

Materialdatenblatt / Material Data Sheet

PC Filament 750g, 1.75mm

German RepRap PC Filament is a polycarbonate based filament designed specifically for desktop FDM/FFF 3D printing. It offers superior printing quality, excellent mechanical strength and heat resistance, with moderate printing temperatures and great warping resistance.

General Printing Settings

Temperature Range:
240 – 280 °C

Recommended 3D printing temperature:
250 – 270 °C

Recommended 3D print speed:
30 – 90 mm/s

Recommended Heated bed:
If equipped set Heating Bed to 80 °C

Material Specifics

Glass Transition Temp	Filament Melting Point	Density	Diameters	Tolerance
112 °C (234 – °F)	N/A	1.19 – 1.20 g/cm ³	1.75 mm	± 0.05 mm 50 Microns (Typ. ~0.02mm)

Physical Properties

Property	Testing Method	Typical Value
Density (g/cm ³ at 21.5 °C)	ASTM D792 (ISO 1183, GB/T 1033)	1.19 – 1.20
Glass transition temperature (°C)	DSC, 10 °C/min	112 °C
Softening temperature of filament (for 1.75 mm; °C)	Custom method	129 - 132
Melt index (g/10min)	300 °C, 1.2 kg	32 - 35
Moisture content*	Thermogravimetric	≤ 0.1 %
Odor	/	Almost odorless
Solubility	/	Insoluble in water

*for newly opened filaments; filaments may absorb higher levels of moisture during use.

Mechanical Properties**

Property	Testing Method	Typical Value
Young's modulus (MPa)	ASTM D638 (ISO 527, GB/T 1040)	2307 ± 60
Tensile strength (MPa)	ASTM D638 (ISO527, GB/T 1040)	62.7 ± 1.3
Elongation at break (%)	ASTM D638 (ISO527, GB/T 1040)	3.15 ± 0.35

Property	Testing Method	Typical Value
Bending modulus (MPa)	ASTM D790 (ISO 178, GB/T 9341)	2477 ± 159
Bending strength (MPa)	ASTM D790 (ISO 178, GB/T 9341)	100.4 ± 2.7
Impact strength (kJ/m ²)	ASTM D256 (ISO 179, GB/T 1043)	3.41 ± 0.07

Advantages

- PC shows good optical clarity, rendering parts with an attractive crystal shine
- better heat resistance than almost all other 3D printing materials: it can withstand temperatures well above 120 °C
- It is a material designed specifically for desktop 3D printers. The PC-filament not only offers excellent properties and print quality, but also allows easy printing
- PC shows much improved mechanical strength compared to ABS and PLA under almost all testing conditions