



Bambu Filament

Technical Data Sheet V3.0

PETG Basic

• Basic Info

Bambu **PETG Basic** is specially optimized to minimize oozing, stringing, and clumping during printing, effectively addressing most common issues found in regular PETG in the market. It offers PETG's features of impact and water resistance, flexibility, strong layer adhesion, and durability. Ideal for printing tools (vises, tensioners, bag clips), toys (frisbees, boomerangs), water containers (bottles, watering cans), and outdoor items (planter pots, bottle cages) that require long-term exposure and withstanding impacts.

• 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 | 240 - 270 °C |
| Build Plate Type | Engineering Plate, High Temperature Plate or Textured PEI Plate |
| Nozzle Size | 0.4, 0.6, 0.8 mm |
| Bed Surface Preparation | Glue |
| Bed Temperature | 65 - 75 °C |
| Cooling Fan | 0 - 60% |
| Printing Speed | < 200 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 | Turn On |

• Properties

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

| Physical Properties | | |
|---------------------------------|--------------------|------------------------|
| Subjects | Testing Methods | Data |
| Density | ISO 1183 | 1.25 g/cm ³ |
| Melt Index | 210 °C, 2.16 kg | 18.6 ± 2.2 g/10 min |
| Melting Temperature | DSC, 10 °C/min | 225 °C |
| Glass Transition Temperature | DSC, 10 °C/min | 68 °C |
| Crystallization Temperature | DSC, 10 °C/min | N / A |
| Vicat Softening Temperature | ISO 306, GB/T 1633 | 78 °C |
| Heat Deflection Temperature | ISO 75 1.8 MPa | 65 °C |
| Heat Deflection Temperature | ISO 75 0.45 MPa | 69 °C |
| Saturated Water Absorption Rate | 25 °C, 55% RH | 0.32% |

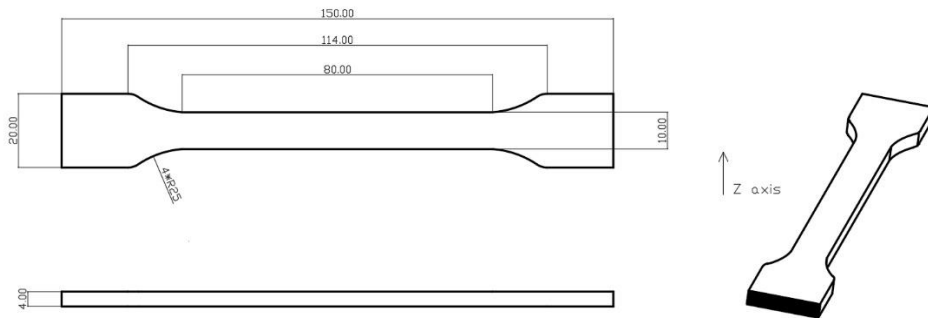
| Mechanical Properties | | |
|--------------------------------|--------------------|---|
| Subjects | Testing Methods | Data |
| Young's Modulus (X-Y) | ISO 527, GB/T 1040 | 1460 ± 190 MPa |
| Young's Modulus (Z) | ISO 527, GB/T 1040 | 1120 ± 130 MPa |
| Tensile Strength (X-Y) | ISO 527, GB/T 1040 | 32 ± 4 MPa |
| Tensile Strength (Z) | ISO 527, GB/T 1040 | 28 ± 4 MPa |
| Breaking Elongation Rate (X-Y) | ISO 527, GB/T 1040 | 11.2 ± 0.8 % |
| Breaking Elongation Rate (Z) | ISO 527, GB/T 1040 | 5.7 ± 0.6 % |
| Bending Modulus (X-Y) | ISO 178, GB/T 9341 | 1670 ± 120 MPa |
| Bending Modulus (Z) | ISO 178, GB/T 9341 | 1320 ± 150 MPa |
| Bending Strength (X-Y) | ISO 178, GB/T 9341 | 65 ± 4 MPa |
| Bending Strength (Z) | ISO 178, GB/T 9341 | 48 ± 5 MPa |
| Impact Strength (X-Y) | ISO 179, GB/T 1043 | 52.7 ± 2.4 kJ/m ² ; 21.6 ± 1.8 kJ/m ² (notched) |
| Impact Strength (Z) | ISO 179, GB/T 1043 | 13.6 ± 0.8 kJ/m ² |

| 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 |

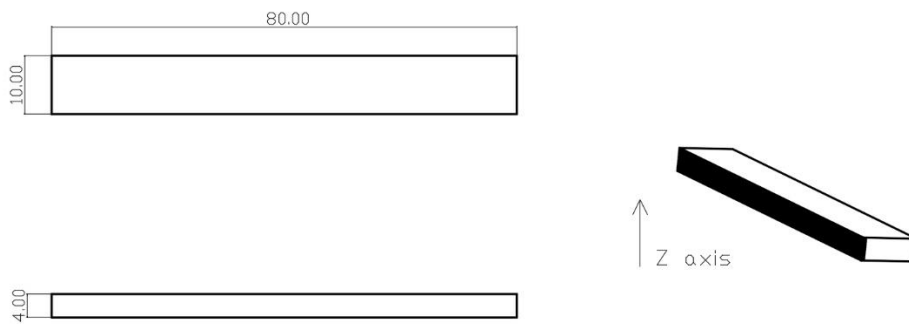
- **Specimen Test**

| Specimen Printing Conditions | |
|--|----------|
| Subjects | Data |
| Nozzle Temperature | 255 °C |
| Bed Temperature | 70 °C |
| Printing Speed | 150 mm/s |
| Infill Density | 100% |
| <p><i>*All the specimens were annealed and dried at 65 °C for 8 h before testing. It's not recommended to anneal prints of PETG Basic, 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 60 to 70 °C, and the time is 6 to 12 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.</i></p> | |

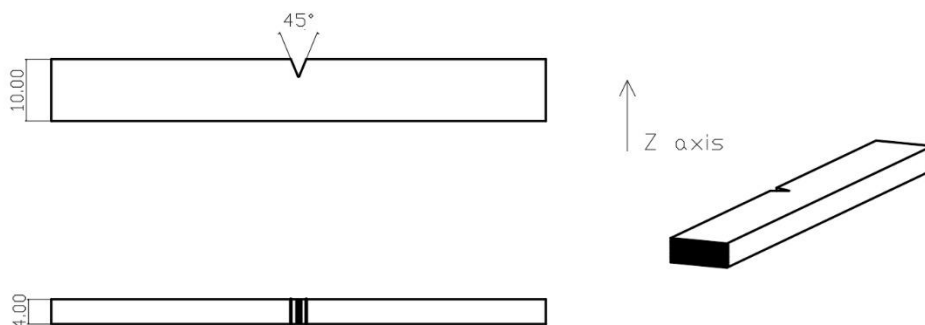
1. Tensile Testing



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.