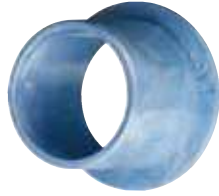


Bearing technology | Plain bearings | iglidur® A350

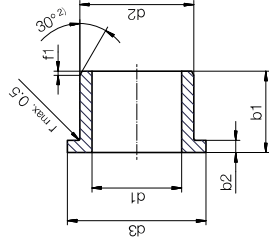
Flange bearing (form F)



Chamfer in relation to d1

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

²⁾ Thickness < 0.6mm: Chamfer = 20°



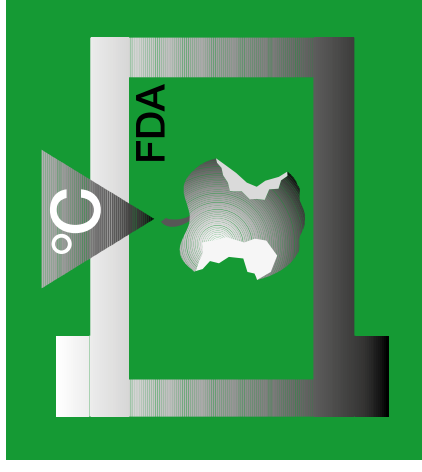
i Dimensions according to ISO 3547-1 and special dimensions

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

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

d1	d2	d3	b1	b2	Part No.	
Tolerance ³⁾	d13	h13	h14	-0,14		
[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		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		14.0	20.0	12.0	1.00	A350FM-1214-12
12.0	+0,016	14.0	20.0	17.0	1.00	A350FM-1214-17
14.0	+0,086	16.0	22.0	12.0	1.00	A350FM-1416-12
14.0		16.0	22.0	17.0	1.00	A350FM-1416-17
15.0		17.0	23.0	9.0	1.00	A350FM-1517-09

³⁾ After press-fit. Testing methods page 57



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
- Good abrasion resistance
- Temperature-resistant from -100°C to +250°C



When not to use?

- When the highest wear resistance is required
- 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**

Bearing technology | Plain bearings | iglidur® A500

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.

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.

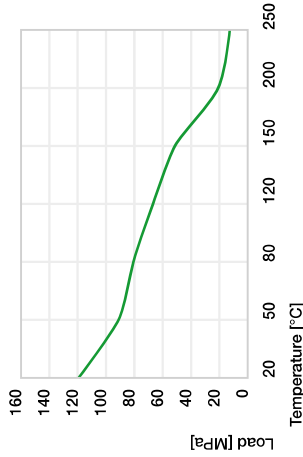


Diagram 02: Maximum recommended surface pressure as a function of temperature (120MPa at +20°C)

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

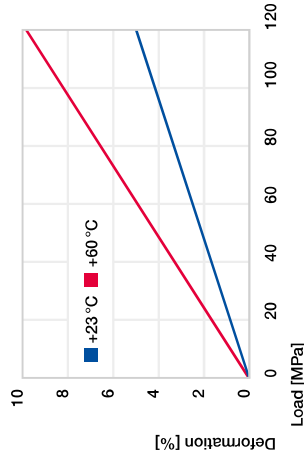


Diagram 03: Deformation under pressure and temperature

Permissible surface speeds

igidur® 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

	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

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

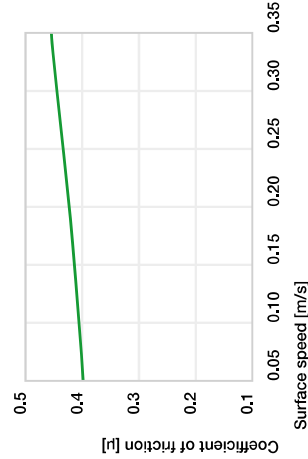


Diagram 04: Coefficient of friction as a function of the surface speed, p = 0.75MPa

Technical data

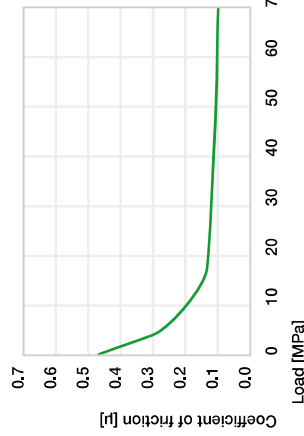


Diagram 05: Coefficient of friction as a function of the load, v = 0.01m/s

Shaft materials

Diagram 06 shows results of testing different shaft materials with plain bearings made from iglidur® A500. The combination "igidur® 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

	Dry	Greases	Oil	Water
Coeff. of friction [μ]	0.26 - 0.41	0.09	0.04	0.04

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



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

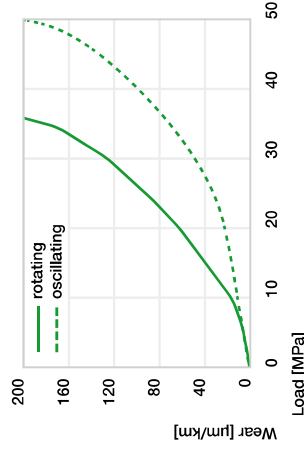


Diagram 07: Wear for oscillating and rotating applications with shaft material Cf53 hardened and ground steel, as a function of the load

Installation tolerances

igidur® 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).

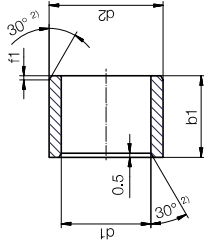
Testing methods, page 57

	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

Bearing technology | Plain bearings | iglidur® A500

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 > 30
f [mm]	0.3	0.5	0.8	1.2

i Dimensions according to ISO 3547-1 and special dimensions

i Order example: **A500SM-0405-06** - no minimum order quantity.

A500 iglidur® material **S** Sleeve bearing **M** Metric **Ø4** Inner **Ø1** **Ø5** Outer **Ø2** **Ø6** Total length **b1**

d1	d1 Tolerance ³⁾	d2	b1	h13	Part No.
4.0		5.5	4.0	A500SM-0405-06	A500SM-0405-06
4.0		5.5	6.0	A500SM-0405-06	A500SM-0405-06
5.0	+0.010	7.0	5.0	A500SM-0507-05	A500SM-0507-05
5.0	+0.058	7.0	10.0	A500SM-0507-10	A500SM-0507-10
6.0		8.0	6.0	A500SM-0608-06	A500SM-0608-06
6.0		8.0	8.0	A500SM-0608-08	A500SM-0608-08
6.0		8.0	10.0	A500SM-0608-10	A500SM-0608-10
8.0		10.0	6.0	A500SM-0810-06	A500SM-0810-06
8.0		10.0	8.0	A500SM-0810-08	A500SM-0810-08
8.0		10.0	10.0	A500SM-0810-10	A500SM-0810-10
8.0	+0.013	12.0	12.0	A500SM-1012-12	A500SM-1012-12
10.0	+0.071	12.0	8.0	A500SM-1012-08	A500SM-1012-08
10.0		12.0	10.0	A500SM-1012-10	A500SM-1012-10
10.0		12.0	15.0	A500SM-1012-15	A500SM-1012-15
10.0		12.0	20.0	A500SM-1012-20	A500SM-1012-20
12.0		14.0	10.0	A500SM-1214-10	A500SM-1214-10
12.0		14.0	12.0	A500SM-1214-12	A500SM-1214-12
12.0		14.0	15.0	A500SM-1214-15	A500SM-1214-15
12.0		14.0	20.0	A500SM-1214-20	A500SM-1214-20
12.0		15.0	15.0	A500SM-1215-15	A500SM-1215-15
13.0	+0.016	15.0	10.0	A500SM-1315-10	A500SM-1315-10
13.0	+0.086	15.0	20.0	A500SM-1315-20	A500SM-1315-20
14.0		16.0	15.0	A500SM-1416-15	A500SM-1416-15
14.0		16.0	16.0	A500SM-1416-16	A500SM-1416-16
14.0		16.0	20.0	A500SM-1416-20	A500SM-1416-20
14.0		16.0	25.0	A500SM-1416-25	A500SM-1416-25
15.0		17.0	15.0	A500SM-1517-15	A500SM-1517-15
15.0		17.0	20.0	A500SM-1517-20	A500SM-1517-20

³⁾ After press-fit. Testing methods page 57

Product range

d1	d1 Tolerance ³⁾	d2	b1	h13	Part No.
30.0	+0.020	34.0	30.0	A500SM-3034-30	A500SM-3034-30
30.0	+0.104	34.0	40.0	A500SM-3034-40	A500SM-3034-40
32.0		36.0	20.0	A500SM-3236-20	A500SM-3236-20
32.0		36.0	30.0	A500SM-3236-30	A500SM-3236-30
32.0		36.0	40.0	A500SM-3236-40	A500SM-3236-40
35.0	+0.025	39.0	20.0	A500SM-3539-20	A500SM-3539-20
35.0	+0.125	39.0	30.0	A500SM-3539-30	A500SM-3539-30
35.0		39.0	40.0	A500SM-3539-40	A500SM-3539-40
35.0		39.0	50.0	A500SM-3539-50	A500SM-3539-50
40.0		44.0	20.0	A500SM-4044-20	A500SM-4044-20
40.0		44.0	30.0	A500SM-4044-30	A500SM-4044-30

³⁾ After press-fit. Testing methods page 57

d1	d1 Tolerance ³⁾	d2	b1	h13	Part No.
40.0		44.0	40.0	A500SM-4044-40	A500SM-4044-40
40.0		44.0	50.0	A500SM-4044-50	A500SM-4044-50
45.0		50.0	20.0	A500SM-4550-20	A500SM-4550-20
45.0		50.0	30.0	A500SM-4550-30	A500SM-4550-30
45.0	+0.025	50.0	40.0	A500SM-4550-40	A500SM-4550-40
45.0	+0.125	50.0	50.0	A500SM-4550-50	A500SM-4550-50
50.0		55.0	20.0	A500SM-5055-20	A500SM-5055-20
50.0		55.0	30.0	A500SM-5055-30	A500SM-5055-30
50.0		55.0	40.0	A500SM-5055-40	A500SM-5055-40
50.0		55.0	50.0	A500SM-5055-50	A500SM-5055-50
50.0		55.0	60.0	A500SM-5055-60	A500SM-5055-60



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

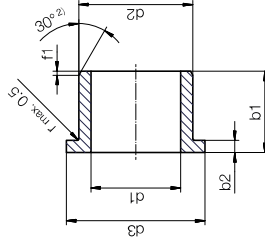
No minimum order value.

No low-quantity surcharges.

Free shipping within Germany for orders above €150.

Bearing technology | Plain bearings | iglidur® A500

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
f [mm]	0.3	0.5	0.8	1.2

i Dimensions according to ISO 3547-1 and special dimensions

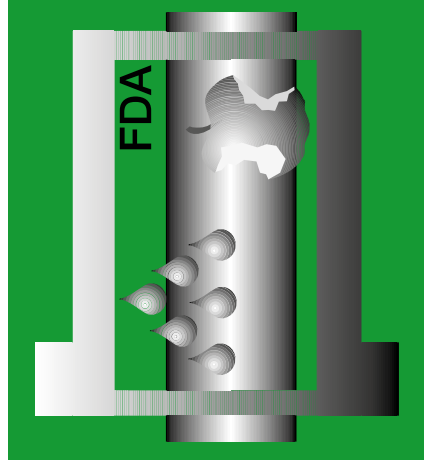
i Order example: **A500FM-0408-06** - no minimum order quantity.

A500 iglidur® material **F** Flange bearing **M** Metric **Ø d1 08** Outer **Ø d2 06** Total length **b1**

d1	d2	d3	b1	b2	Part No.	
Tolerance ³⁾	d13	h13	-0,14			
[mm]	[mm]	[mm]	[mm]	[mm]		
4,0	5,5	9,5	4,0	2,00	A500FM-0405-04	
6,0	8,0	12,0	6,0	2,00	A500FM-0408-06	
6,0	+0,010	8,0	12,0	4,0	1,00	A500FM-0608-04
6,0	+0,068	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		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	+0,013	12,0	18,0	7,0	1,00	A500FM-1012-07
10,0	+0,071	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		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	+0,016	14,0	20,0	13,0	1,00	A500FM-1214-13
12,0	+0,086	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	d2	d3	b1	b2	Part No.	
Tolerance ³⁾	d13	h13	-0,14			
[mm]	[mm]	[mm]	[mm]	[mm]		
15,0	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	+0,016	18,0	24,0	12,0	1,00	A500FM-1618-12
16,0	+0,086	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		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	+0,020	28,0	35,0	11,5	1,50	A500FM-2528-11
25,0	+0,104	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		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	+0,025	39,0	47,0	40,0	2,00	A500FM-3539-40
40,0	+0,125	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

³⁾ After press-fit. Testing methods page 57



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