TECHNICAL DATA SHEET

V3.0

polymaker
3D PRINTING FILAMENT



Polymaker™ G-Flex PETG

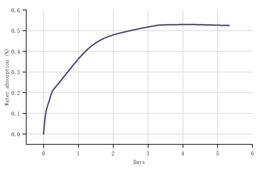
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White Black Brown Green Blue Grey Yellow Tan Red Orange

PHYSICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Density	ISO 1183-1; GB/T 1033.1, 23°C	1.25 g/cm^3 at 23°C
Melt index	ISO 1133-1	11.8@210°C, 2.16kg g/10 min

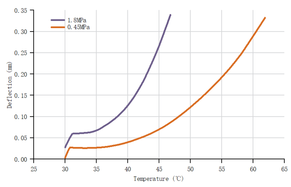
MOISTURE ABSORPTION CURVE



THERMAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Glass transition temp.	DSC, 20°C/min	63.8°C
Decomposition temp.	TGA, 20°C/min	365.6°C
Vicat softening temp.	ISO 306; GB/T 1633	89.9°C(as printed)
Heat deflection temp.	ISO 75-1, 1.8MPa	46.7°C(as printed)
Heat deflection temp.	ISO 75-1, 0.45MPa	61.5°C(as printed)

HDT CURVE



*Curve results are shown from available source data.

MECHANICAL PROPERTIES

PROPERTY	TESTING METHOD	TYPICAL VALUE
Young's modulus (X-Y, as printed)	ISO 527; GB/T 1040	431.49±13.26 MPa
Young's modulus (Z, as printed)	ISO 527; GB/T 1040	330.70±12.74 MPa
Tensile strength (X-Y, as printed)	ISO 527; GB/T 1040	40.27±2.09 MPa
Tensile strength (Z, as printed)	ISO 527; GB/T 1040	18.49±1.18 MPa
Elongation at break (X-Y, as printed)	ISO 527; GB/T 1040	306.53±24.13 %
Elongation at break (Z, as printed)	ISO 527; GB/T 1040	104.82± 5.94 %
Bending modulus (X-Y, as printed)	ISO 178; GB/T 9341	451.55±15.82 MPa
Bending modulus (Z, as printed)	ISO 178; GB/T 9341	350.29±10.35 MPa
Bending strength (X-Y, as printed)	ISO 178; GB/T 9341	13.96±0.48 MPa
Bending strength (Z, as printed)	ISO 178; GB/T 9341	10.61±0.11 MPa
Unnotched impact strength (X-Y, as printed)	ISO 179; GB/T 1043 (5J)	No Break
Unnotched impact strength (Z, as printed)	ISO 179; GB/T 1043 (5J)	No Break

RECOMMENDED PRINTING CONDITIONS

PROPERTY	TYPICAL VALUE
Nozzle temperature	230-240°C
Build plate temperature	70°C
Build surface treatment	NO
Cooling fan	0%-90%
Chamber temperature	NO

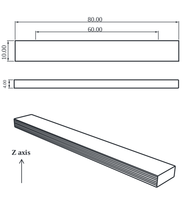
PROPERTY	TYPICAL VALUE
Printing speed	Up to 300 mm/s
Drying temp. and time	70°C, 6h
Retraction distance (Direct Drive)	1.0 mm
Retraction speed (Direct Drive)	30 mm/s

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

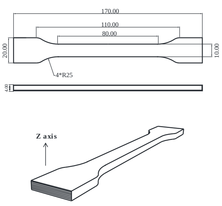
HOW TO MAKE SPECIMENS

PROPERTY	TYPICAL VALUE
Printing temperature	230°C
Bed temperature	70°C
Top & bottom layer	3
Environmental temperature	Ambient
Infill	100%
Shell	2
Cooling fan	ON

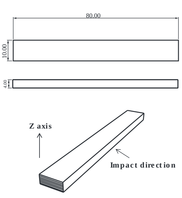
FLEXURAL TESTING SPECIMEN
ISO 178, GB/T 9341



TENSILE TESTING SPECIMEN
ISO 527, GB/T 1040



IMPACT TESTING SPECIMEN
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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