Proto-pasta

Technical Data Sheet Rev. 1

Stainless Steel PLA

Stainless Steel PLA is a dense material that prints as easily as standard PLA.

- This stainless steel filled PLA can be Polished to look like Polished metal! it is also 2X the Density of PLA for substantial feeling prints
- Material is matte Gray with a cast metal look before post-processing
- Processing is comparable to standard PLA. No heated bed required. The process may be less consistent on smaller nozzles (<. 4mm) and/or Bowden Type machines

In filament form, Stainless Steel PLA is slightly more brittle than standard PLA and requires extra care when handling. Stainless Steel filament is more abrasive than standard PLA and may require nozzle replacements and 1st layer adjustments. Try a wear-resistant and/or larger diameter nozzle for increased service intervals.

Material Properties

Properties	Value/Description
Base material	PLA
Characteristics	low odor, non-toxic, renewably sourced
Molecular structure	Amorphous
Additives	Metal Powder
Max particle size	250 microns
Density	approx. 2.3 g/cc
Length	approx. 188 m/kg (1.75 mm) & 70 m/kg (2.85 mm)
Min bend diameter	35 mm (1.75 mm) & 55 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]	**198**
Heated Bed Temperature [°C]	**60**
Print Speed [mm/s]	**20-30**
Flow Rate/Extrusion Multiplier [%]	**100**
Extrusion Width [mm]	**.65 (.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 a more in-depth look at stainless steel PLA please view proto-pasta.com/stainless