



iglidur® A180

The FDA general purpose

Standard range from stock ► from page 395



iglidur® A200

FDA-compliant

Standard range from stock ► from page 405



iglidur® A350

temperature and wear resistant, FDA-compliant

Standard range from stock ► from page 421



iglidur® A500

temperature and chemical resistance, FDA-compliant

Standard range from stock ► from page 431



iglidur® A290

robust

Standard range from stock ► from page 441



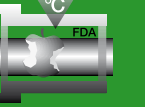

















iglidur® T220

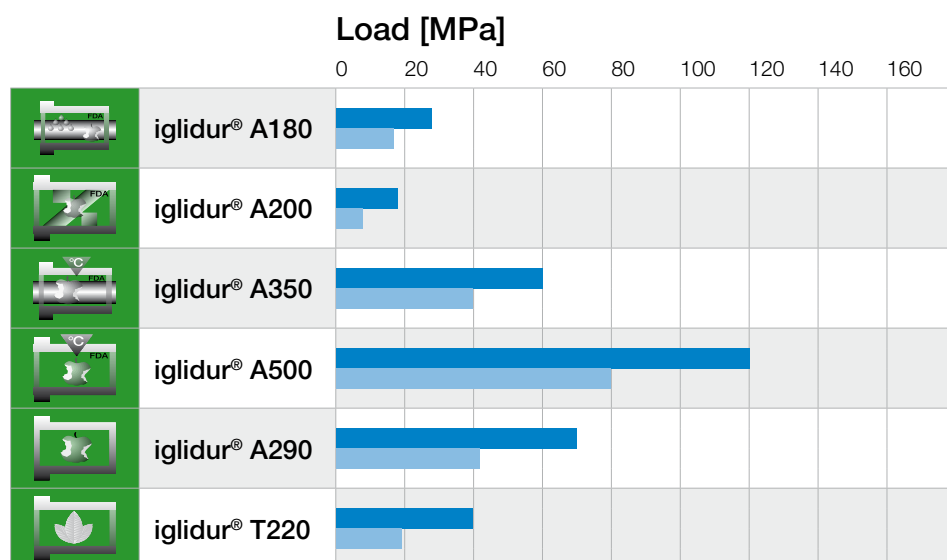
for the tobacco industry

On request ► from page 451

iglidur®-
Specialists –
Contact with
Food

						
	iglidur® A180	iglidur® A200	iglidur® A350	iglidur® A500	iglidur® A290	iglidur® T220
 Long life dry running	●		●			
 For high loads				●	●	
 For high temperatures			●	●		
 Low friction/high speed	●		●			
 Dirt resistant		●				
 Chemicals resistant			●	●		
 Low water absorption	●		●	●		
 Food-suitable	●	●	●	●	●	
 Vibration-dampening		●				
 Edge pressure	●	●	●	●		
 For under water use			●	●		
 Cost-effective	●					
from page	395	405	421	431	441	451

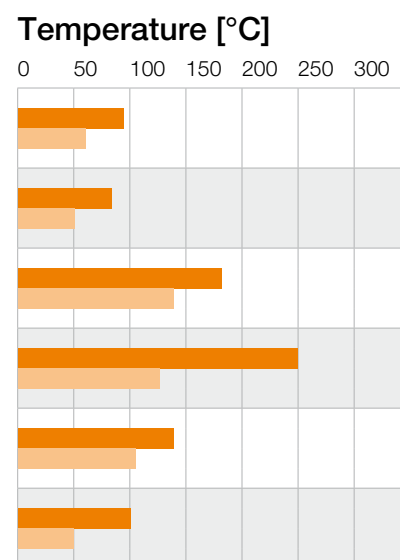
iglidur® Specialists | Selection According to Main Criteria



Maximum permissible radial load of iglidur® bearings at

■ +20 °C

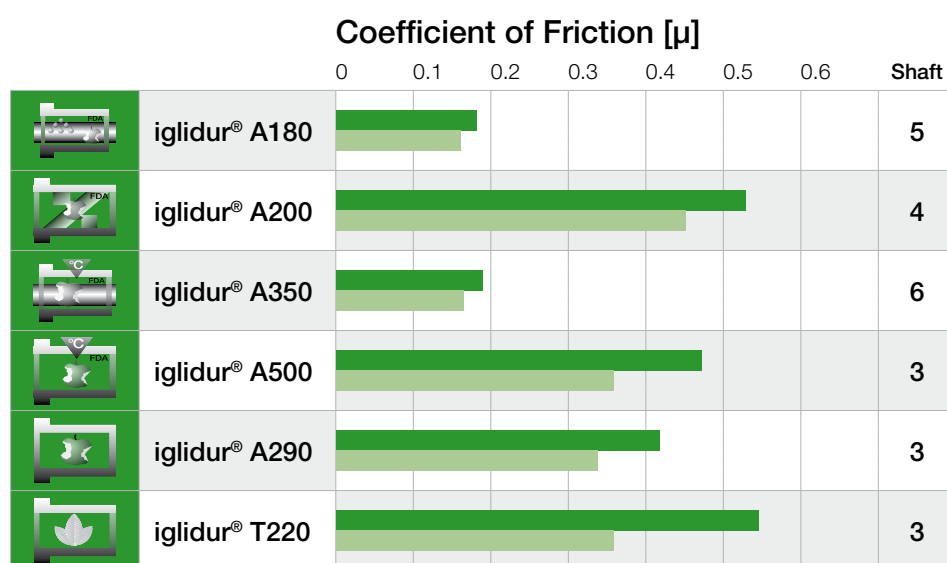
■ +80 °C



Important temperature limits of iglidur® bearings

■ Maximum permissible application temperature, continuous

■ Temperature where bearings need to be secured against radial or axial movement in the housing



Coefficients of friction of iglidur® bearings sliding against steel, $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

■ Average coefficient of all the seven sliding combinations tested

■ Coefficient of friction of best combination

Shaft material:

1 = Cf53

2 = Cf53, hard chromed

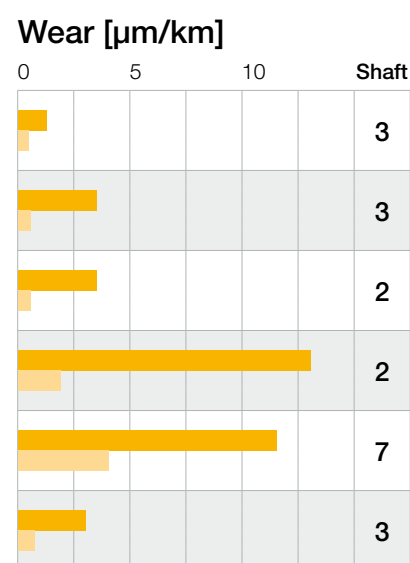
3 = Aluminum, hc

4 = Automatic screw steel

5 = HR carbon steel

6 = 304 SS

7 = High grade steel



Wear of iglidur® bearings sliding against steel, $p = 1 \text{ MPa}$

■ Average wear of all the seven sliding combinations tested

■ Wear of best combination

Material properties table							
General properties	Unit	iglidur® A180	iglidur® A200	iglidur® A350	iglidur® A500	iglidur® A290	iglidur® T220
Density	g/cm³	1.46	1.14	1.42	1.28	1.41	1.28
Colour		white	white	blue	brown	white	white
Max. moisture absorption at +23 °C/50 % r.h.	% weight	0.2	1.5	0.6	0.3	1.7	0.3
Max. water absorption	% weight	1.3	7.6	1.9	0.5	7.3	0.5
Coefficient of sliding friction. dynamic against steel	μ	0.05–0.23	0.10–0.40	0.10–0.20	0.26–0.41	0.13–0.40	0.20–0.32
pv value. max. (dry)	MPa · m/s	0.31	0.09	0.40	0.28	0.23	0.28
Mechanical properties							
Modulus of elasticity	MPa	2,300	2,500	2,000	3,600	8,800	1,800
Tensile strength at +20 °C	MPa	88	116	110	140	250	65
Compressive strength	MPa	78	54	78	118	91	55
Max. recommended surface pressure (+20 °C)	MPa	28	18	60	120	70	40
Shore D hardness		76	81	76	83	88	76
Physical and thermal properties							
Max. long term application temperature	°C	+90	+80	+180	+250	+140	+100
Max. short term application temperature	°C	+110	+170	+210	+300	+180	+160
Min. application temperature	°C	–50	–40	–100	–100	–40	–40
Thermal conductivity	W/m · K	0.25	0.24	0.24	0.24	0.24	0.24
Coefficient of thermal expansion (at +23 °C)	K⁻¹ · 10⁻⁵	11	10	8	9	7	11
Electrical properties							
Specific volume resistance	Ωcm	> 10¹²	> 10¹³	> 10¹¹	> 10¹⁴	> 10¹¹	> 10¹⁰
Surface resistance	Ω	> 10¹¹	> 10¹²	> 10¹¹	> 10¹³	> 10¹¹	> 10¹⁰

Material resistance (at +20 °C)						
Chemical resistance	iglidur® A180	iglidur® A200	iglidur® A350	iglidur® A500	iglidur® A290	iglidur® T220
Alcohol	+	+ bis 0	+	+	+ to 0	+
Hydrocarbons	+	+	+ to 0	+	+	–
Greases, oils without additives	+	+	+	+	+	+
Fuels	+	+	+	+	+	+
Diluted acids	0 to –	0 to –	+	+	0 to –	0
Strong acids	–	–	+	+	–	–
Diluted alkalines	+	+	+	+	+	–
Strong alkalines	+ to 0	0	+	+	+ to 0	–
Radiation resistance [Gy] to	3 · 10²	1 · 10⁴	2 · 10²	2 · 10⁵	3 · 10²	3 · 10²

+ resistant 0 conditionally resistant – not resistant

iglidur® Contact with food | Application Examples



Typical sectors of industry and application areas

- Food industry
- Beverage technology
- Medical etc.

Improve technology and reduce costs –
310 exciting examples for iglidur® plain
bearings online

► www.igus.co.uk/iglidur-applications



► www.igus.co.uk/kitchen



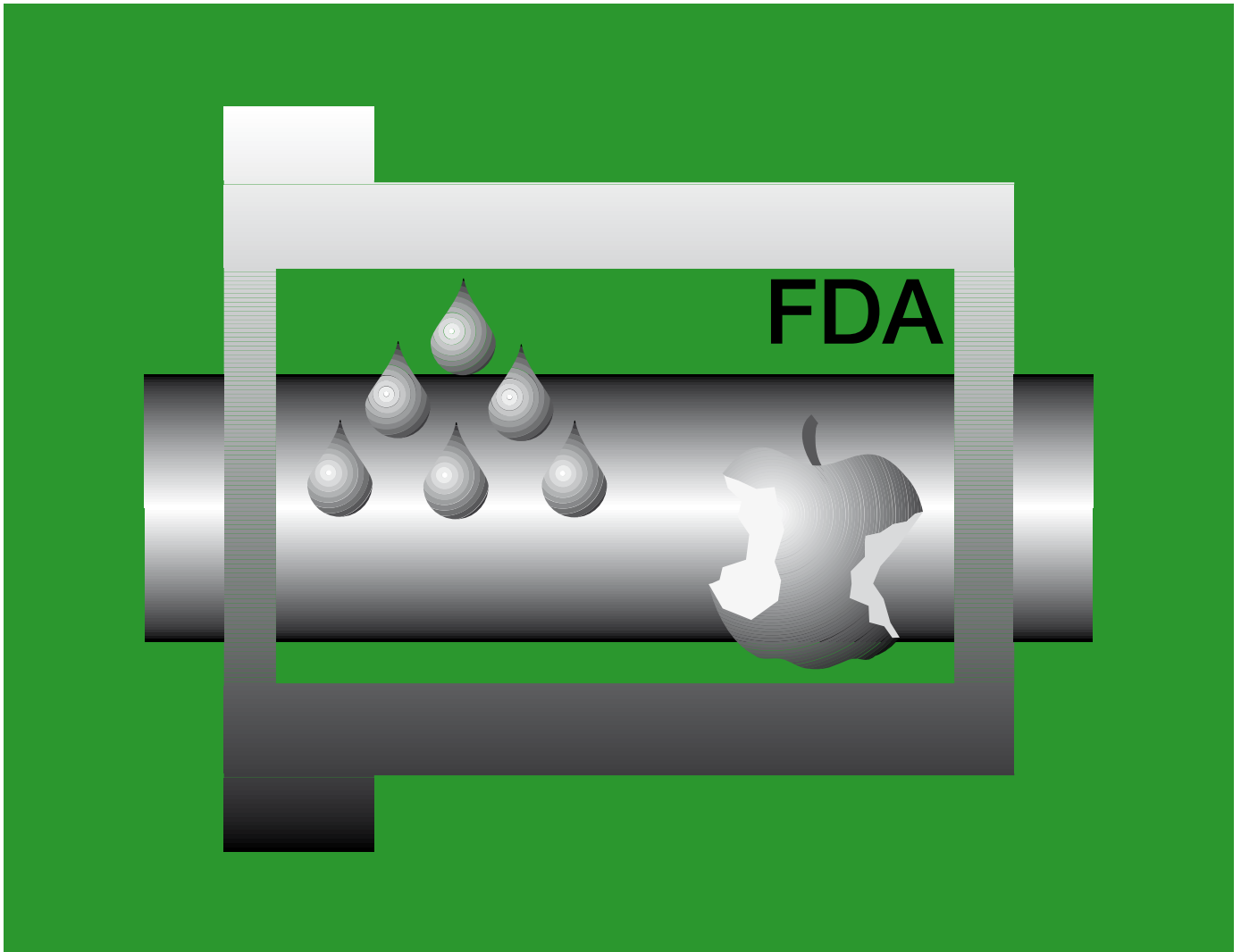
► www.igus.co.uk/kitchen



► www.igus.co.uk/milking-arm



► www.igus.co.uk/filtration-plant



The FDA general purpose – iglidur® A180



Standard range from stock

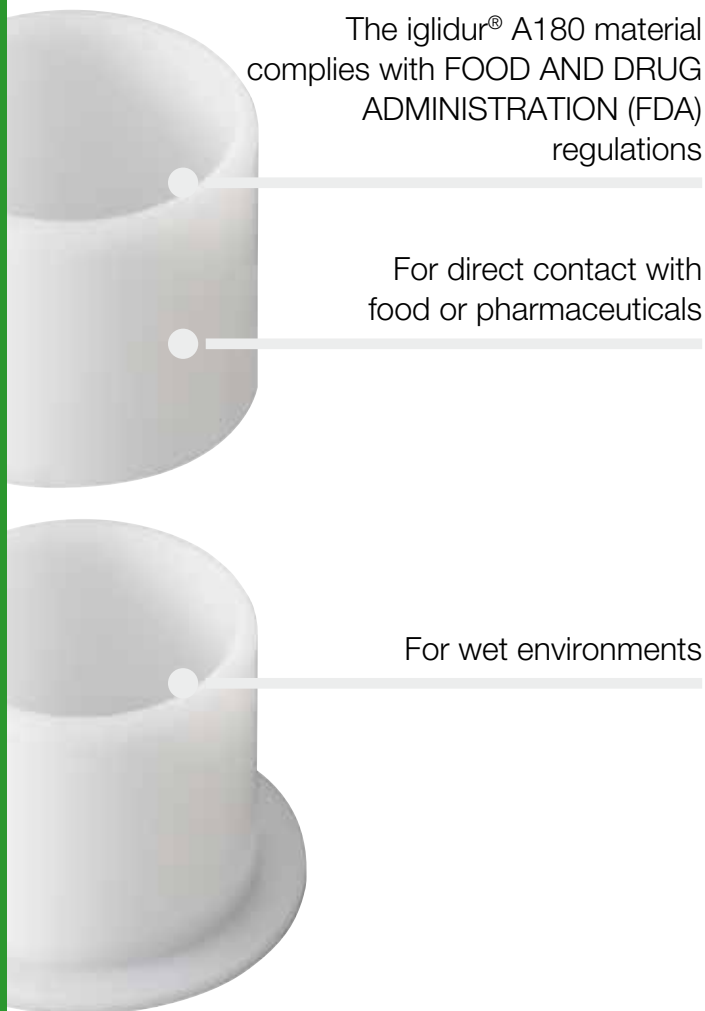
The iglidur® A180 material complies with FOOD
AND DRUG ADMINISTRATION (FDA) regulations

For direct contact with food or pharmaceuticals

For wet environments

iglidur® A180

The FDA general purpose. FDA compliant material for applications with low to medium loads in immediate environs of (or contact with) food or drugs, as well as humidity.



When to use it?

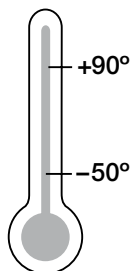
- If the bearings have direct contact with food
- If FDA-compliance is required
- If quiet operation is important
- If low water absorption is needed



When not to use?

- When the maximum abrasion resistance is necessary
 - ▶ iglidur® J, page 93
- When temperatures are continuously higher than +80 °C
 - ▶ iglidur® A350, page 421
 - ▶ iglidur® A500, page 431
- When a cost-effective universal bearing is required
 - ▶ iglidur® G, page 65
 - ▶ iglidur® P, page 179

Temperature



Product Range

2 types
Ø 6–30 mm
more dimensions
on request



products of iglidur® A180 comply with the requirements of the FDA for repeated contact with food



Material properties table

General properties	Unit	iglidur® A180	Testing Method
Density	g/cm ³	1.46	
Colour		white	
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	0.05–0.23	
pv value, max. (dry)	MPa · m/s	0.31	
Mechanical properties			
Modulus of elasticity	MPa	2,300	DIN 53457
Tensile strength at +20 °C	MPa	88	DIN 53452
Compressive strength	MPa	78	
Max. recommended surface pressure (+20 °C)	MPa	28	
Shore D hardness		76	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 ⁻⁵	11	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹²	DIN IEC 93
Surface resistance	Ω	> 10 ¹¹	DIN 53482

Table 01: Material properties table

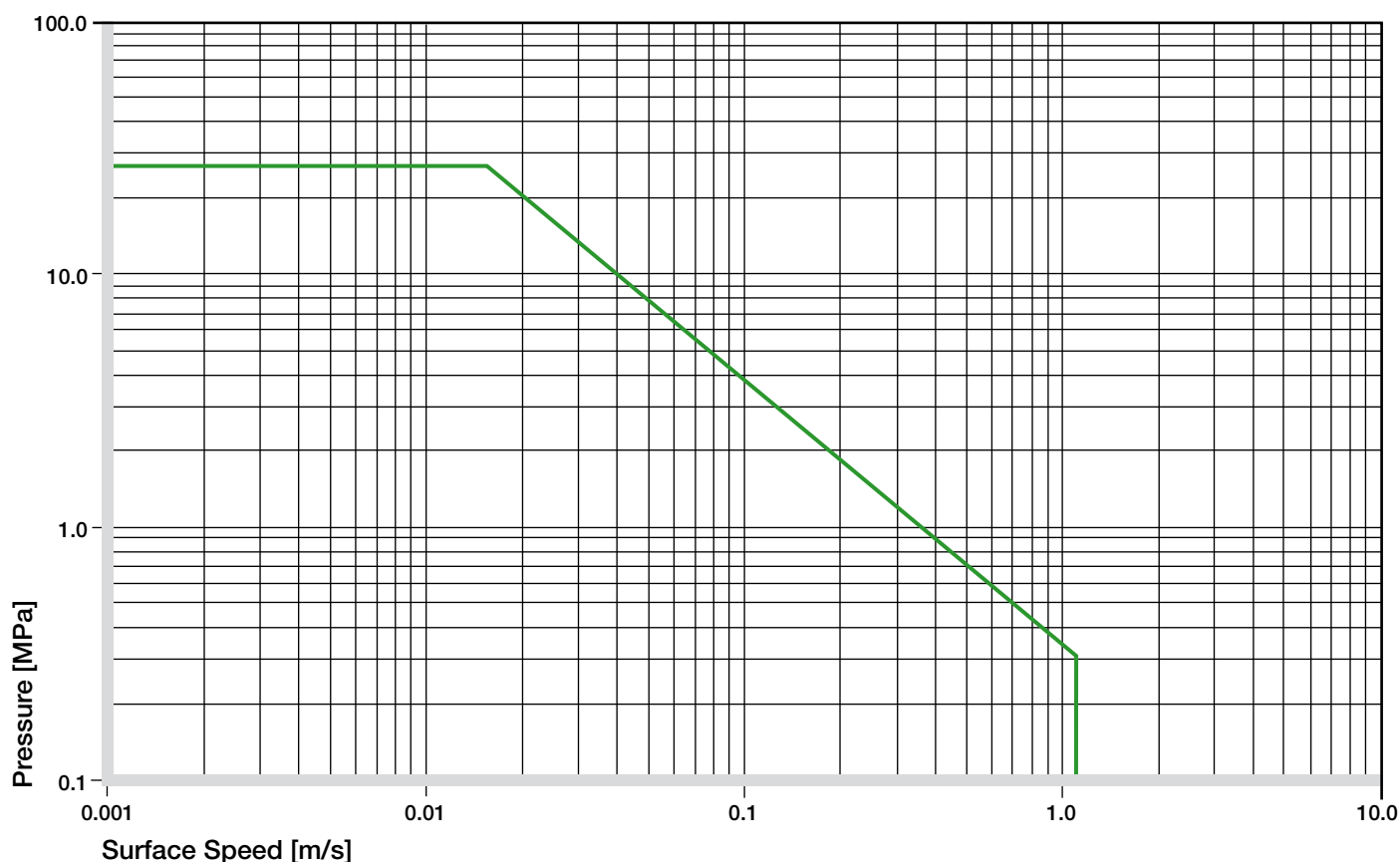


Diagram 01: Permissible pv values for iglidur® A180 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

Bearings made of iglidur® A180 are suitable for application in direct contact with foodstuffs. Hence they are the ideal solution for bearing positions on machines for the food and packaging industries, the medical equipment manufacturing, for small equipment for households, etc. The iglidur® A180 distinguishes itself also in wet cleaning or where process-dependent contact with wet media is the business of the day by its extremely low humidity absorption.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® A180 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +90 °C the permissible surface pressure is almost 15 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

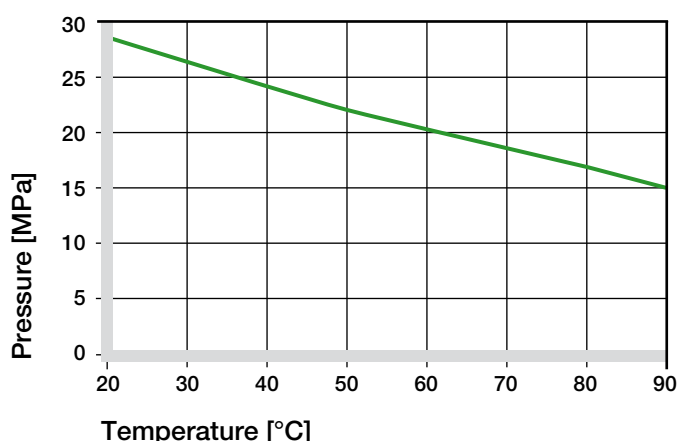


Diagram 02: Recommended maximum surface pressure as a function of temperature (28 MPa at +20 °C)

Diagram 03 shows the elastic deformation of iglidur® A180 during radial loading. At the recommended maximum surface pressure of 20 MPa the deformation is less than 2.5 %. Plastic deformation is minimal up to this radial load. It is nonetheless depending on the duration of the applied force.

► Surface Pressure, [page 47](#)

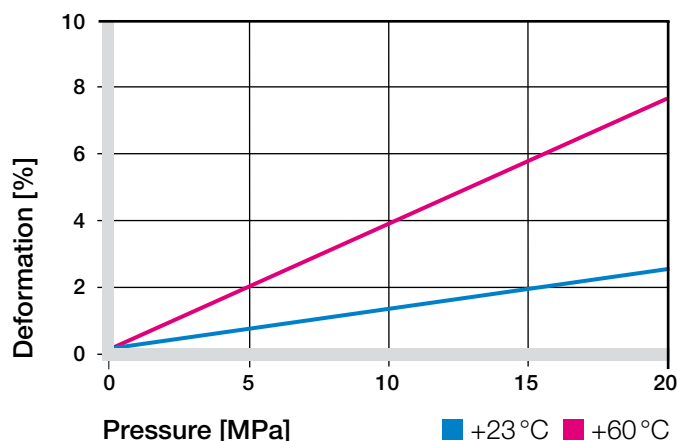


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

iglidur® A180 is developed for low surface speeds. Maximum speeds up to 0.8 m/s (rotating) and 3.5 m/s (linear) respectively are permitted for continuous application in dry operation.

These given values (table 02) indicate the limits at which an increase up to the continuous permissible temperature occurs. In practice these limit values are not always reached due to interactions.

► Surface Speed, [page 49](#)

► pv value and lubrication, [page 49](#)

m/s	Rotating	Oscillating	Linear
Continuous	0.8	0.6	3.5
Short term	1.2	1	5

Table 02: Maximum running speed

Temperatures

The short-term permitted maximum temperature is +110 °C. With increasing temperatures, the compressive strength of iglidur® A180 bearings decreases. Diagram 02 clarifies this connection. The temperatures prevailing in the bearing system also have an influence on the bearing wear.

► Application Temperatures, [page 50](#)

iglidur® A180	Application Temperature
Minimum	-50 °C
Max. long term	+90 °C
Max. short term	+110 °C
Add. securing is required from	+60 °C

Table 03: Temperature limits

Friction and Wear

Coefficient of friction and wear resistance alter with the application parameters. For iglidur® A180 bearings, the alteration of the coefficient of friction μ depends on surface speed and the shaft surface finish is only negligently pronounced. With increasing load, the coefficient of friction however sinks markedly. The coefficient of friction perceptibly reduces straightaway in the load range up to 5 MPa.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

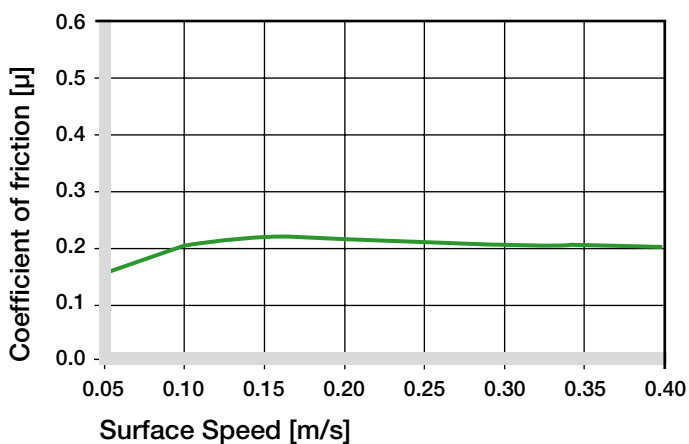


Diagram 04: Coefficient of friction as a function of the running speed, $p = 0.75$ MPa

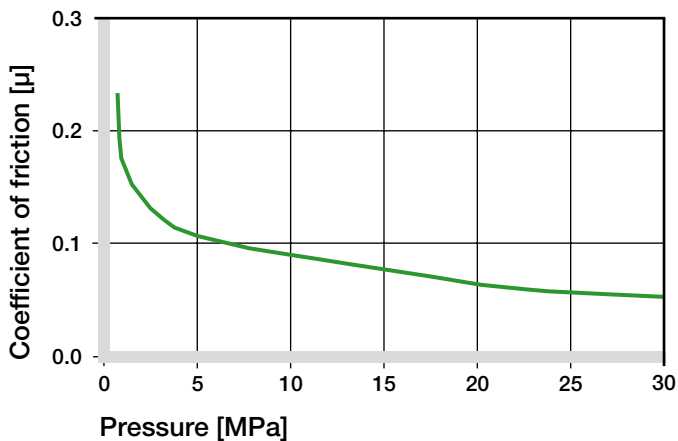


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01$ m/s

Shaft Materials

Diagrams 06 to 09 show the test results of iglidur® A180 bearings running against various shaft materials.

The combination “iglidur® A180/hard-anodized aluminum” clearly stands out. It attains good to excellent wear rates also with other shafts.

With Cf53 shafts, the higher wear in pivoting applications is exemplary compared to rotating applications.

► Shaft Materials, **page 55**

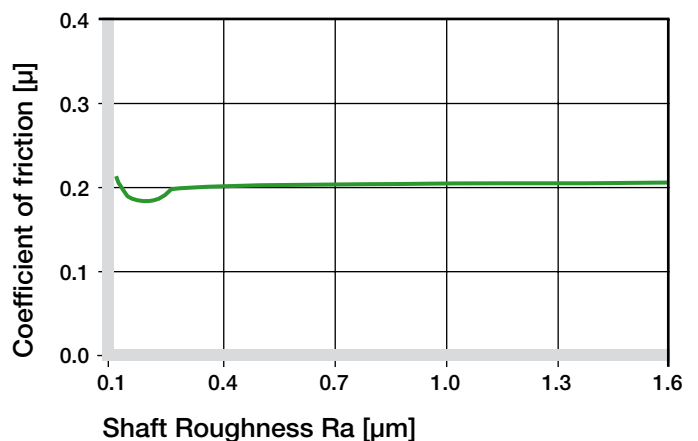


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

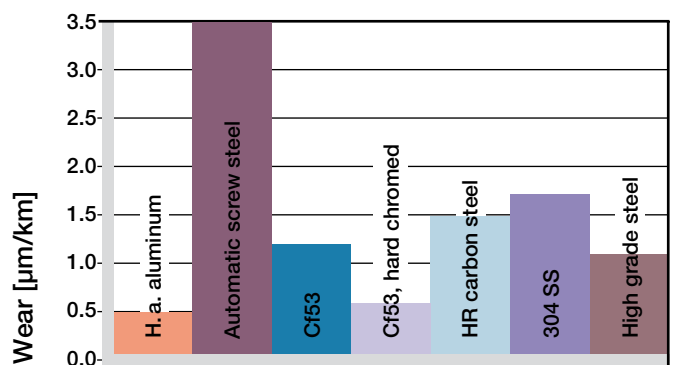


Diagram 07: Wear, rotating with different shaft materials, pressure $p = 1$ MPa, $v = 0.3$ m/s

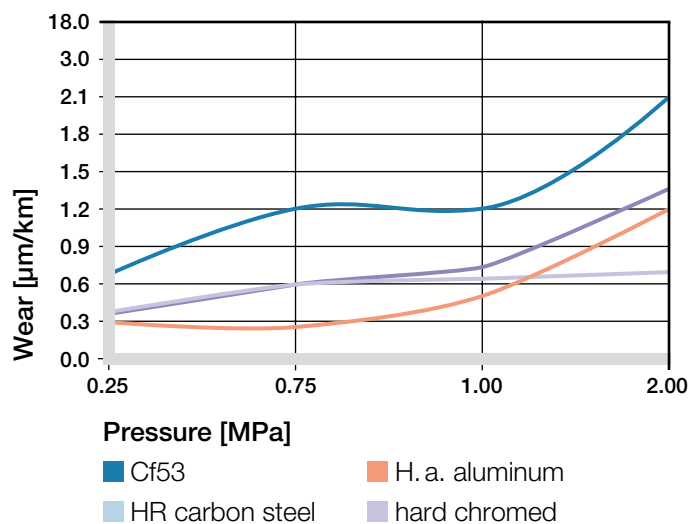


Diagram 08: Wear with different shaft materials in rotational operation, as a function of the pressure

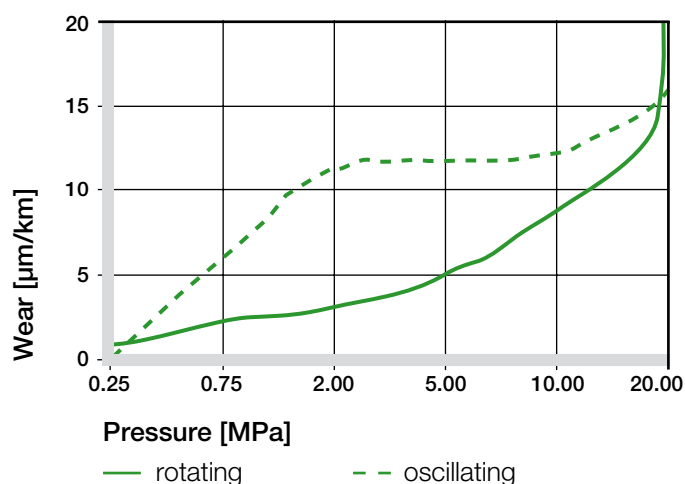


Diagram 09: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the pressure

iglidur® A180	Dry	Greases	Oil	Water
C. o. f. μ	0.05–0.23	0.09	0.04	0.04

Table 04: Coefficient of friction against steel ($R_a = 1 \mu\text{m}$, 50 HRC)

Additional Properties

Chemical Resistance

iglidur® A180 bearings can be used under various environmental conditions and in contact with numerous chemicals. Table 05 gives an overview of the chemical resistance of iglidur® A180 bearings at room temperature.

► Chemical Table, page 1118

Medium	Resistance
Alcohol	+
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 [$+20^\circ\text{C}$]

Table 05: Chemical resistance

Radiation Resistance

Plain bearings made of iglidur® A180 are resistant to radiation up to an intensity of $3 \cdot 10^2 \text{ Gy}$. Higher radiation levels attack the material and can cause the loss of essential mechanical properties.

UV Resistance

iglidur® A180 bearings are resistant to UV radiation, but the tribological properties deteriorate with continuous exposure.

Vacuum

When used in a vacuum environment, the iglidur® A180 plain bearings release moisture as a vapour. Therefore, only dehumidified bearings are suitable in a vacuum environment.

Electrical Properties

iglidur® A180 plain bearings are electrically insulating.

Volume resistance	$> 10^{12} \Omega\text{cm}$
Surface resistance	$> 10^{11} \Omega$

Moisture Absorption

The moisture absorption of iglidur® A180 plain bearings is approximately 0.2 % in standard atmosphere. The saturation limit submerged in water is 5 %. This must be taken into account for these types of applications.

Maximum moisture absorption

At +23 °C/50 % r.h. 0.2 % weight

Max. water absorption 1.3 % weight

Table 06: Moisture absorption

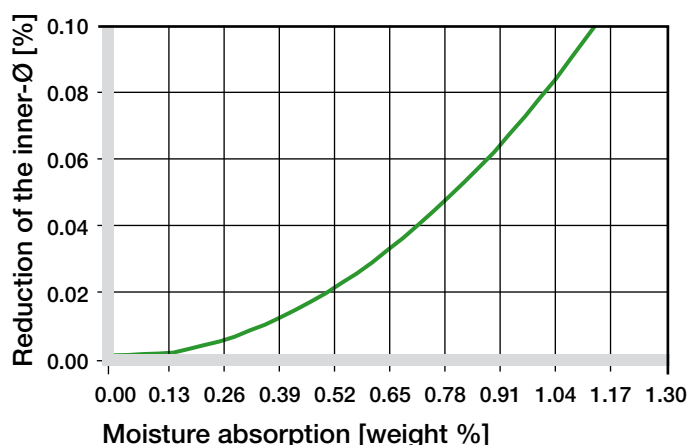


Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

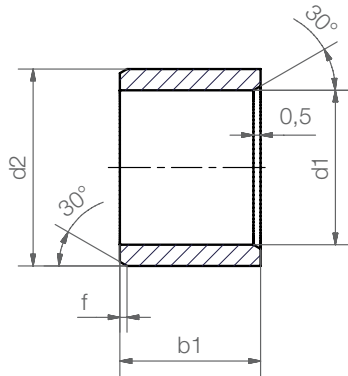
iglidur® A180 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the E10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, page 59

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® A180 E10 [mm]	Housing H7 [mm]
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

Table 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Sleeve bearing



Order key

A180SM-0608-10



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form S)
Material iglidur® A180

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	b1 h13
A180SM-0608-10	6.0	+0.020 +0.068	8.0	10.0
A180SM-0810-10	8.0	+0.025 +0.083	10.0	10.0
A180SM-1012-10	10.0	+0.025 +0.083	12.0	10.0
A180SM-1214-15	12.0	+0.032 +0.102	14.0	15.0
A180SM-1618-15	16.0	+0.032 +0.102	18.0	15.0
A180SM-2023-20	20.0	+0.040 +0.124	23.0	20.0
A180SM-2528-30	25.0	+0.040 +0.124	28.0	30.0
A180SM-3034-20	30.0	+0.040 +0.124	34.0	20.0

* after pressfit. Testing methods ► page 59

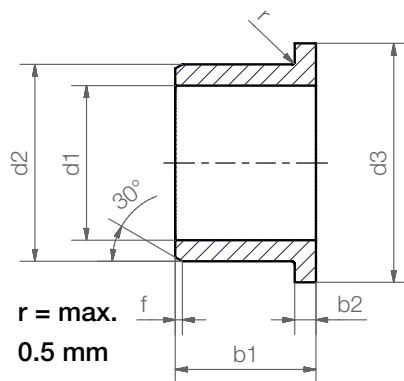


delivery from stock
time



prices price list online
www.igus.co.uk/en/a180

Flange bearing



Order key

A180FM-0608-06



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form F)
Material iglidur® A180

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
A180FM-0608-06	6.0	+0.020 +0.068	8.0	12.0	6.0	1.0
A180FM-0810-10	8.0	+0.025 +0.083	10.0	15.0	10.0	1.0
A180FM-1012-10	10.0	+0.025 +0.083	12.0	18.0	10.0	1.0
A180FM-1214-15	12.0	+0.032 +0.102	14.0	20.0	15.0	1.0
A180FM-1618-17	16.0	+0.032 +0.102	18.0	24.0	17.0	1.0
A180FM-2023-21	20.0	+0.040 +0.124	23.0	30.0	21.5	1.5
A180FM-2528-21	25.0	+0.040 +0.124	28.0	35.0	21.5	1.5
A180FM-3034-26	30.0	+0.040 +0.124	34.0	42.0	26.0	2.0

* after pressfit. Testing methods ► page 59



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. iglus® listens to your needs and provides you a solution in a very short time.

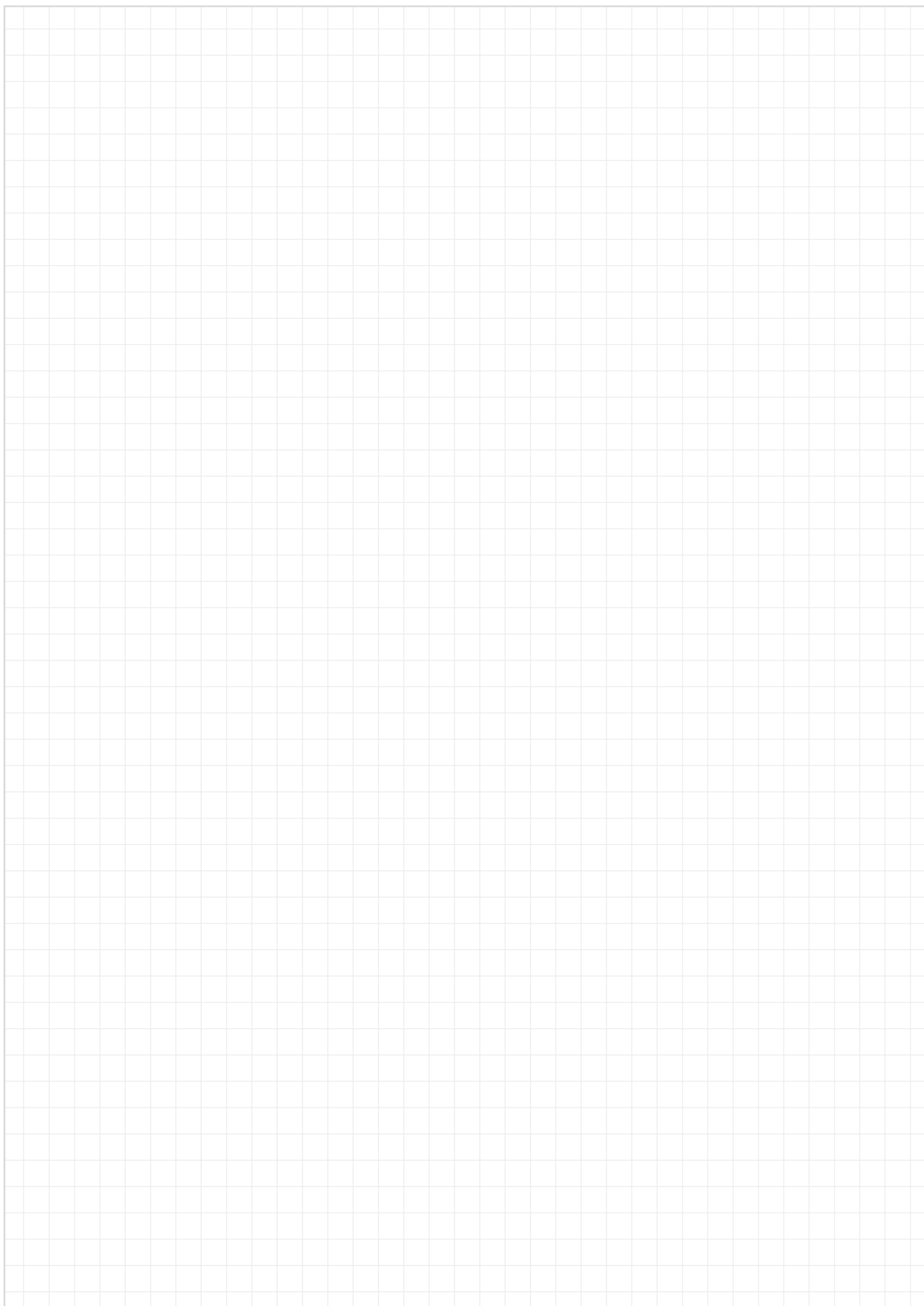


delivery from stock
time



prices price list online
www.igus.co.uk/en/a180

My Sketches





FDA-compliant – iglidur® A200



Standard range from stock

iglidur® A200 material complies with Food and Drug Administration (FDA) regulations

For direct contact with food or pharmaceuticals

For low speeds

iglidur® A200

FDA-compliant. FDA compliant material for applications with low to medium loads in immediate environs of (or contact) with food or drugs.



iglidur® A200 material complies with FOOD AND DRUG ADMINISTRATION (FDA) regulations

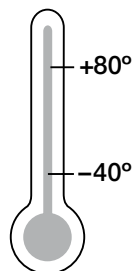


For direct contact with food or pharmaceuticals

For low speeds



Temperature



When to use it?

- Suitable for direct contact with food
- When quiet operation is important
- When dirt needs to become embedded
- If FDA compliance is necessary



When not to use it?

- When the maximum abrasion resistance is necessary
▶ iglidur® W300, page 135
- When temperatures are continuously higher than +80 °C
▶ iglidur® A350, page 421
▶ iglidur® A500, page 431
- When a cost-effective universal bearing is required
▶ iglidur® G, page 65
- For operations in wet environments
▶ iglidur® A180, page 395

Product range

3 types
Ø 1–32 mm
more dimensions
on request



Products of iglidur® A200 comply with the requirements of the FDA for repeated contact with food



Material properties table

General properties	Unit	iglidur® A200	Testing method
Density	g/cm ³	1.14	
Colour		white	
Max. moisture absorption at +23 °C/50 % r.h.	% weight	1.5	DIN 53495
Max. water absorption	% weight	7.6	
Coefficient of sliding friction, dynamic against steel	μ	0.10–0.40	
pv value, max. (dry)	MPa · m/s	0.09	
Mechanical properties			
Modulus of elasticity	MPa	2,500	DIN 53457
Tensile strength at +20 °C	MPa	116	DIN 53452
Compressive strength	MPa	54	
Max. recommended surface pressure (+20 °C)	MPa	18	
Shore D hardness		81	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+80	
Max. short term application temperature	°C	+170	
Min. application temperature	°C	–40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ⁻¹ · 10 ⁻⁵	10	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

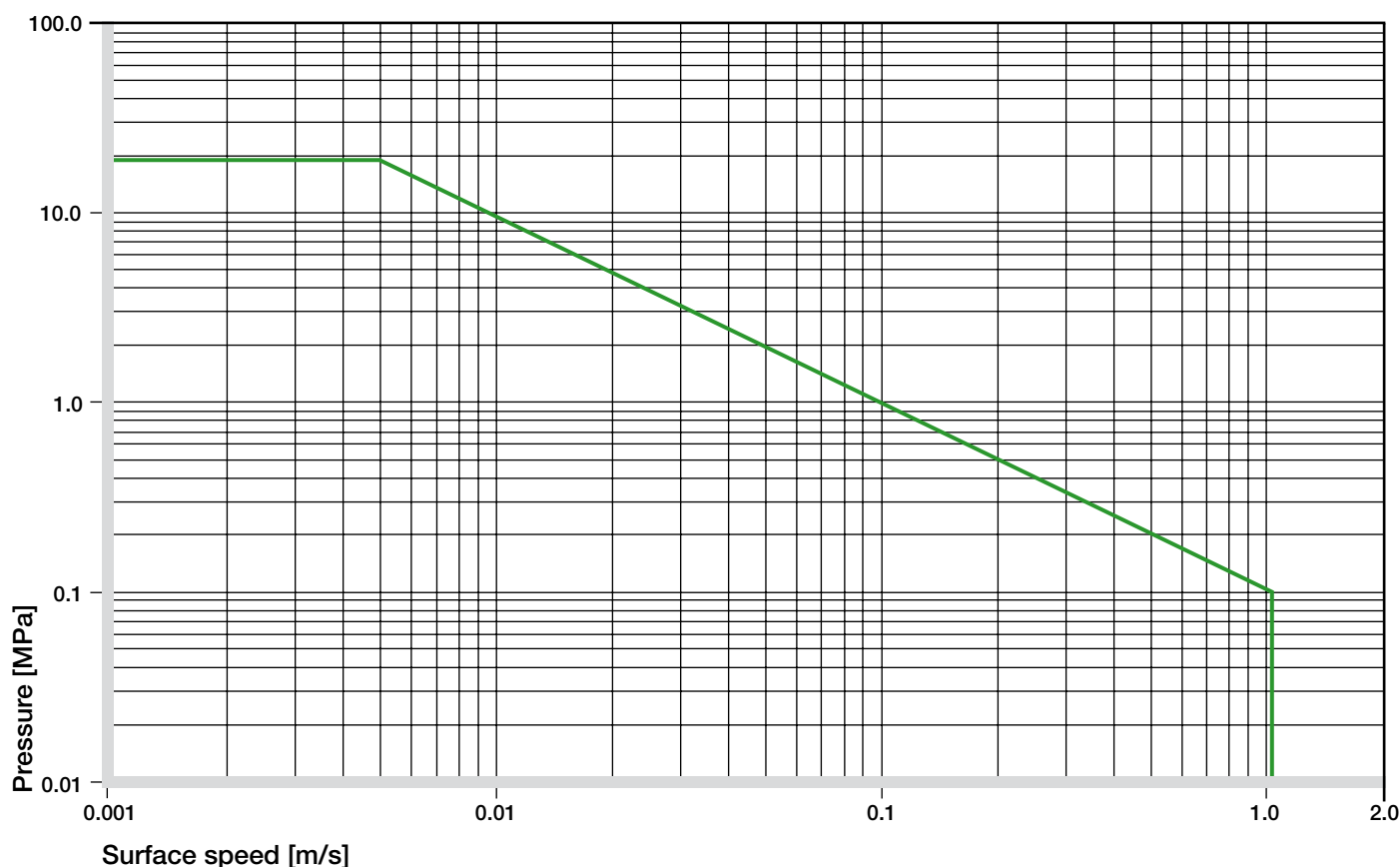


Diagram 01: Permissible pv values for iglidur® A200 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

Bearings made of iglidur® A200 are suitable for application in direct contact with foodstuffs. Hence they are the ideal solution for bearing positions in machines for the food industry, medical equipment manufacturing, for small equipment for households, etc. As the admixture of lubricants should be foregone in favor of food compatibility, the thermoplastic composition of iglidur® A200 is particularly adjusted for abrasion resistance. In addition the iglidur® A200 is characterized by its capacity to embed dirt and by its quiet operating behavior.

The good wear properties, dirt resistance and the possibility for dry operation allow to replace elaborately sealed, lubricated bearings for little costs.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® A200 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +80 °C the permissible surface pressure is 8 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

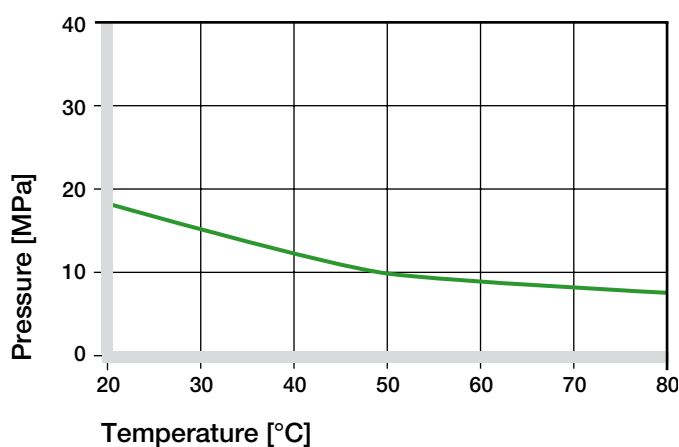


Diagram 02: Recommended maximum surface pressure as a function of temperature (18 MPa at +20 °C)

Diagram 03 shows the elastic deformation of iglidur® A200 at radial loads. At the recommended maximum surface pressure of 18 MPa the deformation is less than 2 %. A plastic deformation can be ignored up to this value. It is nonetheless depending on the duration of the applied force.

► Surface Pressure, [page 47](#)

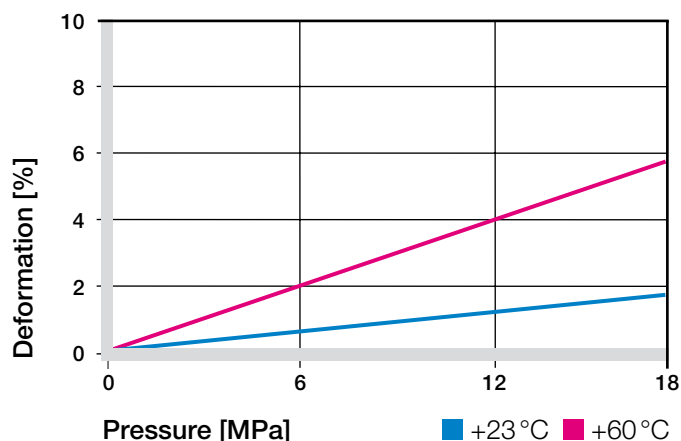


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

iglidur® A200 was developed for low surface speeds. With regard to running dry in continuous use, a maximum of 0.8 m/s (rotating) or 2 m/s (linear) is possible.

These given values indicate the limits at which an increase up to the continuous permissible temperature occurs. This increase is a result of friction. In practice, these limit values are not often reached, due to varying application conditions.

► Surface Speed, [page 49](#)

► pv value, [page 49](#)

m/s	Rotating	Oscillating	Linear
Continuous	0.8	0.6	2
Short term	1.5	1.1	3

Table 02: Maximum running speed

Temperatures

The maximum permissible short term temperature +170 °C. With increasing temperatures, the compressive strength of iglidur® A200 plain bearings decreases. Diagram 02 shows this relationship. The ambient temperatures prevalent in the bearing system also have an effect on the bearing wear.

► Application Temperatures, [page 50](#)

iglidur® A200	Application temperature
Minimum	−40 °C
Max. long term	+80 °C
Max. short term	+170 °C
Add. securing is required from	+50 °C

Table 03: Temperature limits

Friction and Wear

Just as the wear resistance, the coefficient of friction also changes with the load. For iglidur® A200 plain bearings, the coefficient of friction μ decreases slightly with increasing load. Friction and wear also depend to a high degree on the reverse partner. The shaft can be a decisive factor for an ideal pairing of the bearing system. Thus extremely smooth shafts enhance not only the coefficient of friction, but also the bearing wear. The most suited are smoothed surfaces with an average surface finish of $R_a = 0.4$ to $0.6 \mu\text{m}$.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

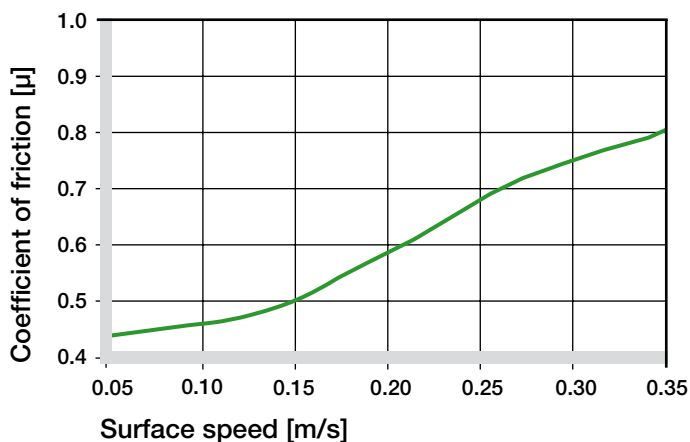


Diagram 04: Coefficient of friction as a function of the running speed, $p = 0.75 \text{ MPa}$

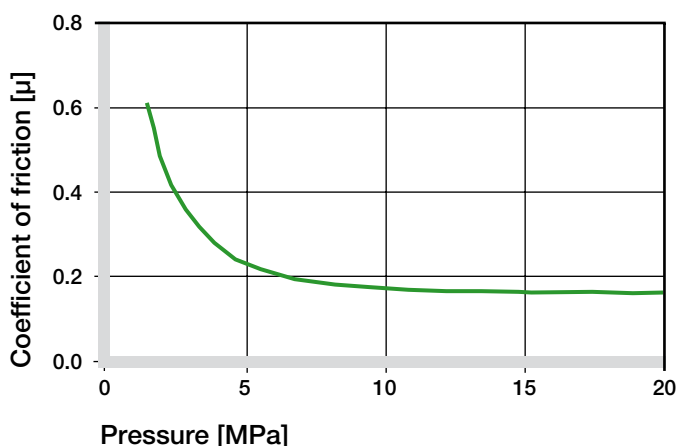


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01 \text{ m/s}$

Shaft Materials

Diagrams 06 to 09 show the test results of iglidur® A200 bearings running against various shaft materials.

In pivoting applications below a load $p = 2 \text{ MPa}$, the wear of iglidur® A200 bearings is higher than in rotating applications with equal load. Here the St37 shaft is a positive exception.

► Shaft Materials, **page 55**

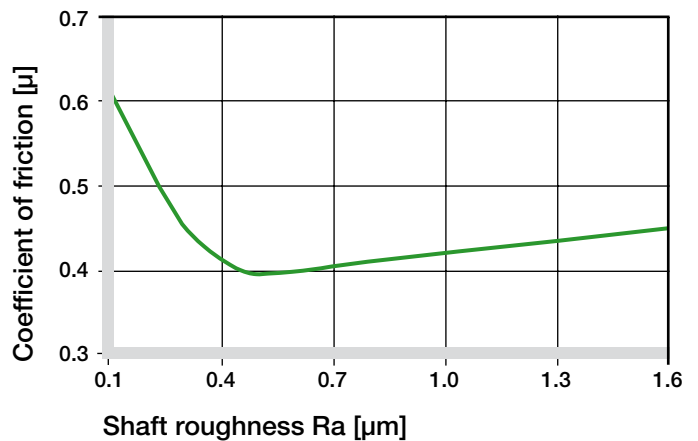


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

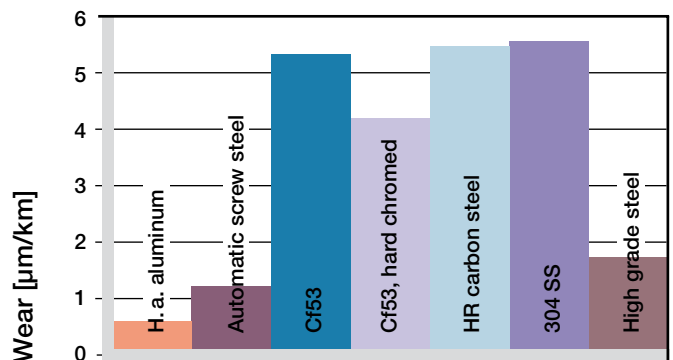


Diagram 07: Wear, rotating with different shaft materials, pressure $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

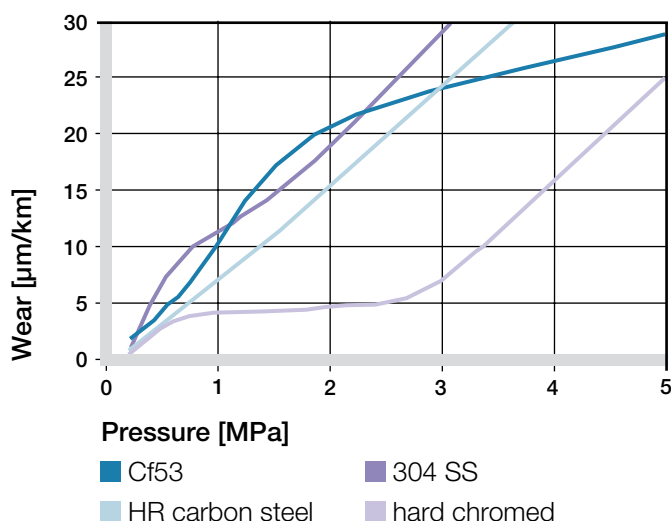


Diagram 08: Wear with different shaft materials in rotational operation, as a function of the pressure

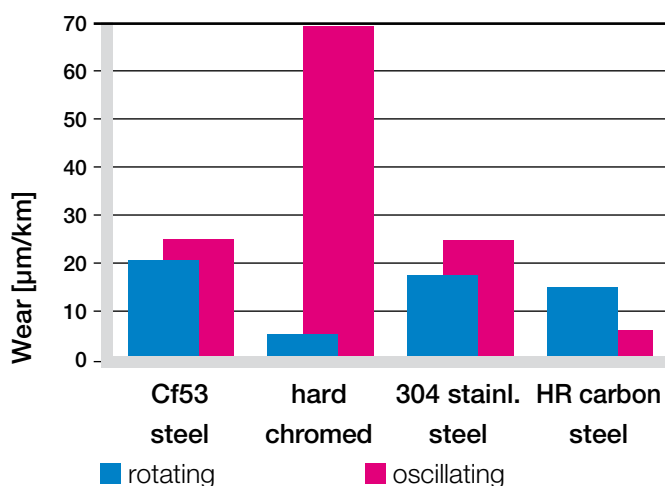


Diagram 09: Wear for rotating and oscillating applications with different shaft materials, p = 2 MPa

iglidur® A200	Dry	Greases	Oil	Water
C. o. f. μ	0.1–0.4	0.09	0.04	0.04

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

Additional Properties

Chemical Resistance

iglidur® A200 plain bearings have strong resistance to chemicals. They are also resistant to most lubricants.

► Chemical Table, page 1118

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

+ resistant 0 conditionally resistant – not resistant

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

Table 05: Chemical resistance

Radiation Resistance

Plain bearings made of iglidur® A200 are resistant to radiation up to an intensity of $1 \cdot 10^4$ Gy. Higher radiation levels attack the material and can cause the loss of essential mechanical properties.

UV Resistance

iglidur® A200 plain bearings are resistant to UV radiation.

Vacuum

In a vacuum environment, iglidur® A200 plain bearings have restricted use.

Electrical Properties

iglidur® A200 plain bearings are electrically insulating.

Volume resistance	$> 10^{13} \Omega \text{cm}$
Surface resistance	$> 10^{12} \Omega$

Moisture Absorption

The moisture absorption of iglidur® A200 plain bearings is approximately 1.5 % in standard atmosphere. The saturation limit submerged in water is 7.6 %. This must be taken into account for these types of applications.

Maximum moisture absorption	
At +23 °C/50 % r.h.	1.5 % weight
Max. water absorption	7.6 % weight

Table 06: Moisture absorption



Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

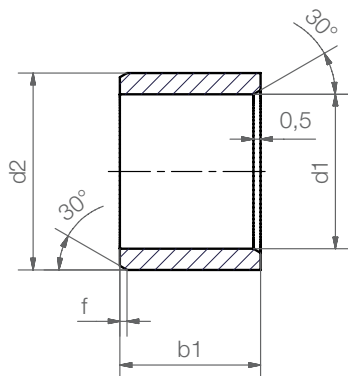
iglidur® A200 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the D11 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, page 59

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® A200 D11 [mm]	Housing H7 [mm]
up to 3	0–0.025	+0.020 +0.080	0 +0.010
> 3 to 6	0–0.030	+0.030 +0.105	0 +0.012
> 6 to 10	0–0.036	+0.040 +0.130	0 +0.015
> 10 to 18	0–0.043	+0.050 +0.160	0 +0.018
> 18 to 30	0–0.052	+0.065 +0.195	0 +0.021
> 30 to 50	0–0.062	+0.080 +0.240	0 +0.025

Table 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Sleeve bearing



Order key

ASM-0103-02


Length b1

Outer diameter d2

Inner diameter d1

Metric

Type (Form S)

Material iglidur® A200

Dimensions according to DIN 1850 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	b1 h13
ASM-0103-02	1.0	+0.020 +0.080	3.0	2.0
ASM-0104-02	1.5	+0.020 +0.080	4.0	2.0
ASM-0205-02	2.0	+0.020 +0.080	5.0	2.0
ASM-0205-03	2.0	+0.020 +0.080	5.0	3.0
ASM-0206-03	2.5	+0.020 +0.080	6.0	3.0
ASM-0305-03	3.0	+0.020 +0.080	5.0	3.0
ASM-0305-04	3.0	+0.020 +0.080	5.0	4.0
ASM-0306-03	3.0	+0.020 +0.080	6.0	3.0
ASM-0306-04	3.0	+0.020 +0.080	6.0	4.0
ASM-0407-03	4.0	+0.030 +0.105	7.0	3.0
ASM-0407-04	4.0	+0.030 +0.105	7.0	4.0
ASM-0407-06	4.0	+0.030 +0.105	7.0	6.0
ASM-0408-06	4.0	+0.030 +0.105	8.0	6.0
ASM-0508-04	5.0	+0.030 +0.105	8.0	4.0
ASM-0508-05	5.0	+0.030 +0.105	8.0	5.0
ASM-0508-08	5.0	+0.030 +0.105	8.0	8.0
ASM-0509-05	5.0	+0.030 +0.105	9.0	5.0
ASM-0509-08	5.0	+0.030 +0.105	9.0	8.0
ASM-0608-10	6.0	+0.030 +0.105	8.0	10.0
ASM-0609-06	6.0	+0.030 +0.105	9.0	6.0
ASM-0610-04	6.0	+0.030 +0.105	10.0	4.0
ASM-0610-06	6.0	+0.030 +0.105	10.0	6.0
ASM-0610-10	6.0	+0.030 +0.105	10.0	10.0
ASM-0612-06	6.0	+0.030 +0.105	12.0	6.0
ASM-0612-10	6.0	+0.030 +0.105	12.0	10.0

Part number	d1	d1-Tolerance*	d2	b1 h13
ASM-0710-05	7.0	+0.040 +0.130	10.0	5.0
ASM-0710-08	7.0	+0.040 +0.130	10.0	8.0
ASM-0810-06	8.0	+0.040 +0.130	10.0	6.0
ASM-0810-08	8.0	+0.040 +0.130	10.0	8.0
ASM-0810-10	8.0	+0.040 +0.130	10.0	10.0
ASM-0811-08	8.0	+0.040 +0.130	11.0	8.0
ASM-0811-12	8.0	+0.040 +0.130	11.0	12.0
ASM-0812-06	8.0	+0.040 +0.130	12.0	6.0
ASM-0812-08	8.0	+0.040 +0.130	12.0	8.0
ASM-0812-10	8.0	+0.040 +0.130	12.0	10.0
ASM-0812-12	8.0	+0.040 +0.130	12.0	12.0
ASM-0814-06	8.0	+0.040 +0.130	14.0	6.0
ASM-0814-10	8.0	+0.040 +0.130	14.0	10.0
ASM-0912-14	9.0	+0.040 +0.130	12.0	14.0
ASM-1012-10	10.0	+0.040 +0.130	12.0	10.0
ASM-1014-06	10.0	+0.040 +0.130	14.0	6.0
ASM-1014-08	10.0	+0.040 +0.130	14.0	8.0
ASM-1014-10	10.0	+0.040 +0.130	14.0	10.0
ASM-1014-16	10.0	+0.040 +0.130	14.0	16.0
ASM-1016-06	10.0	+0.040 +0.130	16.0	6.0
ASM-1016-10	10.0	+0.040 +0.130	16.0	10.0
ASM-1016-16	10.0	+0.040 +0.130	16.0	16.0
ASM-1214-20	12.0	+0.050 +0.160	14.0	20.0
ASM-1216-15	12.0	+0.050 +0.160	16.0	15.0
ASM-1216-20	12.0	+0.050 +0.160	16.0	20.0

* after pressfit. Testing methods ► page 59


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Sleeve bearing

Dimensions [mm]

Part number	d1	d1-Tolerance*		d2	b1 h13
ASM-1218-08	12.0	+0.050	+0.160	18.0	8.0
ASM-1218-10	12.0	+0.050	+0.160	18.0	10.0
ASM-1218-15	12.0	+0.050	+0.160	18.0	15.0
ASM-1218-20	12.0	+0.050	+0.160	18.0	20.0
ASM-1416-10	14.0	+0.050	+0.160	16.0	10.0
ASM-1416-15	14.0	+0.050	+0.160	16.0	15.0
ASM-1416-20	14.0	+0.050	+0.160	16.0	20.0
ASM-1420-10	14.0	+0.050	+0.160	20.0	10.0
ASM-1420-15	14.0	+0.050	+0.160	20.0	15.0
ASM-1420-20	14.0	+0.050	+0.160	20.0	20.0
ASM-1517-10	15.0	+0.050	+0.160	17.0	10.0
ASM-1517-15	15.0	+0.050	+0.160	17.0	15.0
ASM-1521-10	15.0	+0.050	+0.160	21.0	10.0
ASM-1521-15	15.0	+0.050	+0.160	21.0	15.0
ASM-1521-20	15.0	+0.050	+0.160	21.0	20.0
ASM-1618-12	16.0	+0.050	+0.160	18.0	12.0
ASM-1618-20	16.0	+0.050	+0.160	18.0	20.0
ASM-1620-20	16.0	+0.050	+0.160	20.0	20.0
ASM-1620-25	16.0	+0.050	+0.160	20.0	25.0
ASM-1622-12	16.0	+0.050	+0.160	22.0	12.0
ASM-1622-15	16.0	+0.050	+0.160	22.0	15.0
ASM-1622-16	16.0	+0.050	+0.160	22.0	16.0
ASM-1622-20	16.0	+0.050	+0.160	22.0	20.0
ASM-1622-25	16.0	+0.050	+0.160	22.0	25.0
ASM-1824-12	18.0	+0.050	+0.160	24.0	12.0
ASM-1824-20	18.0	+0.050	+0.160	24.0	20.0
ASM-1824-30	18.0	+0.050	+0.160	24.0	30.0
ASM-2023-15	20.0	+0.065	+0.195	23.0	15.0
ASM-2023-20	20.0	+0.065	+0.195	23.0	20.0
ASM-2025-15	20.0	+0.065	+0.195	25.0	15.0
ASM-2025-20	20.0	+0.065	+0.195	25.0	20.0
ASM-2025-30	20.0	+0.065	+0.195	25.0	30.0
ASM-2026-15	20.0	+0.065	+0.195	26.0	15.0

Part number	d1	d1-Tolerance*		d2	b1 h13
ASM-2026-20	20.0	+0.065	+0.195	26.0	20.0
ASM-2026-30	20.0	+0.065	+0.195	26.0	30.0
ASM-2226-15	22.0	+0.065	+0.195	26.0	15.0
ASM-2228-10	22.0	+0.065	+0.195	28.0	10.0
ASM-2228-15	22.0	+0.065	+0.195	28.0	15.0
ASM-2228-20	22.0	+0.065	+0.195	28.0	20.0
ASM-2228-30	22.0	+0.065	+0.195	28.0	30.0
ASM-2430-15	24.0	+0.065	+0.195	30.0	15.0
ASM-2430-20	24.0	+0.065	+0.195	30.0	20.0
ASM-2430-30	24.0	+0.065	+0.195	30.0	30.0
ASM-2528-12	25.0	+0.065	+0.195	28.0	12.0
ASM-2528-20	25.0	+0.065	+0.195	28.0	20.0
ASM-2530-20	25.0	+0.065	+0.195	30.0	20.0
ASM-2530-30	25.0	+0.065	+0.195	30.0	30.0
ASM-2530-40	25.0	+0.065	+0.195	30.0	40.0
ASM-2532-20	25.0	+0.065	+0.195	32.0	20.0
ASM-2532-30	25.0	+0.065	+0.195	32.0	30.0
ASM-2532-40	25.0	+0.065	+0.195	32.0	40.0
ASM-2630-20	26.0	+0.065	+0.195	30.0	20.0
ASM-2632-30	26.0	+0.065	+0.195	32.0	30.0
ASM-2734-20	27.0	+0.065	+0.195	34.0	20.0
ASM-2734-30	27.0	+0.065	+0.195	34.0	30.0
ASM-2734-40	27.0	+0.065	+0.195	34.0	40.0
ASM-2833-20	28.0	+0.065	+0.195	33.0	20.0
ASM-2836-20	28.0	+0.065	+0.195	36.0	20.0
ASM-2836-30	28.0	+0.065	+0.195	36.0	30.0
ASM-2836-40	28.0	+0.065	+0.195	36.0	40.0
ASM-3038-20	30.0	+0.065	+0.195	38.0	20.0
ASM-3038-30	30.0	+0.065	+0.195	38.0	30.0
ASM-3038-40	30.0	+0.065	+0.195	38.0	40.0
ASM-3240-20	32.0	+0.080	+0.240	40.0	20.0
ASM-3240-30	32.0	+0.080	+0.240	40.0	30.0
ASM-3240-40	32.0	+0.080	+0.240	40.0	40.0

* after pressfit. Testing methods ► page 59



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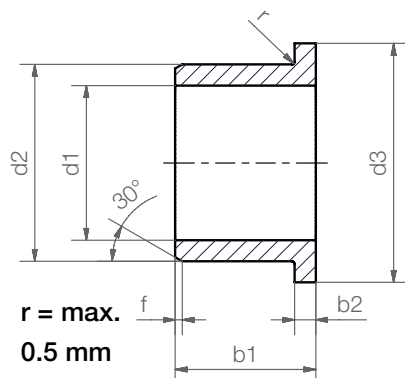


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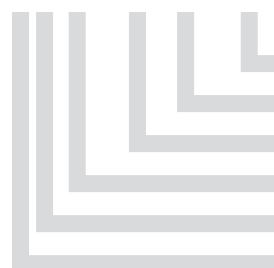
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Flange bearing



Order key

AFM-0103-02



Length b1

Outer diameter d2

Inner diameter d1

Metric

Type (Form F)

Material iglidur® A200

Dimensions according to DIN 1850 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
AFM-0103-02	1.0	+0.020 +0.080	3.0	5.0	2.0	1.0
AFM-0104-02	1.5	+0.020 +0.080	4.0	6.0	2.0	1.0
AFM-0205-03	2.0	+0.020 +0.080	5.0	8.0	3.0	1.5
AFM-0206-03	2.5	+0.020 +0.080	6.0	9.0	3.0	1.5
AFM-0306-04	3.0	+0.020 +0.080	6.0	9.0	4.0	1.5
AFM-0408-04	4.0	+0.030 +0.105	8.0	12.0	4.0	2.0
AFM-0408-06	4.0	+0.030 +0.105	8.0	12.0	6.0	2.0
AFM-0507-05	5.0	+0.030 +0.105	7.0	11.0	5.0	1.0
AFM-0509-05	5.0	+0.030 +0.105	9.0	13.0	5.0	2.0
AFM-0509-06	5.0	+0.030 +0.105	9.0	13.0	6.0	2.0
AFM-0509-08	5.0	+0.030 +0.105	9.0	13.0	8.0	2.0
AFM-0610-04	6.0	+0.030 +0.105	10.0	14.0	4.0	2.0
AFM-0610-06	6.0	+0.030 +0.105	10.0	14.0	6.0	2.0
AFM-0610-10	6.0	+0.030 +0.105	10.0	14.0	10.0	2.0
AFM-0612-06	6.0	+0.030 +0.105	12.0	14.0	6.0	3.0
AFM-0612-10	6.0	+0.030 +0.105	12.0	14.0	10.0	3.0
AFM-0711-08	7.0	+0.040 +0.130	11.0	15.0	8.0	2.0
AFM-0811-08	8.0	+0.040 +0.130	11.0	13.0	8.0	2.0
AFM-0812-06	8.0	+0.040 +0.130	12.0	16.0	6.0	2.0
AFM-0812-08	8.0	+0.040 +0.130	12.0	16.0	8.0	2.0
AFM-0812-12	8.0	+0.040 +0.130	12.0	16.0	12.0	2.0
AFM-0812-22	8.0	+0.040 +0.130	12.0	16.0	22.0	2.0
AFM-0814-06	8.0	+0.040 +0.130	14.0	18.0	6.0	3.0
AFM-0814-10	8.0	+0.040 +0.130	14.0	18.0	10.0	3.0
AFM-0914-06	9.0	+0.040 +0.130	14.0	19.0	6.0	2.0

* after pressfit. Testing methods ► page 59



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Flange bearing

Dimensions [mm]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
AFM-0914-10	9.0	+0.040 +0.130	14.0	19.0	10.0	2.0
AFM-0914-14	9.0	+0.040 +0.130	14.0	19.0	14.0	2.0
AFM-1016-06	10.0	+0.040 +0.130	16.0	22.0	6.0	3.0
AFM-1016-08	10.0	+0.040 +0.130	16.0	22.0	8.0	3.0
AFM-1016-10	10.0	+0.040 +0.130	16.0	22.0	10.0	3.0
AFM-1016-16	10.0	+0.040 +0.130	16.0	22.0	16.0	3.0
AFM-101620-10	10.0	+0.040 +0.130	16.0	20.0	10.0	3.0
AFM-1214-12	12.0	+0.050 +0.160	14.0	20.0	12.0	1.0
AFM-1218-08	12.0	+0.050 +0.160	18.0	24.0	8.0	3.0
AFM-1218-10	12.0	+0.050 +0.160	18.0	22.0	10.0	3.0
AFM-1218-12	12.0	+0.050 +0.160	18.0	24.0	12.0	3.0
AFM-1218-15	12.0	+0.050 +0.160	18.0	22.0	15.0	3.0
AFM-1218-20	12.0	+0.050 +0.160	18.0	22.0	20.0	3.0
AFM-1420-10	14.0	+0.050 +0.160	20.0	25.0	10.0	3.0
AFM-1420-15	14.0	+0.050 +0.160	20.0	25.0	15.0	3.0
AFM-1420-20	14.0	+0.050 +0.160	20.0	25.0	20.0	3.0
AFM-1521-10	15.0	+0.050 +0.160	21.0	27.0	10.0	3.0
AFM-1521-15	15.0	+0.050 +0.160	21.0	27.0	15.0	3.0
AFM-1521-20	15.0	+0.050 +0.160	21.0	27.0	20.0	3.0
AFM-1521-25	15.0	+0.050 +0.160	21.0	27.0	25.0	3.0
AFM-1622-12	16.0	+0.050 +0.160	22.0	28.0	12.0	3.0
AFM-1622-15	16.0	+0.050 +0.160	22.0	28.0	15.0	3.0
AFM-1622-20	16.0	+0.050 +0.160	22.0	28.0	20.0	3.0
AFM-1622-25	16.0	+0.050 +0.160	22.0	28.0	25.0	3.0
AFM-1824-12	18.0	+0.050 +0.160	24.0	30.0	12.0	3.0
AFM-1824-18	18.0	+0.050 +0.160	24.0	30.0	18.0	3.0
AFM-1824-20	18.0	+0.050 +0.160	24.0	30.0	20.0	3.0
AFM-1824-30	18.0	+0.050 +0.160	24.0	30.0	30.0	3.0
AFM-2026-15	20.0	+0.065 +0.195	26.0	32.0	15.0	3.0
AFM-2026-20	20.0	+0.065 +0.195	26.0	32.0	20.0	3.0
AFM-2026-30	20.0	+0.065 +0.195	26.0	32.0	30.0	3.0
AFM-2228-15	22.0	+0.065 +0.195	28.0	34.0	15.0	3.0
AFM-2228-20	22.0	+0.065 +0.195	28.0	34.0	20.0	3.0
AFM-2228-30	22.0	+0.065 +0.195	28.0	34.0	30.0	3.0
AFM-2430-15	24.0	+0.065 +0.195	30.0	36.0	15.0	3.0
AFM-2430-20	24.0	+0.065 +0.195	30.0	36.0	20.0	3.0
AFM-2430-30	24.0	+0.065 +0.195	30.0	36.0	30.0	3.0
AFM-2532-20	25.0	+0.065 +0.195	32.0	38.0	20.0	4.0
AFM-2532-30	25.0	+0.065 +0.195	32.0	38.0	30.0	4.0
AFM-2532-40	25.0	+0.065 +0.195	32.0	38.0	40.0	4.0
AFM-2734-20	27.0	+0.065 +0.195	34.0	40.0	20.0	4.0
AFM-2734-30	27.0	+0.065 +0.195	34.0	40.0	30.0	4.0

* after pressfit. Testing methods ► page 59



Flange bearing

Dimensions [mm]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
AFM-2734-40	27.0	+0.065 +0.195	34.0	40.0	40.0	4.0
AFM-2836-20	28.0	+0.065 +0.195	36.0	42.0	20.0	4.0
AFM-2836-30	28.0	+0.065 +0.195	36.0	42.0	30.0	4.0
AFM-2836-40	28.0	+0.065 +0.195	36.0	42.0	40.0	4.0
AFM-3038-20	30.0	+0.065 +0.195	38.0	44.0	20.0	4.0
AFM-3038-30	30.0	+0.065 +0.195	38.0	44.0	30.0	4.0
AFM-3038-40	30.0	+0.065 +0.195	38.0	44.0	40.0	4.0
AFM-3240-20	32.0	+0.080 +0.240	40.0	46.0	20.0	4.0
AFM-3240-30	32.0	+0.080 +0.240	40.0	46.0	30.0	4.0
AFM-3240-40	32.0	+0.080 +0.240	40.0	46.0	40.0	4.0

* after pressfit. Testing methods ► page 59



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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.

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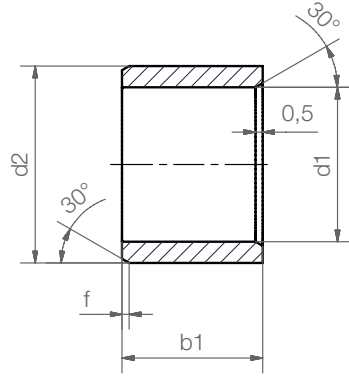


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Sleeve bearing



Order key

ASM-0103-02



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form S)
Material iglidur® A200

Dimensions according to DIN 1850 and special dimensions

Chamfer in relation to the d1

d1 [Inch]:	Ø 0.040–0.236	Ø 0.236–0.472	Ø 0.472–1.18	Ø > 1.18
f [Inch]:	0.012	0.019	0.031	0.047

Dimensions [mm]

Part number	d1	d2	b1	d1*		Housing bore		Shaft size	
				max.	min.	max.	min.	max.	min.
ASI-0204-04	1/8	1/4	1/4	.1280	.1262	.2515	.2510	.1250	.1241
ASI-0305-04	3/16	5/16	1/4	.1905	.1887	.3140	.3135	.1875	.1866
ASI-0406-04	1/4	3/8	1/4	.2539	.2516	.3765	.3760	.2500	.2491
ASI-0406-06	1/4	3/8	3/8	.2539	.2516	.3765	.3760	.2500	.2491
ASI-0406-08	1/4	3/8	1/2	.2539	.2516	.3765	.3760	.2500	.2491
ASI-0507-08	5/16	15/32	1/2	.3164	.3141	.4390	.4385	.3125	.3116
ASI-0608-04	3/8	1/2	1/4	.3789	.3766	.5015	.5010	.3750	.3741
ASI-0608-08	3/8	1/2	1/2	.3789	.3766	.5015	.5010	.3750	.3741
ASI-0810-08	1/2	5/8	1/2	.5047	.5020	.6260	.6250	.5000	.4990
ASI-0810-12	1/2	5/8	3/4	.5047	.5020	.6260	.6250	.5000	.4990
ASI-1013-05	5/8	13/16	5/16	.6297	.6270	.8135	.8125	.6250	.6240
ASI-1013-12	5/8	13/16	3/4	.6297	.6270	.8135	.8125	.6250	.6240
ASI-1216-12	3/4	1	3/4	.7559	.7525	1.0010	1.0000	.7500	.7490
ASI-1216-16	3/4	1	1	.7559	.7525	1.0010	1.0000	.7500	.7490
ASI-1418-16	7/8	1 1/8	1	.8809	.8775	1.1260	1.1250	.8750	.8740
ASI-1620-12	1	1 9/32	3/4	1.0059	1.0025	1.2510	1.2500	1.0000	.9990
ASI-1620-16	1	1 9/32	1	1.0059	1.0025	1.2510	1.2500	1.0000	.9990
ASI-2024-16	1 1/4	1 17/32	1	1.2600	1.2531	1.5005	1.4995	1.2500	1.2490
ASI-2428-24	1 1/2	1 3/4	1 1/2	1.5100	1.5032	1.7505	1.7495	1.5000	1.4990

* after pressfit. Testing methods ► page 59

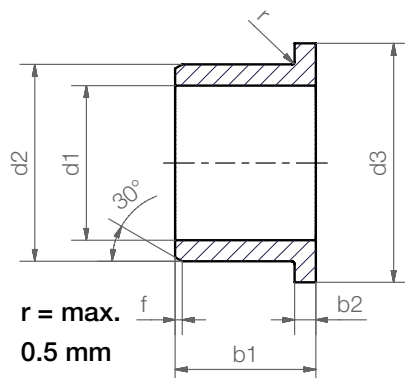


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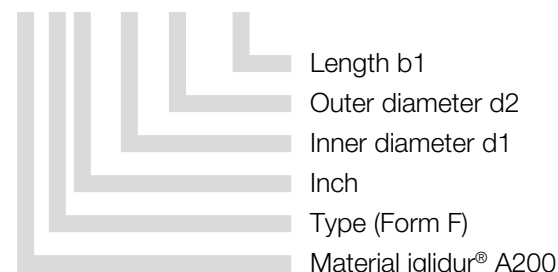


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Flange bearing



Order key

AFI-0204-04


Chamfer in relation to the d1

d1 [Inch]:	Ø 0.040–0.236	Ø 0.236–0.472	Ø 0.472–1.18	Ø > 1.18
f [Inch]:	0.012	0.019	0.031	0.047

Dimensions [Inch]

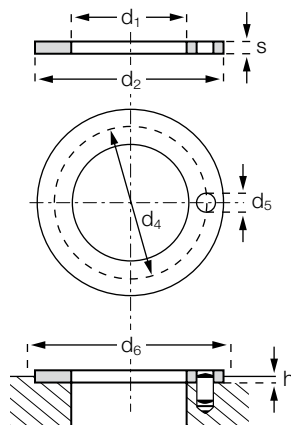
Part number	d1	d2	b1	d3	b2	d1*		Housing bore		Shaft size	
						max.	min.	max.	min.	max.	min.
AFI-0204-04	1/8	1/4	1/4	.360	.047	.1280	.1262	.2515	.2510	.1250	.1241
AFI-0305-04	3/16	5/16	1/4	.370	.047	.1905	.1887	.3140	.3135	.1875	.1866
AFI-0406-04	1/4	3/8	1/4	.560	.047	.2539	.2516	.3765	.3760	.2500	.2491
AFI-0406-06	1/4	3/8	3/8	.560	.047	.2539	.2516	.3765	.3760	.2500	.2491
AFI-0507-08	5/16	15/32	1/2	.560	.062	.3164	.3141	.4390	.4385	.3125	.3116
AFI-0608-04	3/8	1/2	1/4	.625	.062	.3164	.3141	.4390	.4385	.3125	.3116
AFI-0608-08	3/8	1/2	1/2	.625	.062	.3789	.3766	.5015	.5010	.3750	.3741
AFI-0810-08	1/2	5/8	1/2	.875	.062	.5047	.5020	.6257	.6250	.5000	.4983
AFI-0810-12	1/2	5/8	3/4	.875	.062	.5047	.5020	.6257	.6250	.5000	.4983
AFI-1013-16	5/8	13/16	1	1.063	.156	.6297	.6270	.8135	.8125	.6250	.6240
AFI-1216-12	3/4	1	3/4	1.250	.156	.7559	.7525	1.0010	1.0000	.7500	.7490
AFI-1216-16	3/4	1	1	1.250	.156	.7559	.7525	1.0010	1.0000	.7500	.7490
AFI-1418-24	7/8	1 1/8	1 1/2	1.375	.156	.8809	.8775	1.1260	1.1250	.8750	.8740
AFI-1620-16	1	1 9/32	1	1.500	.188	1.0059	1.0025	1.2510	1.2500	1.0000	.9990
AFI-1620-24	1	1 9/32	1 1/2	1.500	.188	1.0059	1.0025	1.2510	1.2500	1.0000	.9990
AFI-2024-16	1 1/4	1 17/32	1	1.750	.200	1.2600	1.2531	1.5005	1.4995	1.2500	1.2490
AFI-2024-24	1 1/4	1 17/32	1 1/2	1.750	.200	1.2600	1.2531	1.5005	1.4995	1.2500	1.2490
AFI-2428-16	1 1/2	1 3/4	1	2.000	.125	1.5100	1.5032	1.7505	1.7495	1.5000	1.4990
AFI-2428-24	1 1/2	1 3/4	1 1/2	2.000	.125	1.5100	1.5032	1.7505	1.7495	1.5000	1.4990
AFI-2832-16	1 3/4	2	1	2.250	.125	1.7560	1.7532	2.0005	1.9995	1.7500	1.7490

* after pressfit. Testing methods ► page 59


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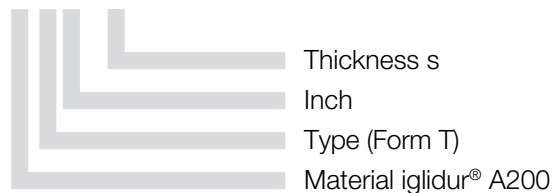
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Thrust washer



Order key

ATI-04



Dimensions [Inch]

Part number	d1 (nominal)	d1*		d2		s
		max.	min.	max.	min.	
ATI-04	1/4	.2610	.2551	.6201	.6094	.0902
ATI-06	3/8	.3943	.3813	.7500	.7370	.0902
ATI-08	1/2	.5102	.5031	.8201	.8071	.0902
ATI-12	3/4	.7673	.7598	1.0654	1.0500	.0941
ATI-16	1	1.0268	1.0197	1.5000	1.4843	.1252

* after pressfit. Testing methods ► page 59

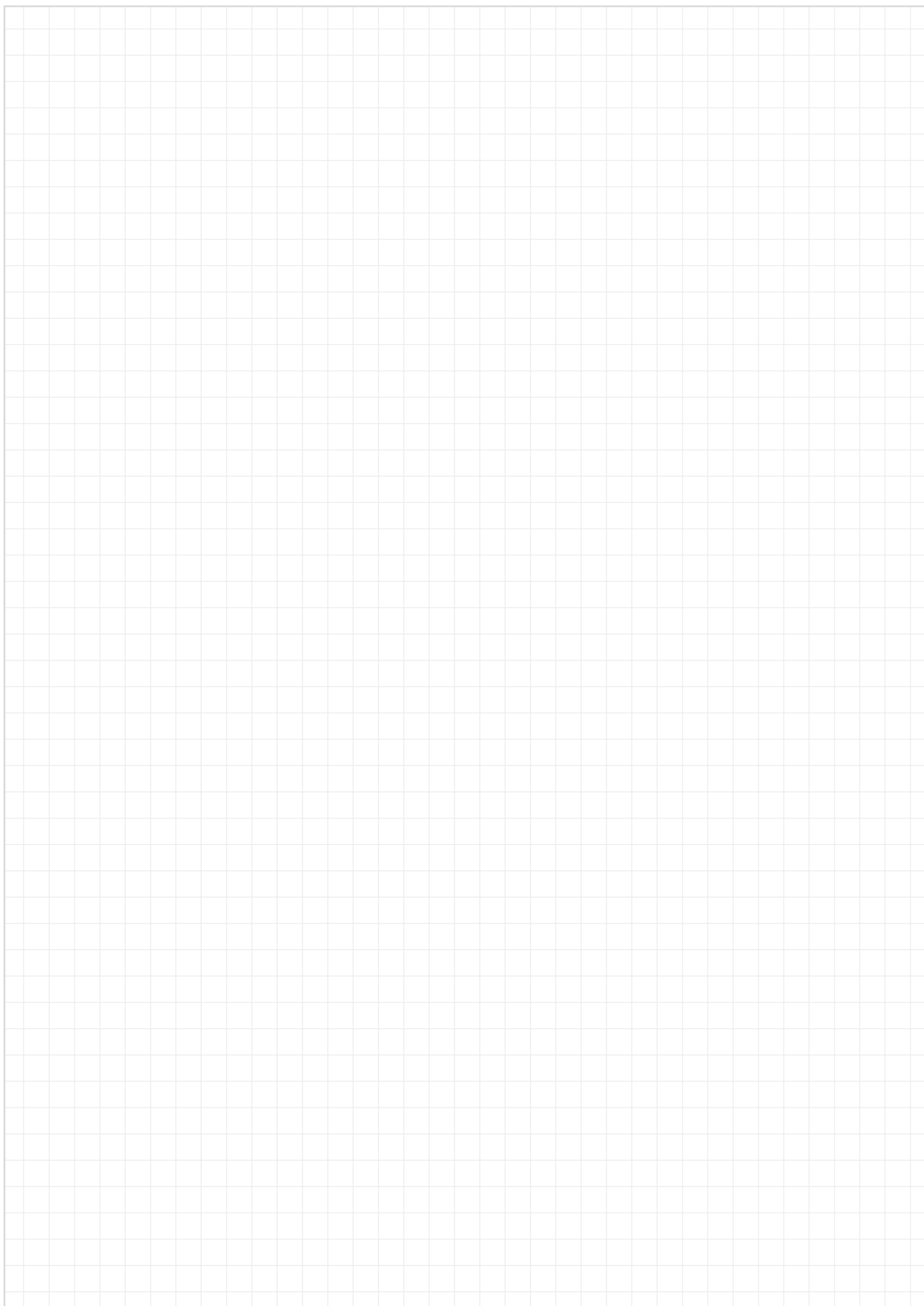


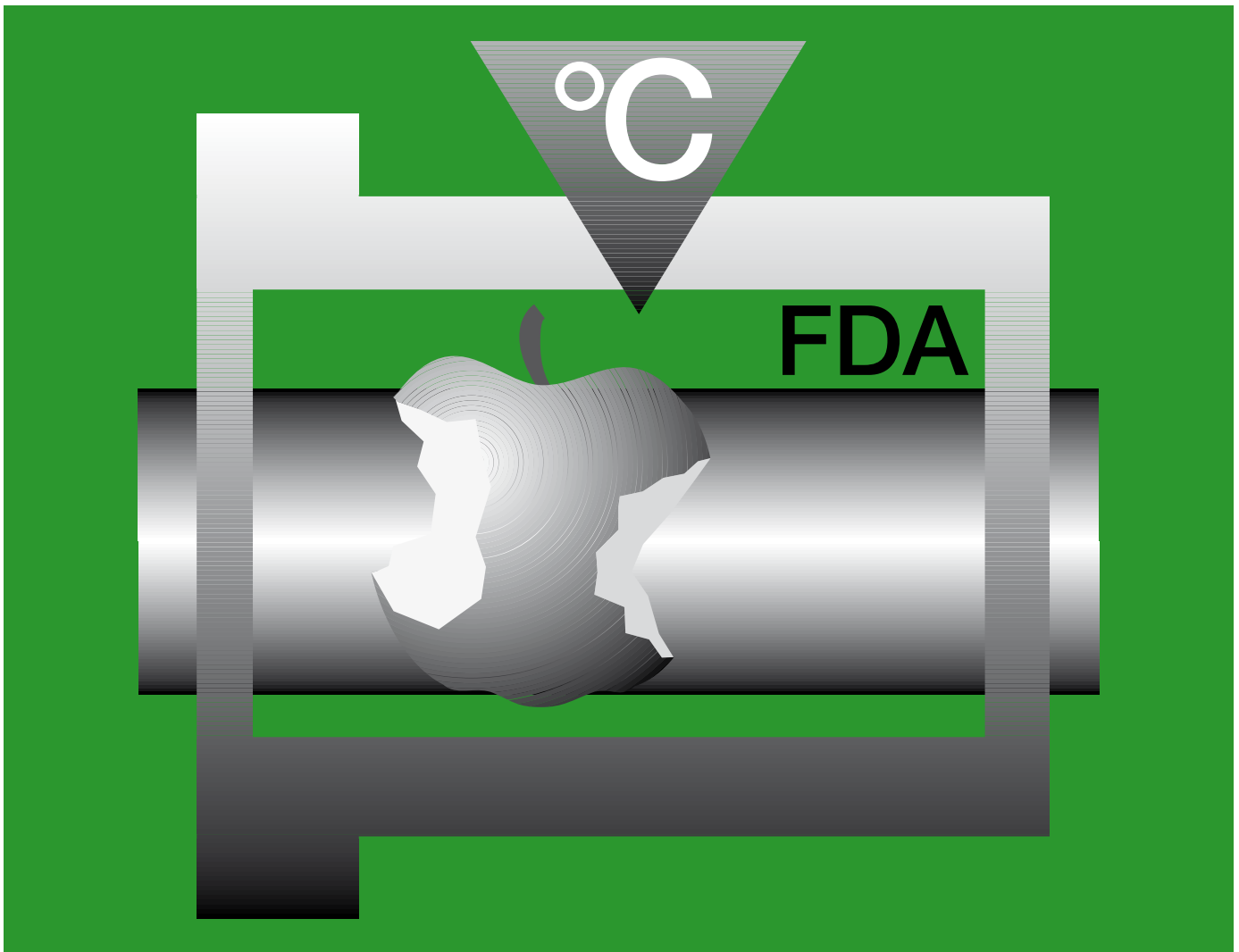
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time



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My Sketches





Temperature and wear resistant, FDA-compliant – iglidur® A350



Standard range from stock

The iglidur® A350 material complies with FOOD
AND DRUG ADMINISTRATION (FDA) regulations

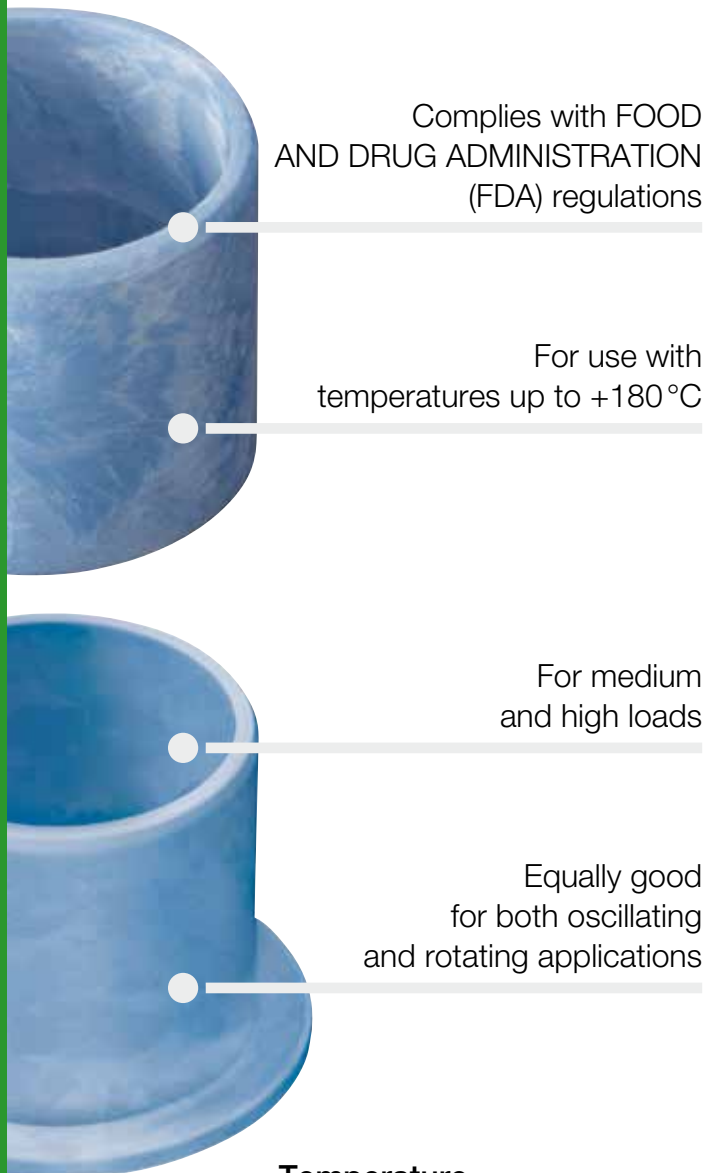
For use with temperatures up to +180 °C

For medium and high loads

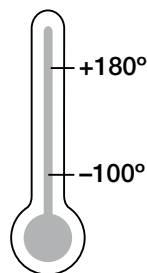
Equally good for both oscillating and rotating
applications

iglidur® A350

Temperature and wear resistant, FDA-compliant. A very universal bearing for use in the area of food and pharmaceutical industries. Composition of FDA-conform materials allows the use in areas where due to the contact with food other bearings cannot be used. With good tribological and mechanical properties, iglidur® A350 bearings are suitable for general purpose use in food machinery. The blue colour helps to visually identify the bearing, an important factor when designing food processing equipment.



Temperature



When to use it?

- If FDA-compliance is required
- If wear-resistance and FDA-conformance is necessary at high loads
- If the bearing is use in acid environment
- If a blue bearing is required



When not to use?

- When temperatures are continuously greater than +180 °C
▶ iglidur® A500, page 431
- When the maximum abrasion resistance is necessary
▶ iglidur® J, page 93
- When a low-priced FDA bearing is required
▶ iglidur® A200, page 405
▶ iglidur® A180, page 395
- For high speeds
▶ iglidur® J, page 93

Product range

2 types
Ø 6–50 mm
more dimensions
on request



iglidur® A350 products comply with the requirements of the FDA for repeated contact with food



Material properties table

General poperties	Unit	iglidur® A350	Testing method
Density	g/cm ³	1.42	
Colour		blue	
Max. moisture absorption at +23 °C/50 % r.h.	% weight	0.6	DIN 53495
Max. water absorption	% weight	1.9	
Coefficient of sliding friction, dynamic against steel	μ	0.1–0.2	
pv value, max. (dry)	MPa · m/s	0.4	
Mechanical properties			
Modulus of elasticity	MPa	2,000	DIN 53457
Tensile strength at +20 °C	MPa	110	DIN 53452
Compressive strength	MPa	78	
Max. recommended surface pressure (+20 °C)	MPa	60	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+180	
Max. short term application temperature	°C	+210	
Min. application temperature	°C	–100	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ⁻¹ · 10 ⁻⁵	8	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹¹	DIN IEC 93
Surface resistance	Ω	> 10 ¹¹	DIN 53482

Table 01: Material properties table

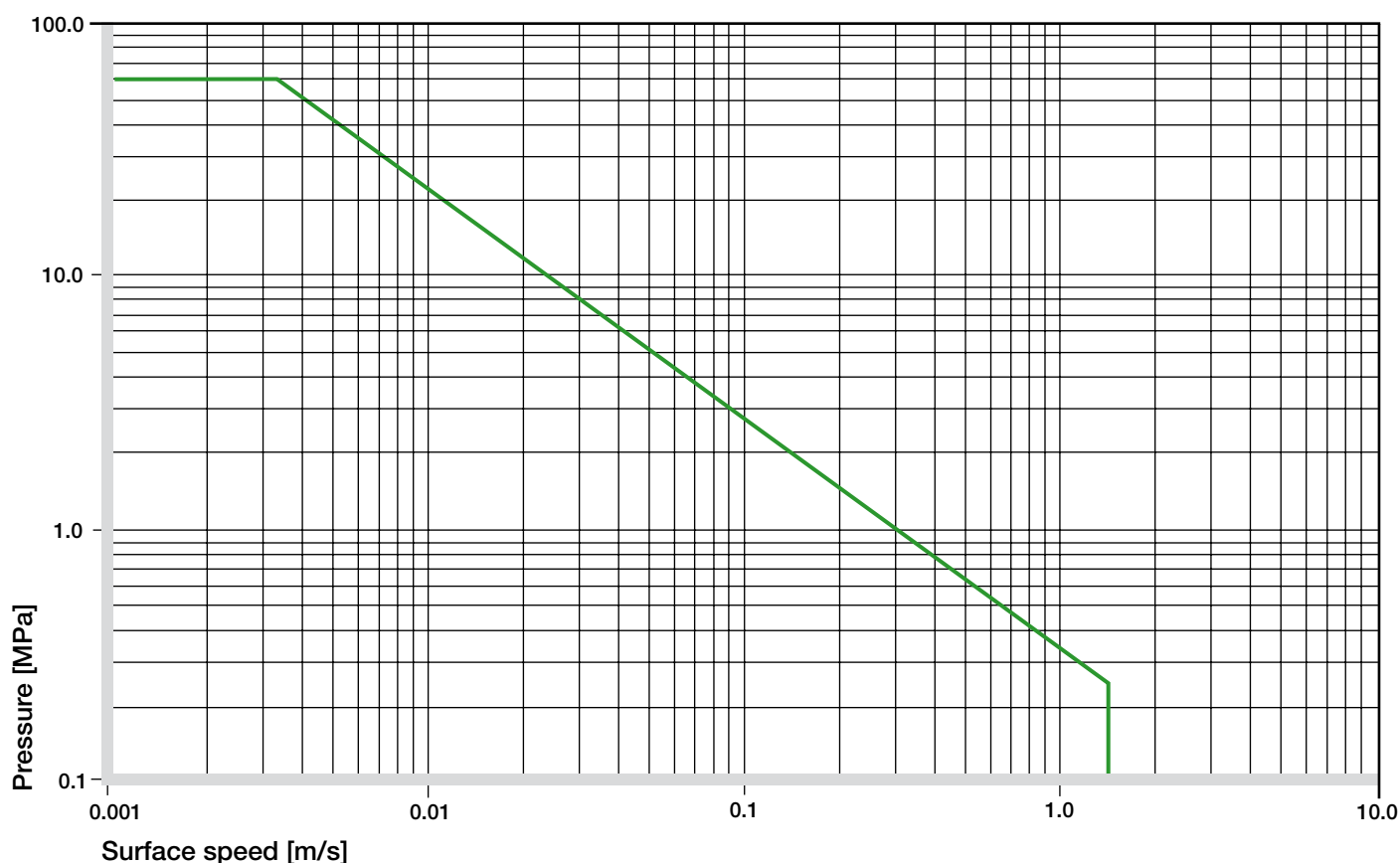


Diagram 01: Permissible pv values for iglidur® A350 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

iglidur® A350 bearings are made for practically all loads in food and packaging machinery. Even high loads, often seen in lifting equipment, are taken easily and the bearings work flawlessly without any external lubrication.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® A350 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +180 °C the permissible surface pressure is 10 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

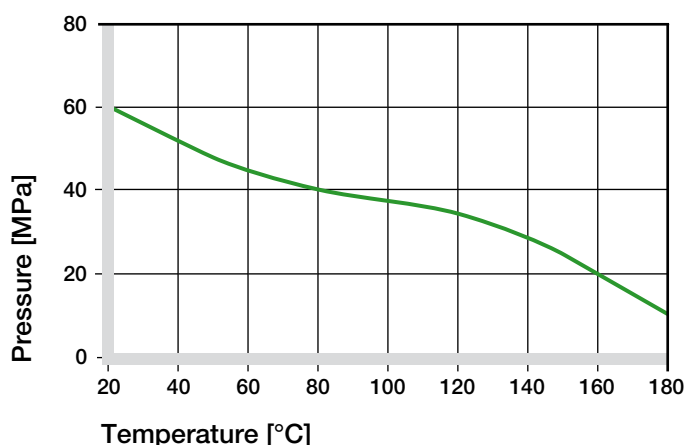


Diagram 02: Recommended maximum surface pressure as a function of temperature (60 MPa at +20 °C)

Diagram 03 shows the elastic deformation of iglidur® A350 at radial loads. At the recommended maximum surface pressure of 60 MPa the deformation is less than 5 %.

► Surface Pressure, page 47

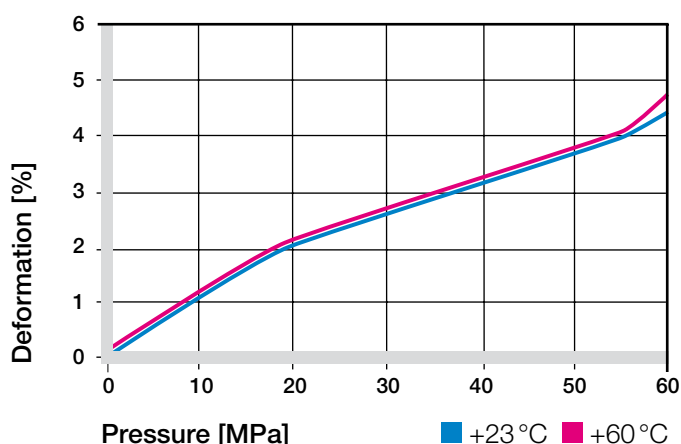


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

iglidur® A350 bearings are suitable for low to medium speeds in both rotating and oscillating applications. Even linear movements can often be realised with iglidur® A350. With high sliding speeds, iglidur® J or iglidur® L250 can be interesting alternatives because the wear rate of these materials is better.

► Surface Speed, page 49

m/s	Rotating	Oscillating	Linear
Continuous	1	0.8	2.5
Short term	1.2	0.9	3

Table 02: Maximum running speed

Temperatures

Its temperature resistance makes iglidur® A350 an ideal material for bearing in the area of foodstuffs. Typically, temperatures range up to +130 °C, which corresponds perfectly with the applicable temperature range for iglidur® A350. Short-term temperatures up to +210 °C are possible. Please note that at temperatures over +140 °C, the pressfit forces of the bearings may decrease and an additional axial security device is recommended.

The wear-rate of iglidur® A350 bearings rises only little with higher temperatures. Tests have shown good wear results at +100 °C on all tested shaft materials.

► Application Temperatures, page 50

iglidur® A350	Application temperature
Minimum	–100 °C
Max. long term	+180 °C
Max. short term	+210 °C
Add. securing is required from	+140 °C

Table 03: Temperature limits

Friction and Wear

The coefficient of friction of iglidur® A350 on a steel shaft are in the mid range. They decrease at higher temperatures, which in dry operation is somewhat unusual. Diagram 04 shows this phenomenon graphically.

All wear results of iglidur® A350 bearings show good results on a low level. Of all iglidur® materials for food contact, they are often the best choice.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

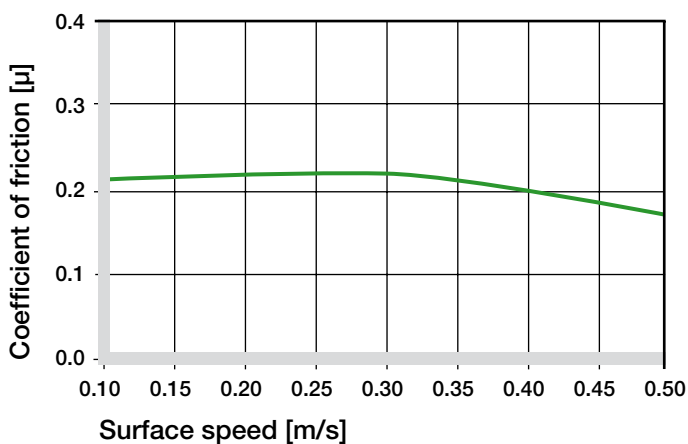


Diagram 04: Coefficient of friction as a function of the running speed, $p = 1 \text{ MPa}$

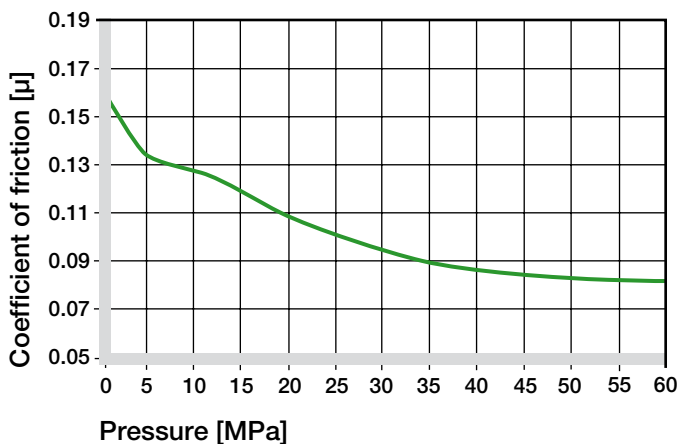


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01 \text{ m/s}$

Shaft Materials

The corrosion-resistant steels are rather considered a natural choice for use in the food industry.

The trials were therefore carried out especially on such materials. It has been shown that there is no clear favorite and V2A, X90 and hard chrome plated steel are all suitable. Hard-anodized aluminum is also well suited for both linear and rotating movements.

► Shaft Materials, **page 55**

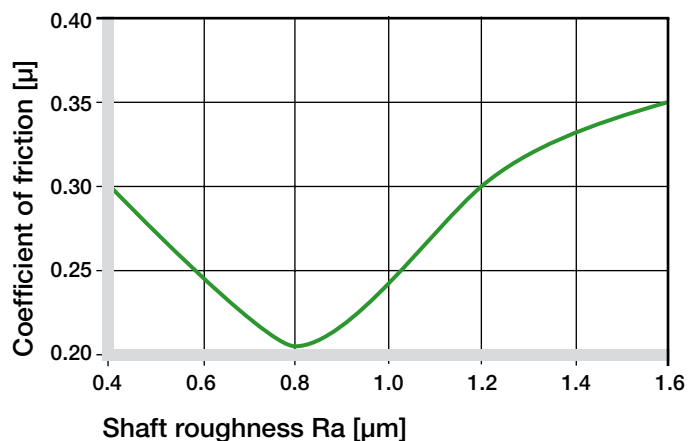


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

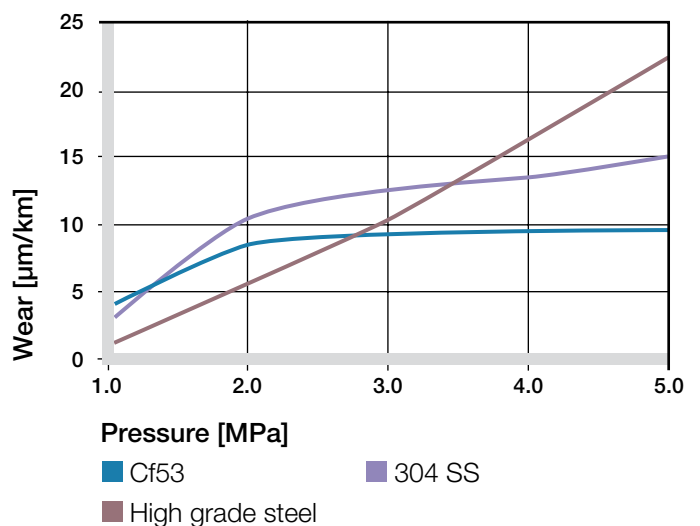


Diagram 07: Wear with different shaft materials in rotational operation, as a function of the pressure

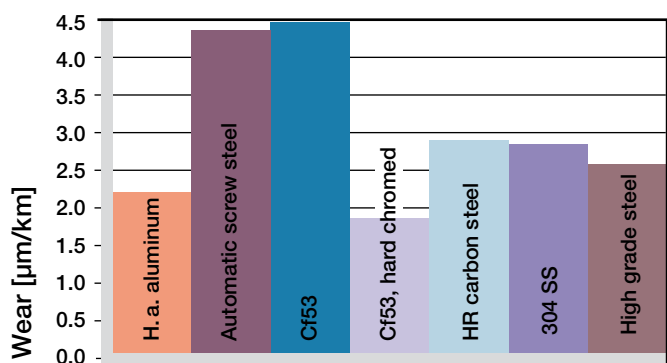


Diagram 08: Wear, rotating with different shaft materials, pressure $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

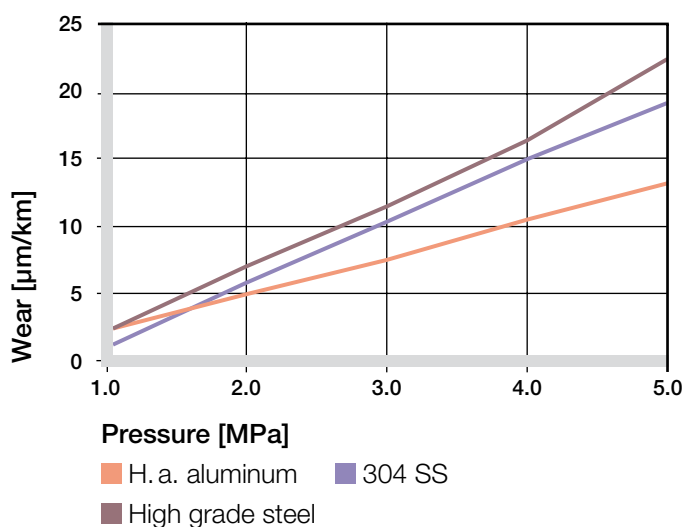


Diagram 09: Wear with different shaft materials in oscillating operation, as a function of the pressure

iglidur® A350	Dry	Greases	Oil	Water
C. o. f. μ	0.1–0.2	0.09	0.04	0.04

Table 04: Coefficient of friction against steel ($R_a = 1 \text{ µm}$, 50 HRC)

Additional Properties

Chemical Resistance

iglidur® A350 plain bearings are resistant to diluted acids and alkalis, alcohols and detergents. They are also resistant to most lubricants. The iglidur® A350 plain bearings are resistant to common cleaning agents in the food industry. iglidur® A350 is affected by esters, ketones, chlorinated hydrocarbons, aromatics and highly polar solvents.

► Chemical Table, page 1118

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

+ resistant 0 conditionally resistant – not resistant

All data given at room temperature $[+20 \text{ °C}]$

Table 05: Chemical resistance

Radiation Resistance

Plain bearings made of iglidur® A350 are resistant to radiation up to an intensity of $2 \cdot 10^2 \text{ Gy}$.

UV Resistance

iglidur® A350 bearings are resistant to UV radiation.

Vacuum

When used in a vacuum environment, the iglidur® A350 plain bearings release moisture as a vapour. Therefore, only dehumidified bearings are suitable in a vacuum environment.

Electrical Properties

iglidur® A350 plain bearings are electrically insulating.

Volume resistance	$> 10^{11} \text{ Ωcm}$
Surface resistance	$> 10^{11} \text{ Ω}$

Moisture Absorption

The moisture absorption of iglidur® A350 is low and can be disregarded when using standard bearings. Even at full saturation the iglidur® A350 does not absorb more than 1.9 % of water.

Maximum moisture absorption	
At +23 °C/50 % r.h.	0.6 % weight
Max. water absorption	1.9 % weight

Table 06: Moisture absorption

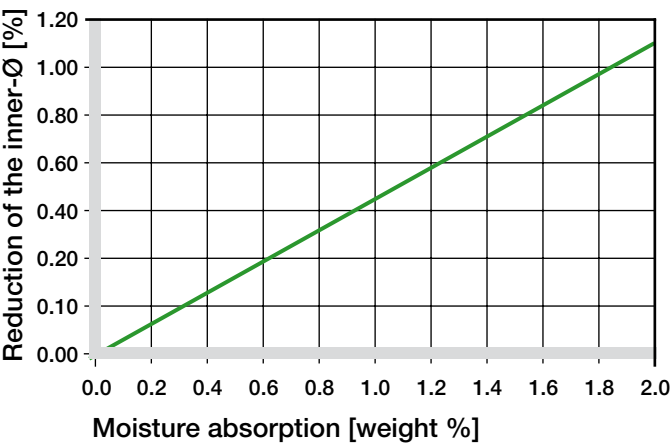


Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

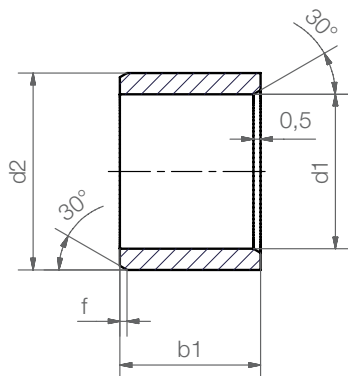
iglidur® A350 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, page 59

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® A350 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
> 30 to 50	0–0.062	+0.025 +0.125	0 +0.025
> 50 to 80	0–0.074	+0.030 +0.150	0 +0.030

Table 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Sleeve bearing



Order key

A350SM-0608-06



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form S)
Material iglidur® A350

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	b1 h13
A350SM-0608-06	6.0	+0.010 +0.058	8.0	6.0
A350SM-0810-10	8.0	+0.013 +0.071	10.0	10.0
A350SM-1012-10	10.0	+0.013 +0.071	12.0	10.0
A350SM-1214-12	12.0	+0.016 +0.068	14.0	12.0
A350SM-1618-15	16.0	+0.016 +0.068	18.0	15.0
A350SM-1618-25	16.0	+0.016 +0.068	18.0	25.0
A350SM-2023-20	20.0	+0.020 +0.104	23.0	20.0
A350SM-2023-30	20.0	+0.020 +0.104	23.0	30.0
A350SM-2832-30	28.0	+0.020 +0.104	32.0	30.0
A350SM-3236-40	32.0	+0.025 +0.125	36.0	40.0
A350SM-4044-50	40.0	+0.025 +0.125	44.0	50.0
A350SM-5055-50	50.0	+0.025 +0.125	55.0	50.0

* after pressfit. Testing methods ► page 59

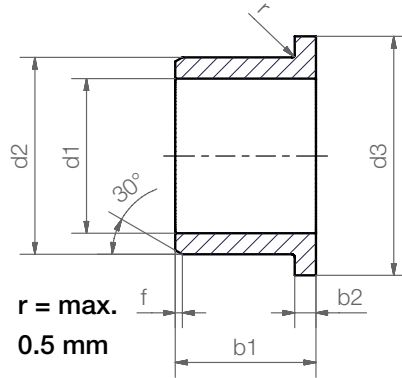


delivery from stock
time



prices price list online
www.igus.co.uk/en/a350

Flange bearing



Order key

A350FM-0608-06



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form F)
Material iglidur® A350

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
A350FM-0608-06	6.0	+0.010 +0.058	8.0	12.0	6.0	1.0
A350FM-0810-10	8.0	+0.013 +0.071	10.0	15.0	10.0	1.0
A350FM-1012-10	10.0	+0.013 +0.071	12.0	18.0	10.0	1.0
A350FM-1214-12	12.0	+0.016 +0.068	14.0	20.0	12.0	1.0
A350FM-1618-17	16.0	+0.016 +0.068	18.0	24.0	17.0	1.0
A350FM-2023-21	20.0	+0.020 +0.104	23.0	30.0	21.5	1.5
A350FM-3539-26	35.0	+0.025 +0.125	39.0	47.0	26.0	2.0

* after pressfit. Testing methods ► page 59



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. iglus® listens to your needs and provides you a solution in a very short time.

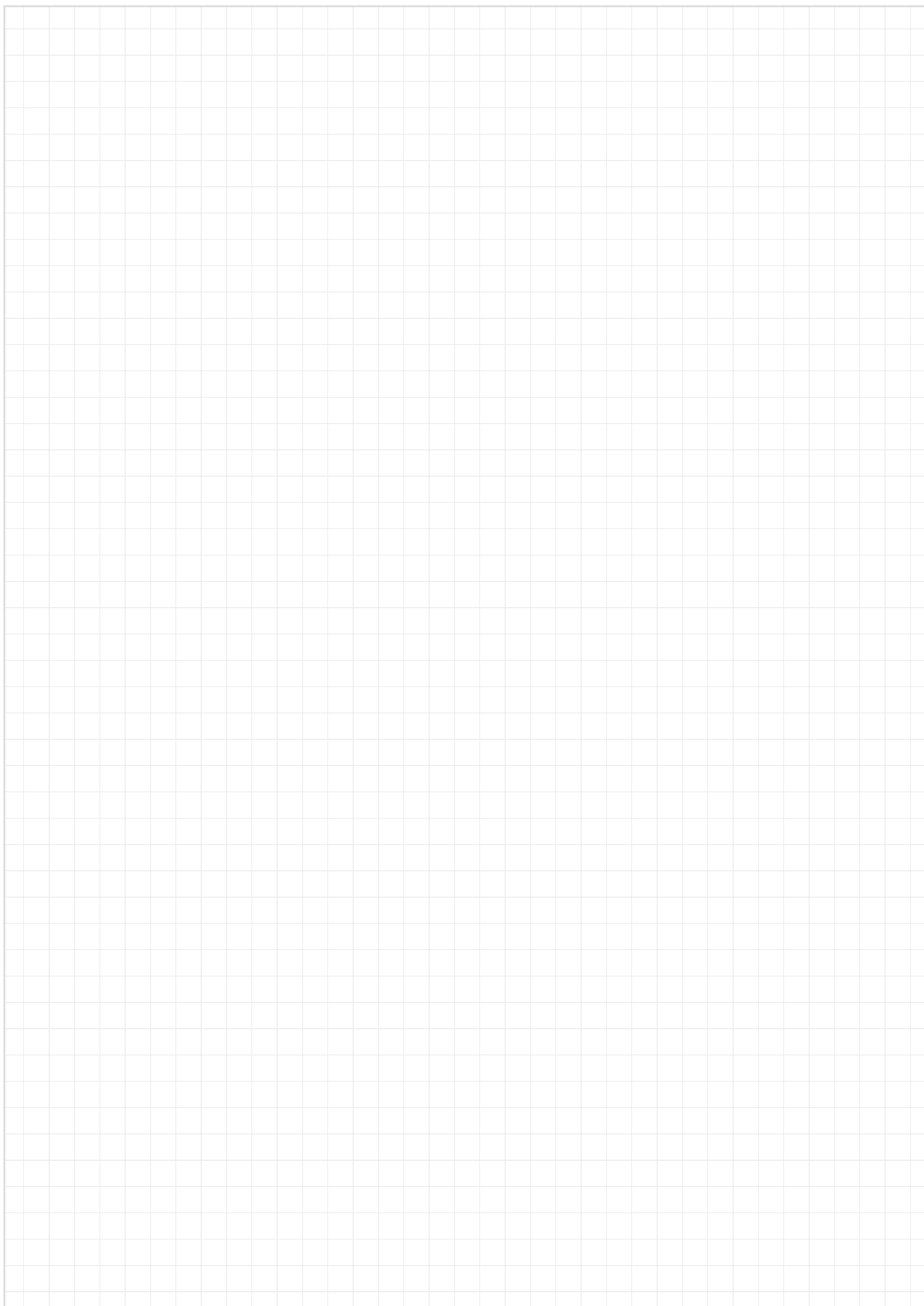


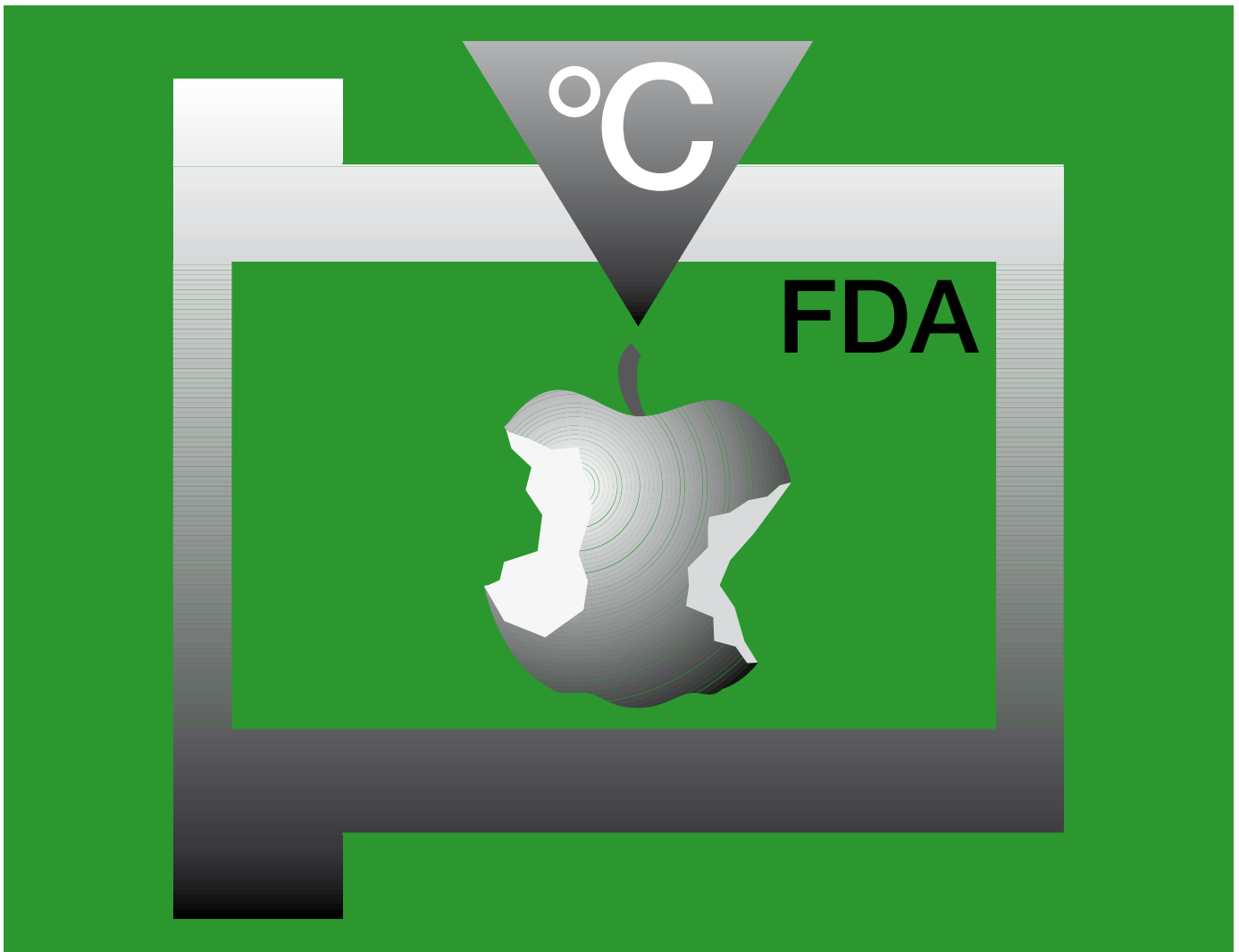
delivery from stock
time



prices price list online
www.igus.co.uk/en/a350

My Sketches





Temperature and chemical resistance, FDA-compliant – iglidur® A500



Standard range from stock

Lubrication- and maintenance-free

Complies with FDA regulations

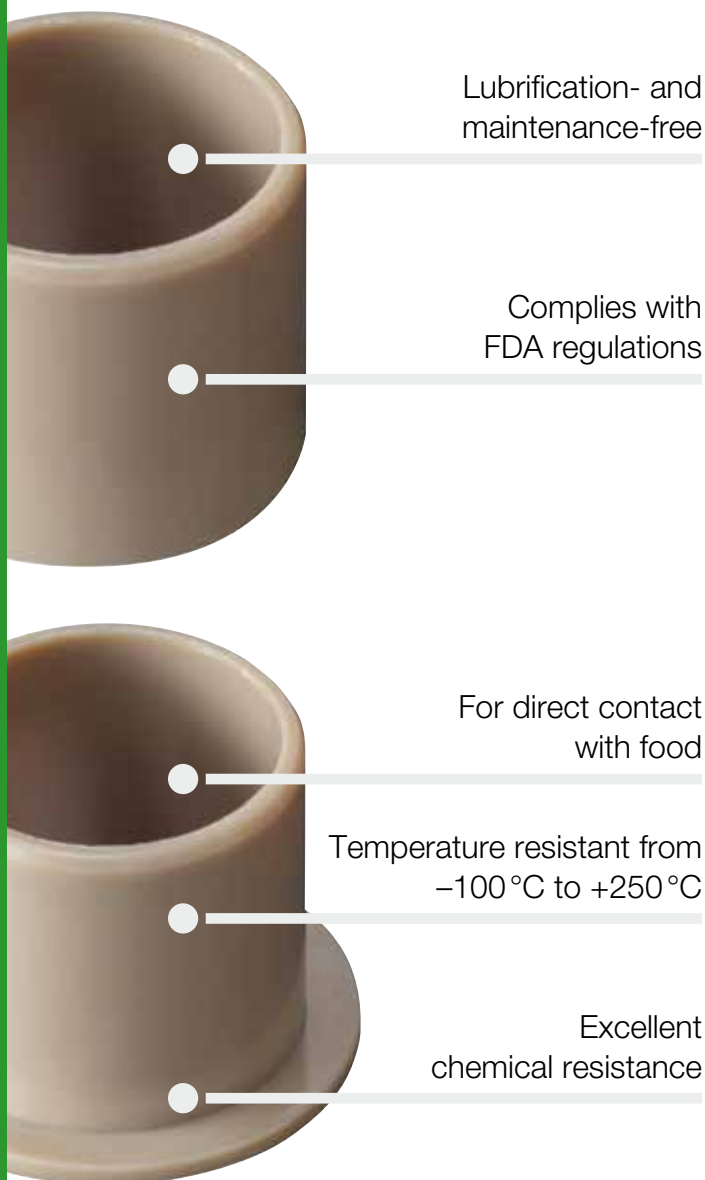
For direct contact with food

Temperature resistant from -100°C to $+250^{\circ}\text{C}$

High chemical-resistance

iglidur® A500

Temperature and chemical resistance, FDA-compliant. Polymer bearings made of iglidur® A500 can be exposed to extremely high temperatures and consist of materials suitable for direct contact with food (FDA-conformity).



When to use it?

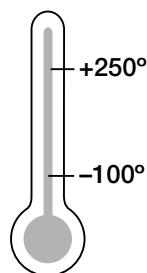
- When FDA compliance is required
- When a high chemical resistance is required
- Good abrasion resistance
- Temperature resistant from -100°C to +250°C



When not to use it?

- When the highest wear resistance is required
 - ▶ iglidur® X6, page 291
 - ▶ iglidur® Z, page 311
- If no resistance to temperature or chemicals is required
 - ▶ iglidur® A180, page 395
 - ▶ iglidur® A200, page 405
- When a cost-effective universal bearing is required
 - ▶ iglidur® G, page 65
 - ▶ iglidur® P, page 179

Temperature



Product range

2 types
Ø 4–50 mm
more dimensions
on request



The material iglidur® A500 complies with the requirements of the FDA for repeated contact with food.



Material properties table

General properties	Unit	iglidur® A500	Testing method
Density	g/cm ³	1.28	
Colour		brown	
Max. moisture absorption at +23 °C/50 % r.h.	% weight	0.3	DIN 53495
Max. water absorption	% weight	0.5	
Coefficient of sliding friction, dynamic against steel	μ	0.26–0.41	
pv value, max. (dry)	MPa · m/s	0.28	
Mechanical properties			
Modulus of elasticity	MPa	3,600	DIN 53457
Tensile strength at +20 °C	MPa	140	DIN 53452
Compressive strength	MPa	118	
Max. recommended surface pressure (+20 °C)	MPa	120	
Shore D hardness		83	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+250	
Max. short term application temperature	°C	+300	
Min. application temperature	°C	–100	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ^{–1} · 10 ^{–5}	9	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹⁴	DIN IEC 93
Surface resistance	Ω	> 10 ¹³	DIN 53482

Table 01: Material properties table

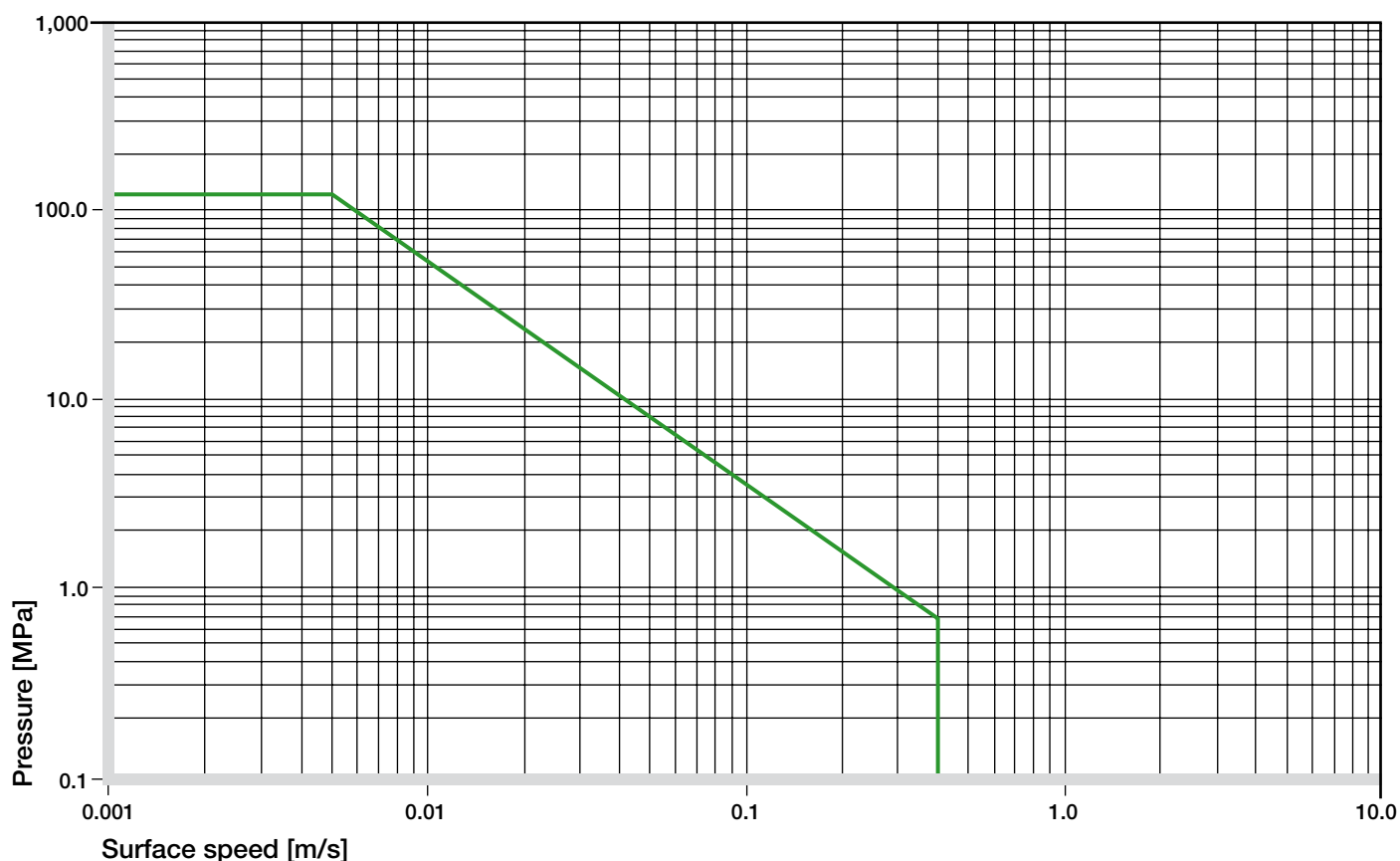


Diagram 01: Permissible pv values for iglidur® A500 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

Bearings made of iglidur® A500 can be used at high temperatures and are permitted for use in direct contact with foodstuffs (FDA compatible). They exhibit an exceptionally good chemical resistance and are suitable for heavy-duty use in machinery for the food industry. Though iglidur® A500 is an extremely soft material, it simultaneously possesses an excellent compressive strength even at high temperatures.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® A500 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +250 °C the permissible surface pressure is almost 11 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

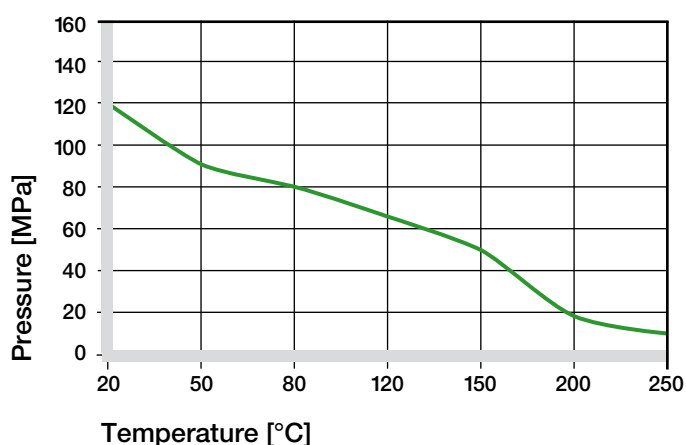


Diagram 02: Recommended maximum surface pressure as a function of temperature (120 MPa at +20 °C)

Diagram 02 shows the maximum recommended surface pressure of the bearing dependent on the temperature. This combination of high stability and high flexibility acts very positively with vibrations and edge loads. As the wear of the bearing rapidly escalates from pressures of 10 to 20 MPa, we recommend a particularly accurate testing of the application above these limits.

► Surface Pressure, [page 47](#)

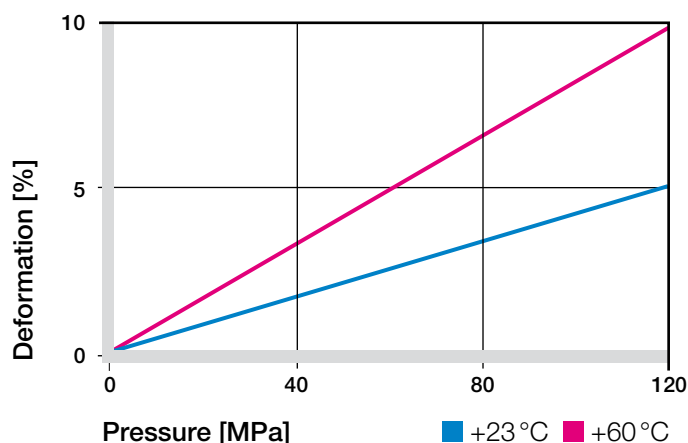


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

iglidur® A500 also permits high surface speeds due to the high temperature resistance. The coefficient of friction rises however by these high rotatory speeds leading to a higher heating up of the bearing. Tests show that bearings made of iglidur® A500 have a better wear resistance and higher permitted pv values in pivoting applications.

► Surface Speed, [page 49](#)

m/s	Rotating	Oscillating	Linear
Continuous	0.6	0.4	1
Short term	1	0.7	2

Table 02: Maximum running speed

Temperatures

The short-term permitted maximum application temperature is +300 °C. With increasing temperatures, the compressive strength of iglidur® A500 bearings decreases. Diagram 02 clarifies this connection. The temperatures prevailing in the bearing system also have an influence on the bearing wear.

► Application Temperatures, [page 50](#)

iglidur® A500	Application temperature
Minimum	– 100 °C
Max. long term	+ 250 °C
Max. short term	+ 300 °C
Add. securing is required from	+ 130 °C

Table 03: Temperature limits

Friction and Wear

The coefficient of friction is dependent on the load that acts on the bearing. In iglidur® A500 bearings, the friction coefficient μ initially declines with increasing load. The most favorable coefficient of friction is attained from about 10 MPa. Friction and wear also depend to a high degree on the reverse partner. Thus extremely smooth shafts enhance not only the coefficient of friction, but also the bearing wear. The most suited are smoothed surfaces with an average surface finish of $R_a = 0.4$ to $0.6 \mu\text{m}$.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

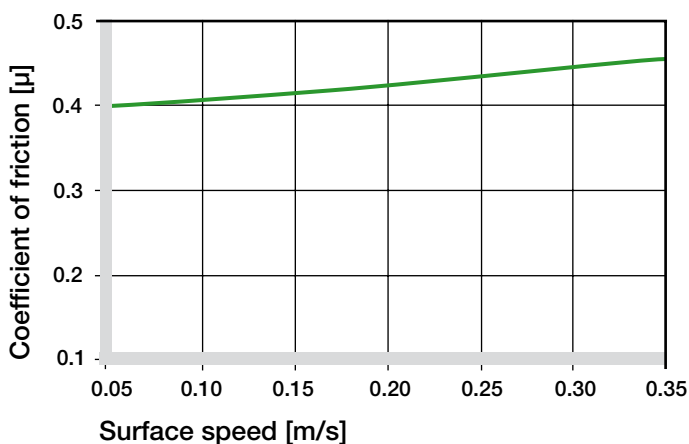


Diagram 04: Coefficient of friction as a function of the running speed, $p = 0.75 \text{ MPa}$

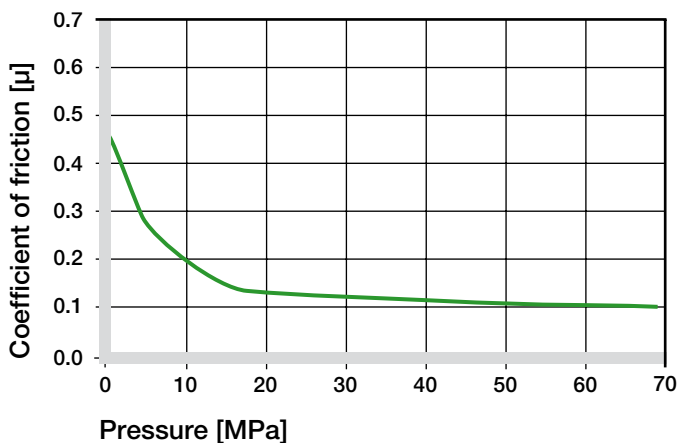


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01 \text{ m/s}$

Shaft Materials

The diagrams 06 to 09 display a summary of the results of tests with different shaft materials conducted with bearings made of iglidur® A500. The combination "iglidur® A500/hard-chromed shaft" clearly stands out in rotating application. Up to about 2.0 MPa , the wear of this combination remains largely independent of load. In pivoting applications with Cf53 shafts, the wear resistance is better than in rotations under equal load.

Please contact us in case the shaft material scheduled by you is not included in these figures.

► Shaft Materials, **page 55**

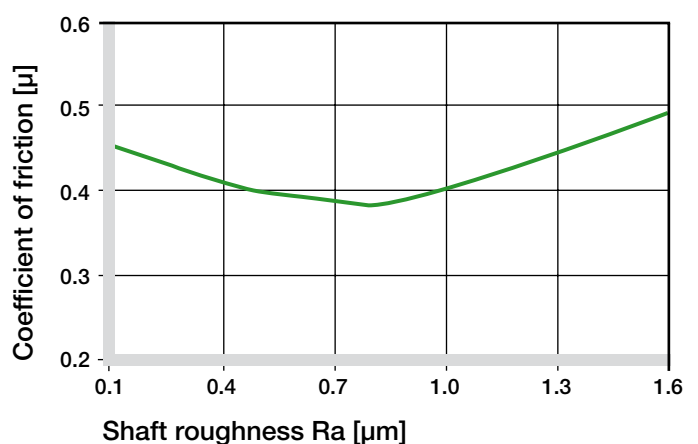


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

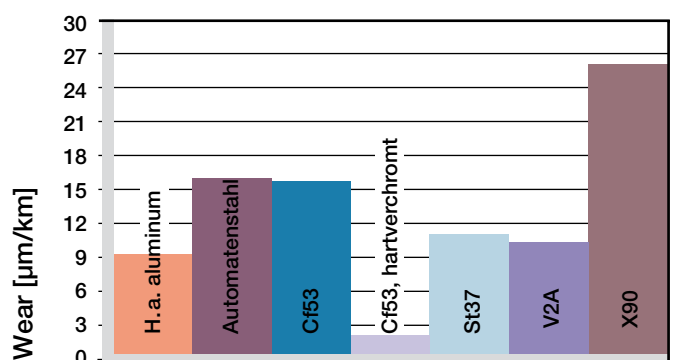


Diagram 07: Wear, rotating with different shaft materials, pressure $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

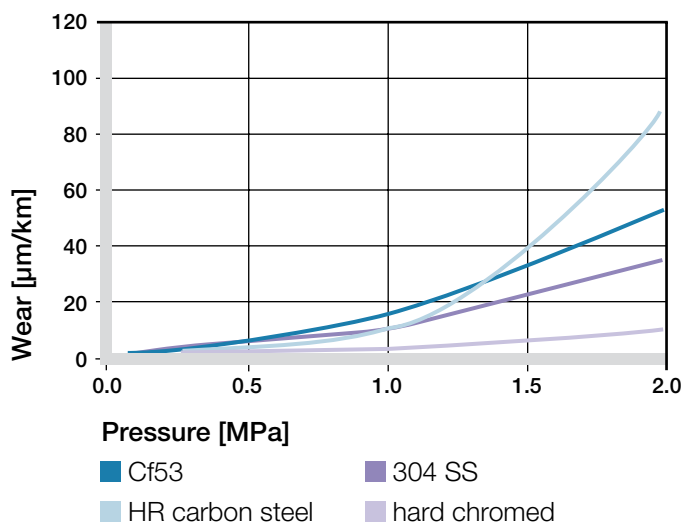


Diagram 08: Wear with different shaft materials in rotational operation, as a function of the pressure

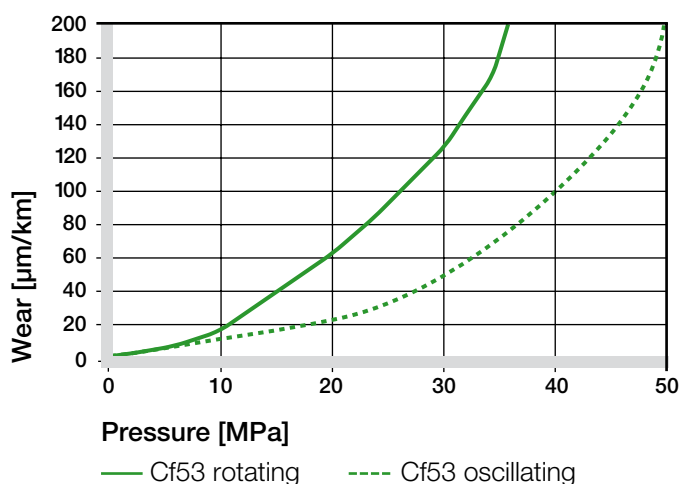


Diagram 09: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the pressure

iglidur® A500	Dry	Greases	Oil	Water
C. o. f. μ	0.26–0.41	0.09	0.04	0.04

Table 04: Coefficient of friction against steel ($R_a = 1 \mu\text{m}$, 50 HRC)

Additional Properties

Chemical Resistance

iglidur® A500 plain bearings feature an excellent resistance with regard to detergents, greases, oils, bases and acids.

► Chemical Table, page 1118

Medium	Resistance
Alcohol	+
Hydrocarbons	+
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 05: Chemical resistance

Radiation Resistance

Plain bearings of iglidur® A500 rank among the most radiation resistant products in the iglidur® range. The bearings are resistant up to a radiation intensity of $2 \cdot 10^5 \text{ Gy}$. Higher radiation affects the material and can result in the loss of basic mechanical characteristics.

UV Resistance

To a large extent, iglidur® A500 plain bearings are resistant to UV radiation.

Vacuum

In a vacuum, iglidur® A500 plain bearings can only be used to a limited degree.

Electrical Properties

iglidur® A500 plain bearings are electrically insulating.

Volume resistance	$> 10^{14} \Omega\text{cm}$
Surface resistance	$> 10^{13} \Omega$

Moisture Absorption

The moisture absorption of iglidur® A500 plain bearings is only 0.5 % when saturated.

Maximum moisture absorption

At +23 °C/50 % r.h. 0.3 % weight

Max. water absorption 0.5 % weight

Table 06: Moisture absorption

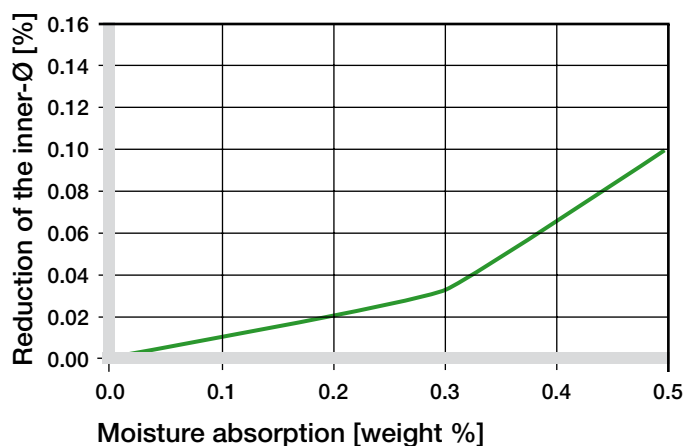


Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

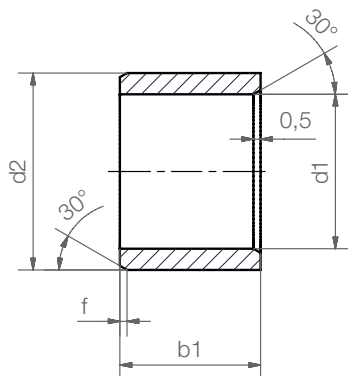
iglidur® A500 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the F10 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, [page 59](#)

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® A500 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
> 30 to 50	0–0.062	+0.025 +0.125	0 +0.025
> 50 to 80	0–0.074	+0.030 +0.150	0 +0.030

Table 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Sleeve bearing



Order key

A500SM-0507-05



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form S)
Material iglidur® A500

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	b1 h13
A500SM-0507-05	5.0	+0.010 +0.058	7.0	5.0
A500SM-0810-06	8.0	+0.013 +0.071	10.0	6.0
A500SM-0810-10	8.0	+0.013 +0.071	10.0	10.0
A500SM-0810-12	8.0	+0.013 +0.071	10.0	12.0
A500SM-1012-12	10.0	+0.013 +0.071	12.0	12.0
A500SM-1214-15	12.0	+0.016 +0.086	14.0	15.0
A500SM-1215-15	12.0	+0.016 +0.086	15.0	15.0
A500SM-1416-16	14.0	+0.016 +0.086	16.0	16.0
A500SM-2023-30	20.0	+0.020 +0.104	23.0	30.0
A500SM-2225-30	22.0	+0.020 +0.104	25.0	30.0
A500SM-3236-30	32.0	+0.025 +0.125	36.0	30.0
A500SM-3539-50	35.0	+0.025 +0.125	39.0	50.0
A500SM-5055-30	50.0	+0.025 +0.125	55.0	30.0

* after pressfit. Testing methods ► page 59



Even more dimensions from stock

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

► www.igus.co.uk/iglidur-specialbearings

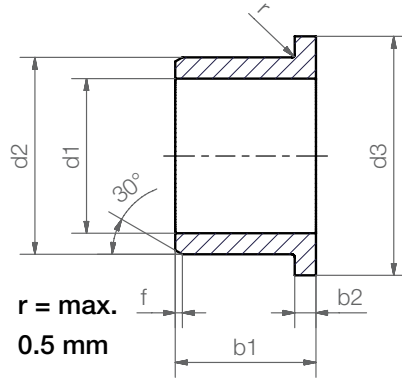


delivery from stock
time



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Flange bearing



Order key

A500FM-0405-04



Length b1

Outer diameter d2

Inner diameter d1

Metric

Type (Form F)

Material iglidur® A500

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
A500FM-0405-04	4.0	+0.010 +0.058	5.5	9.5	4.0	2.0
A500FM-0408-06	4.0	+0.010 +0.058	8.0	12.0	6.0	0.75
A500FM-0608-06	6.0	+0.010 +0.058	8.0	12.0	6.0	1.0
A500FM-0608-08	6.0	+0.010 +0.058	8.0	12.0	8.0	1.0
A500FM-0810-10	8.0	+0.013 +0.071	10.0	15.0	10.0	1.0
A500FM-1012-09	10.0	+0.013 +0.071	12.0	18.0	9.0	1.0
A500FM-1012-15	10.0	+0.013 +0.071	12.0	18.0	15.0	1.0
A500FM-1214-13	12.0	+0.016 +0.086	14.0	20.0	13.0	1.0
A500FM-1214-15	12.0	+0.016 +0.086	14.0	20.0	15.0	1.0
A500FM-1517-17	15.0	+0.016 +0.086	17.0	23.0	17.0	1.0
A500FM-1618-17	16.0	+0.016 +0.086	18.0	24.0	17.0	1.0
A500FM-2023-21	20.0	+0.020 +0.104	23.0	30.0	21.5	1.5
A500FM-3034-40	30.0	+0.020 +0.104	34.0	42.0	40.0	2.0
A500FM-3539-40	35.0	+0.025 +0.125	39.0	47.0	40.0	2.0

* after pressfit. Testing methods ► page 59



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.co.uk/iglidur-specialbearings

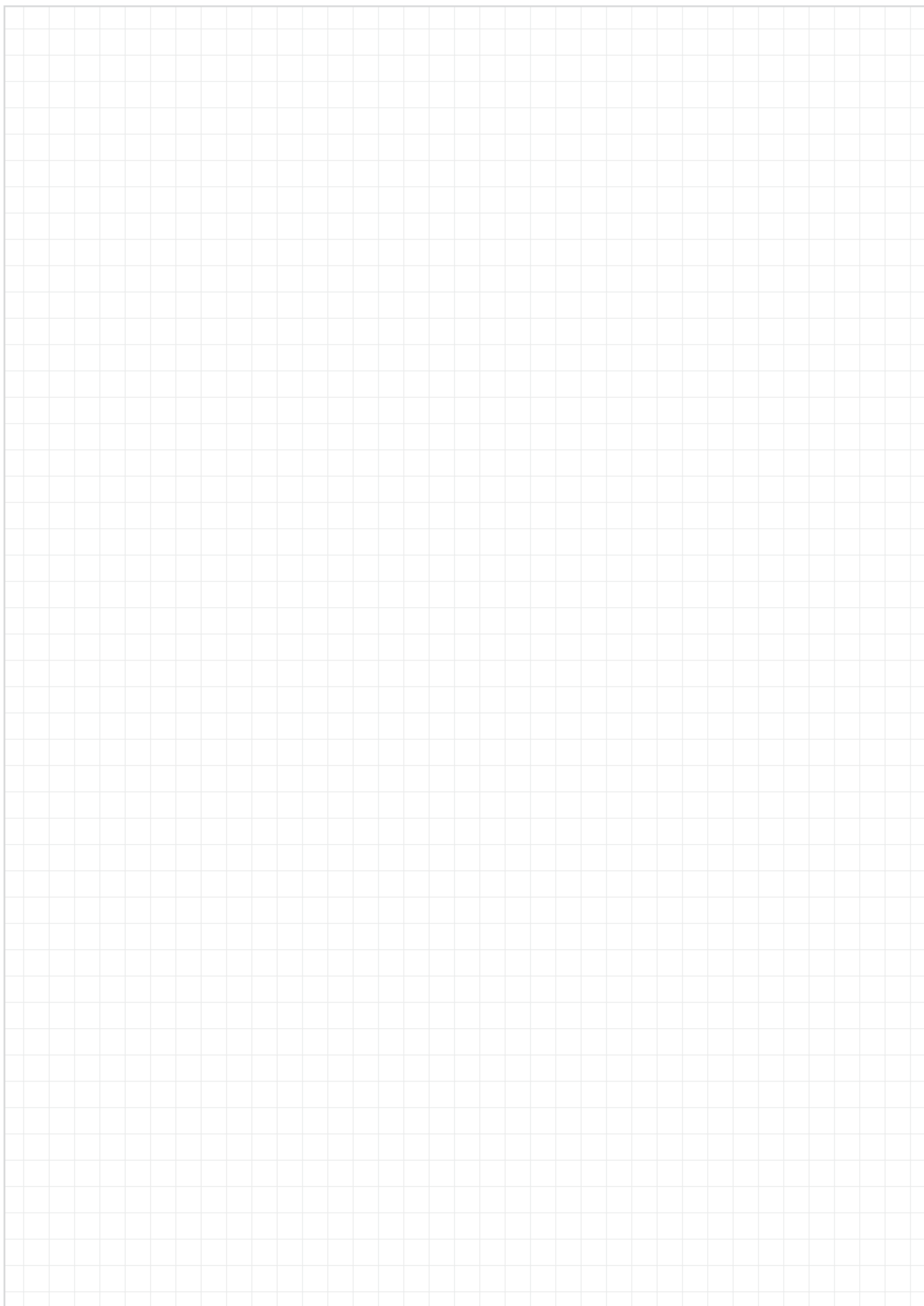


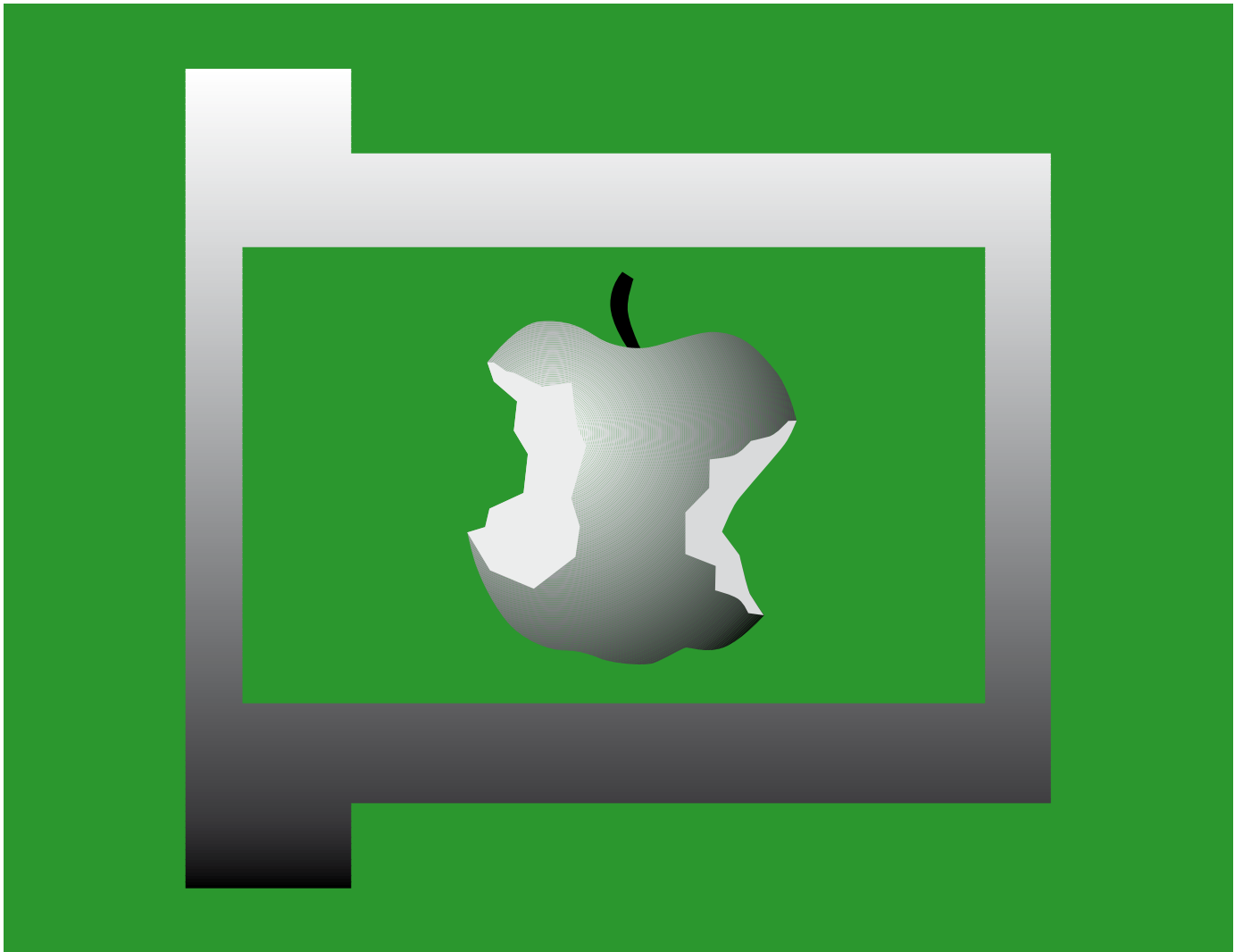
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My Sketches





Robust – iglidur® A290



Standard range from stock

Complies with the requirements of the BfR

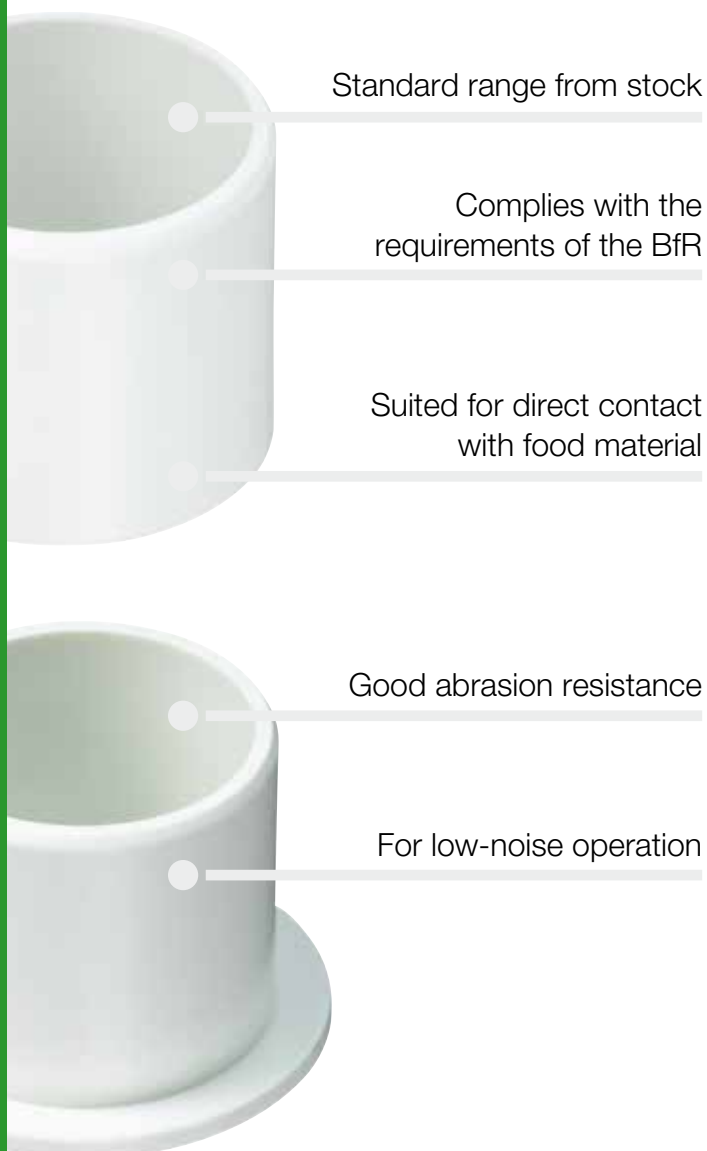
Suited for direct contact with food materials

Good abrasion resistance

For low-noise operation

iglidur® A290

Robust. The bearings complies with the requirements of the BfR for contact with food. For medium and high loads.



When to use it?

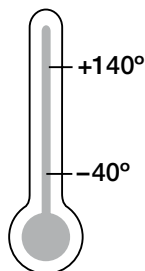
- Suitable for contact with food
- For low speeds
- For low-noise operation
- Physiologically safe
- Very good mechanical properties



When not to use it?

- When the material's FDA compliance is necessary
 - ▶ iglidur® A180, page 395
 - ▶ iglidur® A200, page 405
 - ▶ iglidur® A500, page 431
- When the highest wear resistance is required
 - ▶ iglidur® W300, page 135
- When temperatures are continuously greater than +140 °C
 - ▶ iglidur® A500, page 431
 - ▶ iglidur® H370, page 359
 - ▶ iglidur® X, page 157
- When a cost-effective universal bearing is required
 - ▶ iglidur® G, page 65

Temperature



Product range

2 types
Ø 3–50 mm
more dimensions
on request



The material iglidur® A290 complies with the requirements of the BfR (German institute for food safety) for contact with food.



Material properties table

General properties	Unit	iglidur® A290	Testing method
Density	g/cm ³	1.41	
Colour		white	
Max. moisture absorption at +23 °C/50 % r. h.	% weight	1.7	DIN 53495
Max. water absorption	% weight	7.3	
Coefficient of sliding friction, dynamic against steel	μ	0.13–0.40	
pv value, max. (dry)	MPa · m/s	0.23	
Mechanical properties			
Modulus of elasticity	MPa	8,800	DIN 53457
Tensile strength at +20 °C	MPa	250	DIN 53452
Compressive strength	MPa	91	
Max. recommended surface pressure (+20 °C)	MPa	70	
Shore D hardness		88	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+140	
Max. short term application temperature	°C	+180	
Min. application temperature	°C	–40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ⁻¹ · 10 ⁻⁵	7	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹¹	DIN IEC 93
Surface resistance	Ω	> 10 ¹¹	DIN 53482

Table 01: Material properties table

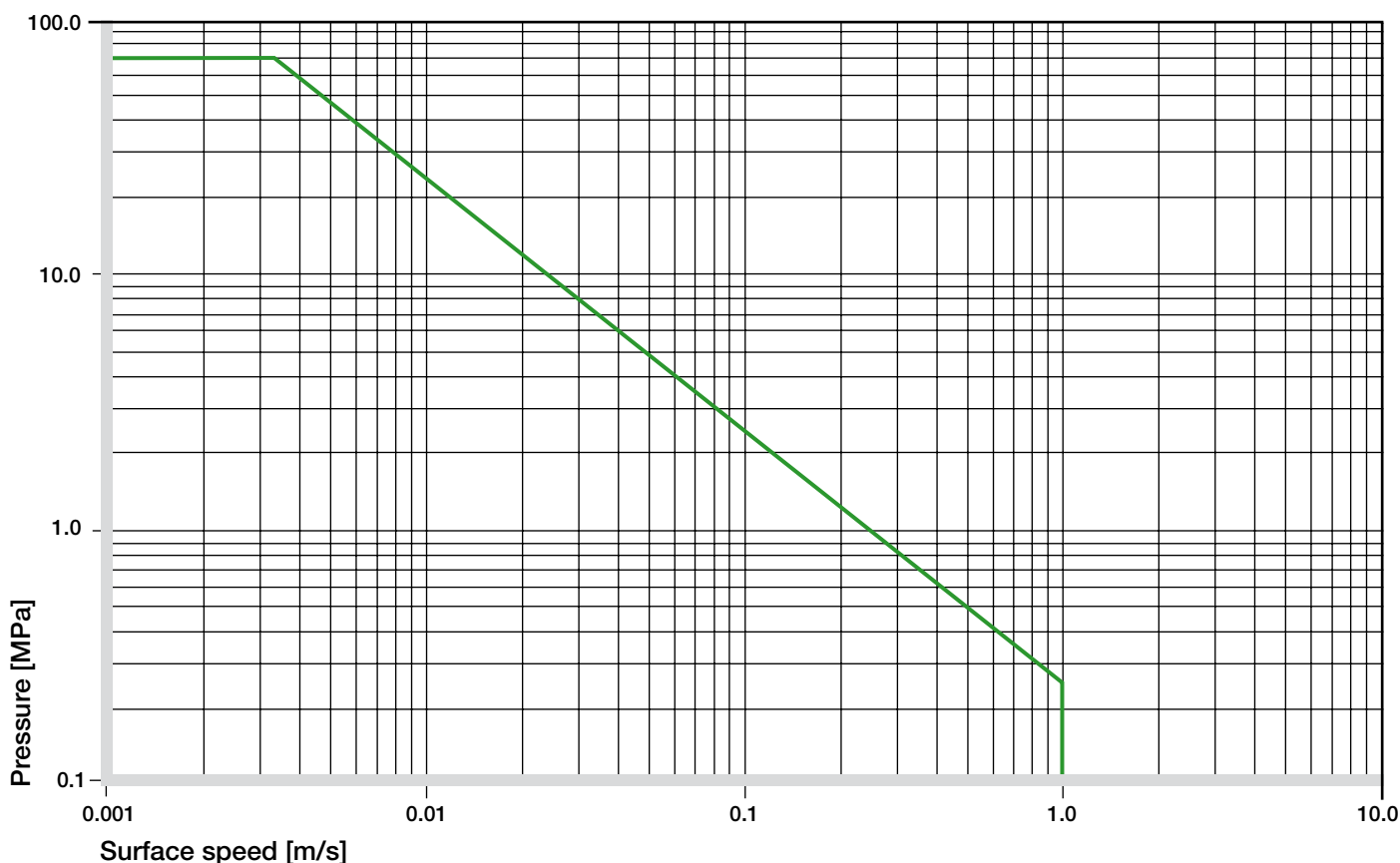


Diagram 01: Permissible pv values for iglidur® A290 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

iglidur® A290 bearings are an advanced development for the use in food industry. Compared to the bearings made of iglidur® A200, the tribological properties could be significantly improved.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® A290 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +140 °C the permissible surface pressure is almost 35 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

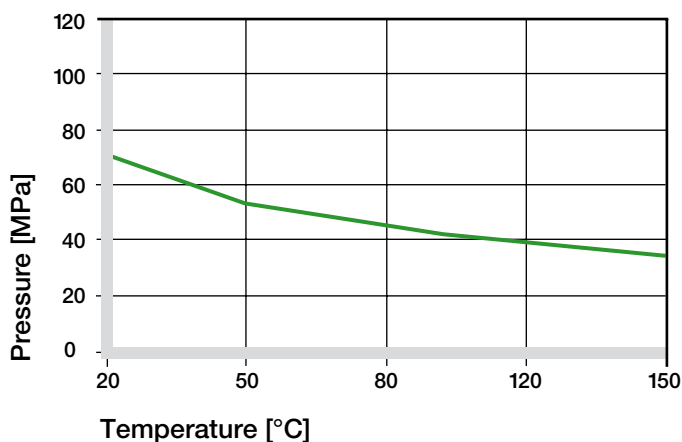


Diagram 02: Recommended maximum surface pressure as a function of temperature (70 MPa at +20 °C)

At this load, the deformation is only about 2.5 % at room temperature. A plastic deformation can be negligible up to this load. It is however also dependent on the duration of the applied pressure.

► Surface Pressure, page 47

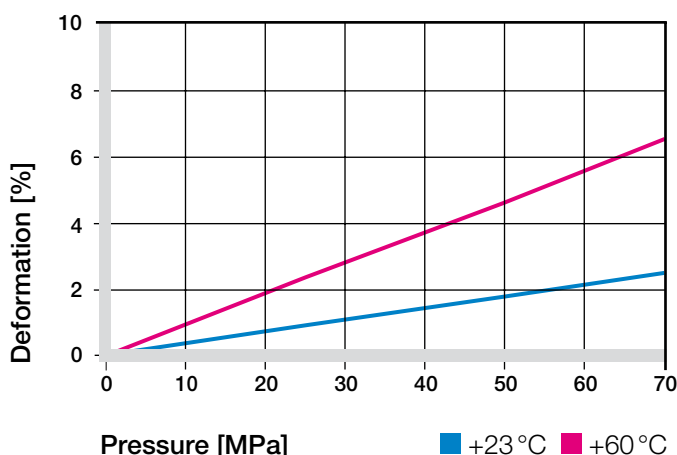


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

iglidur® A290 is suitable for low surface speeds. Due to the relatively high friction particularly in the low load range, the bearings made of iglidur® A290 heat more strongly than other bearings. With higher speeds, the friction also increases.

► Surface Speed, page 49

m/s	Rotating	Oscillating	Linear
Continuous	1	0.7	3
Short term	2	1.4	4

Table 02: Maximum running speed

Temperatures

The short-term permitted maximum temperature is +180 °C. With increasing temperatures, the compressive strength of iglidur® A290 bearings decreases. The diagram 02 clarifies this connection. The temperatures prevailing in the bearing system also have an influence on the bearing wear. The wear increases with rising temperatures, and the influence is especially marked from +120 °C temperature onwards.

► Application Temperatures, page 50

iglidur® A290	Application temperature
Minimum	-40 °C
Max. long term	+140 °C
Max. short term	+180 °C
Add. securing is required from	+110 °C

Table 03: Temperature limits

Friction and Wear

The coefficient of friction alters like the wear resistance with increasing load and surface speed. With increasing speed and constant load, the coefficient of friction steadily rises. In contrast a reverse behavior is noticed at increasing load and constant speed (see diagrams 04 and 05). Friction and wear depend to a high degree on the reverse partner. Very smooth shafts increase the coefficient of both friction and wear. iglidur® A290 proves to be relatively insensitive to shaft surfaces and retains a 0.4 friction coefficient μ with average surface finishes of $R_a = 0.4$ to $1.6 \mu\text{m}$.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

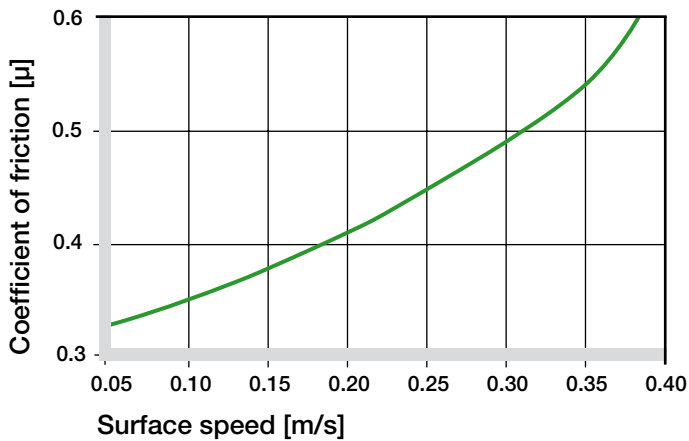


Diagram 04: Coefficient of friction as a function of the running speed, $p = 0.75 \text{ MPa}$

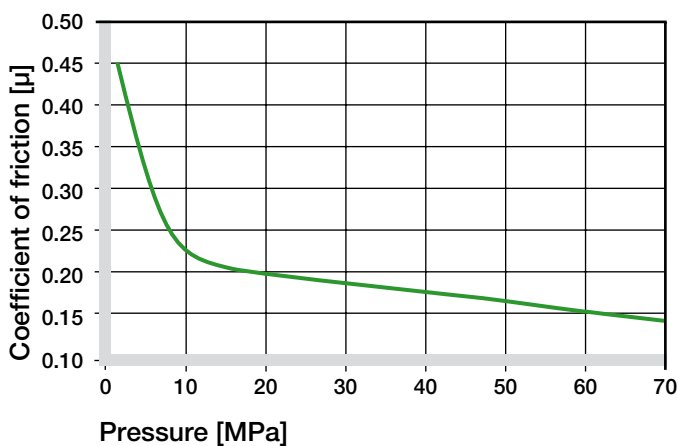


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01 \text{ m/s}$

Shaft Materials

Diagrams 06 to 09 display a summary of the results of tests with different shaft materials conducted with bearings made of iglidur® A290. Compared to iglidur® A200, the improved tribological properties of iglidur® A290 are also reflected in the wear. At low loads, the differences in the wear resistance of the combinations of iglidur® A290 with different shaft materials are very distinct.

► Shaft Materials, **page 55**

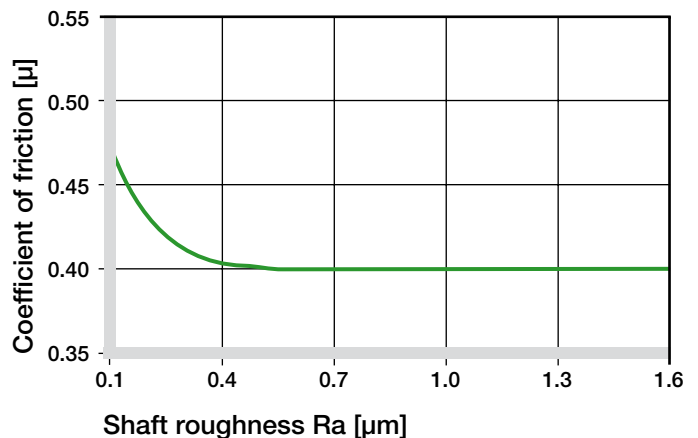


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

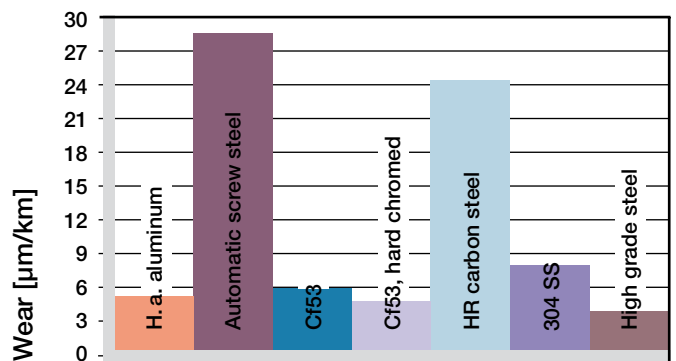


Diagram 06: Wear, rotating with different shaft materials, pressure $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

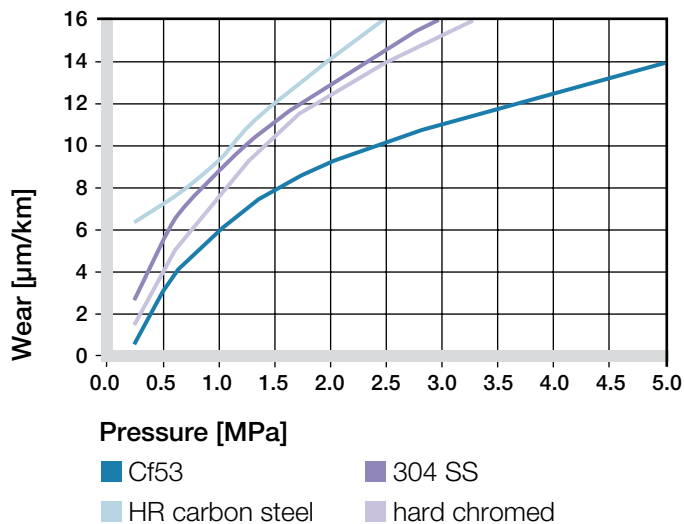


Diagram 08: Wear with different shaft materials in rotational operation, as a function of the pressure

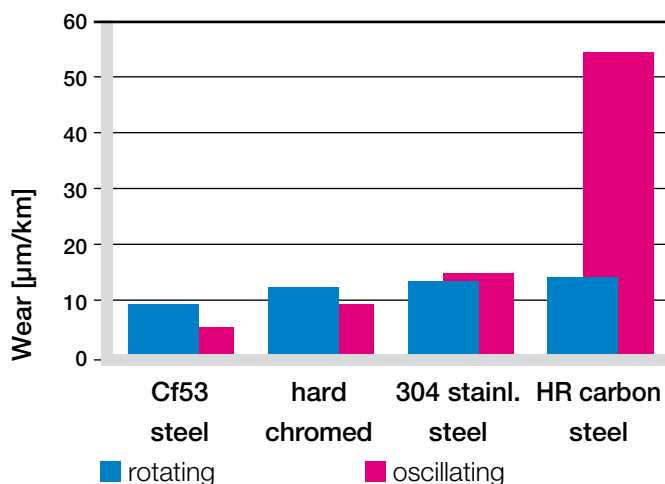


Diagram 09: Wear for rotating and oscillating applications with different shaft materials, $p = 2 \text{ MPa}$

iglidur® A290	Dry	Greases	Oil	Water
C. o. f. μ	0.13–0.40	0.09	0.04	0.04

Table 04: Coefficient of friction against steel ($R_a = 1 \text{ }\mu\text{m}$, 50 HRC)

Additional Properties

Chemical Resistance

iglidur® A290 bearings have a good resistance against chemicals. They are resistant to most lubricants. The iglidur® A290 is not affected by most weak organic and inorganic acids.

► Chemical Table, page 1118

Medium	Resistance
Alcohol	+ to 0
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 [$+20 \text{ }^\circ\text{C}$]

Table 05: Chemical resistance

Radiation Resistance

Plain bearings made from iglidur® A290 are resistant to radiation up to an intensity of $3 \cdot 10^2 \text{ Gy}$.

UV Resistance

iglidur® A290 is resistant to UV radiation, but its tribological properties can be affected.

Vacuum

In a vacuum environment iglidur® A290 plain bearings have limited use due to the high moisture absorption.

Electrical Properties

iglidur® A290 plain bearings are electrically insulating.

Volume resistance	$> 10^{11} \text{ }\Omega\text{cm}$
Surface resistance	$> 10^{11} \text{ }\Omega$

Moisture Absorption

The moisture absorption of iglidur® A290 bearings is approximately 1.7 % in standard atmosphere. The saturation limit in water is 7.3 %, a disadvantage which must be accounted for by all means in applications in humid and wet areas.

Maximum moisture absorption

At +23 °C/50 % r.h. 1.7 % weight

Max. water absorption 7.3 % weight

Table 06: Moisture absorption



Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

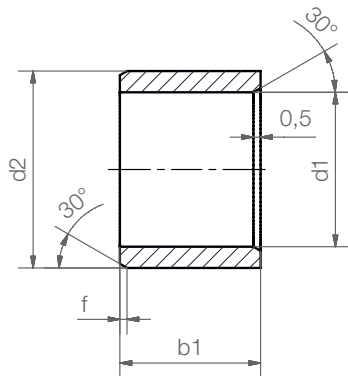
iglidur® A290 plain bearings are standard bearings for shafts with h-tolerance (recommended minimum h9). The bearings are designed for pressfit into a housing machined to a H7 tolerance. After being assembled into a nominal size housing, in standard cases the inner diameter automatically adjusts to the D11 tolerances. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, page 59

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® A290 D11 [mm]	Housing H7 [mm]
up to 3	0–0.025	+0.020 +0.080	0 +0.010
> 3 to 6	0–0.030	+0.030 +0.105	0 +0.012
> 6 to 10	0–0.036	+0.040 +0.130	0 +0.015
> 10 to 18	0–0.043	+0.050 +0.160	0 +0.018
> 18 to 30	0–0.052	+0.065 +0.195	0 +0.021
> 30 to 50	0–0.062	+0.080 +0.240	0 +0.025
> 50 to 80	0–0.074	+0.100 +0.290	0 +0.030

Table 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Sleeve bearing



Order key

A290SM-0304-03



Length b1

Outer diameter d2

Inner diameter d1

Metric

Type (Form S)

Material iglidur® A290

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	b1 h13
A290SM-0304-03	3.0	+0.020 +0.080	4.5	3.0
A290SM-0405-04	4.0	+0.030 +0.105	5.5	4.0
A290SM-0507-05	5.0	+0.030 +0.105	7.0	5.0
A290SM-0608-06	6.0	+0.030 +0.105	8.0	6.0
A290SM-0810-08	8.0	+0.040 +0.130	10.0	8.0
A290SM-1012-10	10.0	+0.040 +0.130	12.0	10.0
A290SM-1214-15	12.0	+0.050 +0.160	14.0	15.0
A290SM-1517-15	15.0	+0.050 +0.160	17.0	15.0
A290SM-1618-15	16.0	+0.050 +0.160	18.0	15.0
A290SM-1820-15	18.0	+0.050 +0.160	20.0	15.0
A290SM-2023-20	20.0	+0.065 +0.195	23.0	20.0
A290SM-2528-20	25.0	+0.065 +0.195	28.0	20.0
A290SM-3034-30	30.0	+0.065 +0.195	34.0	30.0
A290SM-3539-40	35.0	+0.080 +0.240	39.0	40.0
A290SM-4044-50	40.0	+0.080 +0.240	44.0	50.0
A290SM-5055-40	50.0	+0.080 +0.240	55.0	40.0

* after pressfit. Testing methods ► page 59

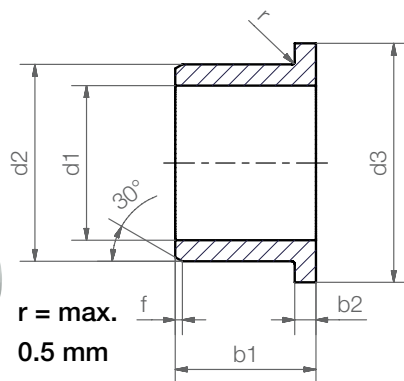


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Flange bearing



Order key

A290FM-0405-06



Length b1
Outer diameter d2
Inner diameter d1
Metric
Type (Form F)
Material iglidur® A290

Dimensions according to ISO 3547-1 and special dimensions

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]

Part number	d1	d1-Tolerance*	d2	d3 d13	b1 h13	b2 -0.14
A290FM-0405-06	4.0	+0.030 +0.105	5.5	9.5	6	0.75
A290FM-0507-05	5.0	+0.030 +0.105	7.0	11.0	5	1.0
A290FM-0608-08	6.0	+0.030 +0.105	8.0	12.0	8	1.0
A290FM-0810-09	8.0	+0.040 +0.130	10.0	15.0	9	1.0
A290FM-1012-09	10.0	+0.040 +0.130	12.0	18.0	9	1.0
A290FM-1214-12	12.0	+0.050 +0.160	14.0	20.0	12	1.0
A290FM-1517-17	15.0	+0.050 +0.160	17.0	23.0	17	1.0
A290FM-1618-17	16.0	+0.050 +0.160	18.0	24.0	17	1.0
A290FM-2023-21	20.0	+0.065 +0.195	23.0	30.0	21	1.5
A290FM-2528-21	25.0	+0.065 +0.195	28.0	35.0	21	1.5
A290FM-3034-26	30.0	+0.065 +0.195	34.0	42.0	26	2.0
A290FM-3539-26	35.0	+0.080 +0.240	39.0	47.0	26	2.0
A290FM-4044-40	40.0	+0.080 +0.240	44.0	52.0	40	2.0
A290FM-5055-40	50.0	+0.080 +0.240	55.0	63.0	40	2.0

* after pressfit. Testing methods ► page 59



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.

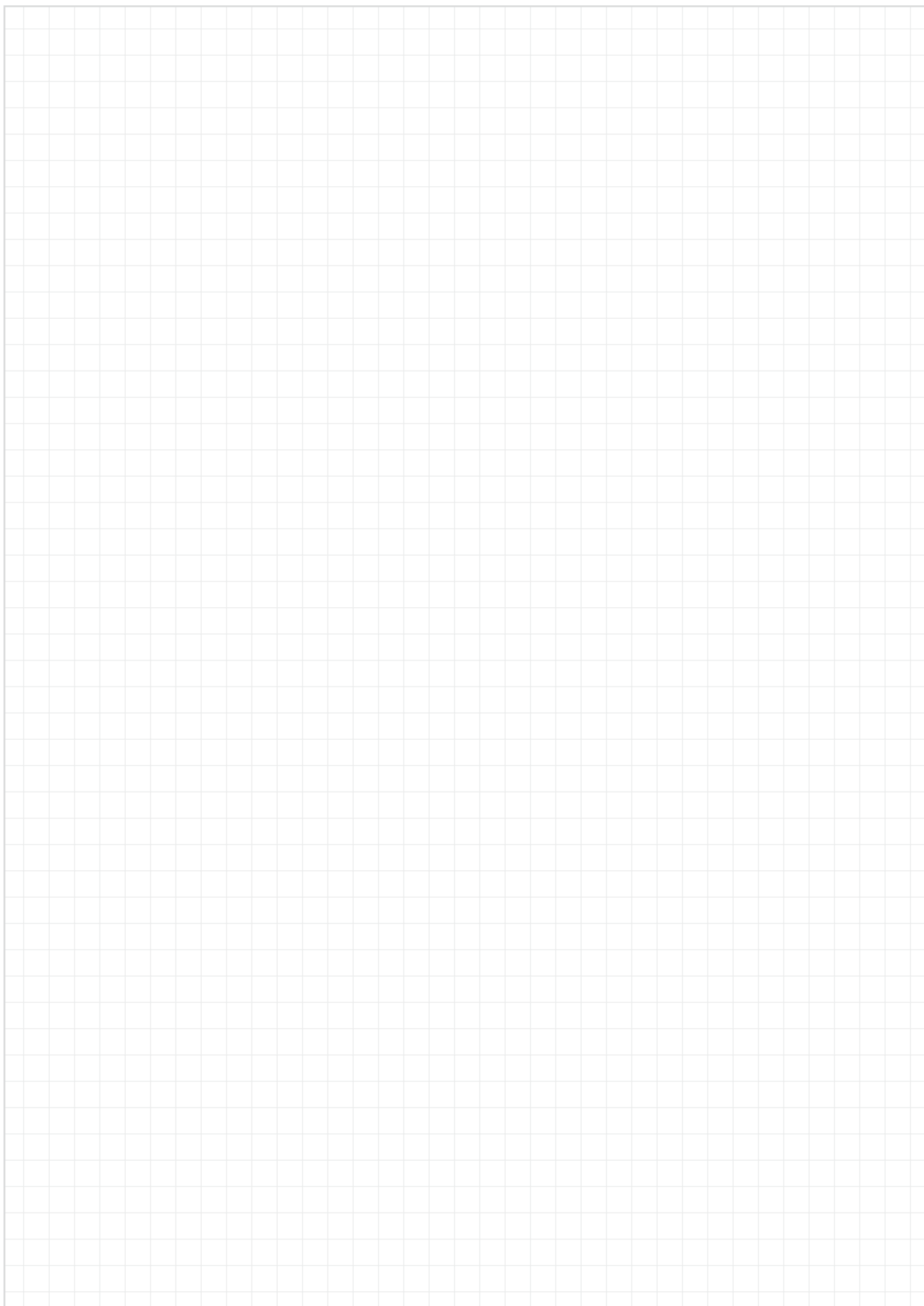


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My Sketches





For the tobacco industry – iglidur® T220



Free of unwanted components as requested by
main manufacturers of tobacco products

For the tobacco industry. Bearings that constitute only materials “recommended” for the tobacco industry. They are free from carcinogenic additives like, for instance, PTFE.



Free of unwanted components as requested by main manufacturers of tobacco products



When to use it?

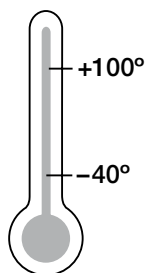
- When my bearings need to be free of substances that are not permitted for applications in the tobacco industry



When not to use it?

- When high compression strength occurs
▶ iglidur® Z, page 311
- When a cost-effective universal bearing is required
▶ iglidur® G, page 65
▶ iglidur® M250, page 111
- If highest wear resistance and low pressure load is necessary
▶ iglidur® J, page 93
- If the bearing should be free merely from PTFE and silicon
▶ iglidur® C, page 547
▶ iglidur® R, page 261

Temperature



Product range

on request

Material properties table

General properties	Unit	iglidur® T220	Testing method
Density	g/cm ³	1.28	
Colour		white	
Max. moisture absorption at +23 °C/50 % r. h.	% weight	0.3	DIN 53495
Max. water absorption	% weight	0.5	
Coefficient of sliding friction, dynamic against steel	μ	0.20–0.32	
pv value, max. (dry)	MPa · m/s	0.28	
Mechanical properties			
Modulus of elasticity	MPa	1,800	DIN 53457
Tensile strength at +20 °C	MPa	65	DIN 53452
Compressive strength	MPa	55	
Max. recommended surface pressure (+20 °C)	MPa	40	
Shore D hardness		76	DIN 53505
Physical and thermal properties			
Max. long term application temperature	°C	+100	
Max. short term application temperature	°C	+160	
Max. ambient temperature, short term ¹⁾	°C	+170	
Min. application temperature	°C	–40	
Thermal conductivity	W/m · K	0.24	ASTM C 177
Coefficient of thermal expansion (at +23 °C)	K ^{–1} · 10 ^{–5}	11	DIN 53752
Electrical properties			
Specific volume resistance	Ωcm	> 10 ¹⁰	DIN IEC 93
Surface resistance	Ω	> 10 ¹⁰	DIN 53482

Table 01: Material properties table

¹⁾ Without additional load; no sliding movement; relaxation possible

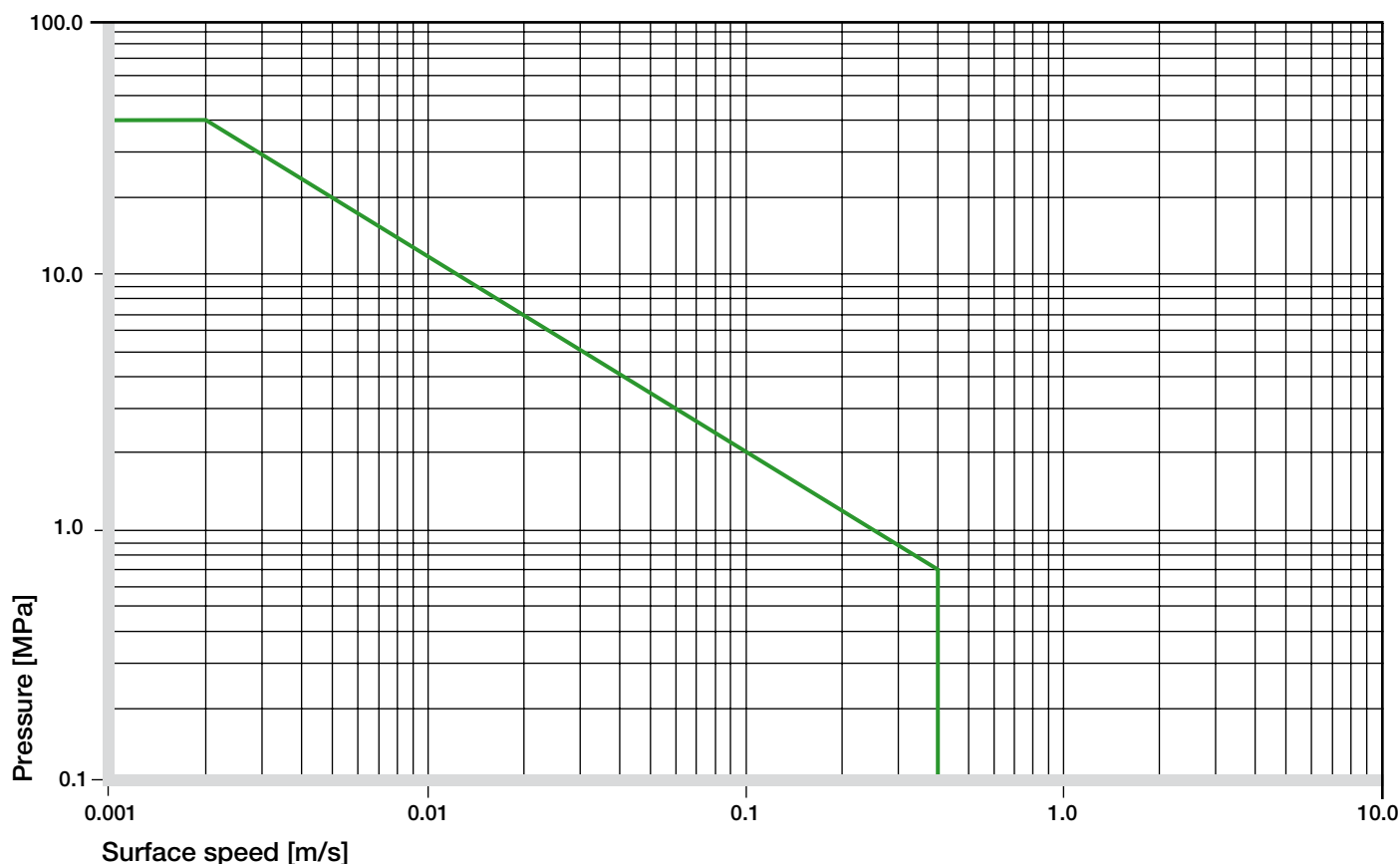


Diagram 01: Permissible pv values for iglidur® T220 with a wall thickness of 1 mm dry running against a steel shaft at +20 °C, mounted in a steel housing

iglidur® T220 is a special material for applications in the tobacco processing industry. It fulfills the demands of the tobacco industry (engineering database). The material is free of undesirable or banned ingredients, as requested by reputed manufacturers from 2004 onward.

Mechanical Properties

With increasing temperatures, the compressive strength of iglidur® T220 plain bearings decreases. The Diagram 02 shows this inverse relationship. However, at the longterm maximum temperature of +100 °C the permissible surface pressure is almost 10 MPa. The recommended maximum surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

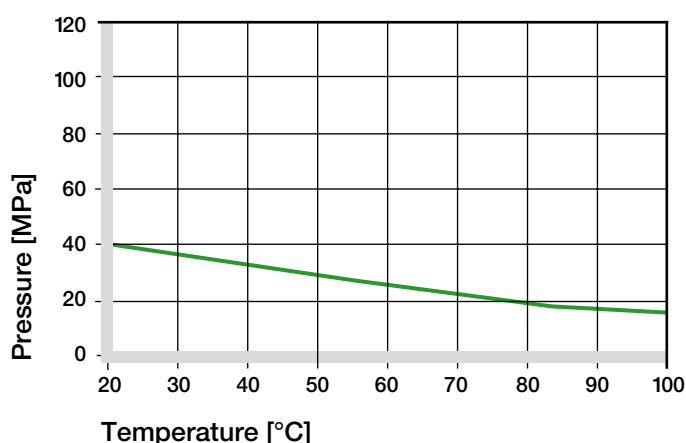


Diagram 02: Recommended maximum surface pressure as a function of temperature (40 MPa at +20 °C)

iglidur® T220 bearings can be stressed up to the permitted limit of 45 MPa, the elastic deformation is less than 2 % at room temperature. The permitted load is limited by higher temperatures (Diagram 02).

► Surface Pressure, [page 47](#)

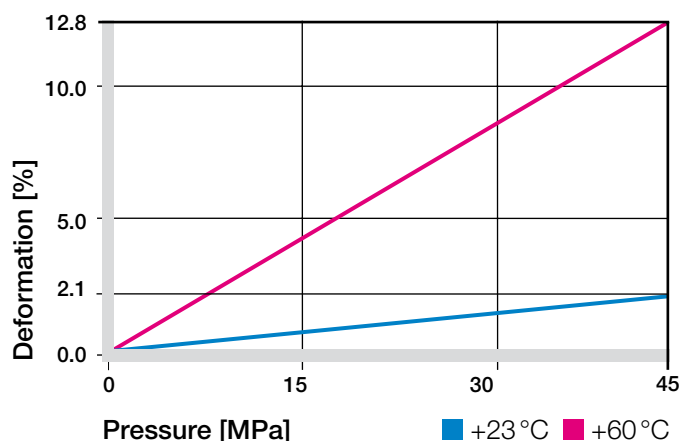


Diagram 03: Deformation under pressure and temperature

Permissible Surface Speeds

The maximum speeds of iglidur® T220 bearings amount to 0.4 m/s with continuous rotation. The friction and the entailing heating limit the permitted speeds. From this it follows that in intermittent service or in linear movements, higher speeds can be attained.

► Surface Speed, [page 49](#)

m/s	Rotating	Oscillating	Linear
Continuous	0.4	0.3	1
Short term	1	0.7	2

Table 02: Maximum running speed

Temperatures

The plain bearings of iglidur® T220 can be continuously used up to +100 °C. Temporarily, temperatures up to +160 °C are permissible.

The elasticity of the bearings depends on the temperature. A clear increase in elasticity occurs already at +60 °C. Usually iglidur® T220 bearings will need to be mechanically secured in the housing when being used at temperatures over +50 °C.

► Application Temperatures, [page 50](#)

iglidur® T220	Application temperature
Minimum	–40 °C
Max. long term	+100 °C
Max. short term	+160 °C
Add. securing is required from	+50 °C

Table 03: Temperature limits

Friction and Wear

By the observance of the tobacco processing industry specifications, the coefficient of friction and the wear of iglidur® T220 remain behind those of the best iglidur® bearings. The coefficient of friction decreases with the load and increases only slightly with higher speeds.

► Coefficients of Friction and Surfaces, **page 52**

► Wear Resistance, **page 53**

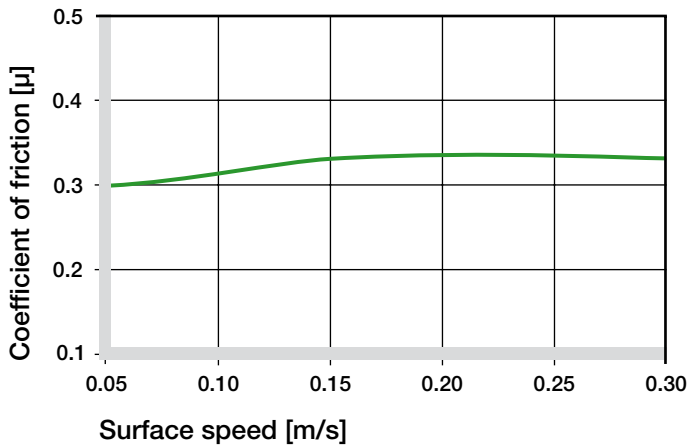


Diagram 04: Coefficient of friction as a function of the running speed, $p = 0.75 \text{ MPa}$

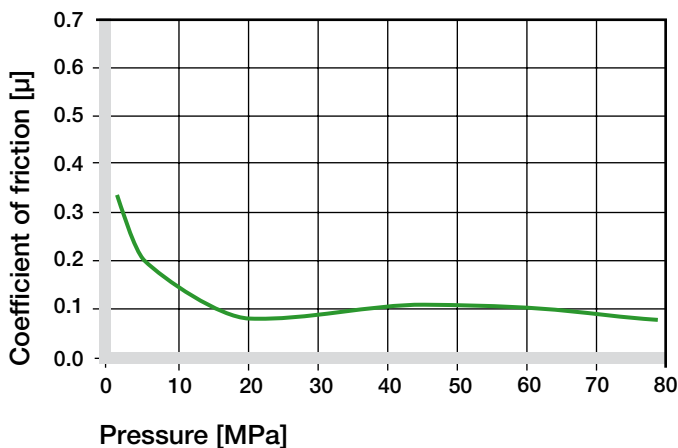


Diagram 05: Coefficient of friction as a function of the pressure, $v = 0.01 \text{ m/s}$

Shaft Materials

Diagrams 06 to 09 show the test results of iglidur® T220 bearings running against various shaft materials. Diagram 09 shows that the bearings react with a heavy increase in wear when the load is increased. Therefore it should be observed that the load should be kept below 5 MPa by the correct dimensioning of the bearings.

► Shaft Materials, **page 55**

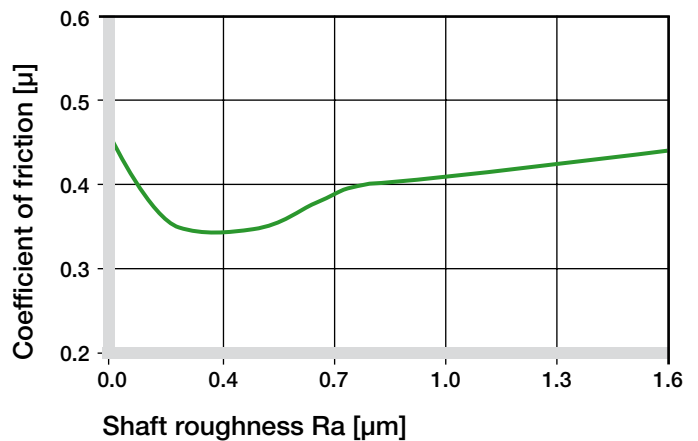


Diagram 06: Coefficient of friction as function of the shaft surface (Cf53 hardened and ground steel)

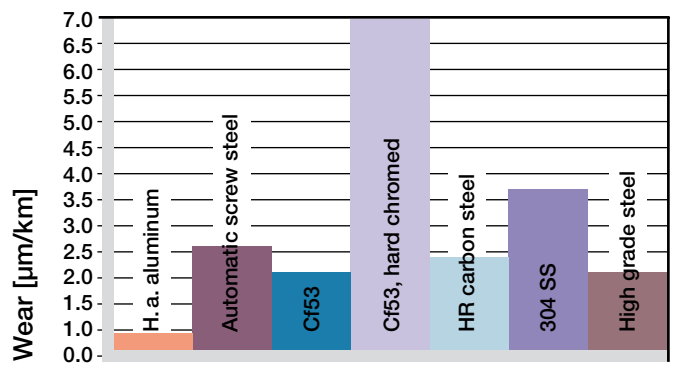


Diagram 07: Wear, rotating with different shaft materials, pressure $p = 1 \text{ MPa}$, $v = 0.3 \text{ m/s}$

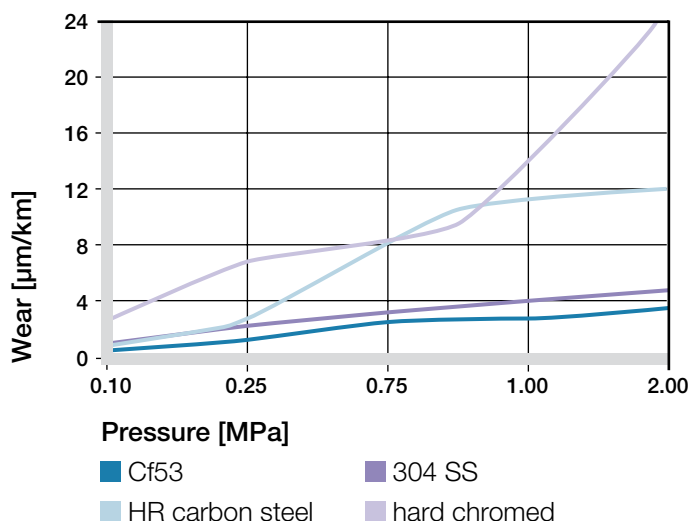


Diagram 08: Wear with different shaft materials in rotational operation, as a function of the pressure

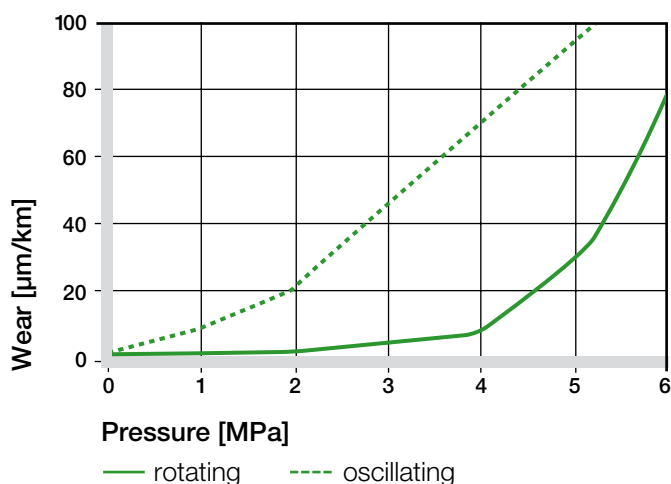


Diagram 09: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the pressure

iglidur® T220	Dry	Greases	Oil	Water
C.o.f. μ	0.2–0.32	0.09	0.04	0.04

Table 04: Coefficient of friction against steel ($R_a = 1 \mu\text{m}$, 50 HRC)

Additional Properties

Chemical Resistance

iglidur® T220 plain bearings are resistant to strongly diluted alkalines and very weak acids.

► Chemical Table, page 1118

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

+ resistant 0 conditionally resistant – not resistant

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

Table 05: Chemical resistance

Radiation Resistance

Plain bearings of iglidur® T220 are radiation resistant up to a radiation intensity of $3 \cdot 10^2 \text{ Gy}$.

UV Resistance

iglidur® T220 plain bearings are not resistant to the impact of UV radiation.

Vacuum

Applications in a vacuum are only possible to a limited extent. Only dehumidified bearings of iglidur® T220 should be tested in a vacuum.

Electrical Properties

iglidur® T220 plain bearings are electrically insulating.

Volume resistance	$> 10^{10} \Omega\text{cm}$
Surface resistance	$> 10^{10} \Omega$

Moisture Absorption

The moisture absorption of iglidur® T220 plain bearings is approximately 0.3 % in standard atmosphere. The saturation limit in water is 0.5 %. These values are so low that consideration of expansion by moisture absorption is only required under extreme circumstances.

Maximum moisture absorption

At +23 °C/50 % r. h.	0.3 % weight
Max. water absorption	0.5 % weight

Table 06: Moisture absorption

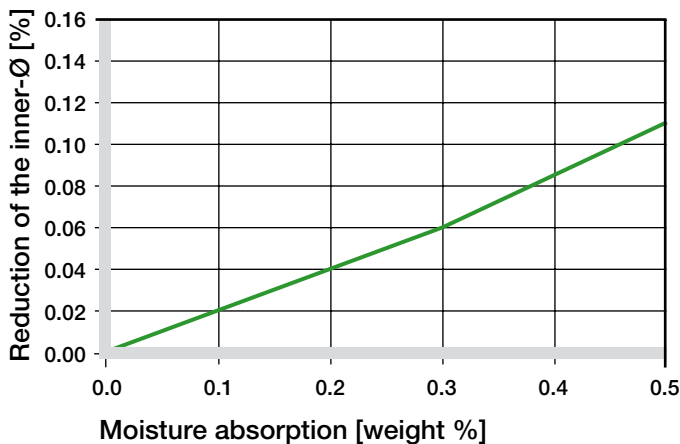


Diagram 10: Effect of moisture absorption on plain bearings

Installation Tolerances

iglidur® T220 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. For particular dimensions the tolerance differs depending on the wall thickness (please see product range table).

► Testing Methods, page 59

Diameter d1 [mm]	Shaft h9 [mm]	iglidur® T220 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 07: Important tolerances for plain bearings according to ISO 3547-1 after pressfit

Product Range

iglidur® T220 plain bearings are manufactured to special order.