

Technical Data Sheet

ABS Filament

ABS is a kind of FFF 3D printing filament, using Chi Mei ABS 757 as the main raw material for production. ABS has high quality and high impact resistance, and has a certain temperature resistance, which is generally suitable for different FFF 3D printers.

Main Features:

Easy to print/high toughness/high impact resistance

Main Specifications:

Physical Properties	Test Means		
Density	ISO 1183	g/cm ³	1.04~1.06
MFR(250°C/2.16Kg)	ISO 1133	g/10min	2~4
Moisture Absorption(23°C/24h)	ISO 62	%	1%
Mechanical Properties			
Tensile strength	ISO 527	Mpa	35~40
Elongation at break	ISO 527	%	12~17
Flexural Modulus	ISO 527	Mpa	1500~1650
Flexural Strength	ISO178	Mpa	65~70
Impact Strength	ISO180	KJ/m ²	7~10.5
Thermodynamic Properties			
HDT@ 0.455 MPa(66 psi)	ISO75	°C	88

Test Sample Printing Conditions:

3D Printer	Guider IIS (Flashforge)
Nozzle Diameter	0.4mm
Nozzle Temperature	230 °C
Printing Speed	50mm/s
Layer	1.2mm
Infill	100%
Standard Printed Sample	See blew attachment

Recommended Printing Parameters:

Parameters	
Nozzle Temperature	220~240℃(230℃ recommended)
Bed Temperature	80~110℃(100℃ recommended)
Bed Materials	Tempered glass, BuildTak, Carbon fiber board
Nozzle Diameter	φ 0.4/0.6mm(φ 0.4mm recommended)
Model Cooling Fan	0~50%
Layer	0.12~0.3mm
Printing Speed	40~60mm/s(50mm/s recommended)
Idle Speed	60~120mm/s
Printing Environmental Temperature	Room Temperature to 40℃
Retraction Distance	1~3mm
Retraction Speed	30~50mm/s
Supporting Materials	Itself 、 HIPS

Note:

To prevent moisture absorption and contamination, the packaging of filament should be kept airtight and undamaged until they are opened for use. For the same reason, some used filament should be resealed before storage.

ABS is a polymer material. Moisture and oxygen in the air and ultraviolet rays will

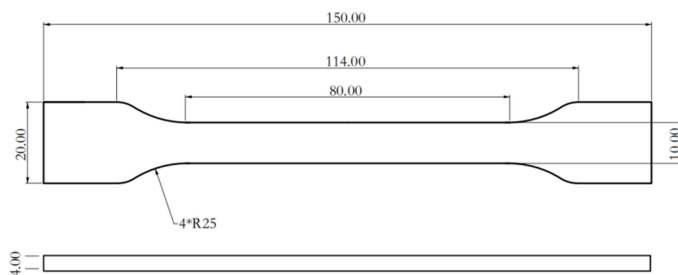
accelerate the aging of the material. In order not to affect the final printing quality, the ABS filament after opening needs to be used up as soon as possible.

ABS material is easy to absorb moisture. It is recommended to dry the filament in a hot air oven at 80°C for at least 5 hours to ensure the success rate and quality of the printed model.

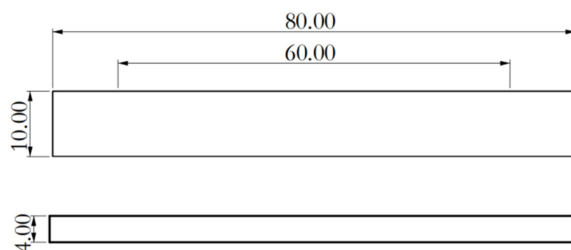
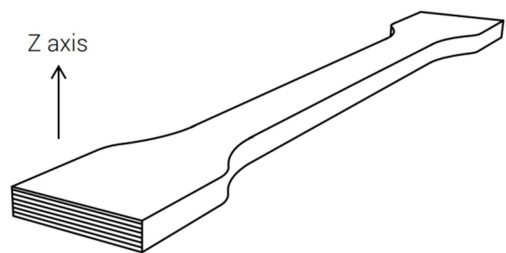
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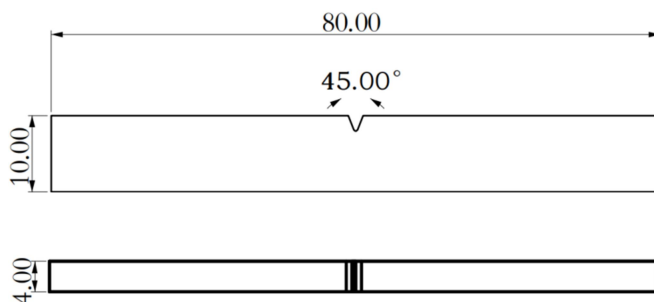
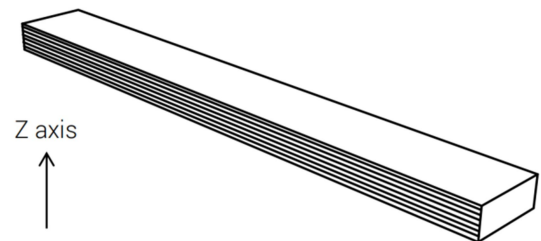
Attachment: Test sample dimensions and printing direction



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)

