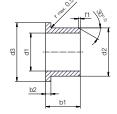


Flange bearing (form F)





2) Thickness < 0.6mm: Chamfer = 20°

Chamfer in relation to d1

d1 [mm] Ø 1-6 | Ø 6-12 | Ø 12-30 | Ø > 30 f1 [mm] 0.3 | 0.5 | 0.8 | 1.2



Dimensions according to ISO 3547-1 and special dimensions



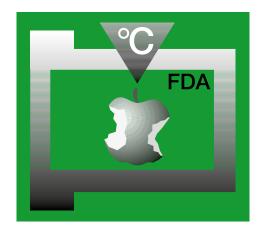
Order example: A350FM-0507-05 - no minimum order quantity.

A350 iglidur® material F Flange bearing M Metric 05 Inner Ø d1 07 Outer Ø d2 05 Total length b1

d1	d1 Tolerance ³	d2	d3 d13 ³⁾	b1 h13	b2 h13	Part No.
[mm]		[mm]	[mm]	[mm]	[mm]	
5.0		7.0	11.0	5.0	1.00	A350FM-0507-05
6.0	+0.010	8.0	12.0	4.0	1.00	A350FM-0608-04
6.0	+0.058	8.0	12.0	6.0	1.00	A350FM-0608-06
6.0		8.0	12.0	8.0	1.00	A350FM-0608-08
8.0		10.0	15.0	5.5	1.00	A350FM-0810-05
8.0		10.0	15.0	7.5	1.00	A350FM-0810-07
8.0		10.0	15.0	9.5	1.00	A350FM-0810-09
10.0	+0.013	10.0	15.0	10.0	1.00	A350FM-0810-10
10.0	+0.013	12.0	18.0	7.0	1.00	A350FM-1012-07
10.0	+0.071	12.0	18.0	9.0	1.00	A350FM-1012-09
10.0		12.0	18.0	10.0	1.00	A350FM-1012-10
10.0		12.0	18.0	12.0	1.00	A350FM-1012-12
10.0		12.0	18.0	17.0	1.00	A350FM-1012-17
12.0		14.0	20.0	7.0	1.00	A350FM-1214-07
12.0		14.0	20.0	9.0	1.00	A350FM-1214-09
12.0	+0.016	14.0	20.0	12.0	1.00	A350FM-1214-12
12.0	+0.086	14.0	20.0	17.0	1.00	A350FM-1214-17
14.0		16.0	22.0	12.0	1.00	A350FM-1416-12
14.0		16.0	22.0	17.0	1.00	A350FM-1416-17

d1	d1 Tolerance ³	d2	d3 d13 ³⁾	b1 h13	b2 h13	Part No.
[mm]		[mm]	[mm]	[mm]	[mm]	
15.0		17.0	23.0	9.0	1.00	A350FM-1517-09
15.0		17.0	23.0	12.0	1.00	A350FM-1517-12
15.0	+0.016	17.0	23.0	17.0	1.00	A350FM-1517-17
16.0	+0.016	18.0	24.0	12.0	1.00	A350FM-1618-12
16.0	+0.000	18.0	24.0	17.0	1.00	A350FM-1618-17
18.0		20.0	26.0	12.0	1.00	A350FM-1820-12
18.0		20.0	26.0	17.0	1.00	A350FM-1820-17
20.0		23.0	30.0	11.5	1.50	A350FM-2023-11
20.0		23.0	30.0	16.5	1.50	A350FM-2023-16
20.0		23.0	30.0	21.5	1.50	A350FM-2023-21
25.0	+0.020	28.0	35.0	11.5	1.50	A350FM-2528-11
25.0	+0.104	28.0	35.0	16.5	1.50	A350FM-2528-16
25.0	_	28.0	35.0	21.5	1.50	A350FM-2528-21
30.0		34.0	42.0	16.0	2.00	A350FM-3034-16
30.0		34.0	42.0	26.0	2.00	A350FM-3034-26
35.0		39.0	47.0	16.0	2.00	A350FM-3539-16
35.0	+0.025	39.0	47.0	26.0	2.00	A350FM-3539-26
40.0	+0.025	44.0	52.0	30.0	2.00	A350FM-4044-30
40.0	+0.123	44.0	52.0	40.0	2.00	A350FM-4044-40
45.0		50.0	58.0	50.0	2.00	A350FM-4550-50





The media and temperature specialist in the food sector

Compliant with Regulation (EU) No. 10/2011 and FDA guidelines **iglidur**® **A500**



When to use it?

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



When not to use?

- When the highest wear resistance is required iglidur[®] X6, iglidur[®] Z
- When no resistance to temperature or chemicals is required iglidur[®] A180, iglidur[®] A200
- When a cost-effective universal plain bearing is required iglidur® G, iglidur® P



³⁾ After press-fit. Testing methods, page 57



4.0 - 50.0mm



Also available



round bar Page 681



Compliant with Regulation (EU) No. 10/2011 and FDA guidelines



Bar stock. plate Page 683 Plain bearings made from iglidur® A500 can be exposed to extremely high temperatures and are suitable for direct contact with food (FDA-compliant).

- Compliant with Regulation (EU) No. 10/2011
- FDA-compliant
- Temperature-resistant from −100°C to +250°C
- High chemical resistance
- Lubrication-free
- Maintenance-free

tribo-tape liner Page 691

Typical application areas

- Food industry



Piston rings Page 584

Two hole

Page 603

flange bearings

	,	
•	Beverage technology	
Þ	Medical technology	

Descriptive technical specifications	
Wear resistance at +23°C	- +
Wear resistance at +90°C	- +
Wear resistance at +150°C	- +
Low coefficient of friction	- +
Low moisture absorption	- +
Wear resistance under water	- +
High media resistance	- +
Resistant to edge pressures	- +
Suitable for shock and impact loads	- +
Resistant to dirt	- +



special parts





Technical data

General properties			Testing method
Density	g/cm ³	1.28	
Colour		brown	
Max. moisture absorption at +23°C and 50% r.h.	% weight	0.3	DIN 53495
Max. moisture absorption	% weight	0.5	
Coefficient of friction, dynamic, against steel	μ	0.26 - 0.41	
pv value, max. (dry)	MPa · m/s	0.28	
Mechanical properties			
Flexural modulus	MPa	3,600	DIN 53457
Flexural 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. application temperature long-term	°C	+250	
Max. application temperature short-term	°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 contact resistance	Ωcm	> 1014	DIN IEC 93
Surface resistance	Ω	> 1013	DIN 53482



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

Moisture absorption

The moisture absorption of iglidur® A500 plain bearings is only 0.5% weight after saturation in water.

In vacuum, any present moisture is released as vapour. The use in vacuum is only possible to a limited extent.

Radiation resistance

Plain bearings made from iglidur® A500 are resistant up to a radiation intensity of 2 · 105Gy.



-100°C up to +250°C















Resistance to weathering

iglidur® A500 plain bearings are not resistant to weathering. The material properties are significantly affected. Discoloration occurs. Practical tests under real application conditions are strongly recommended.

Mechanical properties

With increasing temperatures, the compressive strength of iglidur® A500 plain bearings decreases. Diagram 02 shows this inverse relationship. The maximum recommended surface pressure is a mechanical material parameter. No conclusions regarding the tribological properties can be drawn from this.

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

Surface pressure, page 41

Lubrication-free made easy ... from stock ... no minimum order quantity





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 speeds leading to a higher heating up of the bearing. Tests show that plain bearings made from iglidur® A500 are more wear-resistant in pivoting movements, and the permitted pv values are also higher in pivoting applications.

Surface speed, page 44

Temperature

The iglidur® A500 plain bearings can be used in short-term temperatures up to +300°C. With increasing temperatures, the compressive strength of iglidur® A500 plain bearings decreases. Diagram 02 shows this inverse relationship. The temperatures prevailing in the bearing system also have an influence on the wear. For temperatures over +130°C an additional securing is required.

Application temperatures, page 49 Additional securing, page 49

Friction and wear

The coefficient of friction is dependent on the load that acts on the bearing (diagrams 04 and 05).

Coefficient of friction and surfaces, page 47 Wear resistance, page 50

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglidur® A500. The combination "iglidur® A500/hard-chromed shaft" clearly stands out in rotating application. Up to about 2.0MPa, 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. If the shaft material you plan on using is not shown in these test results, please contact us.

Shaft materials, page 52

Installation tolerances

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

Testing methods, page 57

Chemicals	Resistance
Alcohols	+
Diluted acids	+
Diluted alkalines	+
Fuels	+
Greases, oils without additives	+
Hydrocarbons	+
Strong acids	+
Strong alkalines	+

All information given at room temperature [+20°C] Table 02: Chemical resistance Chemical table, page 1636

		Rotating	Oscillating	linear
long-term	m/s	0.6	0.4	1.0
short-term	m/s	1.0	0.7	2.0

Table 03: Maximum surface speeds

	Dry	Greases	Oil	Water
Coefficient of friction $\boldsymbol{\mu}$	0.26 - 0.41	0.09	0.04	0.04

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

	Housing	Plain bearing	Shaft
Ø d1 [mm]	H7 [mm]	F10 [mm]	h9 [mm]
0-3	+0.000 +0.010	+0.006 +0.046	-0.025 +0.000
> 3 - 6	+0.000 +0.012	+0.010 +0.058	-0.030 +0.000
> 6 - 10	+0.000 +0.015	+0.013 +0.071	-0.036 +0.000
> 10 - 18	+0.000 +0.018	+0.016 +0.086	-0.043 +0.000
> 18 – 30	+0.000 +0.021	+0.020 +0.104	-0.052 +0.000
> 30 - 50	+0.000 +0.025	+0.025 +0.125	-0.062 +0.000
> 50 - 80	+0.000 +0.030	+0.030 +0.150	-0.074 +0.000
> 80 - 120	+0.000 +0.035	+0.036 +0.176	-0.087 +0.000
> 120 – 180	+0.000 +0.040	+0.043 +0.203	+0.000 +0.100

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

Technical data

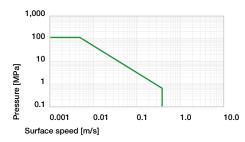


Diagram 01: Permissible pv values for iglidur® A500 plain bearings with a wall thickness of 1mm, dry operation against a steel shaft, at +20°C, mounted in a steel housing

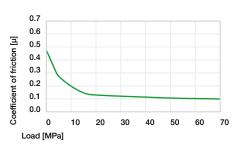


Diagram 05: Coefficient of friction as a function of the load,

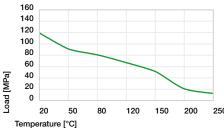


Diagram 02: Maximum recommended surface pressure as a function of temperature (120MPa at +20°C)

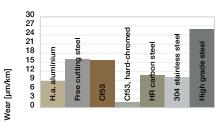


Diagram 06: Wear, rotating with different shaft materials, pressure, p = 1MPa, v = 0.3m/s

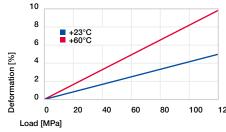


Diagram 03: Deformation under pressure and temperature

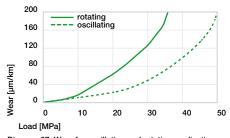


Diagram 07: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the load

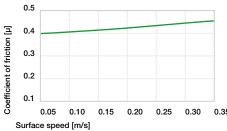
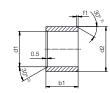


Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75MPa



Sleeve bearing (form S)





2) Thickness < 0.6mm: Chamfer = 20°

Chamfer in relation to d1

d1 [mm] Ø 1-6 Ø 6-12 | Ø 12-30 Ø > 30f1 [mm] 0.3 8.0 1.2

Dimensions according to ISO 3547-1 and special dimensions



Order example: A500SM-0405-04 - no minimum order quantity.

A500 iglidur® material S Sleeve bearing M Metric 04 Inner Ø d1 05 Outer Ø d2 04 Total length b1

d1	d1 Tolerance ³⁾	d2	b1 h13	Part No.	d1	d1 Tolerance ³⁾	d2	b1 h13	Part No.
[mm]		[mm]	[mm]		[mm]		[mm]	[mm]	
4.0		5.5	4.0	A500SM-0405-04	15.0		17.0	25.0	A500SM-1517-25
4.0		5.5	6.0	A500SM-0405-06	16.0		18.0	15.0	A500SM-1618-15
5.0	0.040	7.0	5.0	A500SM-0507-05	16.0	. 0.040	18.0	20.0	A500SM-1618-20
5.0	+0.010	7.0	10.0	A500SM-0507-10	16.0	+0.016	18.0	25.0	A500SM-1618-25
6.0	+0.058	8.0	6.0	A500SM-0608-06	18.0	+0.086	20.0	15.0	A500SM-1820-15
6.0		8.0	8.0	A500SM-0608-08	18.0		20.0	20.0	A500SM-1820-20
6.0		8.0	10.0	A500SM-0608-10	18.0		20.0	25.0	A500SM-1820-25
8.0		10.0	6.0	A500SM-0810-06	20.0		23.0	10.0	A500SM-2023-10
8.0		10.0	8.0	A500SM-0810-08	20.0		23.0	15.0	A500SM-2023-15
8.0		10.0	10.0	A500SM-0810-10	20.0		23.0	20.0	A500SM-2023-20
8.0	+0.013	10.0	12.0	A500SM-0810-12	20.0		23.0	25.0	A500SM-2023-25
10.0	+0.073	12.0	8.0	A500SM-1012-08	20.0		23.0	30.0	A500SM-2023-30
10.0	+0.071	12.0	10.0	A500SM-1012-10	22.0		25.0	15.0	A500SM-2225-15
10.0		12.0	12.0	A500SM-1012-12	22.0		25.0	20.0	A500SM-2225-20
10.0		12.0	15.0	A500SM-1012-15	22.0		25.0	25.0	A500SM-2225-25
10.0		12.0	20.0	A500SM-1012-20	22.0		25.0	30.0	A500SM-2225-30
12.0		14.0	10.0	A500SM-1214-10	24.0		27.0	15.0	A500SM-2427-15
12.0		14.0	12.0	A500SM-1214-12	24.0	+0.020	27.0	20.0	A500SM-2427-20
12.0		14.0	15.0	A500SM-1214-15	24.0	+0.104	27.0	25.0	A500SM-2427-25
12.0		14.0	20.0	A500SM-1214-20	24.0		27.0	30.0	A500SM-2427-30
12.0		15.0	15.0	A500SM-1215-15	25.0		28.0	15.0	A500SM-2528-15
13.0	+0.016	15.0	10.0	A500SM-1315-10	25.0		28.0	20.0	A500SM-2528-20
13.0	+0.086	15.0	20.0	A500SM-1315-20	25.0		28.0	25.0	A500SM-2528-25
14.0		16.0	15.0	A500SM-1416-15	25.0		28.0	30.0	A500SM-2528-30
14.0	_	16.0	16.0	A500SM-1416-16	28.0		32.0	20.0	A500SM-2832-20
14.0		16.0	20.0	A500SM-1416-20	28.0		32.0	25.0	A500SM-2832-25
14.0		16.0	25.0	A500SM-1416-25	28.0		32.0	30.0	A500SM-2832-30
15.0		17.0	15.0	A500SM-1517-15	30.0		34.0	20.0	A500SM-3034-20
15.0		17.0	20.0	A500SM-1517-20	30.0		34.0	25.0	A500SM-3034-25

³⁾ After press-fit. Testing methods, page 57



Product range

d1	d1 Tolerance ³⁾	d2	b1 h13	Part No.	d1	d1 Tolerance ³⁾	d2	b1 h13	Part No.
[mm]		[mm]	[mm]		[mm]		[mm]	[mm]	
30.0	+0.020	34.0	30.0	A500SM-3034-30	40.0		44.0	40.0	A500SM-4044-40
30.0	+0.104	34.0	40.0	A500SM-3034-40	40.0		44.0	50.0	A500SM-4044-50
32.0		36.0	20.0	A500SM-3236-20	45.0		50.0	20.0	A500SM-4550-20
32.0		36.0	30.0	A500SM-3236-30	45.0		50.0	30.0	A500SM-4550-30
32.0		36.0	40.0	A500SM-3236-40	45.0	.0.005	50.0	40.0	A500SM-4550-40
35.0	. 0. 005	39.0	20.0	A500SM-3539-20	45.0	+0.025	50.0	50.0	A500SM-4550-50
35.0	+0.025 +0.125	39.0	30.0	A500SM-3539-30	50.0	+0.125	55.0	20.0	A500SM-5055-20
35.0	+0.125	39.0	40.0	A500SM-3539-40	50.0		55.0	30.0	A500SM-5055-30
35.0		39.0	50.0	A500SM-3539-50	50.0		55.0	40.0	A500SM-5055-40
40.0		44.0	20.0	A500SM-4044-20	50.0		55.0	50.0	A500SM-5055-50
40.0		44.0	30.0	A500SM-4044-30	50.0		55.0	60.0	A500SM-5055-60

³⁾ After press-fit. Testing methods, page 57



Available from stock

Detailed information about delivery time online. www.igus.eu/24



Online ordering

Including delivery times, prices, online tools www.igus.eu/A500



Ordering note

Our prices are scaled according to order quantities, current prices can be found online.

Discount scaling							
1 – 9	50 – 99	500 – 999					
10 – 24	100 – 199	1,000 - 2,499					
25 – 49	200 – 499	2,500 - 4,999					

No minimum order value. No low-quantity surcharges. Free shipping within Germany for orders above €150.



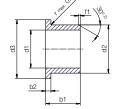
iglidur® A500

+250°C

120MPa

Flange bearing (form F)





2) Thickness < 0.6mm: Chamfer = 20°

Chamfer in relation to d1

Ø 6-12 | Ø 12-30 | d1 [mm] Ø 1-6 $\emptyset > 30$ f1 [mm] 0.3 1.2



Dimensions according to ISO 3547-1 and special dimensions



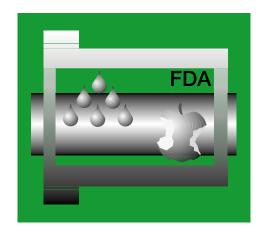
Order example: A500FM-0405-04 - no minimum order quantity.

A500 iglidur® material F Flange bearing M Metric 04 Inner Ø d1 05 Outer Ø d2 04 Total length b1

d1	d1 Tolerance ³⁾	d2	d3 d13 ³⁾	b1 h13	b2 h13	Part No.
[mm]		[mm]	[mm]	[mm]	[mm]	
4.0	+0.010 +0.058	5.5	9.5	4.0	2.00	A500FM-0405-04
4.0		8.0	12.0	6.0	2.00	A500FM-0408-06
6.0		8.0	12.0	4.0	1.00	A500FM-0608-04
6.0		8.0	12.0	6.0	1.00	A500FM-0608-06
6.0		8.0	12.0	8.0	1.00	A500FM-0608-08
8.0	- - +0.013 - - -	10.0	15.0	5.5	1.00	A500FM-0810-05
8.0		10.0	15.0	7.5	1.00	A500FM-0810-07
8.0		10.0	15.0	9.5	1.00	A500FM-0810-09
8.0		10.0	15.0	10.0	1.00	A500FM-0810-10
10.0		12.0	18.0	7.0	1.00	A500FM-1012-07
10.0		12.0	18.0	9.0	1.00	A500FM-1012-09
10.0		12.0	18.0	12.0	1.00	A500FM-1012-12
10.0		12.0	18.0	15.0	1.00	A500FM-1012-15
10.0		12.0	18.0	17.0	1.00	A500FM-1012-17
12.0	+0.016	14.0	20.0	7.0	1.00	A500FM-1214-07
12.0		14.0	20.0	9.0	1.00	A500FM-1214-09
12.0		14.0	20.0	12.0	1.00	A500FM-1214-12
12.0		14.0	20.0	13.0	1.00	A500FM-1214-13
12.0		14.0	20.0	15.0	1.00	A500FM-1214-15
12.0		14.0	20.0	17.0	1.00	A500FM-1214-17
14.0		16.0	22.0	12.0	1.00	A500FM-1416-12
14.0		16.0	22.0	17.0	1.00	A500FM-1416-17
15.0		17.0	23.0	9.0	1.00	A500FM-1517-09

d1	d1 Tolerance ³⁾	d2	d3 d13 ³⁾	b1 h13	b2 h13	Part No.
[mm]		[mm]	[mm]	[mm]	[mm]	
15.0	+0.016 + +0.086 +	17.0	23.0	12.0	1.00	A500FM-1517-12
15.0		17.0	23.0	17.0	1.00	A500FM-1517-17
16.0		18.0	24.0	12.0	1.00	A500FM-1618-12
16.0		18.0	24.0	17.0	1.00	A500FM-1618-17
18.0		20.0	26.0	12.0	1.00	A500FM-1820-12
18.0		20.0	26.0	17.0	1.00	A500FM-1820-17
18.0		20.0	26.0	22.0	1.00	A500FM-1820-22
20.0	+0.020	23.0	30.0	11.5	1.50	A500FM-2023-11
20.0		23.0	30.0	16.5	1.50	A500FM-2023-16
20.0		23.0	30.0	21.5	1.50	A500FM-2023-21
25.0		28.0	35.0	11.5	1.50	A500FM-2528-11
25.0		28.0	35.0	16.5	1.50	A500FM-2528-16
25.0		28.0	35.0	21.5	1.50	A500FM-2528-21
30.0		34.0	42.0	16.0	2.00	A500FM-3034-16
30.0		34.0	42.0	26.0	2.00	A500FM-3034-26
30.0		34.0	42.0	40.0	2.00	A500FM-3034-40
35.0	+0.025 +0.125	39.0	47.0	16.0	2.00	A500FM-3539-16
35.0		39.0	47.0	26.0	2.00	A500FM-3539-26
35.0		39.0	47.0	40.0	2.00	A500FM-3539-40
40.0		44.0	52.0	30.0	2.00	A500FM-4044-30
40.0		44.0	52.0	40.0	2.00	A500FM-4044-40
45.0		50.0	58.0	50.0	2.00	A500FM-4550-50





The all-rounder for food

FDA-compliant iglidur® A180



When to use it?

- When the bearings have direct contact with food
- When FDA compliance is required
- When a low noise level is required
- When low moisture absorption is fundamental



When not to use?

- When the maximum wear resistance is necessary iglidur® J
- When continuous operating temperatures are higher than +80°C iglidur® A350, iglidur® A500
- When a cost-effective universal plain bearing is required iglidur® G, iglidur® P



³⁾ After press-fit. Testing methods, page 57