

Print your own real iglidur® products

Standard material:
iglidur® I180-PF
▶ Page 588

Nozzle temperature:
+220°C to +250°C

Also suited for
tight feed radii



Highest wear resistance:
iglidur® I170-PF
▶ Page 588

Nozzle temperature:
+220°C to +250°C

Large
feed radii
(min. 50 mm)



iglidur® Tribo-Filament for 3D printing – Wear resistant

The materials that have been specially developed for 3D printing are up to 50 times more abrasion-resistant than conventional 3D print materials. This provides a new degree of freedom when designing gliding components subject to wear: custom parts and prototypes from a 3D printer with a tested service life.

- Wear-resistant
- Suitable for commercially available 3D printers using FDM process
- 1.75 mm and 3 mm thickness

Typical industries and applications

- Prototype constructions
- Small batches
- Construction tests, etc.

More information about 3D printing
▶ www.igus.eu/3D-printer

Depending on material:
iglidur® I170-PF: -40°C up to +75°C
iglidur® I180-PF: -40°C up to +80°C

2 Materials
1.75 mm and 3 mm (for iglidur® I180-PF)

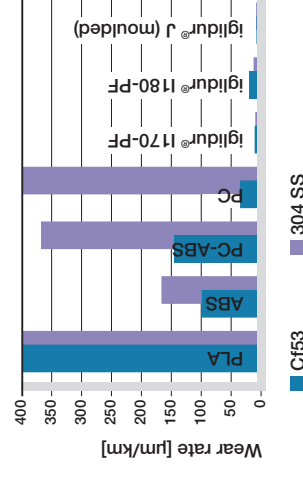
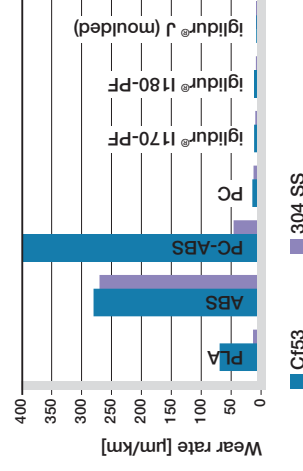
Available from stock
Detailed information about delivery time online.

Detailed information about processing instructions
▶ www.igus.eu/tribofilament

Material properties table

General properties	Unit	iglidur® I180-PF	iglidur® I170-PF	Testing method
Density	g/cm ³	1.21	1.21	1.21
Colour		white	yellow	
Max. moisture absorption at +23°C/50% r.h.	% weight	0.3	0.5	DIN 53495
Max. water absorption	% weight	0.9	1.6	
Mechanical properties				
Modulus of elasticity	MPa	1,000	1,000	DIN 53457
Tensile strength at +20°C	MPa	44	33	DIN 53452
Max. recommended surface pressure (+20°C)	MPa	n.b.	n.b.	
Shore-D hardness		66	64	DIN 53505
Physical and thermal properties				
Max. long term application temperature	°C	+80	+75	
Max. short term application temperature	°C	+90	+85	
Min. application temperature	°C	-40	-40	
Electrical properties				
Specific volume resistance	Ωcm	> 10 ¹²	> 10 ¹²	DIN IEC 93
Surface resistance	Ω	> 10 ¹¹	> 10 ¹¹	DIN 53482

Table 01 : Material properties table

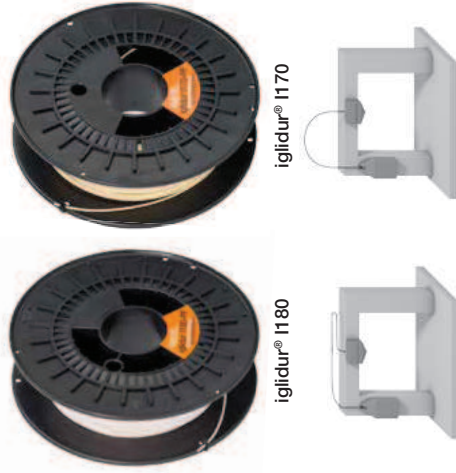


Wear pivoting: v = 0.01 m/s; p = 1 MPa; beta = 60°

Wear linear: v = 0.1 m/s; p = 1 MPa; l = 5 mm

Wear

The iglidur® Tribo-Filaments are up to 50 times more wear resistant than conventional materials (PLA/ABS) for 3D printing. The highest level of Tribo-Filament wear resistance is achieved with iglidur® I170-PF and is very similar to that of injection moulded bearings under low to medium loads. Even the wear rate of iglidur® I180-PF components is far superior to that of conventional 3D printing materials. They are also easier to process than iglidur® I170-PF.



Order key

Tribo-Filament	Diameter	Weight
1180-PF-	0175	-0250
igidur® material		
Tribo-Filament		Spool weight [g]
Ø [mm · 100]		

igidur® I180 – Flexible

- Nozzle temperature: +220°C up to +250°C
- Print bed temperature: +90°C up to +110°C
- Suited for tight feed radii



Filament on a spool part no.

I180-PF-0175-0250

I180-PF-0300-0250

I180-PF-0300-0750

Test kit part no.

I180-PF-0175-0025

I180-PF-0300-0025



- Good ventilation should be provided during processing

- When heated above +300°C, hazardous fumes are produced

Processing instructions

igidur® Tribo-Filaments can be processed on any 3D printer that is equipped with a heated print bed on which temperatures are adjustable. The same method to adhere ABS filaments to the printer bed can then also be used for igidur® filaments. Examples: glass taped with blue tape or kapton tape at a print bed temperature of +90°C up to +110°C. igidur® I170-PF is harder to process than igidur® I180-PF. The complete processing instructions are available online ► www.igus.eu/tribofilament

igidur® I170 – Highest wear resistance

- Nozzle temperature: +220°C up to +250°C
- Print bed temperature: +90°C up to +110°C
- Large material feed radii (R min. 50 mm)



Filament on a spool part no.

I170-PF-0175-0250

I170-PF-0300-0750

Test kit part no.

I170-PF-0175-0025

- Complete processing instructions online

Spool

igidur® Tribo-Filaments weighing 250 g are wound onto a spool with an outer diameter of 105 mm, a width of 55 mm. The inner diameter is 55 mm. Test kits with 25 g filament are also available; this is not wound onto a spool.

