

## 3D printing with tribo-filaments

**50 times more abrasion-resistant than standard materials for maximum service life**  
Components made of igus® tribo-filament are up to 50 times more wear-resistant than standard materials for 3D printing and therefore have an extremely long service life. Due to their excellent tribological properties, they are suited for 3D printing of replacement and wear-resistant parts for e.g. plain bearings, drive nuts, gears and other wear-resistant parts.

The igus® tribo-filaments can be processed on 3D printers that are based on the fused-deposition-modelling method (FDM/FFF) and that allow the nozzle temperature to be set as required.



Find and order the appropriate tribo-filament online

► [www.igus-asean.com/tribofilament](http://www.igus-asean.com/tribofilament)



**Material:**  
iglidur® I150

### Wear-resistant parts printed the easy way

- High abrasion resistance at low speeds
- Good mechanical properties
- The easiest to process tribo-filament (even without a heated print bed)
- Food-compatible according to EU10/2011 regulation
- Nozzle temperature: +240°C up to +250°C



iglidur® I150



## Order key

tribo-filament | Diameter | Weight

**I150-PF- 0175 -0250**

iglidur® material	tribo-filament	Ø [mm · 100]	Spool weight [g]
-------------------	----------------	--------------	------------------

## iglidur® I150 – makes printing even easier

- High abrasion resistance at low speeds
- Good mechanical properties
- The tribo-filament that is easiest to process
- Compliant with food requirements according to (EU) No 10/2011
- Recommended printing surface: igus® adhesive film or glue-stick on glass
- Also to be processed without a heated print bed (prerequisite: igus® adhesive film ► [Page 728](#))

## Dimensions [mm]

Filament diameter	Outer Ø spool	Inner Ø spool	Spool width	Weight [g]	Part No.
1.75	205	55	55	250	<b>I150-PF-0175-0250</b>
1.75	205	55	67	750	<b>I150-PF-0175-0750</b>
3.00	205	55	55	250	<b>I150-PF-0300-0250</b>
3.00	205	55	67	750	<b>I150-PF-0300-0750</b>

## Material properties

General properties	Unit	iglidur® I150	iglidur® I180	iglidur® I180-BL
Density	g/cm <sup>3</sup>	1.30	1.21	1.21
Colour		white	white	black
Max. moisture absorption at +23°C/50% r.h.	% weight	0.3	0.3	0.3
Max. total moisture absorption	% weight	0.7	0.9	0.9
Mechanical properties				
Flexural modulus	MPa	1,700	1,700	1,700
Flexural strength at +20°C	MPa	54/37 <sup>130)</sup>	46/33 <sup>130)</sup>	46/33 <sup>130)</sup>
Shore D hardness		62	66	66
Physical and thermal properties				
Max. long-term application temperature	°C	+65	+80	+80
Max. short-term application temperature	°C	+75	+90	+90
Min. continuous application temperature	°C	-30	-40	-40
Electrical properties				
Specific contact resistance	Ωcm	> 10 <sup>13</sup>	> 10 <sup>12</sup>	> 10 <sup>12</sup>
Surface resistance	Ω	> 10 <sup>12</sup>	> 10 <sup>11</sup>	> 10 <sup>11</sup>

Table 01: Material properties table

<sup>130)</sup> Printed flat/upright

## Product: iglidur® I150-PF

25.05.2016

### General Properties:

density:	1.3 g/cm <sup>3</sup>
colour:	white
saturation with moisture absorption at 23°C / 50% r. h.:	0.3 weight %
saturation with water:	0.7 weight %

### Mechanical Properties:<sup>3)</sup>

flexural modulus:	1700 MPa
flexural strength:	54 MPa
max. permissible surface pressure at 20 °C:	-
Shore D hardness:	62

### Thermal Properties:

highest long term service temperature <sup>1)</sup> :	65°C
highest short term service temperature <sup>1), 2)</sup> :	75°C
highest short term ambient temperature <sup>1), 2)</sup> :	85°C
lowest service temperature:	-30°C

### Electrical Properties:<sup>3)</sup>

specific volume resistivity:	>10 <sup>13</sup> Ωcm
surface resistivity:	>10 <sup>12</sup> Ω

<sup>1)</sup> relaxation possible

<sup>2)</sup> without additional load; no movement

<sup>3)</sup> Depends on the printing parameters

<sup>4)</sup> Printed flat / upright

The information on this Product Data Sheet is based on our current knowledge of the specified product. None of the information comprises one or more guarantees on certain properties .

Erstellt: 11.09.2014/Tom Krause/ Entwicklung

Geändert:

Verteiler: Technisches Marketing, Entwicklung