SUNLU SLCA-PLA-BK-1KG-GMSLUS

SUNLU PLA 3D Printer Filament User Manual

Model: 3D Printer Filament PLA Filament 1.75mm (SLCA-PLA-BK-1KG-GMSLUS)
Brand: SUNLU

1. Introduction to SUNLU PLA Filament

SUNLU PLA (Polylactic Acid) filament is a widely used and reliable material for FDM (Fused Deposition Modeling) 3D printers. It is known for its ease of use, versatility, and consistent performance, making it suitable for both beginners and experienced users in 3D printing.

This filament is engineered to minimize common printing issues such as clogs, bubbles, and tangles, ensuring a smoother and more efficient printing experience. Its excellent layer adhesion contributes to high-quality and durable printed objects.

Figure 1.1: SUNLU PLA 3D Printer Filament (Black) and a sample 3D printed object.

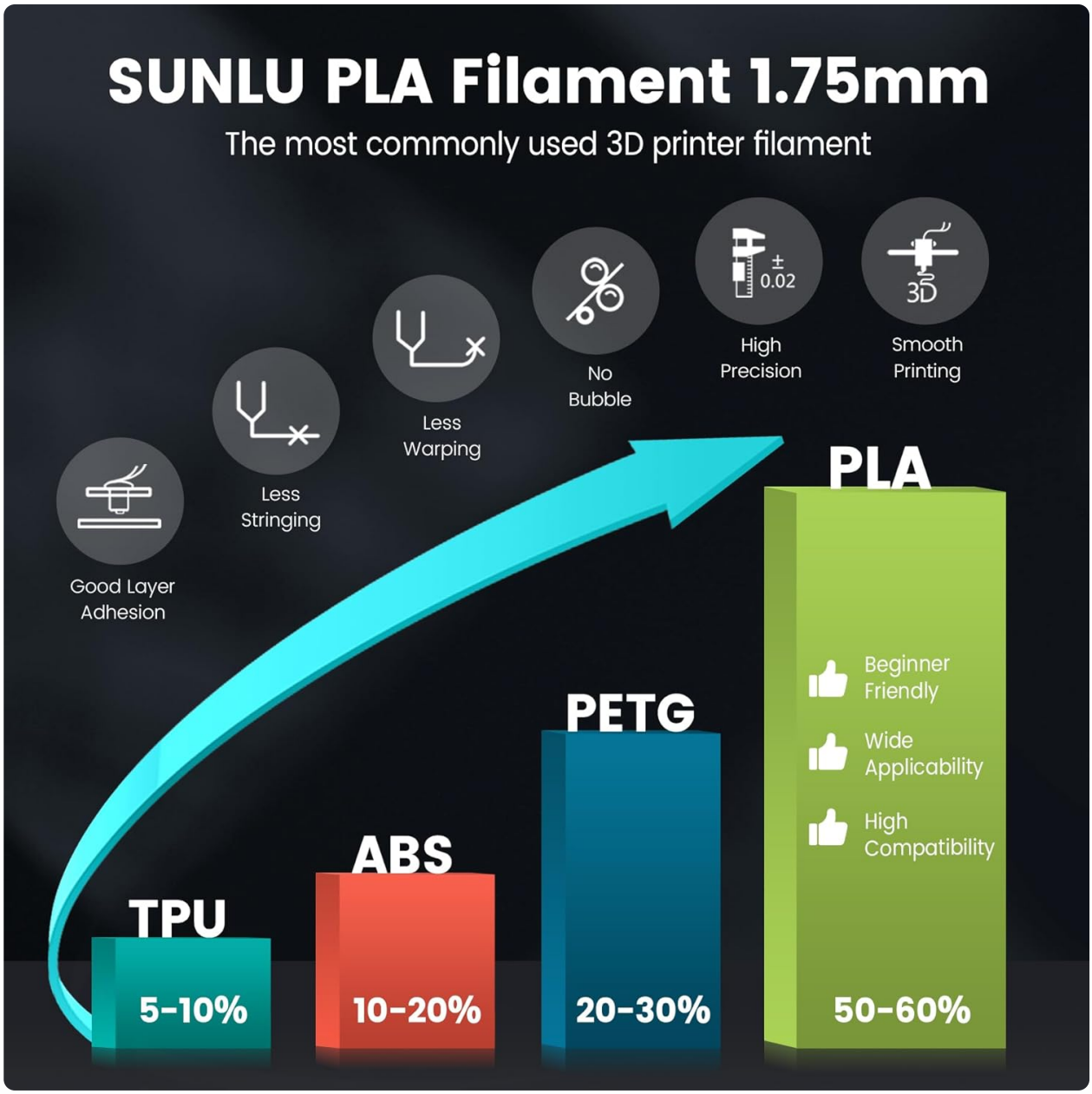


Figure 1.2: Key characteristics and advantages of SUNLU PLA Filament.

2. Setup and Loading

Proper setup and loading of the filament are crucial for successful 3D printing. SUNLU PLA filament comes on a neatly wound spool designed for ease of use and to prevent tangles.

2.1 Unpacking and Inspection

- Carefully remove the filament spool from its vacuum-sealed packaging.
- Inspect the filament for any visible damage or kinks before loading.
- Ensure the filament is neatly wound on the spool. SUNLU's self-developed neat winding device aims for a 100% neat rate to reduce tangles and jams.

2.2 Loading the Filament

The SUNLU filament spool is designed to be compatible with most FDM 3D printers. The spool dimensions

are approximately: Diameter: 8.00 inches, Width: 2.50 inches, Hub Hole Diameter: 2.20 inches.

Figure 2.1: Instructions for using the SUNLU reusable filament spool.

1. Place the filament spool onto your 3D printer's spool holder.
2. For reusable spools, ensure the filament is securely locked into place by aligning the marks and turning to the 'lock' position.
3. Feed the filament into the printer's extruder mechanism according to your printer's specific instructions.
4. Ensure the filament path is clear and free of obstructions.

Important: To prevent tangling, always insert the filament end into the side holes of the spool after each use or when storing.

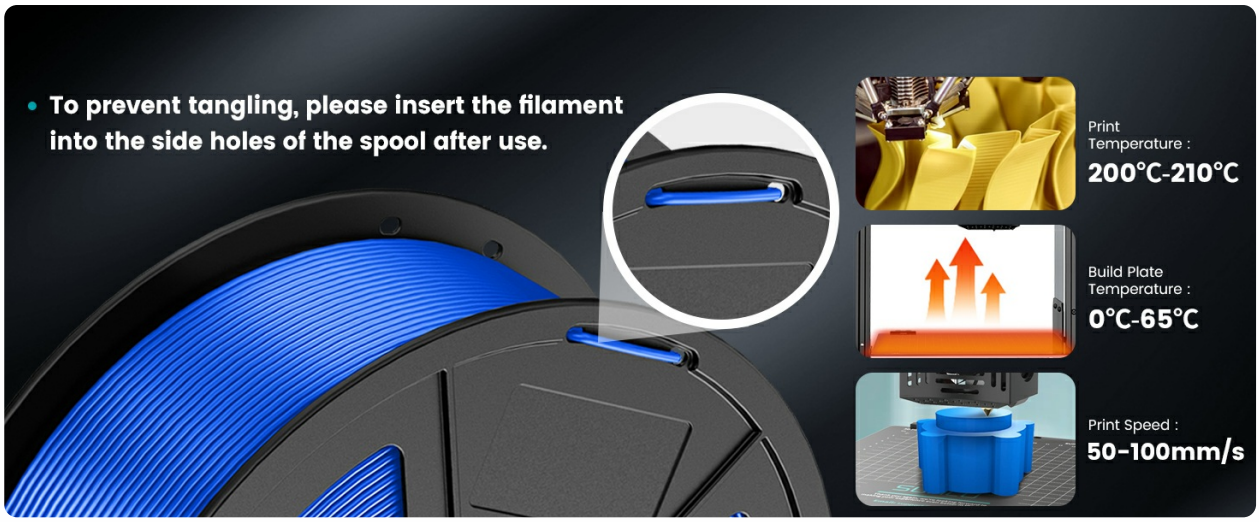


Figure 2.2: Proper filament storage to prevent tangling and recommended print settings.

3. Operating (Recommended Print Settings)

Achieving optimal print quality with SUNLU PLA filament requires adherence to recommended printing parameters. These settings are general guidelines and may need slight adjustments based on your specific 3D printer model, nozzle type, and environmental conditions.

Table 3.1: Recommended Print Settings for SUNLU PLA Filament

Setting	Recommended Range
Nozzle Temperature	200-230°C
Bed Temperature	50-65°C
Printing Speed	50-100mm/s

3.1 General Printing Tips

- **First Layer Adhesion:** Ensure your print bed is clean and properly leveled. Using an adhesive (like glue stick or hairspray) can improve first layer adhesion, especially on glass beds.
- **Cooling:** PLA generally benefits from good cooling. Ensure your part cooling fan is active after the first few layers.
- **Dimensional Accuracy:** SUNLU PLA filament boasts a dimensional accuracy of +/- 0.02mm, ensuring consistent extrusion and precise prints.
- **Compatibility:** Due to its small diameter error, SUNLU filament is suitable for almost all 1.75mm FDM 3D printers.

Figure 3.1: SUNLU PLA Filament offers easy use and high compatibility with most FDM 3D printers.

Figure 3.2: Examples of diverse objects printed with SUNLU PLA Filament.

4. Maintenance and Storage

Proper maintenance and storage of your PLA filament are essential to preserve its quality and ensure consistent printing results over time. PLA is hygroscopic, meaning it can absorb moisture from the air, which can negatively impact print quality.

4.1 Storage Guidelines

- **Keep Dry:** Store filament in a cool, dry place, away from direct sunlight and humidity.
- **Sealed Container:** After opening, store the filament in its original vacuum-sealed bag with the desiccant packet, or in an airtight container.
- **Prevent Tangling:** Always secure the end of the filament in the spool's designated holes to prevent tangles during storage and handling.

4.2 Filament Drying

If your filament has absorbed moisture, you may notice issues like popping sounds during printing, stringing, or poor layer adhesion. Drying the filament can resolve these issues.

- Use a dedicated filament dryer (e.g., SUNLU FilaDryer) or a conventional oven at a low temperature (e.g., 45-50°C for several hours).
- Ensure the filament is completely dry before resuming printing.

Figure 4.1: SUNLU filament features neat winding for smooth printing and easy storage.

5. Troubleshooting Common Issues

While SUNLU PLA filament is designed for reliability, occasional issues may arise. Here are common problems and their potential solutions:

5.1 Clogging or Jamming

- **Cause:** Incorrect temperature, heat creep, dust on filament, or tangled filament.
- **Solution:** Verify nozzle temperature is within the recommended 200-230°C range. Ensure proper cooling of the hotend. Clean the nozzle. Check for filament tangles on the spool and ensure it's properly secured.

5.2 Poor Layer Adhesion

- **Cause:** Too low nozzle temperature, insufficient bed temperature, or wet filament.
- **Solution:** Increase nozzle temperature slightly (within range). Ensure bed temperature is 50-65°C. Dry the filament if moisture is suspected.

5.3 Stringing or Oozing

- **Cause:** Too high nozzle temperature, incorrect retraction settings, or wet filament.
- **Solution:** Decrease nozzle temperature in 5°C increments. Adjust retraction distance and speed in your slicer software. Dry the filament.

5.4 Warping or Lifting from Bed

- **Cause:** Insufficient bed adhesion, uneven bed temperature, or drafts.
- **Solution:** Ensure print bed is clean and leveled. Increase bed temperature (within range). Use a brim or raft. Avoid printing in drafty areas.

Figure 5.1: The importance of neatly wound filament for smooth printing and avoiding failures.

6. Product Specifications

Detailed technical specifications for SUNLU PLA 3D Printer Filament:

- **Material Type:** Polylactic Acid (PLA)
- **Filament Diameter:** 1.75 mm
- **Dimensional Accuracy:** +/- 0.02 mm
- **Net Weight:** 1 KG (2.2 lbs)
- **Color:** 1000g Pla Black (This manual refers to the black variant, other colors available)
- **Spool Diameter:** 8.00 inches
- **Spool Width:** 2.50 inches
- **Spool Hub Hole Diameter:** 2.20 inches
- **Manufacturer:** SUNLUGW
- **Item Model Number:** 3D Printer Filament PLA Filament 1.75mm

- **Manufacturer Part Number:** SLCA-PLA-BK-1KG-GMSLUS
- **First Available Date:** September 4, 2019

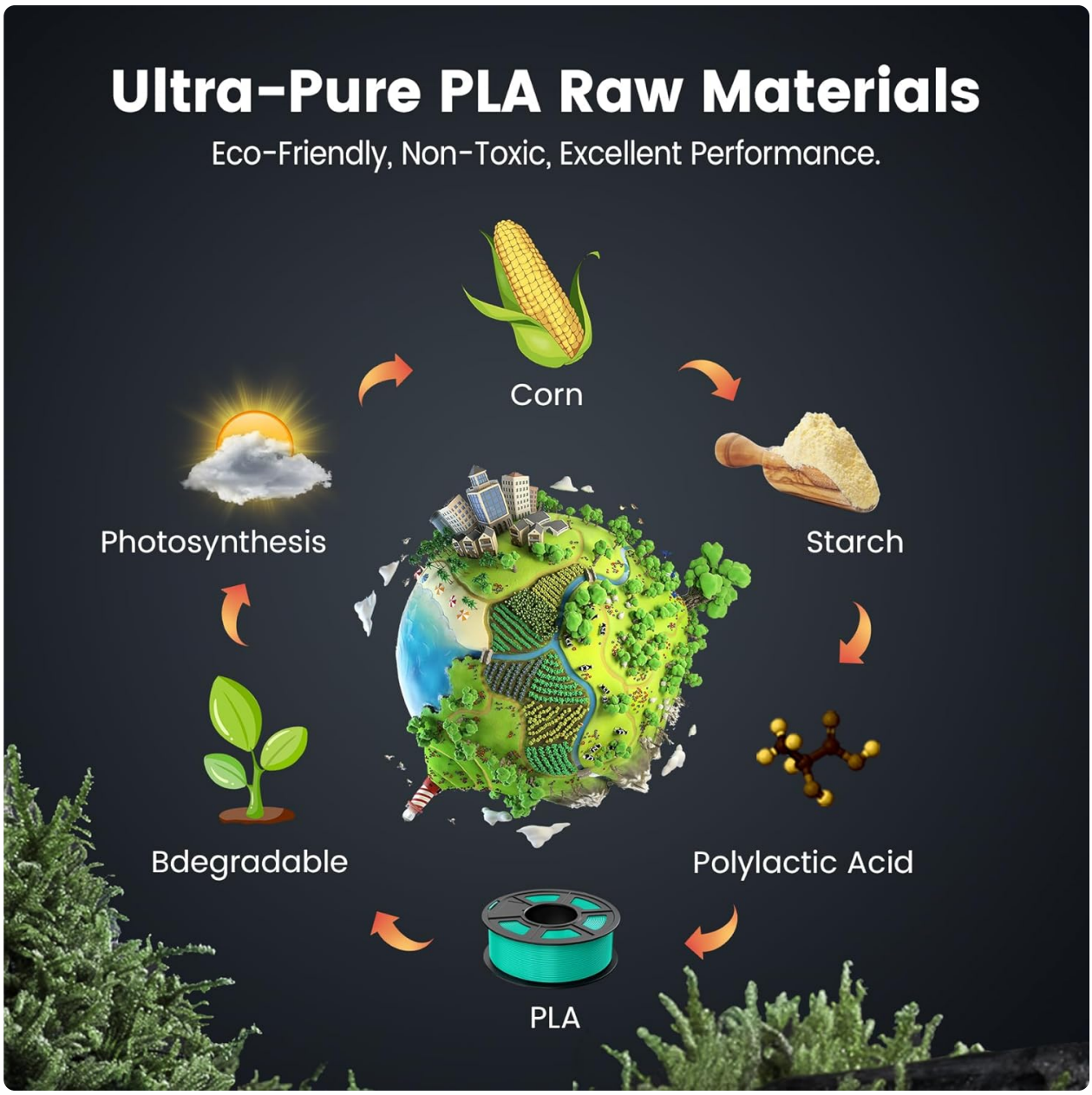


Figure 6.1: Ultra-Pure PLA Raw Materials: Eco-Friendly, Non-Toxic, Excellent Performance.

7. Warranty and Support

For specific warranty information regarding your SUNLU PLA 3D Printer Filament, please refer to the product packaging or the official SUNLU website. SUNLU is committed to providing high-quality 3D printing products and customer satisfaction.

7.1 Customer Support

If you encounter any issues or have questions about your SUNLU PLA filament, please contact SUNLU customer support through their official website or the platform where you purchased the product. They can provide assistance with product usage, troubleshooting, and any potential defects.

SUNLU offers a wide range of high-quality 3D printing products, including 3D printer filament, filament dryers, FDM 3D printers, 3D pens, 3D pen filament, 3D printer resin, LCD 3D printers, resin curing boxes, and other accessories, providing you with everything needed for a successful 3D printing experience.

8. About SUNLU

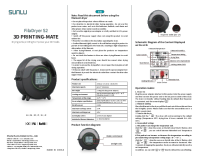
SUNLU was established in 2013 and has since grown to become one of the largest 3D product manufacturers in China, also serving as a supplier to numerous companies worldwide. With over 12 years of experience, SUNLU boasts an independent and mature Research & Development team.

The company's focus is on 3D printing, adhering to a user-centric approach, and striving to promote the innovative development of the global 3D printing industry. SUNLU is a leader in manufacturing, providing 3D printing solutions for multiple industries, and is recognized as an innovative pioneer prioritizing user satisfaction.

Figure 8.1: The SUNLU company headquarters and a summary of their history and product offerings.

Related Documents

	SUNLU FilaDryer S4 User Guide - 3D Printing Filament Dryer Comprehensive user guide for the SUNLU FilaDryer S4, a 3D printing filament dryer. Learn about setup, operation, troubleshooting, and recommended drying temperatures for various filament types.
	SUNLU 3D Printing Filaments, Resins, Pens, and Accessories Catalog Explore the comprehensive SUNLU product catalog featuring high-quality 3D printing filaments, photopolymer resins, 3D printing pens, filament dryers, UV curing enclosures, and essential 3D printer accessories. Detailed specifications, mechanical properties, and printing parameters are provided for each product.

	[SUNLU FilaDryer S4 User Guide: Optimize Your 3D Printing Filament] Comprehensive user guide for the SUNLU FilaDryer S4. Learn how to safely and effectively dry your 3D printing filaments for optimal results, including setup, operation, and troubleshooting.
	[SUNLU FilaDryer S2: User Manual and Guide for Filament Drying] Comprehensive user manual for the SUNLU FilaDryer S2, detailing setup, operation, personalized settings, troubleshooting, and tips for optimal 3D printing filament drying. Learn how to dry PLA, PETG, ABS, and more.