

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	ASA-CF	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	26.6 kJ/m²	31.5 kJ/m²	39.3 kJ/m²	14.5 kJ/m²	41.0 kJ/m²	14.0 kJ/m²	34.8 kJ/m²	123.2 kJ/m²	23.2 kJ/m²	41.2 kJ/m²	36.0 kJ/m²	57.5 kJ/m²	40.3 kJ/m²	27.2 kJ/m²	41.7 kJ/m²	27.8 kJ/m²
	Strength Bending Strength - XY	76 MPa	64 MPa	62 MPa	68 MPa	65 MPa	72 MPa	108 MPa	N / A	89 MPa	70 MPa	131 MPa	125 MPa	151 MPa	120 MPa	208 MPa	142 MPa
	Stiffness Bending Modulus - XY	2750 MPa	2050 MPa	1880 MPa	2860 MPa	1920 MPa	3740 MPa	2310 MPa	N / A	3950 MPa	2910 MPa	5320 MPa	4230 MPa	5460 MPa	3670 MPa	9860 MPa	7160 MPa
	Layer Adhesion Impact Strength - Z	13.8 kJ/m²	10.6 kJ/m²	7.4 kJ/m²	5.3 kJ/m²	4.9 kJ/m²	9.4 kJ/m²	9.0 kJ/m²	86.3 kJ/m²	7.8 kJ/m²	10.7 kJ/m²	4.5 kJ/m²	13.3 kJ/m²	15.5 kJ/m²	4.1 kJ/m²	4.3 kJ/m²	2.8 kJ/m²
	Heat Resistance HDT, 0.45 MPa	57 °C	69 °C	87 °C	99 °C	100 °C	110 °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%	0.33%	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	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: 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	0.4 / 0.6 / 0.8 mm Hardened Steel	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 (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	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	< 250 mm/s	< 300 mm/s	< 200 mm/s	< 250 mm/s	< 200 mm/s	< 100 mm/s	< 100 mm/s	< 100 mm/s	< 130 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	250 - 290 °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 - 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	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