Hyper-PLA Filament Technical Data Sheet

Version 1.0

1. Product introduction

Hyper PLA filament is a 3D printing filament developed based on PLA. It has good fluidity and fast curing characteristics. It is compatible with high and low speed printing, supports printing speeds up to 600mm/s, and has high mechanical properties and tensile strength. Compared with ordinary ABS filaments, Hyper PLA has a low shrinkage rate, no edge warping during printing, and printing is successful.

2. Physical Performance Parameters

Items	Testing Criteria	Parameters
Density	ASTM D792 (ISO 1183, GB/T 1033)	1.24 ±0.1 (g/cm^3 at 21.5˚C)
Glass transition temperature	DSC, 10°C/min	62 (°C)
Vicat Softening temperature	ASTM D1525 (ISO 306 GB/T 1633)	62.3 ±0.5 (˚C)
Melt index	190°C, 2.16kg	3-5 (g/10 min)

3. Mechanical Performance Parameters

Items	Testing Criteria	Parameters
Tensile strength (X-Y)	ISO 527, GB/T 1040	52.99 (MPa)
Tensile modulus (X-Y)	ISO 527, GB/T 1040	1146.06 (Mpa)
Elongation at break (X-Y)	ISO 527, GB/T 1040	6.3 (%)
Bending strength (X-Y)	ISO 178, GB/T 9341	92.38 (MPa)
Bending modulus (X-Y)	ISO 179, GB/T 1043	2490.17 (MPa)
Charpy impact strength (Z)	ISO 179, GB/T 1043	8.83 (kJ/m^2)

Printing parameters and styles of printing conditions:

Print Conditions	Parameters
Nozzle Temperature	220°C
Hot Bed Temperature	60°C
Printing Speed	300mm/s
Infill	100%

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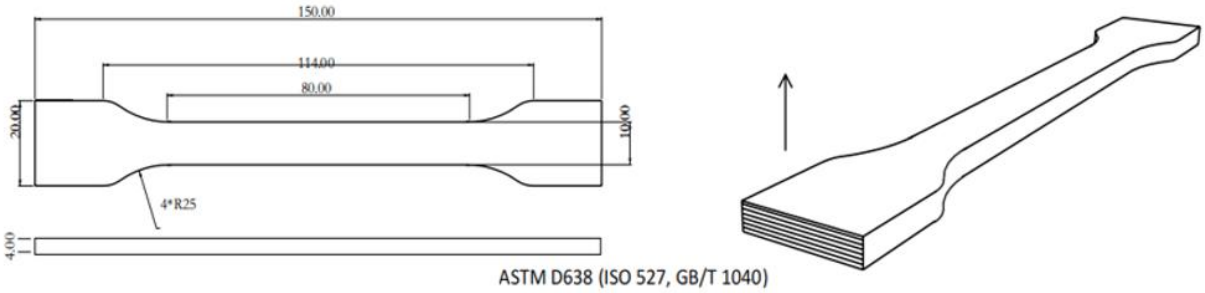
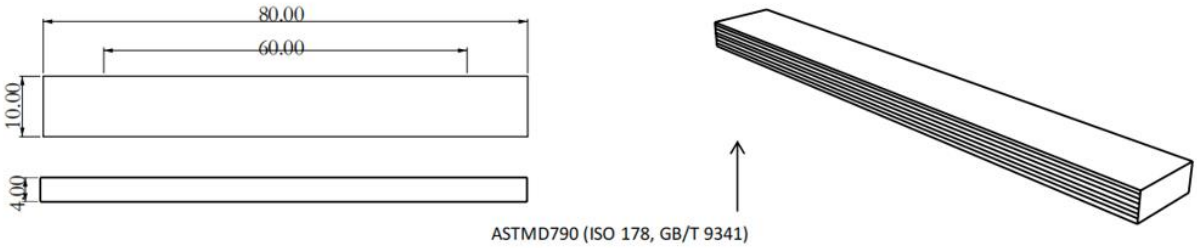


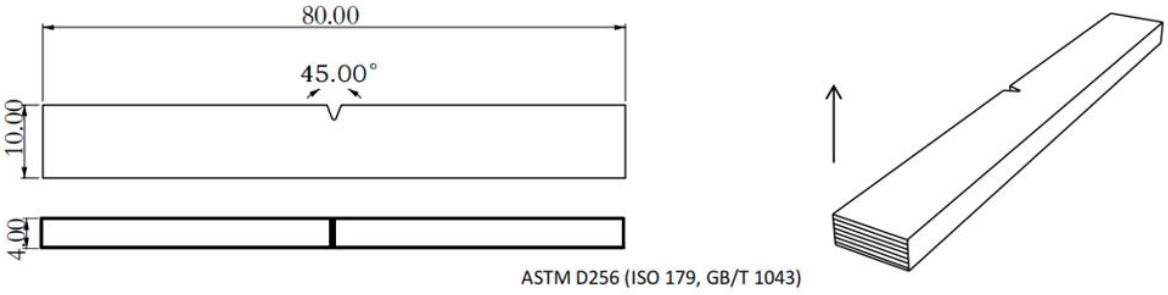
ASTM D638 (ISO 527, GB/T 1040)

1



ASTMD790 (ISO 178, GB/T 9341)

2



ASTM D256 (ISO 179, GB/T 1043)

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4. Recommended printing conditions

Print Temperature	Hotbed Temperature	Ambient Temperature	Print Speed	Pumping Distance
190-230°C	25-60°C	0-50°C	40-600mm/s	1-5mm

5. Compatible Models

Hyper-PLA is wildly used in FDM 3D printers on the market.

6. Storage Condition

Please place this product in a dry and ventilated environment, not in an environment of high temperature, sunny or humid conditions. If it is not used up within a short time after opening, it is recommended to use it with a dry box when using it again.

7. Disclaimer

The values given in this data sheet are for reference and comparison only. Actual values may vary with printing conditions, and the end-use performance of printed models depends on model designs, environmental conditions, printing conditions, etc.