



Shenzhen Elegoo Technology Co.,Ltd. Technical Data Sheet

Basic Introduction

Product Name: ELEGOO Rapid PETG

Applicable Industry: Interior decorations, desktop ornaments and toys etc.

Manufacturer: Shenzhen Elegoo Technology Co.,Ltd.

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Advantages

ELEGOO Rapid PETG is specifically optimised for high-speed printing. It offers faster print speeds than standard PETG and significantly boosts printing efficiency. While prioritising speed, it retains the excellent toughness and interlayer adhesion of regular PETG, producing durable prints that perfectly meet the demanding requirements of functional prototypes and various tooling fixtures.

Recommended Printing Settings

Drying Settings Before Printing: 60 °C, 8 h (Air Drying Oven)

Printing Temperature and Humidity: $\leq 20\%$ RH (sealed with desiccant)

Storage Temperature and Humidity: $\leq 20\%$ RH (sealed with desiccant)

Printer Type: Enclosed-frame, open-frame

Nozzle Size: 0.2, 0.4, 0.6, 0.8 mm

Plate Type: Textured PEI plate, smooth PEI plate or other plates

Plate Surface Pretreatment: Applying the glue

Nozzle Temperature: 240 - 270 °C

Bed Temperature: 65 - 75 °C

Printing Speed: < 300 mm/s

Chamber Temperature: 45 °C

Support Material: Self-generated support or PETG special support

Physical Properties

Subjects	Testing Methods	Data
Density	$\rho = m / v$	1.29 g/cm ³
Saturated Water Absorption Rate	25 °C , 55% RH, Indoor air	0.44%
Melt Index	250 °C, 2.16 kg	13.4 ± 3.8 g/10 min
Glass Transition Temperature	DSC, 10 °C/min	68 °C
Crystallization Temperature	DSC, 10 °C/min	N / A
Melting Temperature	DSC, 10 °C/min	216 °C
Vicar Softening Temperature	ISO 306, GB/T 1633	70 °C
Heat Deflection Temperature 1	ISO 75, 1.80 MPa	66 °C
Heat Deflection Temperature 2	ISO 75, 0.45 MPa	72 °C

Mechanical Properties

Subjects	Testing Methods	Data
Tensile Strength (XY)	ISO 527, GB/T 1040	42 ± 2 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	28 ± 3 MPa
Young's Modulus (XY)	ISO 527, GB/T 1040	1733 ± 101 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1465 ± 121 MPa
Breaking Elongation Rate (XY)	ISO 527, GB/T 1040	8.9% ± 1.5%

Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	6.5% ± 1.6%
Bending Strength (XY)	ISO 178, GB/T 9341	68 ± 2 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	40 ± 2 MPa
Bending Modulus (XY)	ISO 178, GB/T 9341	2097 ± 173 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	1977 ± 168 MPa
Impact Strength (XY)	ISO 179, GB/T 1043	67.6 ± 4.2 kJ/m ²
Impact Strength (Z)	ISO 179, GB/T 1043	8.9 ± 1.1 kJ/m ²

Other Physical and Chemical Properties

Component: PETG

Skin Irritation: No

Chemical stability: Stable at normal temperature

Resistance to Water: Resistant

Resistance to Oil and Grease: Resistant to most kinds of oil and grease

Resistance to Organic Solvent: Not resistant to some organic solvents

Resistance to Acid: Not resistant

Resistance to Alkali: Not resistant

Flammability: Yes

Odor During Printing: Odorless

Specimen Information

Size: Refer to the following pictures.

Nozzle Temperature: 255 °C

Bed Temperature: 70 °C

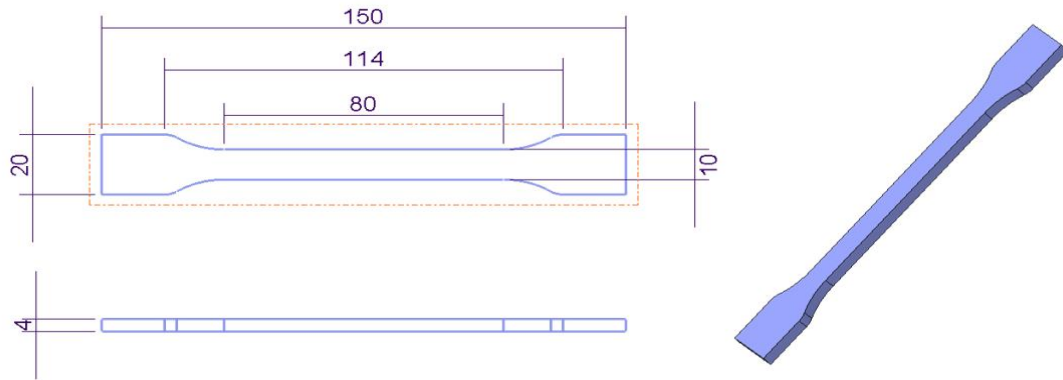
Printing Speed: 250 mm/s

Infill Density: 100%

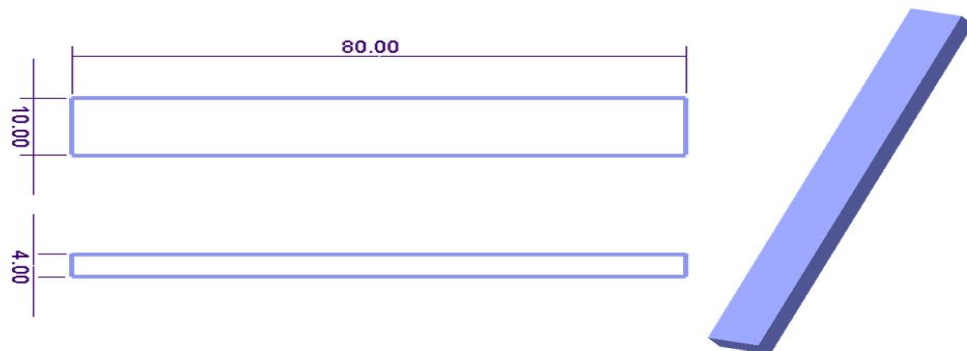
Infill Pattern: Concentric pattern

Statements: The test specimens were printed under the key parameters mentioned above. Before testing, all specimens were annealed at 65 °C for 8 hours and then placed in an indoor environment at approximately 25 °C for 24 hours.

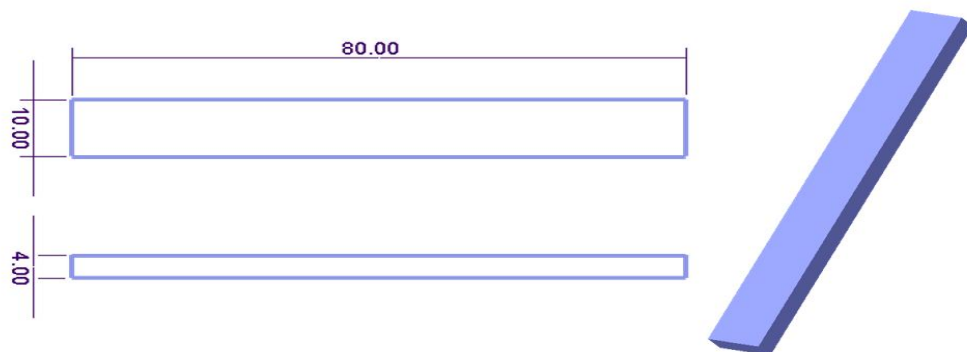
1. Tensile Testing



2. Bending Testing



3. Impact Testing



Disclaimer

The above properties data is obtained by ELEGOO through testing with standard samples, standard methods, and specific equipment, and is for reference and comparison only. The actual performance of 3D printed products depends not only on the characteristics used but also on many factors, such as the moisture absorption of the filaments, the printer, environmental conditions, model characteristics, printing parameters, etc.

When using the ELEGOO FDM 3D printing filaments, users are responsible for the legality, safety, and performance of the printing. ELEGOO is not responsible for the usage scenarios, or any damage or injury that occurs during using our filaments.