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**eSUN PLA+175OG1A**

# eSUN PLA PRO (PLA+) 3D Printer Filament User Manual

MODEL: PLA+175OG1A

## 1. Introduction

This manual provides essential information for the safe and effective use of your eSUN PLA PRO (PLA+) 3D Printer Filament. Please read these instructions carefully before use to ensure optimal printing results and product longevity.

## 2. Product Overview

The eSUN PLA PRO (PLA+) filament is an enhanced Polylactic Acid material designed for 3D printing. It offers improved strength, rigidity, and surface finish compared to standard PLA. This filament is vacuum-sealed with desiccant to maintain optimal quality and prevent moisture absorption.



Image: A spool of eSUN PLA PRO (PLA+) 1.75mm Olive Green 3D printer filament. The spool is black with a green label indicating product details and QR codes for social media links.

Key features include:

- **Enhanced Strength:** Several times tougher than standard PLA, reducing cracking and brittleness.
- **High Rigidity:** Provides structural integrity for printed objects.
- **Good Glossiness:** Achieves a smoother, more aesthetically pleasing finish.
- **Excellent Layer Bonding:** Ensures strong adhesion between printed layers.
- **Dimensional Accuracy:** Consistent 1.75mm diameter with a tolerance of +/- 0.03mm.

### 3. Technical Specifications

| Property                | Value                            |
|-------------------------|----------------------------------|
| Material                | Polylactic Acid (PLA PRO / PLA+) |
| Color                   | Olive Green                      |
| Filament Diameter       | 1.75mm                           |
| Dimensional Accuracy    | +/- 0.03mm                       |
| Net Weight              | 1 KG (approximately 2.2 lbs)     |
| Spool Material          | Plastic                          |
| Spool Diameter          | 8 inches                         |
| Spool Width             | 2.50 inches                      |
| Spool Hub Hole Diameter | 2.05 inches                      |
| Inner Circle Diameter   | 3.5 inches                       |

## 4. Setup and Loading

Before loading the filament into your 3D printer, ensure your printer is clean and free of any previous filament residue.

1. **Unpack Filament:** Carefully remove the eSUN PLA PRO (PLA+) spool from its vacuum-sealed packaging. Keep the desiccant packet with the filament for storage.
2. **Prepare Printer:** Heat your printer's hot end to the recommended temperature range (see Operating Instructions).
3. **Load Spool:** Place the filament spool onto your printer's spool holder, ensuring it can unroll smoothly without tangling.
4. **Feed Filament:** Gently feed the filament into the extruder mechanism according to your 3D printer's specific loading procedure. Ensure it passes through the hot end and extrudes cleanly.



Image: A spool of eSUN PLA PRO (PLA+) filament, still partially in its packaging, showing the product label and specifications.

## 5. Operating Instructions

Optimal printing results depend on proper temperature settings and printer calibration.

### Recommended Printing Parameters

- **Extrusion/Nozzle Temperature:** 205°C - 225°C. (Note: PLA PRO (PLA+) typically requires temperatures about 20°C higher than standard PLA. Many users find 210°C - 215°C to be ideal.)
- **Bed Temperature:** 60°C - 80°C (No heat required for some printers, but a heated bed is generally recommended for better adhesion).
- **Print Speed:** Adjust according to your printer's capabilities and desired print quality. Start with moderate speeds and adjust as needed.
- **Cooling Fan:** Use a cooling fan after the first few layers to improve print quality and reduce stringing.

### Tips for Best Results:

- **First Layer Adhesion:** Ensure proper bed leveling and a clean print surface. Adhesives like glue stick or painter's tape can improve adhesion.
- **Retraction Settings:** Calibrate retraction settings to minimize stringing and oozing.

- **Flow Rate:** Adjust flow rate if you observe over-extrusion or under-extrusion.



Image: A spool of eSUN PLA PRO (PLA+) filament next to its product box, illustrating the complete product packaging.

## 6. Maintenance and Storage

Proper storage of your eSUN PLA PRO (PLA+) filament is crucial for maintaining its quality and preventing moisture absorption.

- **Storage:** Store unused filament in a cool, dry place, ideally in its original vacuum-sealed bag with the desiccant packet. If the original bag is unavailable, use an airtight container.
- **Moisture Control:** If filament absorbs moisture, it may lead to poor print quality (e.g., bubbles, stringing, weak layers). Consider using a filament dryer or baking the filament at a low temperature (e.g., 45-50°C for 4-6 hours) to remove moisture.
- **Nozzle Cleaning:** Regularly clean your printer's nozzle to prevent clogs and ensure consistent extrusion.

## 7. Troubleshooting Common Issues

| Issue                     | Possible Cause                                                       | Solution                                                                                              |
|---------------------------|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Poor First Layer Adhesion | Unlevel bed, dirty print surface, incorrect bed temperature          | Level the print bed, clean the surface with isopropyl alcohol, adjust bed temperature within 60-80°C. |
| Stringing/Oozing          | Incorrect retraction settings, high nozzle temperature, wet filament | Adjust retraction distance and speed, lower nozzle temperature (within range), dry the filament.      |
| Clogging                  | Filament debris, heat creep, incorrect temperature                   | Clean the nozzle, ensure proper cooling of the hot end, verify correct printing temperature.          |
| Weak Layers/Poor Adhesion | Low nozzle temperature, high print speed, wet filament               | Increase nozzle temperature (within range), reduce print speed, dry the filament.                     |

## 8. Safety Information

- Always operate your 3D printer in a well-ventilated area.
- Keep filament away from open flames and direct heat sources.
- Do not touch the hot end or heated bed during operation to avoid burns.
- Keep out of reach of children and pets.

## 9. Warranty and Support

For product support, technical assistance, or warranty inquiries, please contact eSUN directly through their official channels.

Visit eSUN's official website for more information: [www.esun3d.com](http://www.esun3d.com)

Connect with eSUN on social media:

- Instagram: @esun3dfilament
- Facebook: Esunparadise
- Twitter: @esun3dfilament

## 10. Related Product Videos

### 3D Printing Inspiration - Guitar Strap Locks

Your browser does not support the video tag.

Video demonstrating the use of 3D printed strap locks for a guitar, showcasing a practical application of 3D printer filament. This video is provided by a seller.