



## Proto-pasta – 2.85mm Diameter – Conductive Graphite Filament – 500g

PRODUCT ID: 3752

Pici up this filament today! It'd be Fusilli not to buy this filament! We can't tagliatelle you enough about this filament. Are these puns Spirali-ng out of control?

Sorry! We had to get that out of our system. Proto-pasta's fun packaging makes us hungry for Italian food. If you're hankering for unusual and unique material filaments, we've got a new spool of noodles for you!

This Proto-pasta 2.85mm diameter 500 grams of filament in Conductive Graphite opens up a new world of 3D-printed fun *but with* electronics!

Proto-pasta Conductive PLA is an FFF/FDM filament, so now you can print circuit assemblies with touch or light sensors or LEDs to your gamut of 3D printed creations!

And, of course, even though it has the word "Pasta" in the name, it's *not* for eating.

Check out the Proto-pasta site here for more info and frequently asked questions about this filament!

This filament performs best extruded between 195°C and 225°C.

#### Features:

- Solid, weighted feel with 1.5x the density of standard PLA
- Attracts magnets (neodymium type recommended for strongest attraction)
  - Induction at magnetic saturation about 0.15 Tesla
  - Relative (to air) permeability – between 5 and 8 independent of frequency up to 1 MHz
  - Permeability – between 62E-7 and 100E-7 H/m independent of frequency up to 1 MHz
- More thermally conductive
- Prints like PLA with less nozzle wear 'n tear

## TECHNICAL DETAILS

#### Resistivity:

- 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 2.85mm filament: 600ohm

Bed Temp (if available, is not required): 50°C

Hot End Temp: 215 – 230°C (Proto-pasta runs it on the hotter side to encourage layer adhesion)

## Performance:

- Strength: Fair strength. More flexible than PLA, but less layer adhesion
- Stiffness: Low, semi-flexible
- Heat Resistance: Similar to PLA, use below 50°C
- Layer Adhesion: Fair layer adhesion. Not as good as normal PLA
- Flexibility: Filament is quite flexible but will break if bent repeatedly (particularly 2.85mm). Printed parts are rigid if more than a mm or two thick. Thin sections are somewhat flexible but fail along layer lines if flexed more than a few times.
- Failure Mode: If flexed to breakage, failure will be along layer lines.
- Warping: Very low warping
- Dual-Head compatibility: Compatible with (sticks to) PLA in dual material prints

Proto-pasta Conductive PLA is a compound of Natureworks 4043D PLA, a dispersant and conductive carbon black. In filament form, it is very flexible, and is compatible with any PLA printing printer.