

PLA Pure

Bambu PLA Pure is built for home printing—because every ingredient inside has earned the right to be there. Just five ingredients, and **every one, pigments included, is certified to EU food-contact safety standards**. Fewer ingredients, cleaner ingredients, and noticeably lower emissions while it prints. Every ingredient certified. Every finished spool certified. So whether it’s a desk piece, a gift, or a toy in a kid’s hands, PLA Pure is safe to live with.

• Recommended Printing Settings

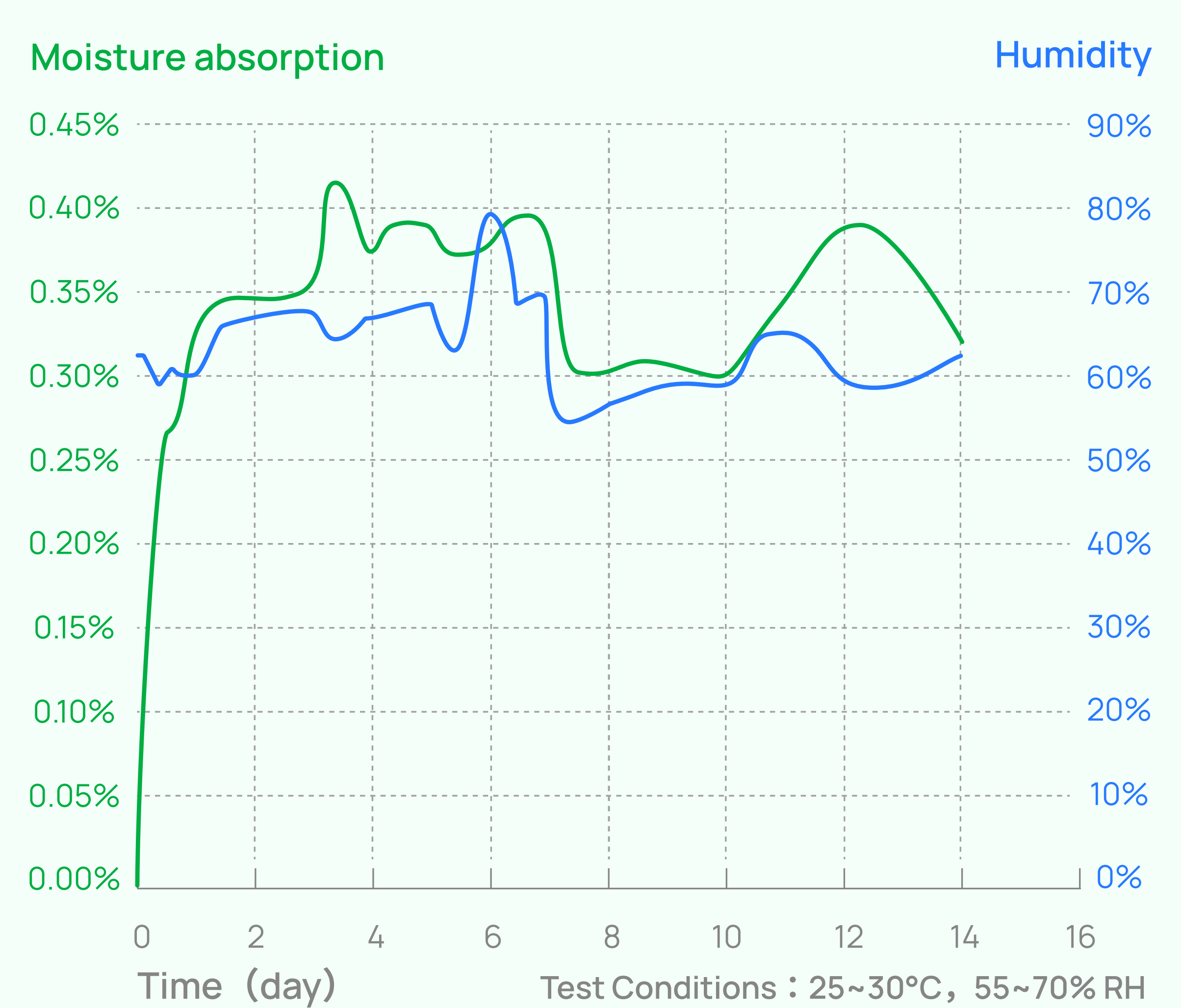
Subjects	Data
Drying Settings before Printing	Blast Drying Oven: 50 °C, 8 h X1 Series & P Series & H2 Series Printer Heatbed: 60 - 70 °C, 12 h AMS 2 Pro & AMS HT: Filament inserted state: 45°C, 12h; Filament non-inserted state: 55°C, 8h
Recommended Re-drying Interval*	18 days
Printers Compatibility	All Bambu 3D printers
AMS Compatibility	AMS, AMS 2 PRO, AMS HT, AMS Lite
Printing and Keeping Container’s Humidity	< 20% RH (Sealed, with desiccant)
Nozzle Size	0.2, 0.4, 0.6, 0.8 mm
Nozzle Temperature	190 - 230 °C
Build Plate Type	Textured PEI Plate / Smooth PEI Plate/Cool Plate Supertack
Bed Temperature	35 - 65 °C
Cooling Fan	Turn on
Printing Speed	< 200 mm/s
Retraction Length	0.4 - 0.8 mm
Retraction Speed	20 - 40 mm/s
Chamber Temperature	25 - 40 °C
Max Overhang Angle	55 °
Max Bridging Length	30 mm
Support	Support for PLA
Glue	Not Recommended (Adhesive residue may compromise the contact safety of finished parts. Enhanced bed adhesion can alternatively be achieved by increasing the bed temperature.)

*Maximum exposure time for filaments in ambient air before noticeable degradation in print quality occurs. After this period, a full re-drying is recommended. The actual interval may vary depending on the storage temperature and humidity.

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

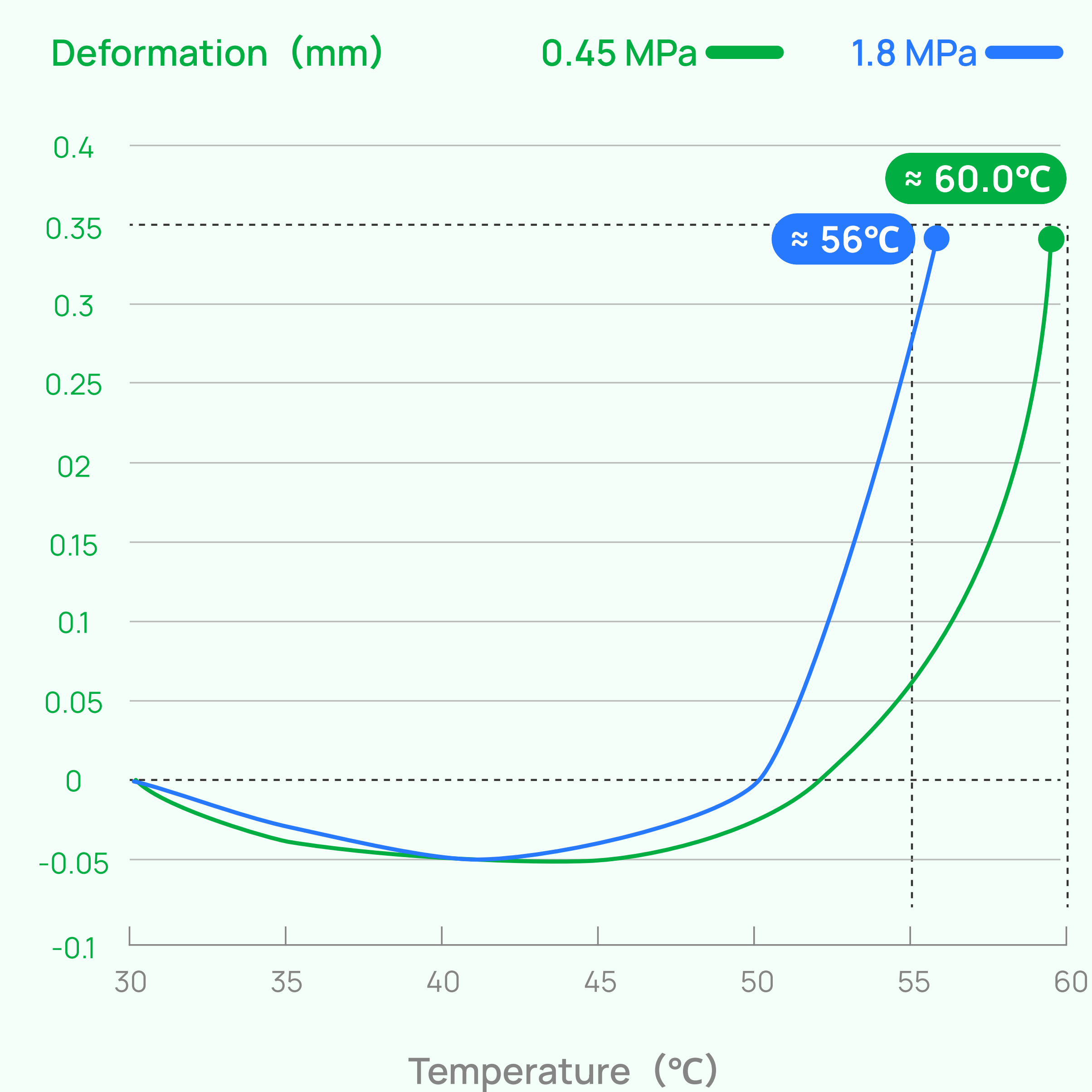
• Physical Properties

Subjects	Testing Methods	Data
Density	ISO 1183	1.24 g/cm ³
Melt Index	210 °C, 2.16 kg	11.76 ± 1.6 g/10 min
Saturated Water Absorption Rate	25 °C, 55% RH	0.28%



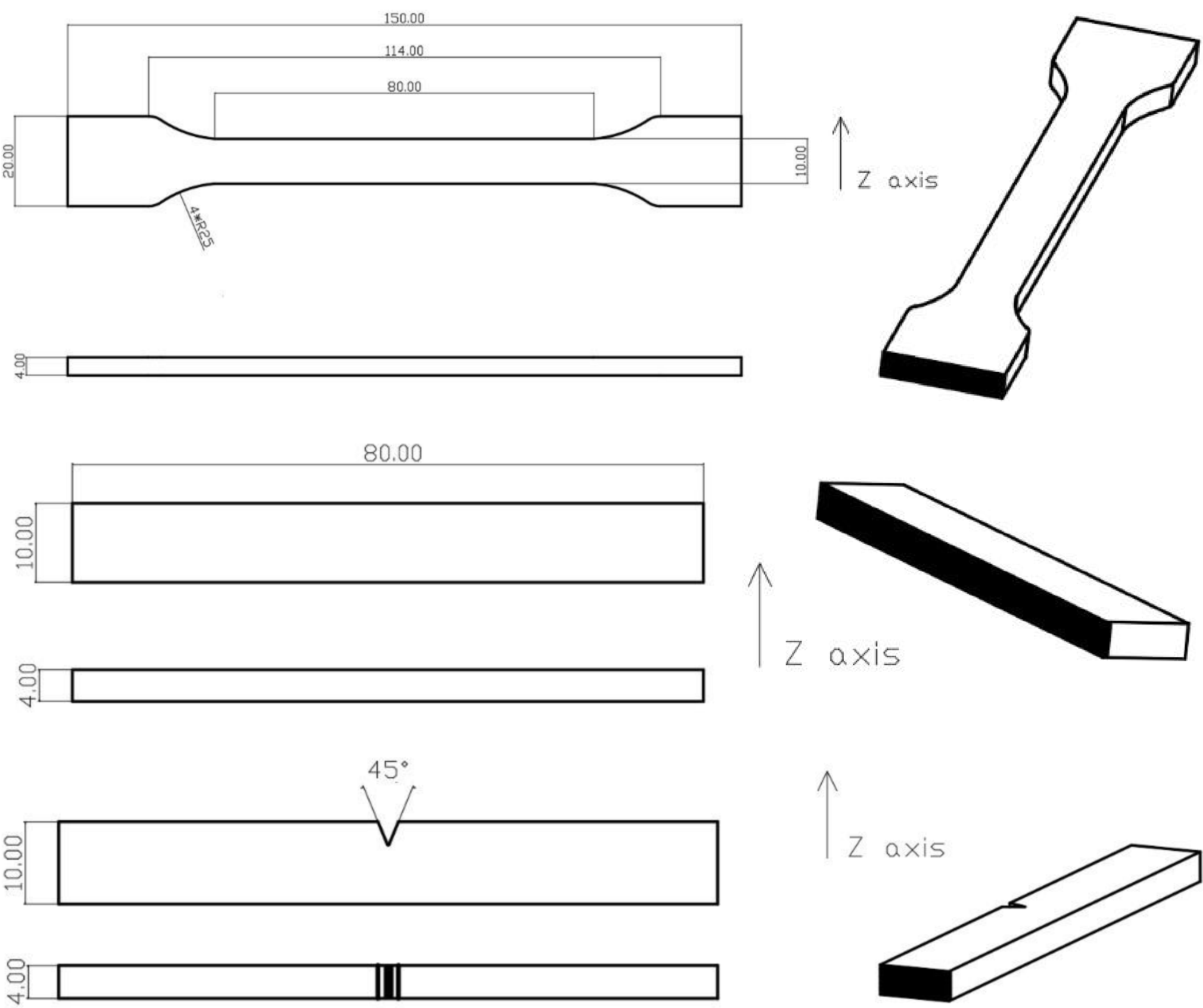
• Thermal Properties

Subjects	Testing Methods	Data
Melting Temperature	DSC, 10 °C/min	160 °C
Glass Transition Temperature	DSC, 10 °C/min	55 °C
Crystallization Temperature	DSC, 10 °C/min	/
Vicat Softening Temperature	ISO 306, GB/T 1633	63 °C
Heat Deflection Temperature	ISO 75 1.8 MPa	56 °C
Heat Deflection Temperature	ISO 75 0.45 MPa	60 °C



• Mechanical Properties

Subjects	Testing Methods	Data
Young’s Modulus (X-Y)	ISO 527, GB/T 1040	2481 ± 20 MPa
Young’s Modulus (Z)	ISO 527, GB/T 1040	2196 ± 25 MPa
Tensile Strength (X-Y)	ISO 527, GB/T 1040	51.5 ± 2 MPa
Tensile Strength (Z)	ISO 527, GB/T 1040	30.0 ± 3 MPa
Breaking Elongation Rate (X-Y)	ISO 527, GB/T 1040	5.6 ± 1.0 %
Breaking Elongation Rate (Z)	ISO 527, GB/T 1040	2.8 ± 0.5 %
Bending Modulus (X-Y)	ISO 178, GB/T 9341	2880 ± 100 MPa
Bending Modulus (Z)	ISO 178, GB/T 9341	2599 ± 71 MPa
Bending Strength (X-Y)	ISO 178, GB/T 9341	75 ± 2 MPa
Bending Strength (Z)	ISO 178, GB/T 9341	55 ± 5 MPa
Impact Strength (X-Y)	ISO 179, GB/T 1043	20.6 ± 0.7 kJ/m²
Impact Strength (Z)	ISO 179, GB/T 1043	10.0 ± 0.7 kJ/m²

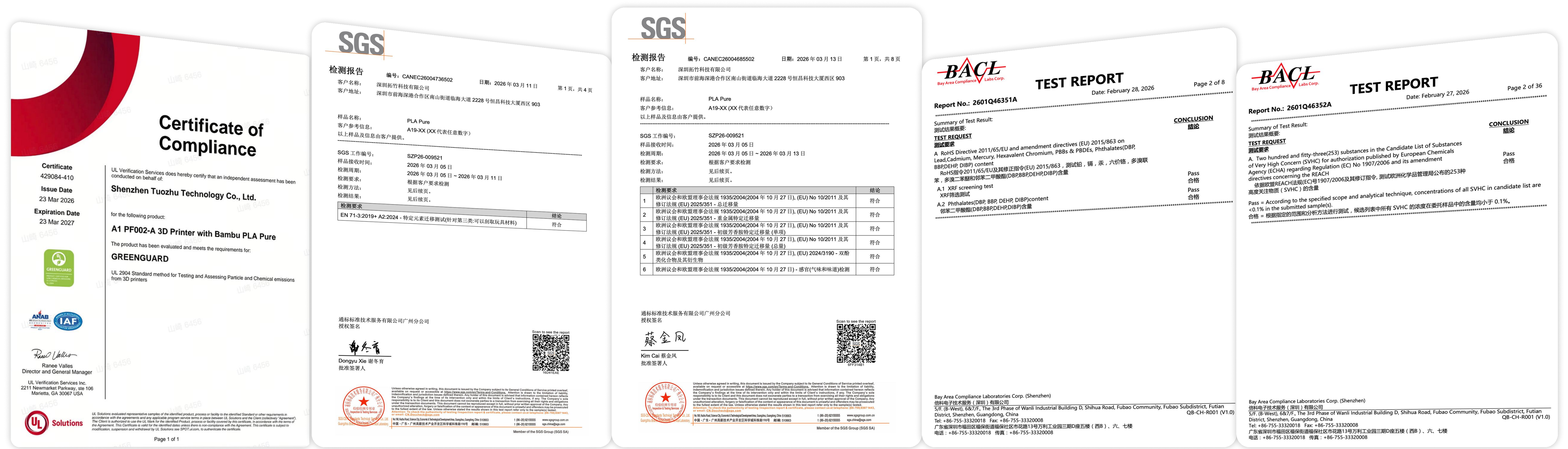


Note: The consumables used in the test are PLA Pure Milky Pink, which were baked in a 50°C blast drying oven for 8 hours before printing. The printing equipment is the Bambu H2D model, using a 0.4 mm hardened steel nozzle, with the nozzle temperature set at 220°C, the hot bed temperature at 55°C, the printing speed at 147 mm/s, and the filling rate at 100%. If annealing treatment is required for the printed parts, it is recommended to control the annealing temperature between 50 and 60°C, with an annealing duration of 6 to 12 hours. It should be noted that some models may deform or warp after annealing, and the actual annealing effect is affected by factors such as annealing temperature, holding time, model size, structural complexity, and filling settings. When drying consumables or annealing models, it is recommended to use equipment with uniform temperature distribution and large volume (such as a blast oven), and ensure that the model or material tray is away from the heat source to avoid local overheating. Do not use a microwave oven or kitchen oven for processing to avoid damaging the wire, material tray, or printed parts.

• Other Physical and Chemical Properties

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

Certificate Reports



Mechanical Properties Comparison

Properties	PLA Basic	PLA Matte	PLA Pure	PLA Silk+	PLA Lite	PLA Tough+
Density	1.26	1.32	1.24	1.27	1.4	1.21
Bending Modulus (X-Y)	69.6±2	55.5±1	75±2	76.3±2	53.4±3	63±1
Bending Strength (X-Y)	2935.2±100	2280.2±50	2880±100	2316.2±100	2622.1±100	2123.1±50
Impact Strength (X-Y, un-notched)	19±1.5	27.35±4	20.6±0.7	12±3	18.95±1.5	109.4±20
Bending Strength (Z)	54±1.5	37.6±1	55±5	29.6±2	25.1±2	48.7±1
Bending Modulus (Z)	2597.9±100	1843.8±100	2599±71	1993.6±100	2069.8±100	1883.2±100
Impact Strength (Z, un-notched)	12.8±2	11.78±2.5	10±0.7	4.3±1	5.45±2	31.18±10

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.