

## PolyLite™ PLA

PolyLite™ PLA is a high-quality PLA designed for reliability and ease of 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)	$2.7 \pm 0.2  (kJ/m^2)$
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

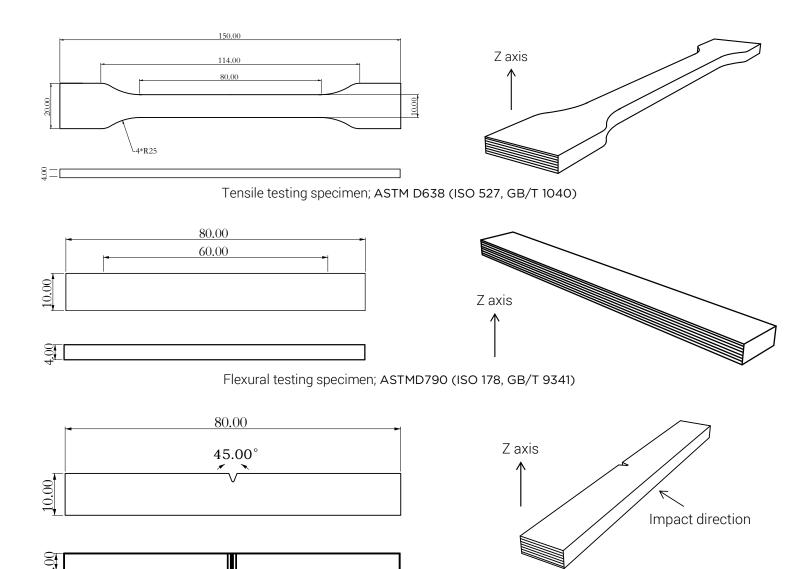
recommended printing containers		
Parameter		
Nozzle temperature	190 - 230 (°C)	
Build Surface material	BuildTak®, Glass, Blue Tape	
Build surface treatment	Glue, Magigoo	
Build plate temperature	25 - 60 (°C)	
Cooling fan	Turned on	
Printing speed	40-60 (mm/s)	
Raft separation distance	0.2 (mm)	
Retraction distance	1 (mm)	
Retraction speed	20 (mm/s)	
Recommended environmental temperature	Room temperature - 45 (°C)	
Threshold overhang angle	45 (°)	
Recommended support material	PolySupport™ and PolyDissolve™ S1	
legard on 0.4 mm paggle and Cimplify 2D v.4.0. Drinting conditions may very with different paggle diameters		

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





## **Technical Data Sheet**



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

## 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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