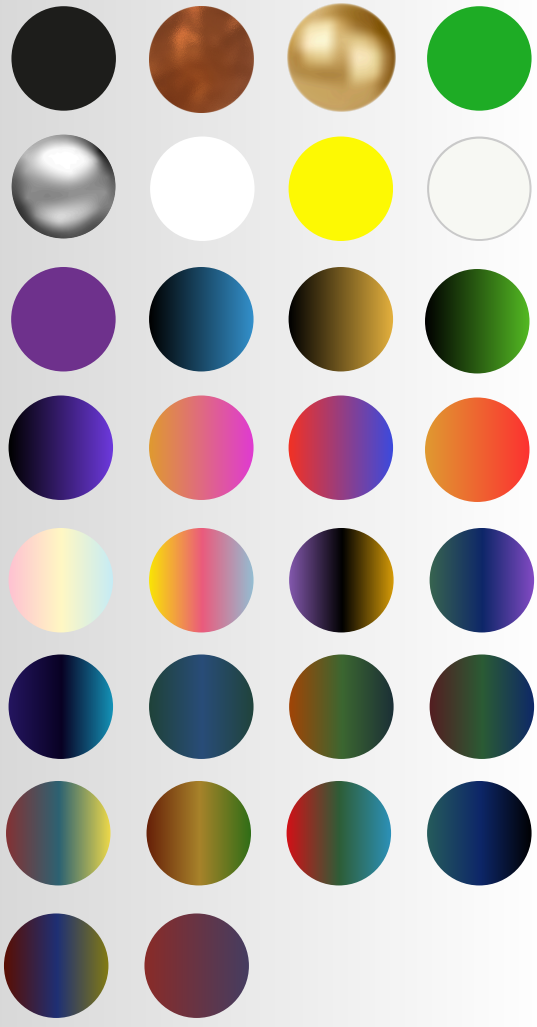
Technical Data Sheet

Silk PLA

Available colors



Product overview

Professional Lab Silk PLA is a visually striking, plant-based filament designed to deliver glossy, vibrant prints with ease and precision. Made from renewable raw materials, Silk PLA maintains the eco-friendly nature of standard PLA while offering a unique, silky finish that enhances the appearance of models. Its consistent dimensional tolerance, low warping tendency, and print-friendly temperature range of 190–220 °C make it ideal for both hobbyists and professionals. Silk PLA is especially well-suited for decorative objects, display models, cosplay elements, and any application where visual appeal is key—without sacrificing ease of use.

Product features

Consistent thermal behavior:
Professional Lab Silk PLA prints smoothly within a recommended temperature range of 190–220 °C, offering reliable performance across various printers and slicer profiles.

Optimized for aesthetic precision:
Though tailored for FDM 3D printing, Silk PLA adapts easily to different print environments and settings, maintaining stable flow and strong interlayer adhesion—especially important for complex or detailed models.

Refined visual and structural balance:
While not intended for heavy-duty parts, Silk PLA provides sufficient strength for decorative or light-use prints, combining visual flair with everyday functionality.

Exceptional surface quality and gloss:
With its naturally glossy, reflective finish, Silk PLA produces prints that stand out. It holds shape well, is non-toxic, and is made from renewable, biodegradable materials—making it both visually impressive and environmentally conscious.

Printing Recommendations

- Nozzle temperature: 190 - 220°C
- Build surface material: PEI, glass
- Build surface treatment: glue
- Build plate temperature: 25- 60°C
- Cooling fan: turned on
- Printing speed: 30 - 70 mm/s
- Raft separation distance: 0.2 mm
- Retraction distance: 7 mm
- Retraction speed: 20 mm/s
- Threshold overhang angle: 60°

Based on a 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters.

Drying recommendations

For best print results and surface finish, Professional Lab Silk PLA should be properly dried before use—especially if the filament has been exposed to air for an extended time. Like all PLA materials, Silk PLA is hygroscopic and tends to absorb moisture from the environment, which can lead to stringing, bubbling, rough surface textures, or uneven extrusion. To prevent such issues, use a filament dryer or a convection oven set to a controlled temperature. Avoid direct heat sources or excessive temperatures that could warp the spool or damage the filament.
Once dried, store the filament in an airtight container with desiccant to minimize reabsorption of moisture. Consistent drying is especially important in humid climates or when working with opened spools that have been previously exposed.

Precautions

Avoid exposure to high temperatures:
Silk PLA retains its shape during printing but may warp or soften if exposed to temperatures exceeding approximately 60°C. To preserve quality, keep both the filament and completed prints away from heat sources such as sunlight, heaters, or closed high-temperature environments.

Store in a dry, controlled environment:
As a hygroscopic material, Silk PLA can absorb moisture from the air, which may lead to printing defects like stringing, bubbles, or uneven surface texture. For best results, store the filament in an airtight container with desiccant when not in use.

Ensure proper ventilation during printing:
Although Silk PLA is non-toxic and emits minimal odor, extended printing sessions can release fine particles. Always use 3D printers in a well-ventilated area to maintain a safe and comfortable workspace.

Use recommended print settings:
To maximize print quality and minimize issues like clogging or poor adhesion, follow the temperature, speed, and retraction guidelines specified for Silk PLA. When making adjustments, do so incrementally to maintain stable performance across different machines or models.

Disclaimer of Liability

The typical values provided in this datasheet are for reference and comparison only. They should not be used as design specifications or for quality control. Actual values may vary depending on print conditions. The performance of printed parts depends not only on the material but also on design, environment, and print parameters.
Each user is responsible for evaluating the safety, legal compliance, technical suitability, and recycling/disposal of Professional Lab materials for their intended application. Professional Lab makes no warranty of any kind, unless stated otherwise, regarding the suitability for any specific use or application. Professional Lab is not liable for any damage, injury, or loss resulting from the use of materials. **The guidelines given in the card are indicative, always use the parameters given directly on the spool.**