Bambu Filament

Technical Data Sheet V1.0

PETG HF

• Basic Info

Bambu PETG HF is a fully optimized PETG filament designed specifically for high-speed printing. With a default printing speed that is twice as fast as standard PETG filaments, PETG HF takes your printing efficiency to new heights. It effectively addresses common issues such as oozing and clumping associated with regular PETG, ensuring smoother and more reliable prints. The new matte finish not only enhances the aesthetic by smoothing out uneven gloss during speed transitions but also provides a consistently uniform look. Offering greater durability and toughness than PLA, PETG HF is the ideal choice for creating long-lasting items with an improved finish and faster production times.

• Specifications

Subjects	Data
Diameter	1.75 mm
Net Filament Weight	1 kg
Spool Material	ABS (Temperature resistance 70 °C)
Spool Size	Diameter: 200 mm; Height: 67 mm

• Recommended Printing Settings

Subjects	Data
Drying Settings before Printing	Blast Drying Oven: 65 °C，8 h X1 Series Printer Heatbed: 75 - 85 °C, 12 h
Printing and Storage Humidity	< 20% RH (Sealed, with desiccant)
Nozzle Size	0.2, 0.4, 0.6, 0.8 mm
Nozzle Temperature	230 - 260 °C
Bed Type	Smooth PEI Plate, Textured PEI Plate
Bed Surface Preparation	Glue
Bed Temperature	65 - 75 °C
Cooling Fan	0 - 60%
Printing Speed	< 300 mm/s
Retraction Length	0.8 - 1.4 mm

Retraction Speed	30 - 60 mm/s
Chamber Temperature	35 - 50 °C
Max Overhang Angle	~ 70 °
Max Bridging Length	~ 30 mm
Support Material	Support for PETG

• Properties

Bambu Lab has tested the differing aspects in the performance of PETG HF material, including physical, mechanical, and chemical properties. Typical values are listed as followed:

Physical Properties		
Subjects	**Testing Methods**	**Data**
Density	ISO 1183	1.28 g/cm³
Melt Index	210 °C, 2.16 kg	28.2 ± 2.7 g/10 min
Melting Temperature	DSC, 10 °C/min	214 °C
Glass Transition Temperature	DSC, 10 °C/min	66 °C
Crystallization Temperature	DSC, 10 °C/min	N / A
Vicar Softening Temperature	ISO 306, GB/T 1633	70 °C
Heat Deflection Temperature	ISO 75 1.8 MPa	62 °C
Heat Deflection Temperature	ISO 75 0.45 MPa	69 °C
Saturated Water Absorption Rate	25 °C, 55% RH	0.40%

Mechanical Properties		
Subjects	**Testing Methods**	**Data**
Young's Modulus (X-Y)	ISO 527, GB/T 1040	1810 ± 190 MPa
Young's Modulus (Z)	ISO 527, GB/T 1040	1540 ± 130 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	34 ± 4 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	23 ± 4 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	8.6 ± 1.2 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	5.1 ± 0.8 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	2050 ± 120 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	1810 ± 140 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	64 ± 3 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	48 ± 4 MPa
Impact Strength (X-Y)	ISO 179, GB/T 1043	31.5 ± 2.2 kJ/m²; 6.2 ± 1.8 kJ/m² (notched)
Impact Strength (Z)	ISO 179， GB/T 1043	10.6 ± 1.2 kJ/m²

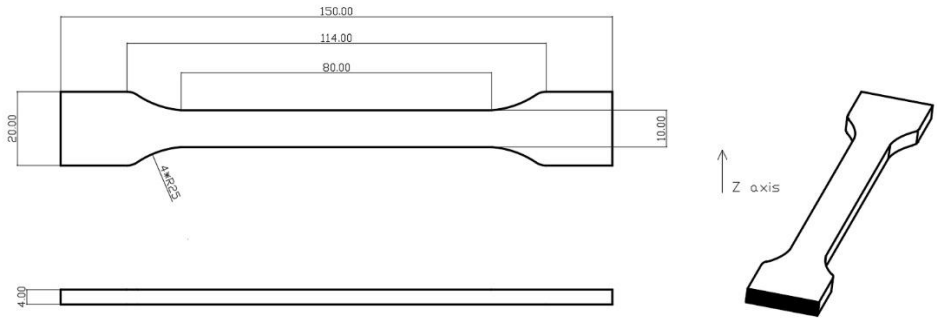
Other Physical and Chemical Properties	
Subjects	**Data**
Odor	Odorless
Composition	PETG
Skin Hazards	No hazard
Chemical Stability	Stable under normal storage and handling conditions
Solubility	Insoluble in water
Resistance to Acid	Not resistant
Resistance to Alkali	Not resistant
Resistance to Organic Solvent	Not resistant to some organic solvents
Resistance to Oil and Grease	Resistant to most kinds of oil and grease
Flammability	Flammable
Combustion Products	Water, carbon oxides
Odor of Combustion Products	Odorless

- **Specimen Test**

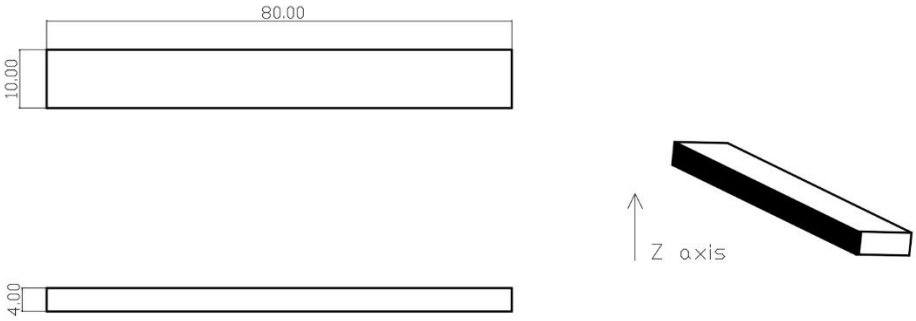
Specimen Printing Conditions	
Subjects	**Data**
Nozzle Temperature	255 °C
Bed Temperature	70 °C
Printing Speed	200 mm/s
Infill Density	100%

** All the specimens were printed at the following settings: Nozzle Temperature = 255 °C, Printing Speed = 200 mm/s, Bed Temperature = 70 °C, Infill Density = 100%. All the specimens were annealed and dried at 75 °C for 8 h before testing. It's not recommended to anneal prints of PETG HF, because only very limited promotion of properties can obtain while prints with not very simple shape and structure may deform obviously. If you do want to anneal them, the suggested temperature is 75 to 80 °C, and the time is 4 to 8 hours. When drying the filament and annealing the prints, it's required to use an oven that has big enough inside volume and can provides even temperature distribution, such as a blast drying oven (forced-air drying oven), and the filament and prints need to be away from the heater, and a micro-wave oven or kitchen oven is not compatible, otherwise the filament and prints can get damaged.*

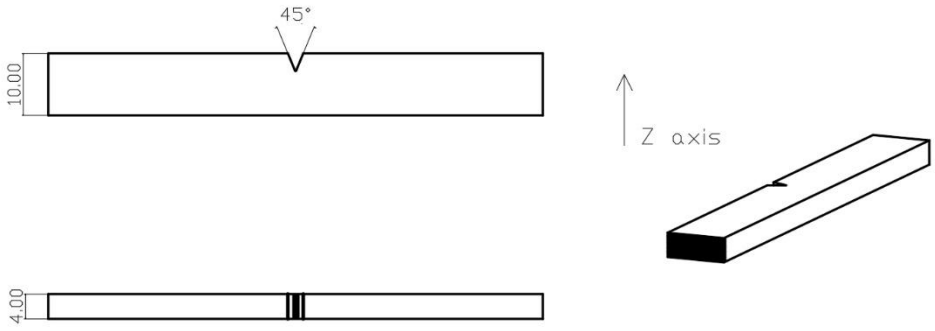
1.Tensile Testing



2.Bending Testing



3.Impact Testing



- **Disclaimer**

The performance values are tested by standard samples at Bambu Lab, and the values are

for design reference and comparison only. Actual 3D printing model performance is related to many other factors, including printers, printing conditions, printing models, printing parameters, etc.

In the process of using Bambu Lab 3D printing filaments, users are responsible for the legality, safety, and performance indicators of printing. Bambu Lab is not responsible for the use of materials and scenarios and is not responsible for any damage that occurs in the process of using our filaments.