

# Technical Data Sheet

## PC/ABS Filament

PC/ABS is a FFF 3D printing filament, which is produced using the SABIC's PC/ABS alloy material. PC/ABS has the features of high toughness, high strength, high heat resistance and electroplating ability. It not only has excellent impact resistance and high temperature resistance of PC, but also has excellent electrochemical characteristics of ABS.

## Features:

High toughness/High strength/High temperature resistance/Electroplating ability.

## Properties:

Physical Properties	Test Method	Units	Typical Value
Density	ISO 1183	g/cm <sup>3</sup>	1.14~1.15
Melt Index MFR (260°C/5Kg)	ISO 1133	g/10min	19~22
Water Absorption (23°C/24h)	ISO 62	%	< 0.8
Mechanical Properties			
Tensile Strength (X-Y)	ISO 527	Mpa	43.5~45.5
Elongation at Break (X-Y)	ISO 527	%	24~26
Modulus of Elasticity (X-Y)	ISO 527	Mpa	800~950
Bending Strength (X-Y)	ISO 178	Mpa	71.5~74.5
Izod Impact Strength (X-Y)	ISO 180	KJ/m <sup>2</sup>	43.5~44.5
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	265 °C
Printing Speed	50mm/s
Wall Thickness	1.2mm
Infill	100%
Standard Testing Specimen	Specific dimensions are shown in Attachment 1

**Note:** The above test parameter data are obtained from actual printing, and the printed model has not been annealed.

## Recommended Printing Conditions:

Parameter	
Nozzle Temperature	250~280°C (265°C recommended)
Build Platform Temperature	90~110°C (100°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, HIPS

## **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.

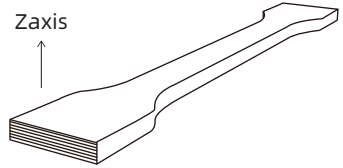
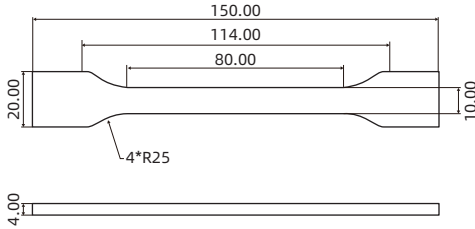
In case the filament has become wet, it should be dried before being used. Using a hot dry air oven at 80°C for at least 12 hours is recommended in order to ensure the success rate and quality of the printed model.

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

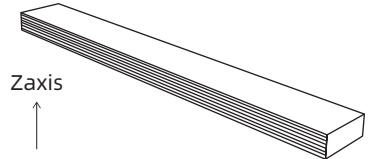
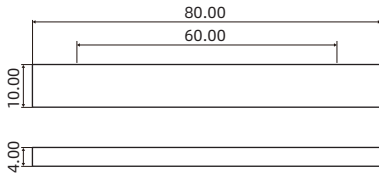
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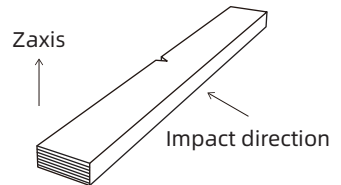
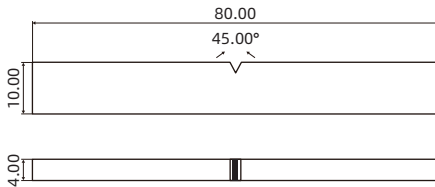
# Attachment 1: Testing Specimen Size and Printing Direction



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)