TECHNICAL DATA SHEET

V1.0

polymaker
3D PRINTING FILAMENT

POLYMAKER™ PETG

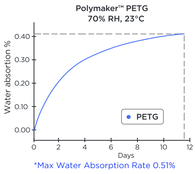
Polymaker™ PETG is a cost-effective, high-flow filament engineered for improved all-around performance. It enables faster extrusion, a cleaner surface finish, and offers excellent printability with low odor, perfect for dependable prototyping and robust end-use parts.

WWW.POLYMAKER.COM

PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO1183, GB/T1033	1.30 g/cm³ at 23°C
Melt index	210°C, 2.16 kg	8.8 g/10min
Light transmission	GB/T 2410	N/A

MOISTURE ABSORPTION CURVE

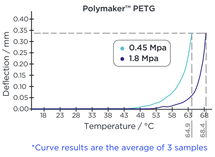


*Max Water Absorption Rate 0.51%

THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 10°C/min	71.24°C
Decomposition temp.	TGA, 20°C/min	405.49°C
Vicat softening temp.	ISO 306, GB/T 1633	75°C
Heat deflection temp.	ISO 75 0.45MPa	69°C
Heat deflection temp.	ISO 75 1.8MPa	65°C

HDT CURVE



*Curve results are the average of 3 samples

MECHANICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y) Young's modulus (Z)	ISO 527, GB/T 1040	2311.11 ± 92.41 MPa 2202.91 ± 52.34 MPa
Tensile strength (X-Y) Tensile strength (Z)	ISO 527, GB/T 1040	47.96 ± 4.88 MPa 45.71 ± 1.76 MPa
Elongation at break (X-Y) Elongation at break (Z)	ISO 527, GB/T 1040	9.33 ± 6.57% 3.54 ± 2.35%
Bending modulus (X-Y) Bending modulus (Z)	ISO 178, GB/T 9341	2277.34 ± 198.09 MPa 1958.74 ± 126.39 MPa
Bending strength (X-Y) Bending strength (Z)	ISO 178, GB/T 9341	80.08 ± 3.53 MPa 57.65 ± 5.63 MPa
Charpy impact strength (X-Y) notched Charpy impact strength (X-Y) Charpy impact strength (Z)	ISO 179, GB/T 1043	4.95 ± 0.55 kJ/m² 20.24 ± 3.95 kJ/m² 15.74 ± 3.91 kJ/m²

CHEMICAL RESISTANCE DATA

PROPERTY	TYPICAL VALUE
Effect of weak acids	Good
Effect of strong acids	Poor
Effect of weak alkalis	Fair
Effect of strong alkalis	Poor
Effect of oils and grease	Good

Good:
Material may get minor attack after long periods of storage with chemical at ambient temperature

Fair:
Material can be used for short time contact with chemicals at ambient temperature

Poor:
Material becomes unstable on contact with chemical at ambient temperature

RECOMMENDED PRINTING CONDITIONS

Nozzle temperature	240-260°C
Build plate temperature	60-70°C
Build surface treatment	PC and Textured PEI
Cooling fan	20%-60%
Closure chamber	Not Needed

Printing speed	Up to 300mm/s
Drying temp. and time	55°C/6H
Retraction distance	1-3 (mm)
Retraction Speed	20-40 (mm/s)

*Based on 0.4mm nozzle. Printing conditions may vary with different nozzle diameters.

PolyBox™ or PolyDryer™ Box

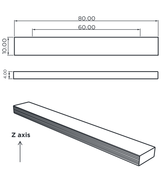
NOTE
It is highly recommended to use the PolyBox™ or PolyDryer™ Box when printing or storing Polymaker™ PETG.

HOW TO MAKE SPECIMENS

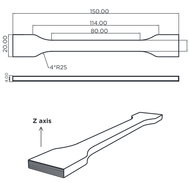
Printing temperature	240°C
Bed temperature	80°C
Top & bottom layer	3
Environmental Temperature	Ambient

Infill	100%
Shell	2
Cooling fan	OFF

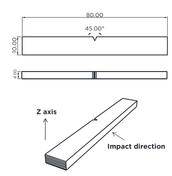
FLEXURAL TESTING SPECIMEN
ISO 178, GB/T 9341



TENSILE TESTING SPECIMEN
ISO 527, GB/T 1040



IMPACT TESTING SPECIMEN
ISO 179, GB/T 1043



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