FDM · FILAMENT · PLA FAMILY

PLA Basic

The everyday choice

Always in stock

TENSILE STRENGTH	STIFFNESS	SOFTENS FROM	DENSITY
35 MPa	2750 MPa	57 °C	1.24 g/cm³
printed flat	flexural modulus	HDT at 0.45 MPa	

WHAT IT IS LIKE

Our default material. It prints crisp detail in a wide range of colours at the lowest price, and it is stiff and strong for what it costs. It softens in heat and slowly turns brittle outdoors, so it suits display pieces, prototypes and parts that live indoors.

GOOD FOR

- Prototypes and fit checks
- Display models, gifts and toys
- Indoor jigs, fixtures and organisers
- Board game inserts and enclosures

THINK TWICE FOR

- × Hot places: a car dashboard, near a heater
- × Permanent outdoor use
- × Parts that must flex or take repeated knocks
- × Food contact or medical use: ask us first

HOW WE PRINT IT

Process	FDM on Bambu Lab X1C, enclosed
Layer height	0.2 mm standard; other heights on the quote form
Largest single part	256 × 256 × 256 mm
Infill	You choose, 10–100%
Colours	Around 30
Finish	As printed; options on the quote form
Lead time	In stock: no wait for material

MECHANICAL PROPERTIES

PROPERTY	TEST STANDARD	PRINTED FLAT (X-Y)	PRINTED UPRIGHT (Z)
Tensile strength	ISO 527	35 ± 4 MPa	31 ± 3 MPa
Young's modulus	ISO 527	2580 ± 220 MPa	2060 ± 170 MPa
Elongation at break	ISO 527	12.2 ± 1.8 %	–
Flexural strength	ISO 178	76 ± 5 MPa	59 ± 6 MPa
Flexural modulus	ISO 178	2750 ± 160 MPa	2370 ± 150 MPa
Impact strength, Charpy unnotched	ISO 179	26.6 ± 2.8 kJ/m²	13.8 ± 0.9 kJ/m²

THERMAL AND PHYSICAL PROPERTIES

PROPERTY	TEST STANDARD	VALUE
Density	ISO 1183	1.24 g/cm³
Glass transition temperature	DSC, 10 °C/min	60 °C
Vicat softening temperature	ISO 306	57 °C
Heat deflection temperature, 0.45 MPa	ISO 75	57 °C
Heat deflection temperature, 1.8 MPa	ISO 75	54 °C
Melting temperature	DSC, 10 °C/min	160 °C

READING THESE FIGURES

Figures are typical values published by the filament manufacturer (Bambu Lab, PLA Basic Technical Data Sheet V3.0), measured on test bars printed solid (100% infill). "Flat" is loaded along the layers (X-Y); "upright" is loaded across the layers (Z), which is always the weaker direction. A real part's strength depends on its shape, wall thickness, infill and the way it is orientated on the printer, so use these figures to compare materials, not as design allowables. If a part carries a critical load or runs warm, tell us and we will advise on material and orientation before printing.