Technical Data Sheet

PLA Filament

It is an FFF 3d printing filament, produced with enhanced polycrystalline. PLA filament has good stability, bending and rigidity, no warping, no cracking, and is generally suitable for most 3d printers in the market.

Main Features:

Easy to print / dimensionally stable / high stiffness.

Main Specifications:

Physical Properties	Test Means		
Density	ISO 1183	g/cm3	1.25~1.26
MFR (250℃/2.16Kg)	ISO 1133	g/10min	4~8
Moisture Absorption(23℃/24h)	ISO 62	%	＜0.3
Mechanical Properties			
Tensile strength	ISO 527	Mpa	45~49
Elongation at break	ISO 527	%	13.5~15.5
Flexural Modulus	ISO 527	Mpa	1000~1100
Flexural Strength	ISO178	Mpa	69~75
Impact Strength	ISO180	KJ/m^2	4.5~5
Thermodynamic Properties			
HDT@ 0.455 MPa (66 psi)	ISO75	℃	53
Continuous Use Temperature	IEC 60216	℃	50

Test Sample Printing Conditions:

3D Printer	Guider IIS （Flashforge）
Nozzle Diameter	0.4mm
Nozzle Temperature	210 ℃
Printing Speed	60mm/s
Layer	1.2mm
Infill	100%
Standard Printed Sample	See blew attachment

Recommended Printing Parameters:

Parameters	
Nozzle Temperature	190~220℃(210℃ recommended)
Bed Temperature	Room Temperature to 60℃ (40℃ recommended)
Bed Materials	Tempered glass, Build Tak, Carbon fiber board
Nozzle Diameter	Φ0.4/0.6mm (Φ0.4mm recommended)
Model Cooling Fan	50~100%
Layer	0.12~0.3mm
Printing Speed	60~90mm/s (60mm/s recommended)
Idle Speed	60~120mm/s
Printing Environmental Temperature	Room Temperature to 40℃
Retraction Distance	1~2mm
Retraction Speed	30~50mm/s
Supporting Materials	Itself 、PVA、BVOH

Note:

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

PLA is a biodegradable 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 PLA filament after opening need to be used up as soon as possible.

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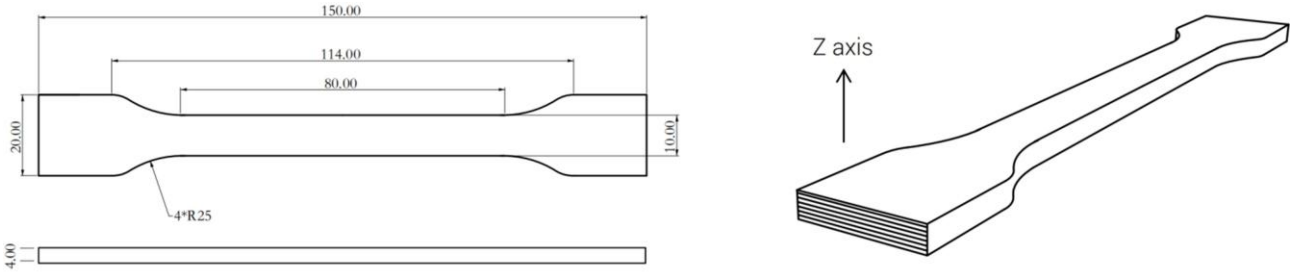
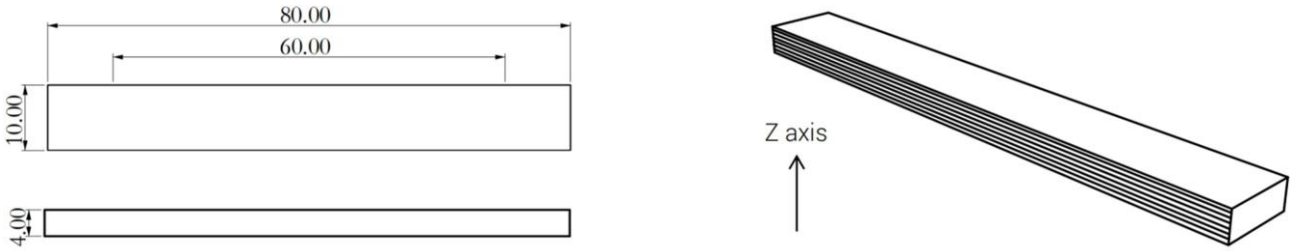
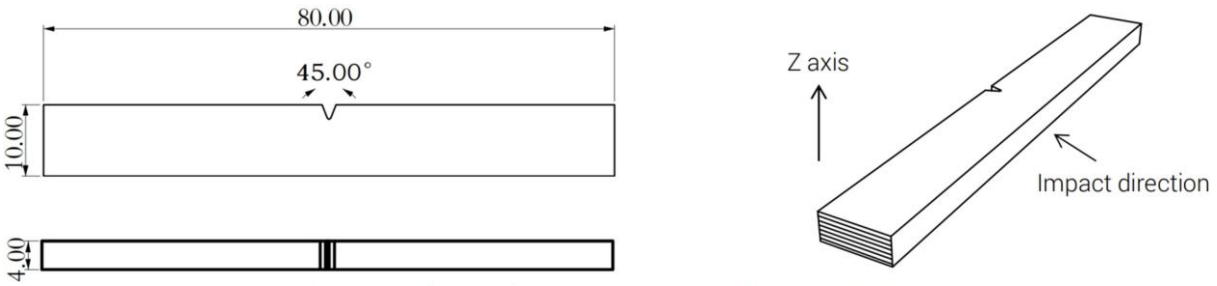
Attachment Test sample dimensions and printing direction



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



Flexural testing specimen; ASTMD790 (ISO 178, GB/T 9341)



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