ELEGOO PLA 3D Printer Filament 1.75mm

ELEGOO PLA 3D Printer Filament 1.75mm User Manual

Model: PLA 3D Printer Filament 1.75mm

Brand: ELEGOO

1. Introduction

This manual provides essential information for the proper use and maintenance of ELEGOO PLA 3D Printer Filament. PLA (Polylactic Acid) is a widely used thermoplastic material known for its ease of use, low melting temperature, and minimal warping during printing. This filament is designed for FDM (Fused Deposition Modeling) 3D printers and offers consistent performance for various printing projects.



Image 1.1: Key features of ELEGOO PLA Filament.

Key Features:

- **High-Quality PLA:** Features lower melting temperature, ease of use, low warp and shrinkage, and is odorless during printing. Provides a glossy surface finish.
- **Dimensional Accuracy:** 1.75 mm diameter with a dimensional accuracy of +/- 0.02 mm for smoother and more stable printing.
- **Less-Tangle Design:** Full mechanical winding and strict manual examination ensure neatly arranged lines, reducing tangles and preventing snaps or breaks.
- **Clogging-Free & Bubble-Free:** Engineered for superb layer bonding and great fluidity, ensuring smooth and stable extrusion. Filaments are dried and vacuum-sealed to prevent moisture-related issues.
- **Wide Compatibility:** Universally compatible with most common 1.75mm FDM 3D printers.

2. Setup and Loading

Proper setup of your filament is crucial for successful 3D printing. Follow these steps to prepare your ELEGOO PLA

filament for use.

2.1 Unpacking the Filament

- The filament spool is vacuum-sealed with a desiccant packet to protect it from moisture. Open the package only when you are ready to use the filament.
- Inspect the spool for any visible damage or tangles before loading.

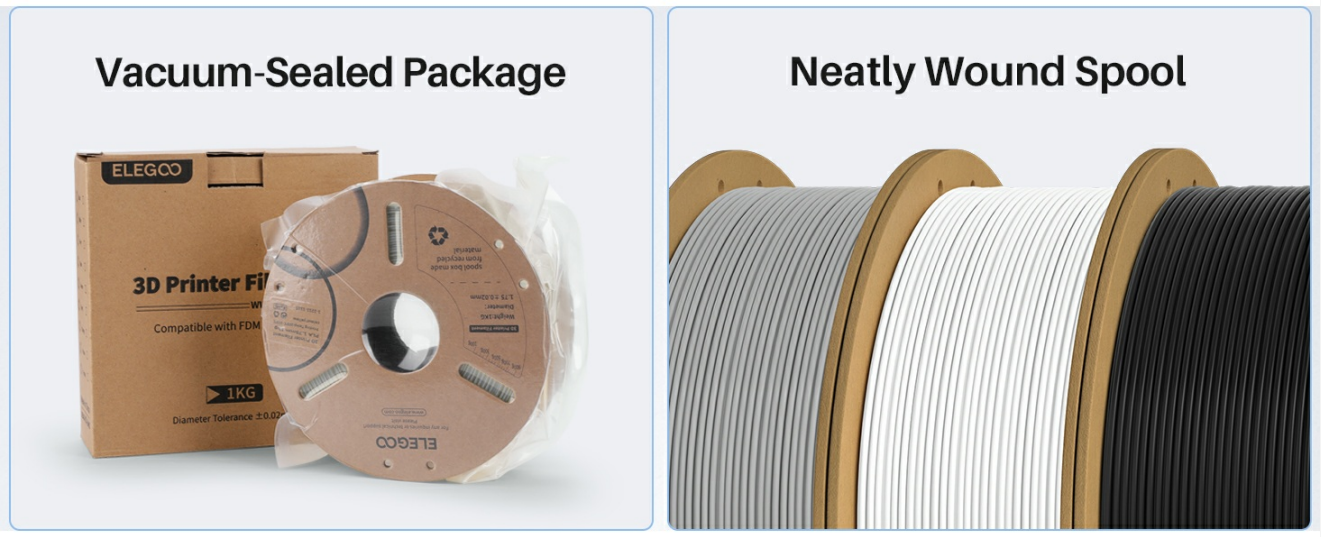


Image 2.1: Vacuum-sealed packaging and neatly wound spool.

2.2 Loading the Filament

1. Place the filament spool onto your 3D printer's spool holder. Ensure the filament unwinds smoothly without obstruction.
2. Gently feed the filament into the extruder's intake hole.
3. Preheat your printer's hot end to the recommended PLA temperature (typically 190-230°C).
4. Once the hot end reaches temperature, manually push the filament through the extruder until molten plastic emerges from the nozzle. This indicates the filament is loaded correctly and ready for printing.



Image 2.2: Filament feeding from a spool into a 3D printer.

3. Operating Parameters

Optimal printing results depend on correctly configured printer settings. The following parameters are general recommendations for ELEGOO PLA filament. Adjustments may be necessary based on your specific 3D printer model and environmental conditions.

Recommended Settings:

- **Nozzle Temperature:** 190-230°C (Optimal range for most PLA filaments).
- **Bed Temperature:** 50-60°C (A heated bed is recommended for better adhesion).
- **Printing Speed:** < 300 mm/s (Adjust based on printer capabilities and desired print quality).
- **Layer Height:** 0.1mm - 0.3mm (Standard range, adjust for detail vs. speed).
- **Cooling Fan:** 100% (After the first few layers, cooling is essential for PLA).



Image 3.1: Recommended printing parameters for ELEGOO PLA.

3.1 First Layer Adhesion

Ensuring a strong first layer adhesion is critical for print success. Clean your print bed thoroughly before each print. For best results, use an adhesive like a glue stick or painter's tape if your print surface requires it.

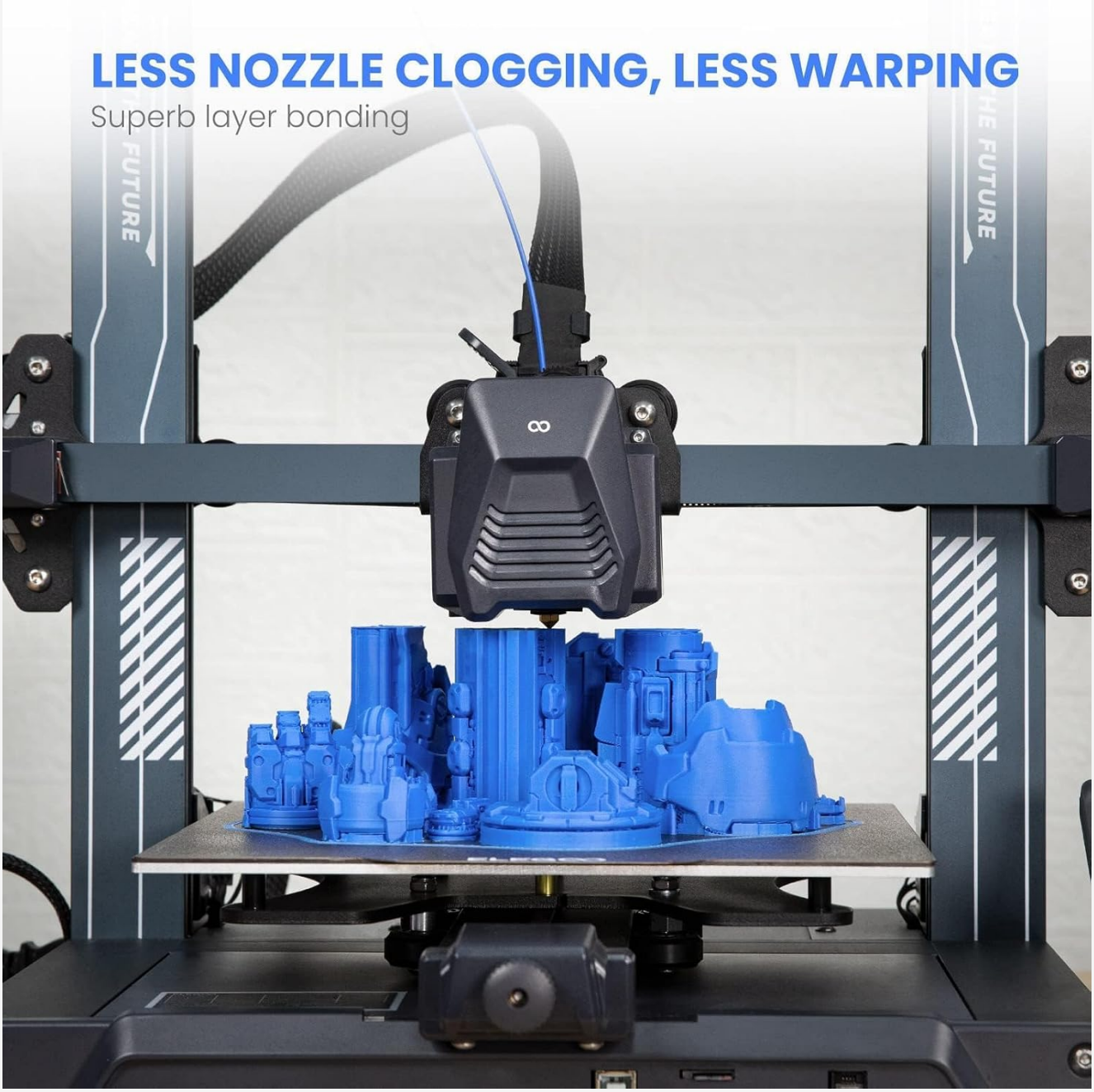


Image 3.2: A 3D printer in operation, showcasing smooth printing.

4. Maintenance and Storage

Proper maintenance and storage of your filament will extend its lifespan and ensure consistent print quality.

4.1 Storage

- Store unused filament in its original vacuum-sealed bag with the desiccant packet.
- Keep filament in a cool, dry place, away from direct sunlight and humidity.
- High humidity can cause PLA to absorb moisture, leading to printing issues like bubbling, stringing, and reduced print quality.

4.2 Drying Filament

If your filament has absorbed moisture, it may exhibit popping sounds during printing, stringing, or poor layer adhesion. You can dry PLA filament using a dedicated filament dryer or a conventional oven at a low temperature (e.g., 45-50°C) for several hours. Ensure the temperature does not exceed the glass transition temperature of PLA

to avoid damaging the filament.

5. Troubleshooting Common Issues

Encountering issues during 3D printing is common. Here are some solutions to frequent problems with PLA filament.

5.1 Poor Bed Adhesion

- **Solution:** Ensure your print bed is clean and level. Increase bed temperature (50-60°C). Apply an adhesive (glue stick, hairspray) to the print surface. Adjust Z-offset to ensure the nozzle is at the correct height for the first layer.

5.2 Clogging or Under-extrusion

- **Solution:** Increase nozzle temperature within the recommended range (190-230°C). Check for blockages in the nozzle or hot end. Ensure the filament is not tangled on the spool. Dry the filament if moisture is suspected.

5.3 Stringing or Oozing

- **Solution:** Decrease nozzle temperature slightly. Increase retraction distance and speed in your slicer settings. Ensure cooling fans are operating at 100% after the initial layers.

5.4 Warping

- **Solution:** Increase bed temperature. Ensure the print bed is clean and has good adhesion. Avoid drafts around the printer during printing. Use a brim or raft in your slicer settings for parts with small contact areas.

5.5 Filament Tangling

- **Solution:** Always secure the end of the filament in the spool's designated holes when not in use. Ensure the spool is mounted correctly and can rotate freely. Avoid letting the filament slacken during loading or unloading.

6. Specifications

Detailed technical specifications for ELEGOO PLA 3D Printer Filament.

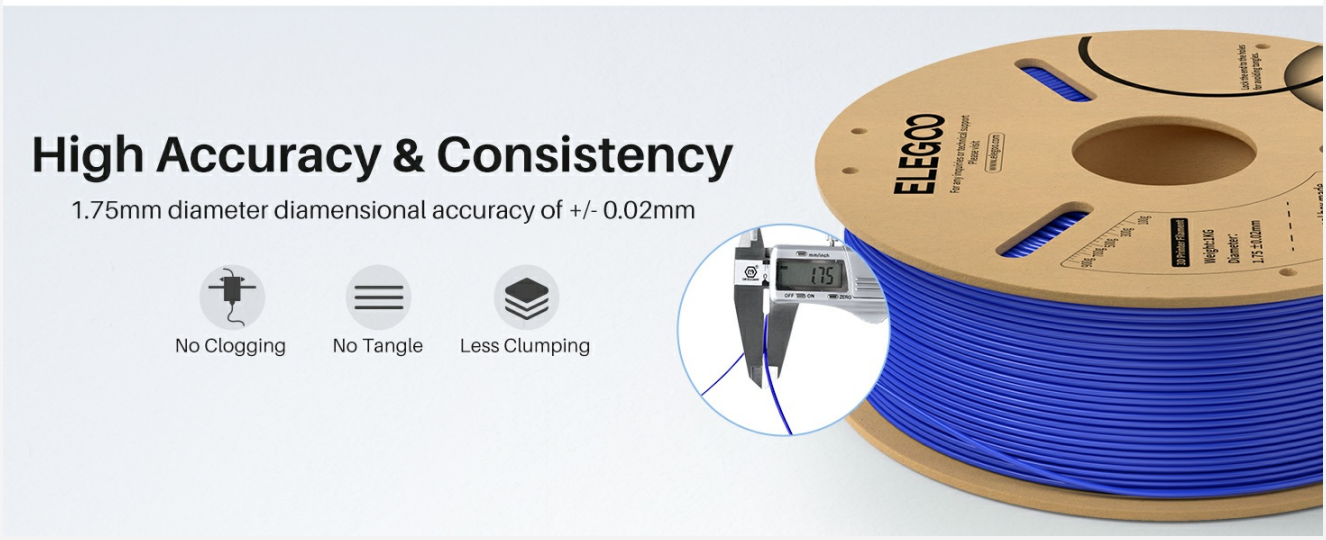


Image 6.1: Dimensional accuracy of ELEGOO PLA filament.

Specification	Value
Brand	ELEGOO
Material	Polylactic Acid (PLA)
Item Diameter	1.75 Millimeters
Dimensional Accuracy	+/- 0.02 mm
Item Weight (per spool)	1 kg (2.2 lbs)
Total Package Weight	8.8 Pounds (for 4-pack)
Color	Pink, Purple, Sky Blue, Sea Green
Recommended Nozzle Temp	190-230°C
Recommended Bed Temp	50-60°C
Spool Material	Recycled Cardboard

7. Compatibility

ELEGOO PLA 3D Printer Filament is designed for broad compatibility with most FDM 3D printers that use 1.75mm filament. This includes popular models from various manufacturers.

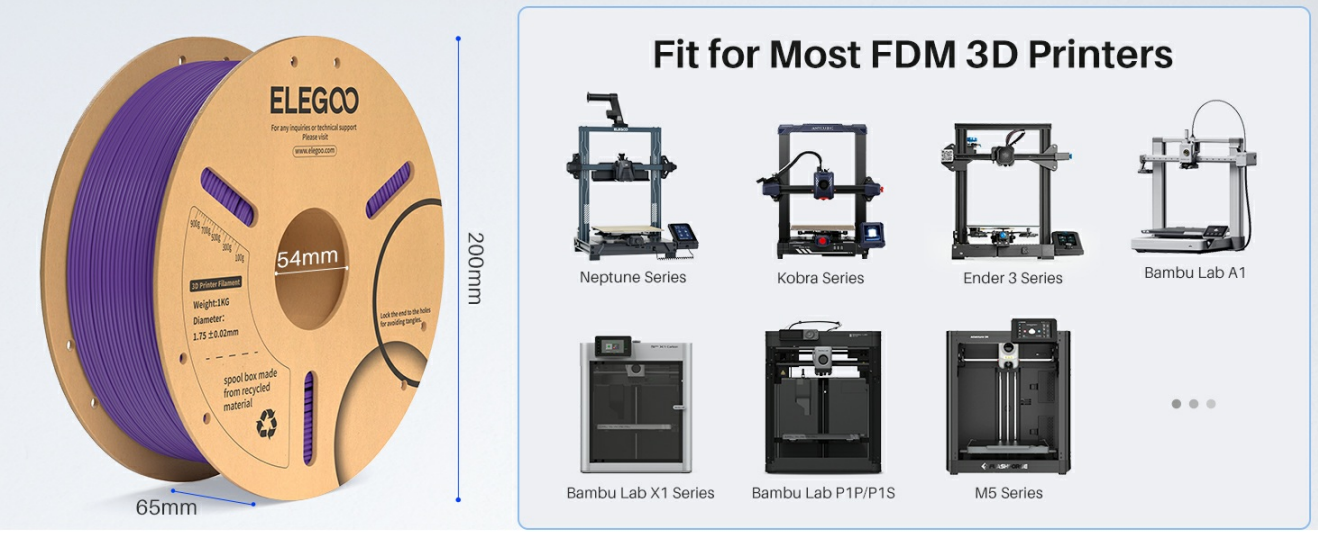


Image 7.1: ELEGOO PLA filament is compatible with a wide range of FDM 3D printers.

8. Support and Contact Information

For technical support, warranty information, or any inquiries regarding your ELEGOO PLA 3D Printer Filament, please contact ELEGOO customer service. You can typically find support contact details on the official ELEGOO website or through the retailer where the product was purchased.

Visit the official ELEGOO website for the latest information and support resources:www.elegoo.com

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