



## Technical Data Sheet

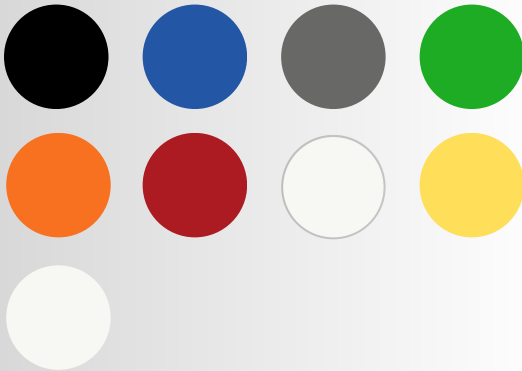
# HS-PLA

### Product overview

HS-PLA is Professional Lab's newest filament developed specifically for high-speed 3D printing. Through fine-tuning the raw materials' melting index and glass transition temperature, along with process optimization, HS-PLA achieves improved flow characteristics, smoother extrusion, quicker solidification, and enhanced shape stability during printing.

Compared to standard PLA, HS-PLA offers significantly faster print speeds, superior print quality, and a more refined surface finish—making it better suited to meet the performance demands of modern high-speed 3D printers.

### Available colors



### Product features

**Optimized thermal performance:** designed for high-speed 3D printing, High Speed PLA processes effectively within a temperature range of 180–240°C, ensuring stable extrusion and consistent layer bonding even at elevated print speeds.

**Enhanced flow and printability:** engineered for rapid melting and smooth flow through nozzles, making it ideal for extrusion-based applications such as fast prototyping, large-scale modeling, and continuous production environments.

**Reliable mechanical properties:** offers a balanced combination of strength, stiffness, and dimensional stability, suitable for functional parts, enclosures, and components that require accuracy and reliability.

**Superior surface quality:** produces clean, glossy prints with minimal stringing or warping, even when printed quickly. Parts exhibit good visual aesthetics and can be used directly for display or light-use applications.

## Printing Recommendations

- Nozzle temperature: 180 – 240°C
- Build surface material: PEI, glass
- Build surface treatment: glue
- Build plate temperature: 40 – 60°C
- Cooling fan: turned on
- Printing speed: 150 – 300 mm/s
- Raft separation distance: 0.2 mm
- Retraction distance: 7 mm
- Retraction speed: 20 – 40 mm/s
- Environmental temperature: room temperature – 60°C
- Threshold overhang angle: 60°

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

## Recommended Printing Speeds for High Speed PLA

Below we present the recommended print speeds and their corresponding nozzle print temperatures. The table helps you choose the optimal settings for High Speed PLA filament to achieve the best print quality and performance. Green indicates recommended settings – safe and stable for everyday use. Yellow indicates configurations that are not recommended – they may cause reduced print quality, layer adhesion problems, or unstable filament flow.

	150 mm/s	170 mm/s	190 mm/s	210 mm/s	230 mm/s	240 mm/s	250 mm/s	260 mm/s	270 mm/s	300 mm/s
180°C										
190°C										
200°C										
210°C										
220°C										
230°C										
240°C										

## 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.

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