

Proto-pasta

Technical Data Sheet Rev 1.

Conductive PLA

Electrify prints for Simple Circuits & Touch-Sensitive Devices.

Now with improved layer adhesion, increased resilience to break, higher melt flow, and, in general, greater consistency for more trouble-free, higher performance printing experience.

- Great for simple circuitry and interactive projects
- Also experiment with ESD or 3D printed bearings!

How Conductive Is It?

- Volume resistivity of molded resin (not 3D Printed): 15 ohm-cm
- Volume resistivity of 3D printed parts along layers (x/y): 30 ohm-cm
- Volume resistivity of 3D printed parts against layers (z): 115 ohm-cm
- Resistance of a 10cm length of 1.75mm filament: 2-3kohm
- Resistance of a 10cm length of 2.85mm filament: 800-1200ohm

Material Properties

Properties	Value/Description
Base material	PLA
Characteristics	low odor, non-toxic, renewably sourced
Molecular structure	Amorphous
Additives	Carbon black / Polymer
Max particle size	N/A
Density	approx. 1.24 g/cc
Length	Approx. 332 m/kg (1.75 mm) & 124 m/kg (2.85 mm)
Min bend diameter	mm 25 (1.75 mm) & mm 50 (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]	215
Heated Bed Temperature [°C]	60
Print Speed [mm/s]	25-45
Flow Rate/Extrusion Multiplier [%]	100
Extrusion Width [mm]	.45 (.05mm larger than nozzle size)
Volume Flow Rate [mm³/s]	2-3

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

For more information please view proto-pasta.com/conductive