

# Technical Data Sheet

## PC Filament

PC is a FFF 3D printing filament, which is produced using BPA-free PC modified material. PC has high tenacity, high strength and high heat resistance, with the ability to be printable on non-heated chamber FFF 3D printers.

### Features:

High tenacity/High strength/High heat resistance.

### Properties:

Physical Properties	Test Method	Units	Typical Value
Density	ISO 1183	g/cm <sup>3</sup>	1.2~1.21
Melt Index MFR (240°C/2.16Kg)	ISO 1133	g/10min	3~5
Water Absorption (23°C/24h)	ISO 62	%	< 0.8
Mechanical Properties			
Tensile Strength (X-Y)	ISO 527	Mpa	40~45
Elongation at Break (X-Y)	ISO 527	%	7~9
Modulus of Elasticity (X-Y)	ISO 527	Mpa	1800~1950
Bending Strength (X-Y)	ISO 178	Mpa	83~87
Izod Impact Strength (X-Y)	ISO 180	KJ/m <sup>2</sup>	4~5.5
Thermal Properties			
HDT@ 0.455 MPa (66 psi)	ISO 75	°C	123
Continuous Service Temperature	IEC 60216	°C	130

## Testing Specimen Printing Conditions:

Test Equipment	Guider IIs (Flashforge)
Nozzle Diameter	0.4mm
Nozzle Temperature	250 °C
Printing Speed	50mm/s
Wall Thickness	1.2mm
Infill	100%
Standard Testing Specimen	Specific dimensions are shown in Attachment 1

## Recommended Printing Conditions:

Parameter	
Nozzle Temperature	240~260°C (250°C recommended)
Build Platform Temperature	100~120°C (110°C recommended)
Build Surface Material	Tempered glass, BuildTak, Carbon fiber board
Nozzle Diameter	φ0.4/0.6mm (φ0.4mm recommended)
Cooling Fan	0~50%
Layer Thickness	0.12~0.3mm
Printing Speed	40~60mm/s (50mm/s recommended)
Travel Speed	60~120mm/s
Ambient Temperature for Printing	40~70°C
Retraction Length	0.3~2mm
Retraction Speed	30~50mm/s
Recommended Support Material	Self-supporting

## **Cautions:**

In order to prevent moisture absorption and contamination, supplied packaging should be kept closed and undamaged. For the same reason, partially used filaments should be re-sealed before storage.

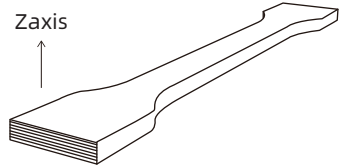
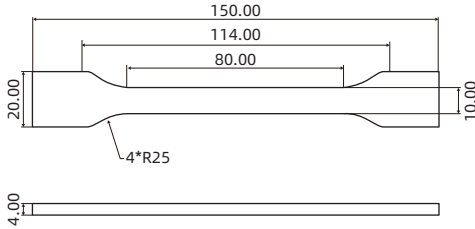
The filament should be dried before being used. Using a hot dry air oven at 80°C for at least 12 hours is recommended in order to ensure the success rate and quality of the printed model.

After the printing process, it is recommended to dry the model in the oven at 100°C for 1-3 hours to increase the strength of the model.

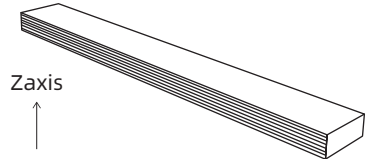
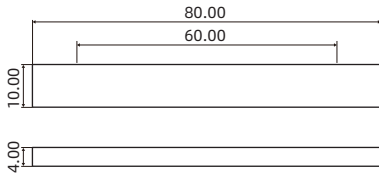
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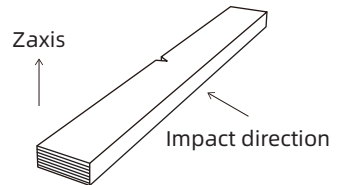
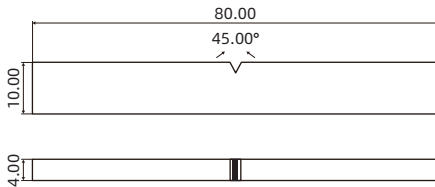
# Attachment 1: Testing Specimen Size and Printing Direction



Tensile testing specimen; ASTM D638 (ISO 527, GB/T 1040)



Flexural testing specimen; ASTM D790 (ISO 178, GB/T 9341)



Impact testing specimen; ASTM D256 (ISO 179, GB/T 1043)