Shenzhen Elegoo Technology Co.,Ltd.
Technical Data Sheet

Basic Introduction

Product Name: ELEGOO PETG-GF

Applicable Industry: Interior decorations, desktop accessories, outdoor equipments etc.

Manufacturer: Shenzhen Elegoo Technology Co.,Ltd.

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Advantages

ELEGOO PETG GF is highly resistant to bending and deformation under heavy loads thanks to its enhanced strength, rigidity and surface hardness. It is ideal for creating functional prototypes and load-bearing structural components. Printed parts have a distinctive texture and finish that hides layer lines while providing excellent weather resistance. Compared to standard PETG, it significantly reduces issues such as nozzle sticking and filament wrapping.

Recommended Printing Settings

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

Printing Temperature and Humidity: ≤ 20% RH (sealed with desiccant)

Storage Temperature and Humidity: ≤ 20% RH (sealed with desiccant)

Printer Type: Enclosed-frame, open-frame

Nozzle Material: Hardened steel

Nozzle Size: 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: < 220 mm/s

Chamber Temperature: 25 - 50 °C

Support Material: Self-generated support or PETG special support

Physical Properties

Subjects	Testing Methods	Data
Density	ρ = m / v	1.30 g/cm³
Saturated Water Absorption Rate	25 °C , 55% RH, Indoor air	0.28%
Melt Index	250 °C, 2.16 kg	18.5 ± 3.5 g/10 min
Glass Transition Temperature	DSC, 10 °C/min	70 °C
Crystallization Temperature	DSC, 10 °C/min	N / A
Melting Temperature	DSC, 10 °C/min	226 °C
Vicar Softening Temperature	ISO 306, GB/T 1633	83 °C
Heat Deflection Temperature 1	ISO 75, 1.80 MPa	71 °C
Heat Deflection Temperature 2	ISO 75, 0.45 MPa	74 °C

Mechanical Properties

Subjects	Testing Methods	Data
Tensile Strength (XY)	ISO 527, GB/T 1040	50 ± 3 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	42 ± 2 MPa
Young’s Modulus (XY)	ISO 527, GB/T 1040	2512 ± 142 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1585 ± 302 MPa

Breaking Elongation Rate (XY)	ISO 527, GB/T 1040	7.9% ± 1%
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	8.5% ± 1%
Bending Strength (XY)	ISO 178, GB/T 9341	83 ± 3 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	53 ± 3 MPa
Bending Modulus (XY)	ISO 178, GB/T 9341	3345 ± 88 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	2242 ± 70 MPa
Impact Strength (XY)	ISO 179, GB/T 1043	51.9 ± 5.2 kJ/m²
Impact Strength (Z)	ISO 179, GB/T 1043	11.3 ± 1.2 kJ/m²

Other Physical and Chemical Properties

Component: PETG and glass fiber

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 kinds of 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 ℃

Bed Temperature: 70 ℃

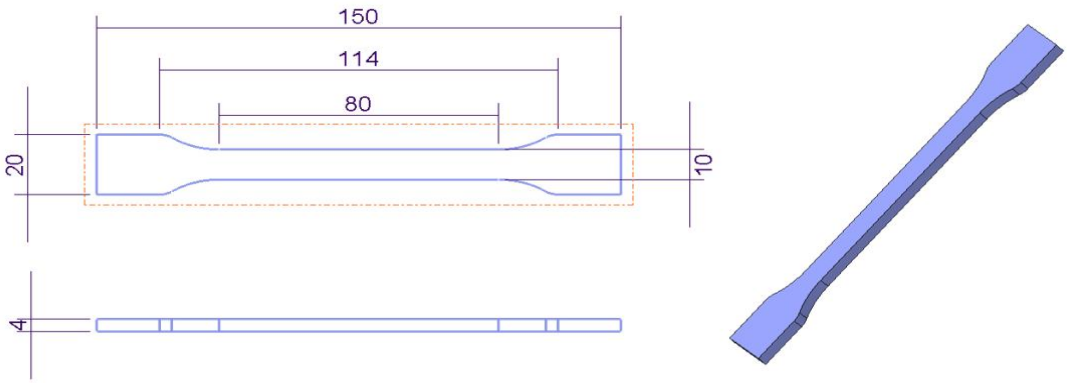
Printing Speed: 150 mm/s

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.

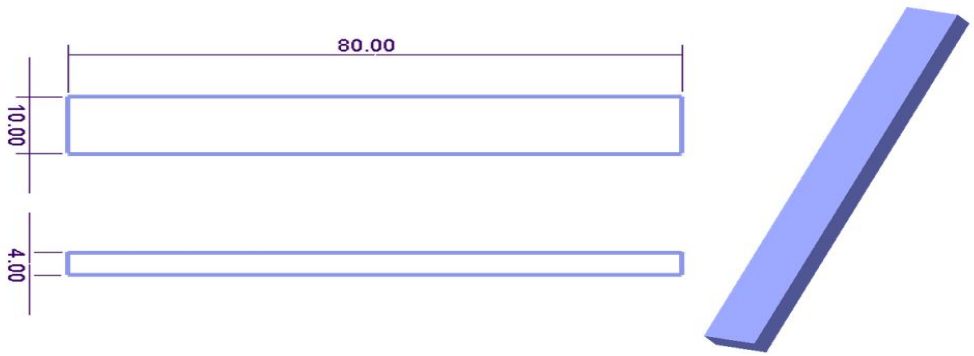
1. Tensile Testing



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.