

Version 3.0

Jun. 2017

PolyLite[™] PLA

PolyLite[™] PLA is a PLA filament specifically engineered for 3D printing.

Physical Properties

Property	Testing method	Typical value
Density	ASTM D792 (ISO 1183, GB/T 1033)	1.17 - 1.24 (g/cm3 at 21.5°C)
Glass transition temperature	DSC, 10 °C/min	61 (°C)
Vicat Softening temperature	ASTM D1525 (ISO 306 GB/T 1633)	63 (°C)
Melt index	210 °C, 2.16 kg	7-11 (g/10 min)
Melting temperature	DSC, 10 °C/min	150 (°C)
Crystallization temperature	DSC, 10 °C/min	114 (°C)

Tested with 3D printed specimen of 100% infill

Mechanical Properties

Property	Testing method	Typical value
Young's modulus (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	2636 ± 330 (MPa)
Tensile strength (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	46.6 ± 0.9 (MPa)
Elongation at break (X-Y)	ASTM D638 (ISO 527, GB/T 1040)	1.9 ± 0.2 (%)
Bending modulus	ASTMD790 (ISO 178, GB/T 9341)	3283 ± 132 (MPa)
Bending strength	ASTMD790 (ISO 178, GB/T 9341)	85.1 ± 2.9 (MPa)
Charpy impact strength	ASTM D256 (ISO 179, GB/T 1043)	2.7 ± 0.2 (kJ/m ²)
Tensile strength (Z)	ASTM D638 (ISO 527, GB/T 1040)	43.5 ± 3.1 (MPa)

All testing specimens were printed under the following conditions:

nozzle temperature = 205 °C, printing speed = 60 mm/s, build plate temperature = 40 °C, infill = 100%

All specimens were conditioned at room temperature for 24h prior to testing

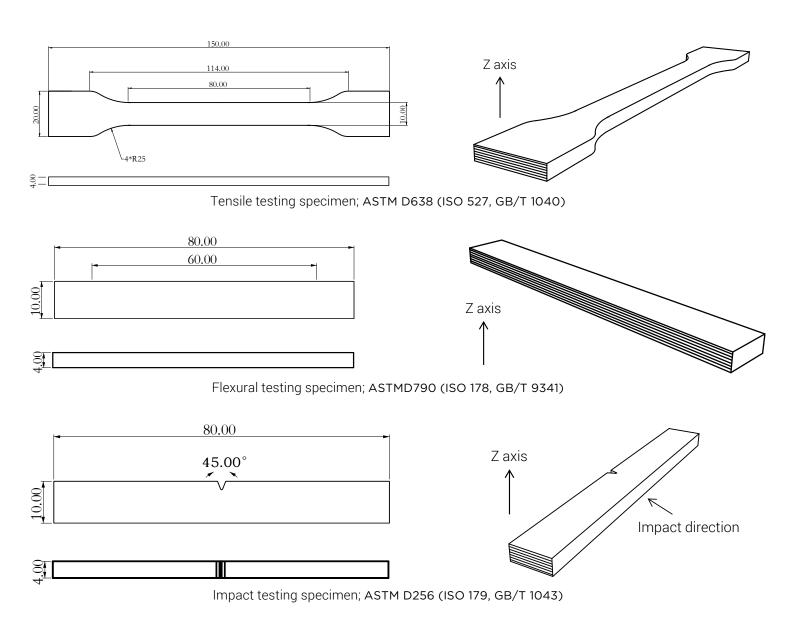
Recommended printing conditions

Parameter		
Nozzle temperature	190 - 220 (°C)	
Build Surface material	BuildTak®, Glass, Blue Tape	
Build surface treatment	None	
Build plate temperature	40 - 55 (°C)	
Cooling fan	Turned on	
Printing speed	60 (mm/s)	
Raft separation distance	0.2 (mm)	
Retraction distance	1 (mm)	
Retraction speed	20 (mm/s)	
Recommended environmental temperature	Room temperature - 45 (°C)	
Threshold overhang angle	45 (°)	
Recommended support material	PolySupport™	

Based on 0.4 mm nozzle and Simplify 3D v.4.0. Printing conditions may vary with different nozzle diameters

Technical Data Sheet

Version 3.0



Disclaimer:

The typical values presented in this data sheet are intended for reference and comparison purposes only. They should not be used for design specifications or quality control purposes. Actual values may vary significantly with printing conditions. End- use performance of printed parts depends not only on materials, but also on part design, environmental conditions, printing conditions, etc. Product specifications are subject to change without notice.

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