

TECHNICAL DATA SHEET



PLA+

The Smart Print PLA+ 3D printing filament has been developed through advanced refinement of plant-based PLA materials, delivering greater strength, precision, and reliability across a wide range of applications. Compared to standard PLA, it offers improved mechanical durability, better layer adhesion, and enhanced dimensional stability, ensuring smoother extrusion and consistent print quality. With its eco-friendly composition derived from renewable resources, Smart Print PLA+ combines sustainability with professional-grade performance. Its stable printing temperature range of 190–220 °C and low warping tendency make it ideal for both beginners and experienced users seeking clean surfaces, crisp details, and dependable results for prototypes, decorative models, and functional parts.

Product features

Superior Print Performance

Engineered for smooth, dependable results, Smart Print PLA+ offers excellent flow consistency and stable thermal behavior within a wide temperature range of 190–220 °C. It enables precise extrusion across various printers and slicer profiles, minimizing print interruptions and ensuring clean surfaces with fine detail reproduction.

Environmentally Responsible and User-Friendly

Produced from renewable, plant-based raw materials, Smart Print PLA+ combines eco-conscious design with reliable printing performance. The filament is non-toxic and low-odor, contributing to a safer and more comfortable workspace while supporting environmentally sustainable manufacturing.

Dimensional Accuracy and Stability

Thanks to its refined formulation, PLA+ maintains excellent dimensional precision and minimal warping. This stability allows for consistent layer adhesion and dependable results, even during longer or more complex prints. Its predictable behavior makes it suitable for both beginners and professionals seeking reliable performance.

Enhanced Strength and Visual Quality

Compared to standard PLA, Smart Print PLA+ delivers greater toughness and mechanical strength while preserving a smooth, moderately glossy surface finish. It is ideal for prototypes, functional components, decorative objects, and artistic creations—offering a perfect balance between visual appeal and everyday durability.

Printing guidelines

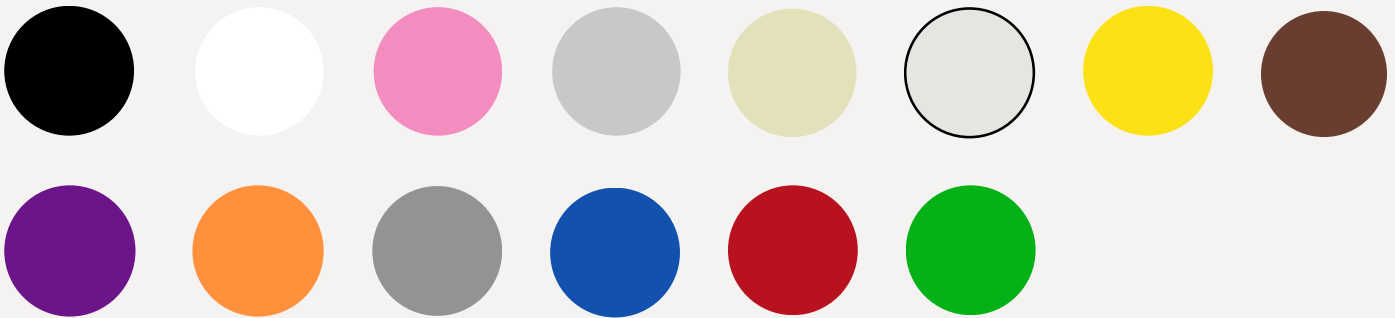
Based on a 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters.

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| 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 performance and surface quality, it's recommended to dry Smart Print PLA+ filament before use—especially if it has been exposed to ambient humidity. Like all PLA-based materials, it is hygroscopic and can absorb moisture from the air, which may result in stringing, bubbling, or inconsistent extrusion. For optimal results, use a dedicated filament dryer or a convection oven with precise temperature control. Avoid open heat sources or excessive temperatures that could deform the filament spool. After drying, store the filament in a sealed container with desiccant to prevent moisture reabsorption, particularly in humid environments or when working with previously opened spools.

Available colors



Precautions

Printer Compatibility

Ensure that your 3D printer supports Smart Print PLA+ specifications. The filament is compatible with most FDM printers and requires standard PLA-capable hardware. Variations in nozzle size, extrusion temperature, or feeding systems between printers may affect print quality. Always verify the recommended parameters to ensure consistent extrusion and reliable results.

Shrinkage Control

While Smart Print PLA+ maintains excellent dimensional stability, it may soften if exposed to temperatures exceeding approximately 60 °C. To preserve print accuracy and surface quality, keep both the filament and finished parts away from direct sunlight, radiators, or enclosed hot environments.

Cooling Settings

PLA+ performs best with moderate cooling. Maintain balanced airflow to promote smooth layer solidification and a clean surface finish. Excessive fan speed may cause uneven cooling or reduce layer adhesion, while insufficient airflow can lead to surface imperfections. Adjust cooling gradually based on model geometry and print size for optimal results.

Filament Storage

As a hygroscopic material, Smart Print PLA+ can absorb moisture from the air, which may result in stringing, bubbling, or poor layer adhesion. Store the filament in a dry, cool, and sealed container with desiccant to maintain print quality. Although PLA+ is low-odor and safe to use, always operate your 3D printer in a well-ventilated area for a comfortable and secure working environment.

Disclaimer



The data and values presented in this document are intended solely for reference and comparison purposes. They should not be considered precise design specifications or used for quality assurance, as actual performance may vary depending on printer settings, model design, and environmental conditions.

The quality and performance of printed parts depend on multiple factors, including material characteristics, print parameters, and the specific application environment. Users are fully responsible for evaluating the safety, regulatory compliance, technical suitability, and end-of-life handling (recycling or disposal) of Smart Print PLA+ materials in their intended use.

Smart Print makes no warranties, explicit or implied, regarding the suitability of this product for any particular purpose unless otherwise stated. The company assumes no liability for any damage, loss, or injury resulting from the use of this material. For best results, always follow the printing parameters specified on the filament spool rather than relying solely on this datasheet.