Shenzhen Elegoo Technology Co.,Ltd.
Technical Data Sheet

Basic Introduction

Product Name: ELEGOO PLA-CF

Applicable Industry: Interior decoration, desktop ornaments and toy etc.

Manufacturer: Shenzhen Elegoo Technology Co.,Ltd.

Manufacturer Address: 101, No. 30, Dahe Industrial Zone, Guancheng Community, Guanhu Street, Longhua District, Shenzhen, Guangdong Province, China

Tel: +86-0755-21005141

Pin Code: 518000

Advantages

ELEGOO PLA-CF is a highly durable and lightweight material that makes it ideal for applications that require exceptional structural strength. The filament's distinctive fibrous texture offers a premium feel and excellent layer line concealment, while retaining the advantages of PLA, including ease of printing and reduced nozzle clogging.

Recommended Printing Settings

Drying Settings Before Printing: 55 °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: 210 - 240 °C

Bed Temperature: 35 - 65 °C

Printing Speed: < 300 mm/s

Chamber Temperature: 20 - 45 °C

Support Material: Self-generated support or PLA special support

Physical Properties

Subjects	Testing Methods	Data
Density	ρ = m / v	1.24 g/cm³
Saturated Water Absorption Rate	25 °C , 55% RH, Indoor air	0.39%
Melt Index	210 °C, 2.16 kg	9.7 ± 1.2 g/10 min
Glass Transition Temperature	DSC, 10 °C/min	64 °C
Crystallization Temperature	DSC, 10 °C/min	N / A
Melting Temperature	DSC, 10 °C/min	165 °C
Vicar Softening Temperature	ISO 306, GB/T 1633	64 °C
Heat Deflection Temperature 1	ISO 75, 1.80 MPa	53 °C
Heat Deflection Temperature 2	ISO 75, 0.45 MPa	56 °C

Mechanical Properties

Subjects	Testing Methods	Data
Tensile Strength (XY)	ISO 527, GB/T 1040	39 ± 3 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	23 ± 4 MPa
Young’s Modulus (XY)	ISO 527, GB/T 1040	2146 ± 184 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1825 ± 169 MPa
Breaking Elongation Rate (XY)	ISO 527, GB/T 1040	7.5% ± 1.3%

Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	6.9% ± 1.4%
Bending Strength (XY)	ISO 178, GB/T 9341	78 ± 2 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	50 ± 3 MPa
Bending Modulus (XY)	ISO 178, GB/T 9341	3341 ± 172 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	2474 ± 179 MPa
Impact Strength (XY)	ISO 179, GB/T 1043	24.7 ± 1.5 kJ/m²
Impact Strength (Z)	ISO 179, GB/T 1043	7.9 ± 1.6 kJ/m²

Other Physical and Chemical Properties

Component: Polylactic acid

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: 220 ℃

Bed Temperature: 55 ℃

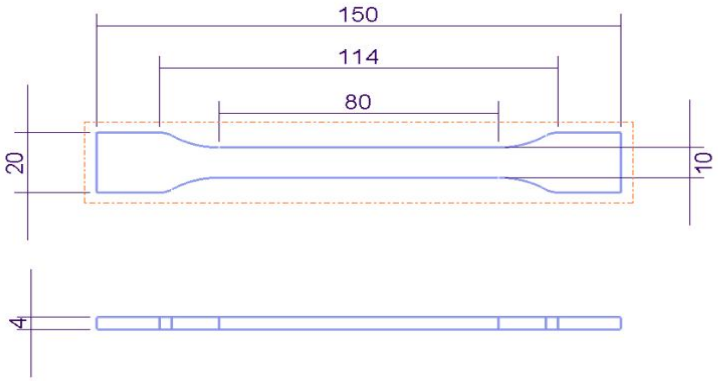
Printing Speed: 150 mm/s

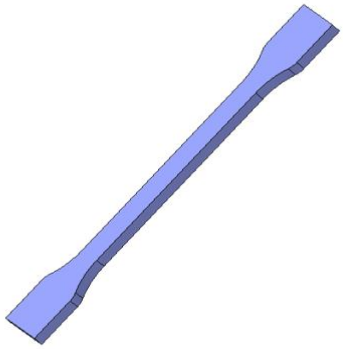
Infill Density: 100%

Infill Pattern: Concentric pattern

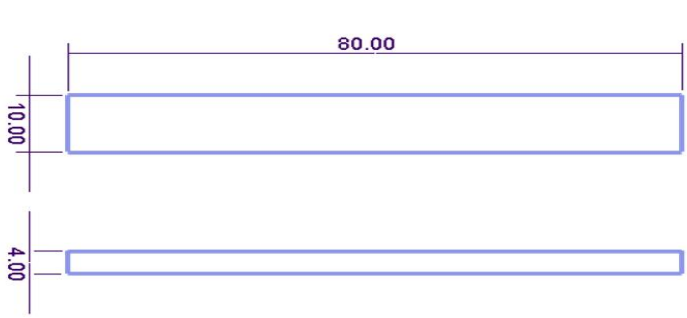
Statements: The test specimens were printed under the key parameters mentioned above. Before testing, all specimens were annealed at 55 °C for 8 hours and then placed in an indoor environment at approximately 25 °C for 24 hours.

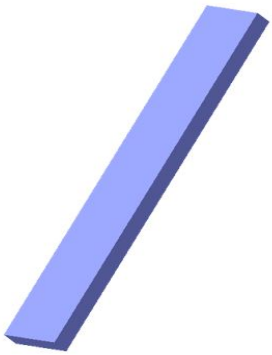
1. Tensile Testing



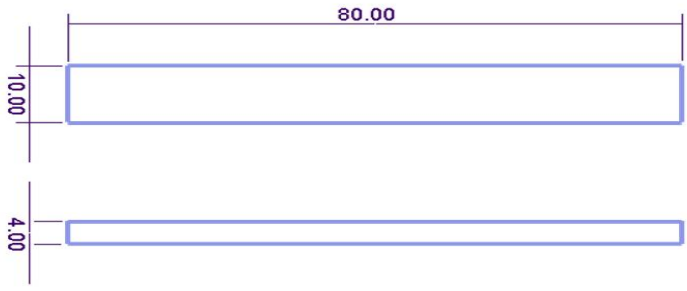


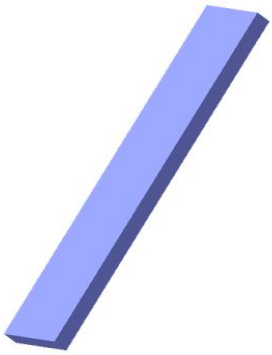
2. Bending Testing





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.