

Bambu Filament Guide

This filament guide offers a comprehensive comparison of properties, application, and printing requirements for Bambu filaments, aiming to help users select the best-suited material for needs.For detailed technical information, download filament Technical data sheets (TDS) on product pages

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		PLA	PETG HF	ABS	ABS-GF	ASA	PC	TPU 95A HF	PLA-CF	PETG-CF	PET-CF	PAHT-CF	PA6-CF	PA6-GF	PPA-CF	PPS-CF
Filament Properties	Toughness Impact Strength - XY	<div><div></div><div></div><div></div><div></div><div></div></div> 26.6 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 31.5 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 39.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 14.5 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 41.0 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 34.8 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 123.2 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 23.2 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 41.2 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 36.0 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 57.5 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 40.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 27.2 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 41.7 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 27.8 kJ/m²
	Strength Bending Strength - XY	<div><div></div><div></div><div></div><div></div><div></div></div> 76 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 64 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 62 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 68 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 65 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 108 MPa	N / A	<div><div></div><div></div><div></div><div></div><div></div></div> 89 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 70 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 131 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 125 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 151 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 120 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 208 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 142 MPa
	Stiffness Bending Modulus - XY	<div><div></div><div></div><div></div><div></div><div></div></div> 2750 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 2050 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 1880 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 2860 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 1920 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 2310 MPa	N / A	<div><div></div><div></div><div></div><div></div><div></div></div> 3950 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 2910 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 5320 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 4230 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 5460 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 3670 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 9860 MPa	<div><div></div><div></div><div></div><div></div><div></div></div> 7160 MPa
	Layer Adhesion Impact Strength - Z	<div><div></div><div></div><div></div><div></div><div></div></div> 13.8 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 10.6 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 7.4 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 5.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 4.9 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 9.0 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 86.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 7.8 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 10.7 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 4.5 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 13.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 15.5 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 4.1 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 4.3 kJ/m²	<div><div></div><div></div><div></div><div></div><div></div></div> 2.8 kJ/m²
	Heat Resistance HDT, 0.45 MPa	57 °C	69 °C	87 °C	99 °C	100 °C	117 °C	N / A	55 °C	74 °C	205 °C	194 °C	186 °C	182 °C	227 °C	264 °C
	Saturated Water Absorption Rate 25 °C, 55% RH	0.43%	0.40%	0.65%	0.53%	0.45%	0.25%	1.08%	0.42%	0.30%	0.37%	0.88%	2.35%	2.56%	1.30%	0.05%
Pre-printing Preparation	Dry Out Before Use	Optional	Required	Optional	Optional	Optional	Required	Required	Optional	Optional	Required	Required	Required	Required	Required	Required
	Drying Condition	Blast Drying Oven: 55 °C, 8 h X1 Series Heatbed: 65 - 75 °C, 12 h	Blast Drying Oven: 65 °C, 8 h X1 Series Heatbed: 75 - 85 °C, 12 h	Blast Drying Oven: 80 °C, 8 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 80 °C, 8 h X1 Series Heatbed: 90 - 100 °C, 13 h	Blast Drying Oven: 80 °C, 8 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 80 °C, 8 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 70 °C, 8 h X1 Series Heatbed: 80 - 90 °C, 12 h	Blast Drying Oven: 55 °C, 8 h X1 Series Heatbed: 65 - 75 °C, 12 h	Blast Drying Oven: 65 °C, 8 h X1 Series Heatbed: 75 - 85 °C, 12 h	Blast Drying Oven: 80 °C, 8 - 12 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 80 °C, 8 - 12 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 80 °C, 8 - 12 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 80 °C, 8 - 12 h X1 Series Heatbed: 90 - 100 °C, 12 h	Blast Drying Oven: 100 - 140 °C, 8 - 12 h (within this range, a higher temp, a better drying result) X1 Series Printer Heatbed: 110 - 120 °C, 12 h (not as good as a blast drying oven)	Blast Drying Oven: 100 - 140 °C, 8 - 12 h (within this range, a higher temp, a better drying result) X1 Series Printer Heatbed: 110 - 120 °C, 12 h (not as good as a blast drying oven)
	AMS Compatibility	✔	✔	✔	✔	✔	✔	✖	✔	✔	✖	✔	✖	✔	✖	✖
	Nozzle Size/Material	All Size/Material	All Size/Material	All Size/Material	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	All Size/Material	All Size/Material	0.4 mm / 0.6 mm / 0.8 mm Hardened Steel / Stainless Steel	0.4 mm / 0.6 mm / 0.8 mm Hardened Steel	0.4 mm / 0.6 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel	0.6 mm (recommended) / 0.4 mm / 0.8 mm Hardened Steel
	Build Plate & Bed Temperature	Cool Plate (35 - 55 °C) Smooth PEI Plate (55 - 65 °C) Textured PEI Plate (55 - 65 °C)	Smooth PEI Plate (60 - 80 °C) Textured PEI Plate (60 - 80 °C)	Smooth PEI Plate (90 - 100 °C) Textured PEI Plate (90 - 100 °C)	Smooth PEI Plate (90 - 100 °C) Textured PEI Plate (90 - 100 °C)	Smooth PEI Plate (90 - 100 °C) Textured PEI Plate (90 - 100 °C)	Smooth PEI Plate (90 - 100 °C) Textured PEI Plate (90 - 100 °C)	Smooth PEI Plate (30 - 45 °C) Textured PEI Plate (30 - 45 °C)	Smooth PEI Plate (45 - 65 °C) Textured PEI Plate (55 - 65 °C)	Smooth PEI Plate (60 - 80 °C) Textured PEI Plate (60 - 80 °C)	Smooth PEI Plate (70 - 100 °C) Textured PEI Plate (70 - 100 °C)	Smooth PEI Plate (100 - 120 °C) Textured PEI Plate (100 - 120 °C)	Smooth PEI Plate (100 - 120 °C) Textured PEI Plate (100 - 120 °C)	Smooth PEI Plate (100 - 120 °C) Textured PEI Plate (100 - 120 °C)	Smooth PEI Plate (100 - 120 °C) Textured PEI Plate (100 - 120 °C)	Smooth PEI Plate (100 - 120 °C) Textured PEI Plate (100 - 120 °C)
	Adhesion Methods	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Glue Stick	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Bambu Liquid Glue Glue Stick	Glue Stick	Glue Stick	Glue Stick	Glue Stick	Glue Stick	Glue Stick
Printer Settings	Print with Enclosure	✖	✖	✔	✔	✔	✔	✖	✖	✖	✖	✔	✔	✔	✔	✔
	Seal with Desiccant	✖	✖	✖	✖	✖	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Print Speed	< 300 mm/s	< 300 mm/s	< 300 mm/s	< 180 mm/s	< 300 mm/s	< 300 mm/s	< 200 mm/s	< 250 mm/s	< 200 mm/s	< 100 mm/s	< 100 mm/s	< 100 mm/s	< 100 mm/s	< 100 mm/s	< 100 mm/s
	Nozzle Temperature	190 - 230 °C	230 - 260 °C	240 - 280 °C	240 - 280 °C	240 - 280 °C	260 - 290 °C	220 - 240 °C	210 - 240 °C	240 - 270 °C	260 - 300 °C	260 - 300 °C	260 - 300 °C	260 - 290 °C	280 - 310 °C	310 - 340 °C
	Part Cooling Fan	50 - 100%	0 - 80%	0 - 80%	0 - 80%	0 - 80%	0 - 60%	50 - 100%	50 - 100%	0 - 40%	0 - 40%	0 - 40%	0 - 40%	0 - 40%	0 - 40%	0 - 40%
Post-printing Processes	Annealing	50 - 60 °C, 6 - 12 hours	N / A	80 - 90 °C, 6 - 12 hours	80 - 90 °C, 6 - 12 hours	80 - 90 °C, 6 - 12 hours	85 - 100 °C, 6 - 12 hours	N / A	55 - 60 °C, 6 - 12 hours	65 - 70 °C, 6 - 12 hours	90 - 130 °C 6 - 12 hours	90 - 130 °C 6 - 12 hours	90 - 130 °C 6 - 12 hours	90 - 130 °C 6 - 12 hours	120 - 140 °C 6 - 12 hours	180 - 220 °C 6 - 12 hours