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# Silk PLA printing

3DP-031 / REV A / 2026.09.01

Silk PLA gives decorative prints a reflective, glossy surface. It suits ornaments, display models, badges, and sculptural pieces. Choose it primarily for appearance; do not assume it matches ordinary PLA's performance in snap fits or loaded parts. Keep external-wall speed consistent for an even sheen. Place the seam on a hidden edge when the model allows. Dry according to the spool specification if extrusion pops or strings heavily. For multi-color silk, orientation can change the apparent color from different viewpoints.

|                |                            |
|----------------|----------------------------|
| STATUS         | Recovered/Partial          |
| CLASSIFICATION | 3DP                        |
| MATERIAL       | 3D PRINT / MAKER           |
| DISPOSITION    | PUBLIC / RECOVERED/PARTIAL |
| CATEGORY       | 3D Printing                |
| RECORD TYPE    | project                    |

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## TECHNICAL NOTES

Silk PLA gives decorative prints a reflective, glossy surface. It suits ornaments, display models, badges, and sculptural pieces. Choose it primarily for appearance; do not assume it matches ordinary PLA's performance in snap fits or loaded parts.

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## GOAL

Run the first test described in this guide and record the result for silk pla printing.

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## SOURCE STATE

Starting profile-awaiting Robert's retest

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## SETTINGS / STARTING POINT

|                              |                                         |
|------------------------------|-----------------------------------------|
| NOZZLE / LAYER HEIGHT        | 0.4 / 0.16-0.20                         |
| NOZZLE TEMPERATURE           | 220, within the spool's permitted range |
| BED                          | 55-60                                   |
| OUTER WALL / OTHER EXTRUSION | 25-35 / 40-60                           |

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|                |                                                        |
|----------------|--------------------------------------------------------|
| FIRST LAYER    | 20                                                     |
| PART COOLING   | 80-100% after initial layers, adjusted for the product |
| WALLS / INFILL | 3 walls, 10-20% for decorative parts                   |
| ENCLOSURE      | Avoid unnecessary chamber heat                         |

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## PREPARATION / NOTES

Keep external-wall speed consistent for an even sheen. Place the seam on a hidden edge when the model allows. Dry according to the spool specification if extrusion pops or strings heavily. For multi-color silk, orientation can change the apparent color from different viewpoints.

## EQUIPMENT

- FDM printer / slicer
- Slicer project
- Calipers or inspection method

## MATERIALS

- PLA

## METHOD / STEPS

1. Confirm printer, nozzle, plate, and material identity.
2. Start from the recorded profile or the slicer default for that material.
3. Print a small first-layer and geometry test before the full part.
4. Inspect adhesion, dimensions, surface, supports, and failure mode.
5. Save the successful project with temperatures, speeds, and revision notes.

## THINGS TO WATCH FOR

Changes in temperature, speed, or cooling can produce visible gloss bands. High speed can reduce the intended shine. Small details can soften if printed too hot. Support contact marks are especially visible on glossy surfaces. Weak layer bonding needs a temperature/cooling test, not just more infill.

## FIRST TEST / WHAT TO RECORD

A small curved sample at 25 and 40 mm/s outer-wall speed; compare appearance and layer strength.

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## RESULT / WHERE THIS STANDS

A small curved sample at 25 and 40 mm/s outer-wall speed; compare appearance and layer strength.

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## TROUBLESHOOTING

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## SPECIFICATION

|                              |                                                        |
|------------------------------|--------------------------------------------------------|
| NOZZLE / LAYER HEIGHT        | 0.4 / 0.16-0.20                                        |
| NOZZLE TEMPERATURE           | 220, within the spool's permitted range                |
| BED                          | 55-60                                                  |
| OUTER WALL / OTHER EXTRUSION | 25-35 / 40-60                                          |
| FIRST LAYER                  | 20                                                     |
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| WALLS / INFILL               | 3 walls, 10-20% for decorative parts                   |
| ENCLOSURE                    | Avoid unnecessary chamber heat                         |

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## DEVELOPMENT HISTORY

2026.09.01 / Rev A

Imported as an independent manifest record; public copy keeps uncertainty visible.

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## REFERENCE NOTES

Polymaker Silk PLA (<https://shop.polymaker.com/products/silk-pla>), Polymaker Dual Silk PLA (<https://shop.polymaker.com/products/dual-silk-pla>). Conservative speeds above target finish rather than maximum advertised throughput.

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## HOW-TO SOURCES

Polymaker Silk PLA

<https://shop.polymaker.com/products/silk-pla>

Polymaker Dual Silk PLA

<https://shop.polymaker.com/products/dual-silk-pla>

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## RELEASED MATERIAL / SOURCE LINKS

**3dp-031-public-summary.txt**

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/3dp-031-public-summary.txt>

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## RETURN TO THE LIVING RECORD

**Silk PLA printing**

This PDF preserves the public notes at this revision. Visit the record for updates and attached images.

<https://u225x.com/record/3DP-031>