

Proto-pasta

Technical Data Sheet Rev 1.

Original Carbon Fiber Composite PLA

Proto-pasta Original Carbon Fiber Composite PLA is a combination of milled carbon fibers and high-performance PLA.

- Resulting 3D printed prototypes and end-use parts are characterized by exceptional stability of form.
- Excellent layer adhesion and minimal warpage even without a heated bed make this a great everyday exotic for accurate parts.

This filament is slightly more abrasive than standard PLA. Be prepared to replace your nozzle and do 1st layer adjustment after prolonged use or upgrade to a wear-resistant nozzle for less maintenance.

Material Properties

Properties	Value/Description
Base material	PLA
Characteristics	low odor, non-toxic, renewably-sourced
Molecular structure	Amorphous
Additives	10% by weight high-purity, milled carbon fiber
Max particle size	0.15 mm (may limit resolution)
Density	approx. 1.3 g/cc
Length	approx. 346 m/kg (1.75 mm) & 130 m/kg (2.85 mm)
Min bend diameter	65 mm (1.75 mm) & 90 mm (2.85 mm)
Glass transition (Tg) onset	N/A
Melt point (Tm) onset	approx. 155 deg C (310 deg F)
Max use	N/A

Use limit is geometry, load & condition dependent

Print Settings

(Based on Ultimaker s5 .15mm Profile)

Setting	Value
Nozzle Temperature [°C]	205
Heated Bed Temperature [°C]	60
Print Speed [mm/s]	20-40
Flow Rate/Extrusion Multiplier [%]	100
Extrusion Width [mm]	.65 (.05mm larger than nozzle size)
Volume Flow Rate [mm³/s]	2-4

Results may vary based on print settings as well as print quality

For a more in-depth look at original carbon fiber, please view proto-pasta.com/carbon