

# Clear PETG printing

3DP-027 / REV A / 2026.09.01

Clear PETG suits translucent covers, light diffusers, display pieces, and containers where seeing light or a rough outline through the wall is useful. Ordinary FDM prints scatter light at layer boundaries and internal gaps; clear filament alone does not produce glass-like transparency. Dry before optical tests. Prusa's PETG example is 55°C for 6 hours; use the actual spool maker's instructions. For a diffuser, test a thin hollow shell before adding infill. For a solid viewing section, compare a small 100% infill sample with consistently aligned lines against the ordinary profile. Do not promise transparency or raise flow blindly to eliminate gaps. Use a plate-approved release layer where required: PETG can bond excessively to smooth surfaces.

|        |                   |
|--------|-------------------|
| STATUS | Recovered/Partial |
|--------|-------------------|

|                |     |
|----------------|-----|
| CLASSIFICATION | 3DP |
|----------------|-----|

|          |                  |
|----------|------------------|
| MATERIAL | 3D PRINT / MAKER |
|----------|------------------|

|             |                            |
|-------------|----------------------------|
| DISPOSITION | PUBLIC / RECOVERED/PARTIAL |
|-------------|----------------------------|

|          |             |
|----------|-------------|
| CATEGORY | 3D Printing |
|----------|-------------|

|             |         |
|-------------|---------|
| RECORD TYPE | project |
|-------------|---------|

## TECHNICAL NOTES

Clear PETG suits translucent covers, light diffusers, display pieces, and containers where seeing light or a rough outline through the wall is useful. Ordinary FDM prints scatter light at layer boundaries and internal gaps; clear filament alone does not produce glass-like transparency.

## GOAL

Run the first test described in this guide and record the result for clear petg printing.

## SOURCE STATE

Starting profile-awaiting Robert's retest

## SETTINGS / STARTING POINT

|        |                                                        |
|--------|--------------------------------------------------------|
| NOZZLE | 0.4 mm; consider 0.6 mm for simple thick-walled shapes |
|--------|--------------------------------------------------------|

|              |                                                                |
|--------------|----------------------------------------------------------------|
| LAYER HEIGHT | 0.20 mm with 0.4 nozzle; test 0.24-0.28 for optical appearance |
|--------------|----------------------------------------------------------------|

|                    |                                                   |
|--------------------|---------------------------------------------------|
| NOZZLE TEMPERATURE | 245; tune within the spool's range, often 230-260 |
|--------------------|---------------------------------------------------|

|                              |                                                                                 |
|------------------------------|---------------------------------------------------------------------------------|
| BED                          | 75-85, subject to plate guidance                                                |
| OUTER WALL / OTHER EXTRUSION | 25-35 / 40-60                                                                   |
| FIRST LAYER                  | 15-25                                                                           |
| PART COOLING                 | 0% first layers, then 20-40%; test lower for simple translucent walls           |
| WALLS / INFILL               | 3 walls, 15-25% for ordinary parts; optical parts need geometry-specific trials |
| ENCLOSURE                    | Usually unnecessary in a draft-free room                                        |

## PREPARATION / NOTES

Dry before optical tests. Prusa's PETG example is 55°C for 6 hours; use the actual spool maker's instructions. For a diffuser, test a thin hollow shell before adding infill. For a solid viewing section, compare a small 100% infill sample with consistently aligned lines against the ordinary profile. Do not promise transparency or raise flow blindly to eliminate gaps. Use a plate-approved release layer where required: PETG can bond excessively to smooth surfaces.

## EQUIPMENT

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

## MATERIALS

- PETG

## 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

Bubbles, popping, and a frosted surface can indicate moisture. Stringing may also come from excess heat or retraction behavior. Low cooling can improve bonding but hurt bridges and overhangs. Infill remains visible through clear walls. Let the plate cool before removal.

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## FIRST TEST / WHAT TO RECORD

Print two small identical wall samples at different cooling levels; compare clarity and bonding under the same light.

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## RESULT / WHERE THIS STANDS

Print two small identical wall samples at different cooling levels; compare clarity and bonding under the same light.

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## TROUBLESHOOTING

- Bubbles, popping, and a frosted surface can indicate moisture. Stringing may also come from excess heat or retraction behavior. Low cooling can improve bonding but hurt bridges and overhangs. Infill remains visible through clear walls. Let the plate cool before removal.

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## SPECIFICATION

|                              |                                                                                 |
|------------------------------|---------------------------------------------------------------------------------|
| NOZZLE                       | 0.4 mm; consider 0.6 mm for simple thick-walled shapes                          |
| LAYER HEIGHT                 | 0.20 mm with 0.4 nozzle; test 0.24-0.28 for optical appearance                  |
| NOZZLE TEMPERATURE           | 245; tune within the spool's range, often 230-260                               |
| BED                          | 75-85, subject to plate guidance                                                |
| OUTER WALL / OTHER EXTRUSION | 25-35 / 40-60                                                                   |
| FIRST LAYER                  | 15-25                                                                           |
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| ENCLOSURE                    | Usually unnecessary in a draft-free room                                        |

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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

Prusa PETG guide ([https://help.prusa3d.com/article/petg\\_2059](https://help.prusa3d.com/article/petg_2059)), Prusa drying guide ([https://help.prusa3d.com/article/drying-filament\\_332086](https://help.prusa3d.com/article/drying-filament_332086)). Optical tests and build choices above are proposed experiments, not manufacturer guarantees.

## HOW-TO SOURCES

### Prusa PETG guide

[https://help.prusa3d.com/article/petg\\_2059](https://help.prusa3d.com/article/petg_2059)

### Prusa drying guide

[https://help.prusa3d.com/article/drying-filament\\_332086](https://help.prusa3d.com/article/drying-filament_332086)

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## RELEASED MATERIAL / SOURCE LINKS

### 3dp-027-public-summary.txt

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/3dp-027-public-summary.txt>

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## RETURN TO THE LIVING RECORD

### Clear PETG printing

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

<https://u225x.com/record/3DP-027>