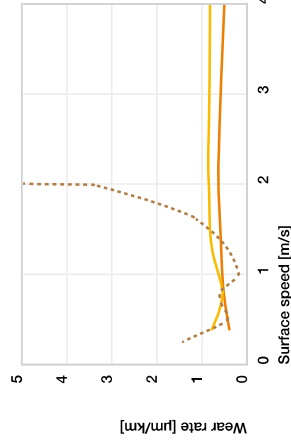


Diagram 05: Rotary wear against Cf53, p = 0.25 MPa, T = +23 °C

### Wear tests

The diagram 05 compares the wear of a sintered bearing with that of bearings made of the materials iglidur® L500 and L350. At a surface speed of 1.5 m/s or more, the wear of the sintered bearing increases exponentially whereas the wear of the iglidur® plain bearings almost remains the same up to a speed of more than 3 m/s.

### Shaft materials, page 52

iglidur® L350	Dry	Greases	Oil	Water
C.o.f. µ	0.07–0.18	0.06	0.04	0.03

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

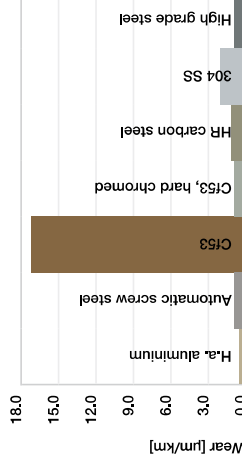


Diagram 06: Wear, rotating with different shaft materials, p = 1 MPa, v = 0.3 m/s

### Installation tolerances

iglidur® L350 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 F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

### Testing methods, page 57

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® L350 F10 [mm]	Housing H7 [mm]
up to 3	0–0.025	+0.006 +0.046	0 +0.010
> 3 to 6	0–0.030	+0.010 +0.058	0 +0.012
> 6 to 10	0–0.036	+0.013 +0.071	0 +0.015
> 10 to 18	0–0.043	+0.016 +0.086	0 +0.018
> 18 to 30	0–0.052	+0.020 +0.104	0 +0.021

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