TECHNICAL DATA SHEET

Silk PLA

The Smart Print Silk PLA 3D printing filament has been developed through advanced optimization of plant-based PLA materials, combining eco-friendly composition with exceptional visual appeal. Compared to standard PLA, it offers a distinctive silky gloss, enhanced surface smoothness, and vibrant color depth, ensuring elegant and professional-looking prints. Its consistent flow, low warping tendency, and stable printing temperature range of 190–220 °C guarantee reliable performance and effortless printing. Ideal for decorative models, artistic designs, cosplay elements, and display pieces where appearance and precision are equally important.

Product features

Superior Print Performance

Engineered for smooth and consistent printing, Smart Print Silk PLA ensures stable flow and excellent thermal behavior within a wide temperature range of 190–220 °C. It allows precise extrusion across various printers and slicer profiles, minimizing the risk of surface imperfections and ensuring clean, high-quality results even on detailed or complex models.

Optimized for Aesthetic Precision

Designed specifically for FDM 3D printing, Silk PLA delivers strong interlayer adhesion and reliable print stability while maintaining an elegant, glossy surface. Its formulation ensures effortless adaptability to different print environments, providing both precision and a refined finish ideal for artistic and decorative applications.

Exceptional Surface Quality and Gloss

With its naturally reflective, silk-like sheen, Smart Print Silk PLA produces visually stunning prints that stand out. It combines aesthetic appeal with dependable structure, offering sufficient strength for decorative and light-use parts without sacrificing smoothness or detail.

Eco-Friendly and Safe to Use

Made from renewable, biodegradable raw materials, Silk PLA aligns beauty with sustainability. Non-toxic and low-odor, it provides a pleasant printing experience while reducing environmental impact—perfect for creators who value both design and responsibility.

Printing guidelines

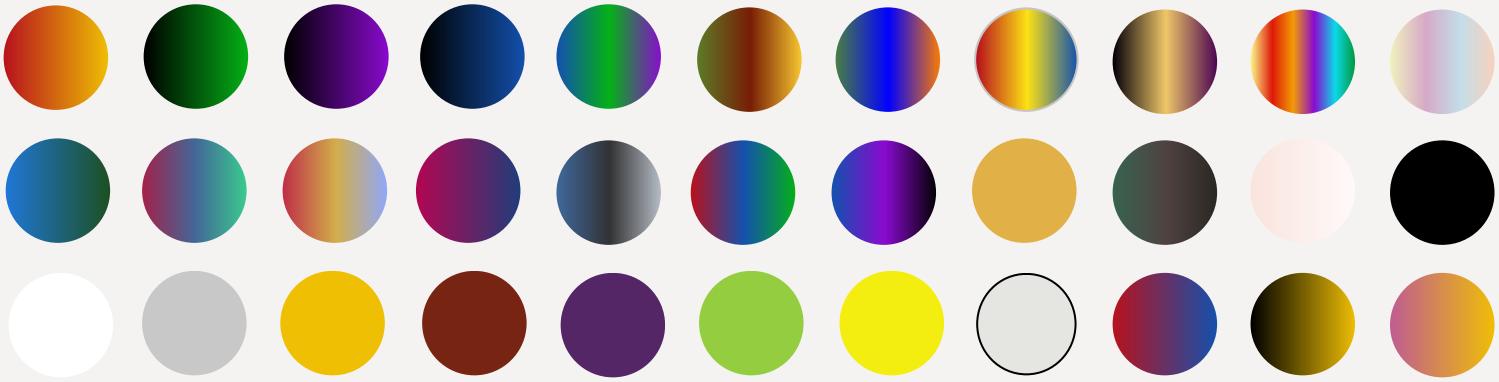
Based on a 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters.

Nozzle temperature **190 - 220°C**	Build surface material **PEI, glass**	Build surface treatment **glue**
Build plate **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**

Drying guidelines

To achieve the best printing results and surface finish, it's recommended to dry Smart Print Silk PLA filament before use—especially if the spool has been exposed to air for an extended period. Like all PLA-based materials, Silk PLA is hygroscopic and can absorb moisture, which may cause stringing, bubbling, or uneven extrusion. For optimal performance, use a dedicated filament dryer or a convection oven set to a controlled temperature. Avoid excessive heat that could deform the spool or damage the filament. After drying, store the filament in an airtight container with desiccant to prevent moisture reabsorption and ensure consistent print quality.

Available colors



Precautions

Printer Compatibility

Ensure that your 3D printer supports Smart Print Silk PLA specifications. The filament performs optimally on most FDM printers and requires standard PLA-compatible hardware. Variations in nozzle size, print temperature, or feeding systems between printer models may influence print performance. Always verify recommended parameters to achieve consistent results and prevent feeding or adhesion issues.

Shrinkage Control:

While Silk PLA maintains excellent dimensional stability, it can soften if exposed to temperatures above approximately 60 °C. To preserve quality and prevent deformation, keep both the filament and finished prints away from heat sources such as direct sunlight, heaters, or enclosed high-temperature environments.

Cooling Settings

Although Silk PLA prints efficiently with moderate cooling, excessive fan use can sometimes reduce gloss or cause uneven surface textures. For best results, maintain balanced airflow and adjust fan speed gradually, depending on model complexity and layer height, to achieve a smooth, reflective finish.

Filament Storage

As a hygroscopic material, Smart Print Silk PLA can absorb moisture from the air, which may result in stringing, bubbling, or rough textures. Store the filament in a dry, cool, and airtight container with desiccant when not in use. Although Silk PLA is non-toxic and low-odor, it's recommended to print in a well-ventilated area for comfort and safety.

Disclaimer

The data and values presented in this document are intended solely for reference and comparison. They should not be considered exact design specifications or used for quality assurance purposes, as actual performance may vary depending on printer settings, model geometry, and environmental conditions.
The quality and durability of printed parts depend on multiple factors, including material properties, print parameters, and design. Users are fully responsible for assessing the safety, regulatory compliance, technical suitability, and end-of-life handling (recycling or disposal) of Smart Print Silk PLA materials in their specific applications.
Smart Print makes no warranties, explicit or implied, regarding the suitability of this product for any particular use unless otherwise stated. The company assumes no liability for any damage, loss, or injury arising from material use. For best results, always follow the printing parameters specified on the filament spool rather than relying solely on this datasheet.