polymaker

Innovators in 3D printing

Technical Data Sheet

PolyLite™ PETG

www.polymaker.com

V5.1

PolyLite™ PETG

PolyLite™ PETG is an affordable PETG filament with balanced mechanical properties and ease of printing.
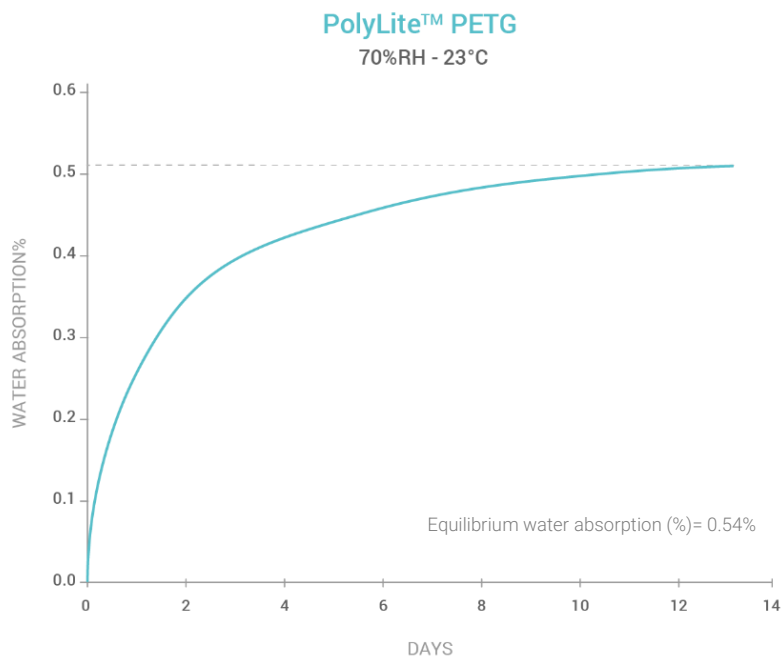
PHYSICAL PROPERTIES

Property	Testing Method	Typical Value
Density	ISO1183, GB/T1033	1.25 g/cm^3 at 23°C
Melt index	240°C, 2.16kg	10.8 g/10min
Light transmission	GB/T 2410	90%
Flame retardancy	N/A	N/A

CHEMICAL RESISTANCE DATA

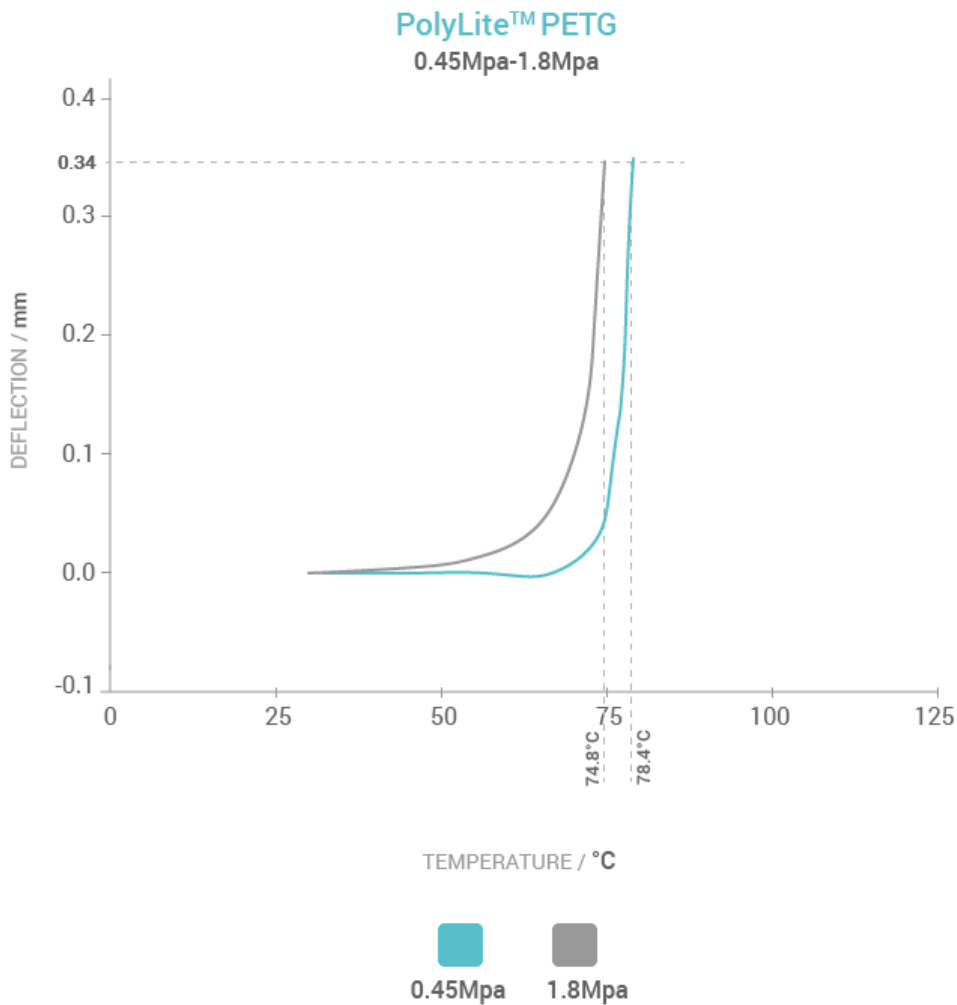| Property	Testing Method
Effect of weak acids	Not resistant
Effect of strong acids	Not resistant
Effect of weak alkalis	Not resistant
Effect of strong alkalis	Not resistant
Effect of organic solvent	Resistant most
Effect of oils and grease	No data available

MOISTURE ABSORPTION CURVE

PolyLite™ PETG
70%RH - 23°C

Equilibrium water absorption (%)= 0.54%

WATER ABSORPTION%

DAYS

THERMAL PROPERTIES

Property	Testing Method	Typical Value
Glass transition temperature	DSC, 10°C/min	81 °C
Melting temperature	DSC, 10°C/min	N/A
Crystallization temperature	DSC, 10°C/min	N/A
Decomposition temperature	TGA, 20°C/min	N/A
Vicat softening temperature	ISO 306, GB/T 1633	84 °C
Heat deflection temperature	ISO 75 1.8MPa	74.8 °C
Heat deflection temperature	ISO 75 0.45MPa	78.4 °C
Thermal conductivity	N/A	N/A
Low temperature resistance	N/A	N/A
Heat shrinkage rate	N/A	N/A

HDT CURVE

PolyLite™ PETG
0.45Mpa-1.8Mpa

MECHANICAL PROPERTIES

Property	Testing Method	Typical Value
Young's modulus (X-Y)	ISO 527, GB/T 1040	1472 ± 270 MPa
Young's modulus (Z)		1087 ± 79 MPa
Tensile strength (X-Y)	ISO 527, GB/T 1040	31.9 ± 1.1 MPa
Tensile strength (Z)		13.4 ± 2.0 MPa
Elongation at break (X-Y)	ISO 527, GB/T 1040	6.8 ± 0.9 %
Elongation at break (Z)		1.3 ± 0.2 %
Bending modulus (X-Y)	ISO 178, GB/T 9341	1174 ± 64 MPa
Bending modulus (Z)		N/A
Bending strength (X-Y)	ISO 178, GB/T 9341	53.7 ± 2.4 MPa
Bending strength (Z)		N/A
Charpy impact strength (X-Y)	ISO 179, GB/T 1043	5.1 ± 0.3 kJ/m^2
Charpy impact strength (Z)		N/A

RECOMMENDED PRINTING CONDITIONS

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

Parameter	
Nozzle temperature	230 – 240 (℃)
Build surface material	BuildTak®, Glass
Build surface treatment	Glue
Build plate temperature	70 - 80 (˚C)
Cooling fan	OFF-20%
Printing speed	30-50 (mm/s)
Raft separation distance	0.14 (mm)
Retraction distance	1 (mm)
Retraction speed	20 (mm/s)
Environmental temperature	Room temperature
Threshold overhang angle	60 (˚)
Recommended support material	PolyDissolve™ S1

Note:

- It is highly recommended to use the PolyBox™ when printing with PolyLite™ PETG and to store it in the resealable bag.
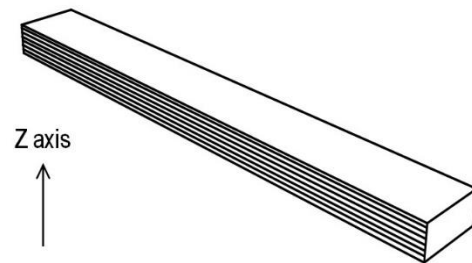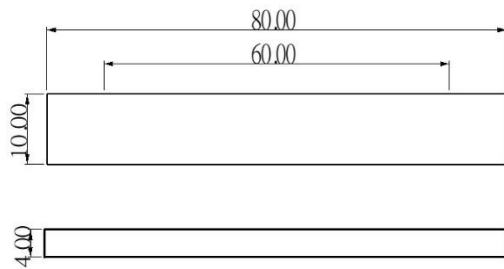
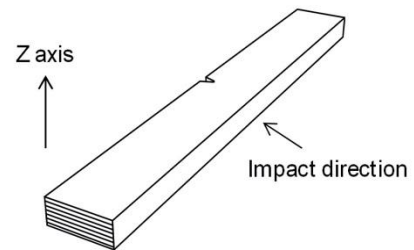# TENSILE TESTING SPECIMEN
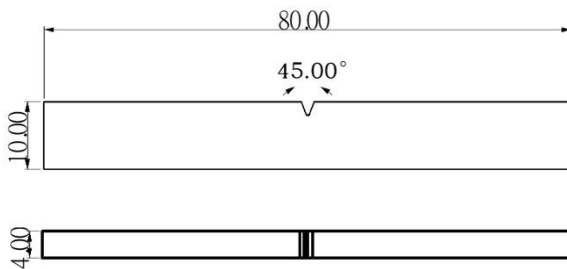### ISO 527, GB/T 1040
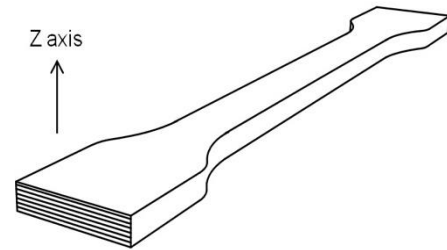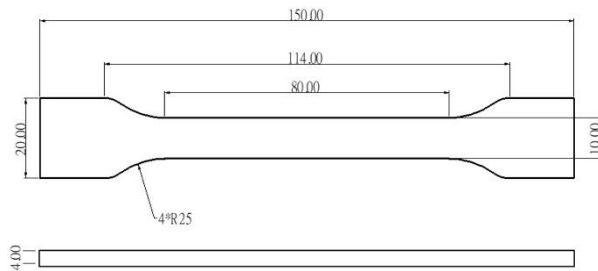
FLEXURAL TESTING SPECIMEN
ISO 178, GB/T 9341

IMPACT TESTING SPECIMEN
ISO 179, GB/T 1043

HOW TO MAKE SPECIMENS

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

Printing temperature	240 °C
Bed temperature	80 °C
Shell	2
Top & bottom layer	4
Infill	100%
Environmental temperature	25 °C
Cooling fan	OFF

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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