

iglidur[®] bar stock

iglidur[®] materials as round bars, tubes and plates

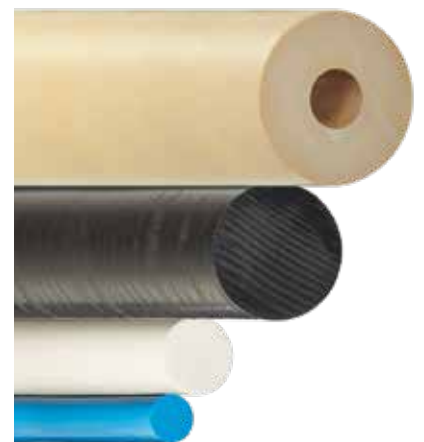
Fast and cost-effective

Cut to required size

Machining with no minimum order quantity

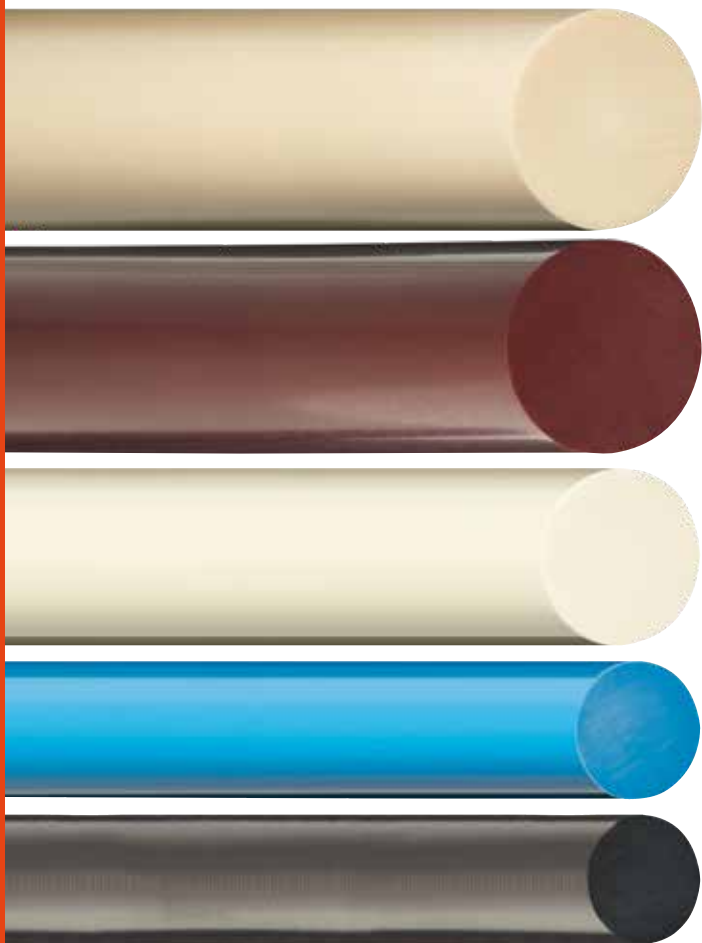
Maintenance-free and predictable

Standard range from stock



iglidur® bar stock | Advantages

Round bars and plates for free design



Bar stock made from technical plastic: iglidur® in one piece

iglidur® plastic bar stock enables the cost-effective production of components for moving applications and are ideal for the production of prototypes and small to medium-volume production requirements. Plates, round and hollow bars made of a wider range of different iglidur® high-performance polymers are available from stock. Due to its properties, every material becomes suitable for a specific application. For example, there is suitable iglidur® bar stock for almost every application from high-temperature to seawater, from food to automotive. All iglidur® materials have been specially developed for dynamic applications, and have low coefficient of friction and wear.

- iglidur® plastic bar stock from stock or ready-machined components and special sizes in 3 to 5 days
- Lubrication and maintenance-free
- Easy to machine – ask for tips
- Tribologically optimised plastic bar stock as round bars, tubes and plates
- Service life can now also be calculated for machined plain bearings made from iglidur® plastic bar stock
- No minimum order value
- No minimum order quantity



Available from stock

Detailed information about delivery time online.
Further materials and dimensions upon request.



igus® constantly expands its range of available materials and dimensions. Check the current stock online ► www.igus.sk/barstock



Operation temperatures:

–50°C up to +90°C (standard iglidur® J)
–100°C up to +250°C (depending on material)



In addition to bar stock, we will also gladly offer you mechanical processing in line with a drawing.



30 materials

Round bars: Ø 10–100mm
Plate thickness: ↓ 2–50mm
Tubes: up to 150mm outer Ø



Service life calculation

► www.igus.sk/barstock-expert

iglidur® bar stock | Product overview

Round bars and plates for free design



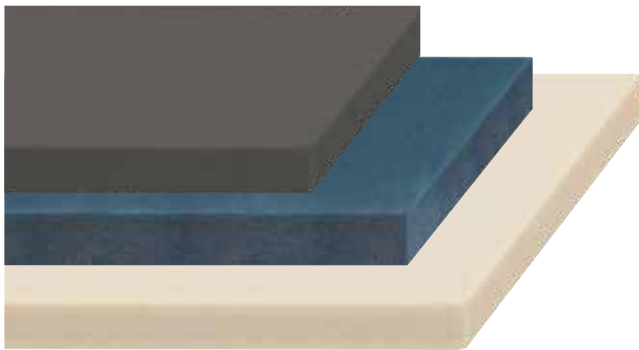
iglidur® round bars

- Currently 28 iglidur® materials to choose from
- Outer diameter 10–100mm
- Excellent wear rates and coefficient of friction



iglidur® tubes

- Large outer diameters 110–150mm
- Low wear against different shaft materials



iglidur® plates

- Versatile application options
- Plate thickness 2 – 40mm



speedicut: Machined parts and cutting

- Special parts according to customer request
- Prototypes available in a matter of days

Find & compare bar stock

This material finder helps you find the right iglidur® material for your project with a few clicks!

► www.igus.sk/barstock-finder

Your requirements Reset












<input type="checkbox"/> Maximum holding times in dry operation	<input type="checkbox"/> Low coefficients of friction	Max. static surface pressure (23°C) 0 Mpa
<input type="checkbox"/> Dirt resistant	<input type="checkbox"/> High resistance to chemicals	Upper long-term application temperature 80 °C
<input type="checkbox"/> vibration dampening	<input type="checkbox"/> Good in misalignment	Lower application temperature -10 °C
<input type="checkbox"/> Low moisture absorption	<input type="checkbox"/> Underwater application	<input type="radio"/> metric <input type="radio"/> imperial
<input type="checkbox"/> FDA compatible/ Foodstuff	<input type="checkbox"/> cost effective	


















iglidur® materials suited for you:

iglidur® A100	iglidur® A180	iglidur® A181	iglidur® A300	iglidur® A500
iglidur® C500	iglidur® F2	iglidur® H1	iglidur® H60030	iglidur® J
iglidur® J2	iglidur® J200	iglidur® J2000	iglidur® J3	iglidur® J300
iglidur® J4	iglidur® J6	iglidur® M300	iglidur® P 210	iglidur® R
iglidur® RW370	iglidur® T200	iglidur® LW100	iglidur® W300	iglidur® X

iglidur® material with best suitability iglidur® material with good suitability

iglidur® bar stock | Material properties

iglidur®	Unit	M250	P210	J4	GLW	J	W300	J3	J350	J260	R	J200
General properties												
Density	[g/cm³]	1.14	1.40	1.48	1.36	1.49	1.24	1.42	1.44	1.35	1.39	1.72
Colour												
Max. moisture absorption at +23°C/50% r. h.	[% weight]	1.4	0.3	0.3	1.3	0.3	1.3	0.3	0.3	0.2	0.2	0.2
Max. total moisture absorption	[% weight]	7.6	0.5	1.3	5.5	1.3	6.5	1.3	1.6	0.4	1.1	0.7
Coefficient of sliding friction, dynamic against steel	[μ]	0.18–0.40	0.07–0.19	0.06–0.20	0.10–0.24	0.06–0.18	0.08–0.23	0.06–0.20	0.10–0.20	0.06–0.20	0.09–0.25	0.11–0.17
pv value, max. (dry)	[MPa·m/s]	0.12	0.4	0.30	0.30	0.34	0.23	0.5	0.45	0.35	0.27	0.3
Mechanical properties												
Flexural modulus	[MPa]	2,700	2,500	2,350	7,700	2,400	3,500	2,700	2,000	2,200	1,950	2,800
Flexural strength at +20°C	[MPa]	112	70	70	235	73	125	70	55	60	70	58
Compressive strength	[MPa]	52	50	55	74	60	61	60	60	50	68	43
Max. permissible surface pressure at +20°C	[MPa]	20	50	35	80	35	60	45	60	40	23	23
Shore D hardness		79	75	74	78	74	77	73	80	77	77	70
Physical and thermal properties												
Max. continuous operating temperature	[°C]	+80	+100	+90	+100	+90	+90	+90	+180	+120	+90	+90
Max. short-term operating temperature	[°C]	+170	+160	+120	+160	+120	+180	+120	+220	+140	+110	+120
Min. continuous operating temperature	[°C]	-40	-40	-50	-40	-50	-40	-50	-100	-100	-50	-50
Thermal conductivity	[W/m·K]	0.24	0.25	0.25	0.24	0.25	0.24	0.25	0.24	0.24	0.25	0.24
Coefficient of thermal expansion at +23°C	[K ⁻¹ ·10 ⁻⁵]	10	8	10	17	10	9	13	7	13	11	8
Electrical properties												
Specific contact resistance	[Ωcm]	> 10 ¹³	> 10 ¹²	> 10 ¹³	> 10 ¹¹	> 10 ¹³	> 10 ¹³	> 10 ¹²	> 10 ¹³	> 10 ¹²	> 10 ¹²	> 10 ⁹
Surface resistance	[Ω]	> 10 ¹¹	> 10 ¹¹	> 10 ¹³	> 10 ¹¹	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹⁰	> 10 ¹⁰	> 10 ¹²	> 10 ⁹
Page		668	668	669	669	670	670	671	671	672	672	673

E7	JB	X	HSD 350	H1	C500	A181	A350	A500	A180	A160	UW 160	T220	Q2	F2	J2	RW 370
1.05	1.49	1.44	1.39	1.53	1.37	1.38	1.42	1.28	1.46	1.00	1.04	1.28	1.46	1.52	1.44	1.34
																
0.1	0.3	0.1	0.6	0.1	0.3	0.2	0.6	0.3	0.2	0.1	0.1	0.3	1.1	0.2	0.2	0.25
0.1	1.3	0.5	1.2	0.3	0.5	1.3	1.9	0.5	1.3	0.1	0.1	0.5	1.1	0.4	1.3	1.2
0.08– 0.17	0.06– 0.18	0.09– 0.27	0.07– 0.23	0.06– 0.20	0.07– 0.19	0.10– 0.21	0.10– 0.20	0.26– 0.41	0.05– 0.23	0.09– 0.19	0.17– 0.31	0.20– 0.32	0.22– 0.42	0.16– 0.22	0.11– 0.27	0.13– 0.17
0.22	0.34	1.32	0.3	0.80	0.7	0.31	0.40	0.28	0.31	0.25	0.22	0.28	0.7	0.31	0.23	1.2
1,477	2,400	8,100	2,150	2,800	3,000	1,913	2,000	3,600	2,300	1,151	1,349	1,800	8,370	7,418	3,605	2,997
22	73	170	67	55	100	48	110	140	88	19	22	65	240	93	101	100
18	60	100	44	78	110	60	78	118	78	37	32	55	130	61	77	129
18	35	150	30	80	110	31	60	120	28	15	15	40	120	47	46	75
61	74	85	77	77	81	76	76	83	76	60	60	76	80	72	n.s.	80
+70	+90	+250	+180	+200	+250	+90	+180	+250	+90	+90	+90	+100	+130	+120	+90	+170
+90	+120	+315	+210	+240	+300	+110	+210	+300	+110	+100	+100	+160	+200	+165	+110	+190
-50	-50	-100	-40	-40	-100	-50	-100	-100	-50	-50	-50	-40	-40	-40	-50	-50
0.24	0.25	0.60	0.24	0.24	0.24	0.25	0.24	0.24	0.25	0.30	0.50	0.24	0.24	0.61	0.25	0.22
25	10	5	7	6	9	11	8	9	11	11	18	11	8	5	7	5
> 10 ⁹	> 10 ¹³	< 10 ⁵	> 10 ¹³	> 10 ¹²	> 10 ¹⁴	> 10 ¹²	> 10 ¹¹	> 10 ¹⁴	> 10 ¹²	> 10 ¹²	> 10 ¹²	> 10 ¹⁰	> 10 ¹³	< 10 ⁹	> 10 ¹³	> 10 ¹²
> 10 ⁹	> 10 ¹²	< 10 ³	> 10 ¹⁴	> 10 ¹¹	> 10 ¹³	> 10 ¹²	> 10 ¹¹	> 10 ¹³	> 10 ¹¹	> 10 ¹²	> 10 ¹²	> 10 ¹⁰	> 10 ¹¹	< 10 ⁹	> 10 ¹²	> 10 ¹²
673	674	674	675	675	676	676	677	677	678	678	679	679	681	680	680	681

Processing information for iglidur® bar stock

General information for achieving good results when processing iglidur® bar stock:

- Use tools made from high-speed steels (HSS) and hard metal (HM)
- Always ensure the tools are extremely sharp and in perfect condition
- In view of the far greater thermal expansion compared to metals and the dimensional

changes caused by absorbed water, larger production tolerances are required for plastics than for metal parts

- To reduce any retrospective warping as a result of machining stresses, if large material volumes are to be machined, interim tempering should be used before the refined finishing stage

	Sawing	Turning	Milling	Drilling
Tool material	HM with alternate teeth or trapezoidal flat teeth	HSS	HSS	HSS
Clearance angle	5–30°	2–10°	2–30°	3–16°
Rake angle	0–15°	0–8°	0–15°	5–30°
Tooth pitch	2–14mm	–	–	–
Setting angle	–	45–60°	–	–
Tip angle	–	–	–	90–130°
Cutting speed	max. 300m/min.	100–500m/min.	80–500m/min.	20–200m/min.
Feed rate	–	0.05–0.5mm/rpm	0.02–0.3mm/rpm	–

Table: General processing information

Machining guidelines

	Unit	iglidur® material							
		A160, B160, W160, E7, RN326, K230	J, J2, J4, JB, A180, A181, J200, R	J260	W300, M250, GLW	P210, F2, T220	A350, J350	H1, H2, H4	X, A500, C500
Turning									
Clearance angle	[°]	6–10	6–8	5–10	6–10	5–10	6	6	6
Rake angle	[°]	0–5	0–5	6–8	0–5	0–5	0	0–5	0–5
Setting angle	[°]	45–60	45–60	45–60	45–60	45–60	45–60	45–60	45–60
Cutting speed	[m/min]	250–500	300–600	300	250–500	300–400	350–400	250–500	250–500
Feed rate	[mm/rpm]	0.1–0.5	0.1–0.4	0.1–0.5	0.1–0.5	0.2–0.4	0.1–0.3	0.1–0.5	0.1–0.5
Milling									
Number of teeth		Z1–Z2	Z1–Z2	Z1–Z2	Z1–Z2	Z1–Z2	Z1–Z2	Z1–Z2	Z1–Z2
Cutting speed	[m/min]	250–500	300	300	250–500	300	250–500	250–500	250–500
Feed rate	[mm/rpm]	0.1–0.45	0.15–0.5	0.15–0.4	0.1–0.45	0.15–0.5	0.1–0.45	0.1–0.45	0.1–0.45
Drilling									
Number of teeth		Z2	Z2	Z2	Z2	Z2	Z2	Z2	Z2
Angle of twist	[°]	25	25	25	25	25	25	25	25
Acute angle	[°]	90	90	90	90	90	90	90	90
Cutting speed	[m/min]	50–150	50–150	50–100	50–150	50–100	20–80	50–200	50–200
Feed rate	[mm/rpm]	0.1–0.3	0.1–0.3	0.2–0.3	0.1–0.3	0.2–0.3	0.1–0.3	0.1–0.3	0.1–0.3

iglidur® bar stock | Processing information

Processing information for iglidur® bar stock

igus® subjects its bar stock to a material-specific tempering process so that they remain dimensionally stable during and after machining. All bar stock from 25mm thickness are tempered, regardless of the respective iglidur® material. For materials that are suitable for use at high temperatures such as iglidur® X, C500 or A500, all bar stock are basically tempered.

What is tempering and how does it work?

During tempering, a material is subjected to a heat treatment for a prolonged period, during which the melting temperature is not exceeded. The selected temperature and the duration of the treatment vary depending on the material, material thickness and shape. It is crucial that the material is completely heated up and cooled slowly and evenly to room temperature after the holding time of the temperature.

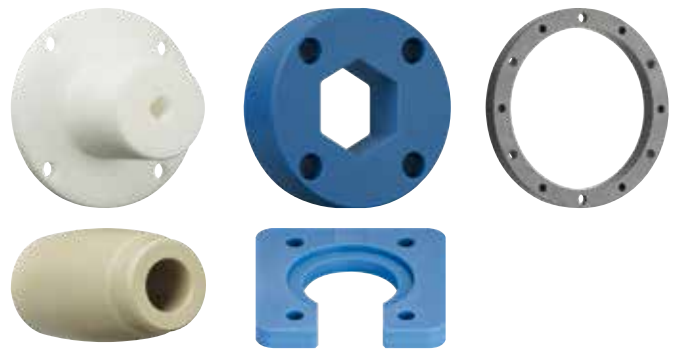
Tempering is particularly effective only with a slow cooling.

Tempering specifications for iglidur® materials

	iglidur® material					
	E7, RN326, K230, A160, B160	J, J2, J3, J4, J200, JB, A180, A181, B180	J260	W300, M250, GLW, P210, F2, T220	A350, J350, H1, H2, H4	X A500 C500
Heat up	+80°C	+120°C	+130°C	+180°C	+200°C	+220°C
Maximum temperature/ holding time	+80°C	+120°C	+130°C	+180°C	+200°C	+220°C
Cooling down	Cool down to maximum +20°C per hour until room temperature					

iglidur® bar stock | Small quantities and prototypes

Individual manufacture



Free igus® online services

- Online tools, e.g., for service life prediction
- Order or request bar stock quickly and easily
- Get special parts made from bar stock
- Order sample box
- Application examples

igus® manufactures your component in the desired form, desired quantity and required material

If you do not want to machine yourself, we will manufacture precise special parts for you quickly and cost-effectively according to drawings. This service has been made very easy for you: send a PDF drawing or a 3D model online along with your material requirements and the quantity. Then you will receive a non-binding offer. Your components are manufactured and shipped within a few days, and within ten days at the latest for up to 100 parts.

1. Submit an enquiry

Complete the online form with some basic information.

2. We machine your component according to your specifications

Upon order, igus® starts the production process.

3. You receive your product

Your required component is ready to ship and delivered quickly.

Submit an enquiry:

► www.igus.eu/individual-component-barstock

