

PETG

Technical Data Sheet

PETG is a high-performance material known for its excellent water resistance, chemical resistance, and superior toughness. It offers greater impact strength than ABS while maintaining smooth surface quality and light translucency in printed parts. The material is easy to print, similar to PLA, and does not require a temperature-controlled chamber, making it suitable for both functional prototypes and end-use components.

Material Status	Mass Production	
Characteristics	<ul style="list-style-type: none"> High transparency Excellent toughness 	<ul style="list-style-type: none"> Strong chemical resistance Reliable water resistance
Applications	<ul style="list-style-type: none"> Advertising and display components Waterproof enclosures and parts 	<ul style="list-style-type: none"> Snap-fit assemblies Decorative and functional applications
Form	<ul style="list-style-type: none"> Filament 	
Processing Method	<ul style="list-style-type: none"> 3D Print, FDM Print 	

	Testing Method	Typical Value	
Physical Properties			
Density	GB/T 1033	1.27	g/cm³
Melt Flow Index	GB/T 3682	20	(220°C / 10kg)
Mechanical Properties			
Tensile Strength	GB/T 1040	52.2	MPa
Elongation at Break	GB/T 1040	83	%
Flexural Strength	GB/T 9341	58.1	MPa
Flexural Modulus	GB/T 9341	1073	MPa
IZOD Impact Strength	GB/T 1843	4.7	kJ/m²

Thermal Properties

Heat distortion Temperature	GB/T 1634	64	°C
Continuous Service Temperature	IEC 60216	N/A	
Maximum (short term) Use Temperature		N/A	

Electrical Properties

Insulation Resistance	DIN IEC 60167	N/A
Surface Resistance	DIN IEC 60093	N/A

Recommended printing parameters

Parameter	Recommended Range
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Extruder Temperature	230–250°C
Build Platform Temperature	75 – 90°C
Fan Speed	100%
Printing Speed	40–100 mm/s

Recommended settings are based on a 0.4 mm nozzle and Simplify3D v4.1.2. Printing conditions may vary depending on nozzle diameter and printer configuration.

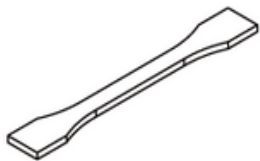
Drying Recommendations

Not applicable under standard storage and printing conditions.

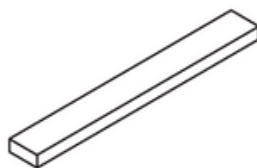
Precautions

- Enable Z-seam alignment for cleaner surface transitions.
- Disable Z-axis lift during travel moves to reduce stringing.
- Use a slower printing speed to achieve a smoother surface finish and better layer adhesion.

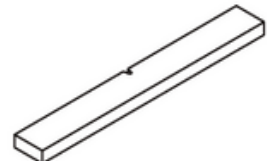
Mechanical Properties



Tensile testing specimen GB/T 1040



Flexural testing specimen GB/T 9341



Impact testing specimen GB/T 1043

The listed physical, mechanical, thermal, and electrical properties are derived from tests conducted on injection-molded specimens.

Print Test Condition:

Parameter	Recommended Setting
Extruder Temperature	230–270°C
Build Platform Temperature	75°C
Outline / Perimeter Shells	4
Top / Bottom Layers	4
Infill Percentage	20%
Fan Speed	0%
Printing Speed	40 mm/s

Test performed using a 0.4 mm nozzle with Simplify3D v4.1.2. Printing parameters may vary based on nozzle size, material type, and machine configuration.

Notice

All technical data and recommendations provided are based on controlled testing and reliable research. However, this information is intended for reference only. The material is supplied 'as is', and Mech Power makes no explicit or implied warranties, including merchantability or fitness for a particular application. Users are advised to validate material performance under their specific process and design conditions.