TECHNICAL DATA SHEET

PET-G

The Smart Print PETG 3D printing filament has been developed through advanced material engineering to deliver a perfect balance of strength, clarity, and versatility. Compared to standard PETG, it offers improved impact resistance, higher temperature tolerance, and excellent chemical stability, ensuring smooth and reliable printing even in demanding conditions. Its naturally glossy finish and high transparency make it ideal for both functional and aesthetic applications. Smart Print PETG maintains vivid, long-lasting colors and outstanding durability, providing professional-quality results for hobbyists and experienced users alike.

Product features

Superior Print Performance

Developed for precision and reliability, Smart Print PETG offers smooth extrusion and excellent layer adhesion, ensuring consistent results even in detailed or geometrically complex models. Its optimized formulation allows stable printing within a broad temperature range of 230–260 °C, minimizing the risk of stringing or warping while maintaining a clean, glossy finish.

Exceptional Strength and Versatility

Combining high tensile strength (50–70 MPa) with remarkable flexibility (elongation up to 300%), Smart Print PETG delivers a perfect balance between rigidity and resilience. Printed parts retain their shape even under repeated stress, making the material ideal for both functional components and impact-resistant prototypes.

Thermal and Chemical Resistance

PETG maintains its dimensional stability under moderate heat conditions (70–85 °C under 0.45 MPa) and shows strong resistance to chemicals such as acids, alkalis, alcohols, and oils. This durability ensures dependable performance in demanding environments and long-term applications.

Visual Clarity and Environmental Responsibility

With outstanding transparency (88–92% light transmission) and a naturally glossy surface, Smart Print PETG is perfect for clear containers, display elements, and visually refined models. As a recyclable material, it supports sustainable, eco-friendly production while maintaining professional quality and visual appeal.

Printing guidelines

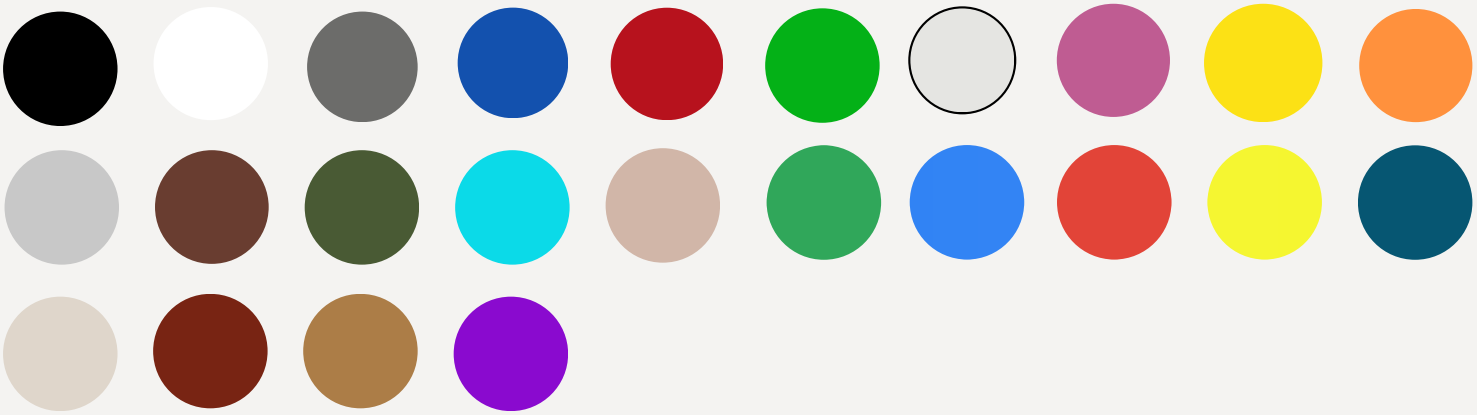
Based on a 0.4 mm nozzle. Printing conditions may vary with different nozzle diameters.

Nozzle temperature **230 - 250°C**	Build surface material **PEI, glass**	Build surface treatment **glue**
Build plate **80 - 90°C**	Cooling fan **0.7**	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, it's recommended to dry Smart Print PETG filament before use, as the material naturally absorbs moisture from the air. Excess humidity can cause bubbling, stringing, or poor layer bonding during printing. For optimal performance, dry the filament at 70–85 °C for 4–8 hours, checking progress after the first few hours and extending if necessary. Use a dedicated filament dryer for consistent results, or a kitchen oven if monitored carefully. Once dried, use the filament immediately or store it in a sealed bag with desiccant to prevent moisture reabsorption.

Available colors



Precautions

Printer Compatibility

Ensure that your 3D printer supports Smart Print PETG specifications. The filament performs optimally with standard FDM printers equipped with a heated bed and consistent extrusion control. Variations in nozzle diameter, temperature calibration, or feeding systems between printers may affect print quality, potentially leading to clogs or uneven flow if not properly adjusted.

Shrinkage Control

Smart Print PETG maintains excellent dimensional stability, but temperature regulation remains essential for consistent results. Set the printing temperature between 230–250 °C to ensure proper flow and adhesion. If the temperature is too low, the filament may exhibit poor fluidity or nozzle clogging; if too high, it can degrade, resulting in bubbles or discoloration. Maintain the build plate temperature between 60–80 °C to improve first-layer adhesion and reduce warping.

Cooling Settings

Smart Print PETG requires balanced cooling to ensure stable layer bonding and smooth surface quality. It is recommended to enable the cooling fan after the first 2–3 layers to help the material solidify evenly and reduce deformation. Avoid excessive or rapid cooling, as it may create internal stress and lead to cracking or warping—especially in complex or overhanging parts. Adjust fan speed gradually based on the model's geometry to maintain dimensional accuracy and surface consistency.

Filament Storage

Store Smart Print PETG filament in a cool, dry, and airtight environment to prevent moisture absorption, which can cause bubbling or extrusion instability. Protect unused spools from humidity and direct sunlight, and reseal them with desiccant after each use to preserve print quality and material longevity.

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 control, as actual results may vary depending on print settings, model geometry, and environmental conditions.
The performance and durability of printed parts depend on multiple factors, including material characteristics, printer configuration, and application environment. Users are fully responsible for assessing the safety, regulatory compliance, technical suitability, and end-of-life handling (recycling or disposal) of Smart Print PETG materials for 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 loss, damage, or injury arising from material use. For optimal results, always follow the printing parameters specified on the filament spool rather than relying solely on this datasheet.