Why does the nozzle clog after switching from PETG to PLA?

Asked 3D Content Team
Published October 15, 2026 · Last verified October 15, 2026

Abstract. PETG residue stays in the hotend when PLA goes in at 190 to 230 °C. Load the PLA at the PETG temperature, 230 to 260 °C, so it pushes the old plastic out.

Keywords: petg, pla, slicer-settings

1 Why does the nozzle clog after switching from PETG to PLA?

Leftover PETG (glycol-modified polyethylene terephthalate) is still in the hotend, and PLA (polylactic acid) loaded at its own 190 to 230 °C can't push it out. PETG prints at 230 to 260 °C on Bambu Lab's data sheet. Prusa's fix is to load the PLA at the PETG temperature, so the new filament flushes the old one.

1.1 The number

Table 1. The number

Switching	Nozzle temperature for the change	How much to purge
PETG to PLA, loaded by hand (Prusa)	The PETG temperature: 250 ± 10 °C for Prusament PETG, 230 to 260 °C for Bambu PETG Basic	No length given: load until the new filament has pushed the old one out
PETG to PLA, automatic AMS change (Bambu Studio, X1 Carbon)	Flush at the new filament's maximum, 240 °C in the default PLA profile	Calculated per color pair by Bambu Studio; multiplier 1.00 by default
PAHT-CF, PET-CF, PPA or PPS to PLA, TPU or PETG (Bambu Lab)	Unload at 250 to 300 °C, then keep extruding while the nozzle cools to 220 to 240 °C	Until the new filament flows smoothly
Any change on a wipe tower (PrusaSlicer)	Not set by this option	140 mm³ per change by default, times the filament's purge volume multiplier (100 percent by default)
Already clogged after PETG (Prusa CORE One, MK4/S, XL)	280 °C, then wait 2 minutes	About 40 cm of PLA pushed through by hand

The temperatures come from Prusa's under-extrusion and clogged nozzle articles, Bambu Lab's nozzle clog guide and the Bambu Lab and Prusament data sheets. The automatic-change figures come from Bambu Studio's X1 Carbon change G-code, its default filament profile and its waste guide. The wipe tower figures come from PrusaSlicer 2.9.2's settings source. AMS is Bambu Lab's automatic material system and TPU is thermoplastic polyurethane. PAHT-CF is a carbon-fiber-filled high-temperature nylon, PET-CF a carbon-fiber PET, and PPA (polyphthalamide) and PPS (polyphenylene sulfide) are engineering plastics.

1.2 Why PETG residue blocks PLA

Unloading pulls out the strand but not the plastic that has already melted. Prusa says the previous material's "remnants are most likely still in the hotend." The two materials need different heat to flow:

Table 2. Why PETG residue blocks PLA

Property	PLA	PETG
Nozzle temperature, Bambu Lab data sheet	190 to 230 °C	230 to 260 °C
Nozzle temperature, Prusament data sheet	210 ± 10 °C	250 ± 10 °C
Melt index, Bambu Lab (2.16 kg)	23.2 g/10 min at 210 °C	22.9 g/10 min at 245 °C
Glass transition, Bambu Lab	60 °C	69 °C
Melting temperature, Bambu Lab	160 °C	none listed

The melt index row shows the gap. Bambu Lab gets nearly the same flow from both, but tests PETG at 245 °C and PLA at 210 °C. Hold the nozzle at a PLA temperature and the PETG left inside stays thick. Bambu's sheet lists no melting point for PETG, only its glass transition, so it softens gradually rather than turning liquid at a set point. The PLA behind it presses on a plug that barely moves. The print under-extrudes or stops, the two clog signs Bambu Lab lists.

Heat fixes it. Prusa loads the PLA at the PETG temperature "so the newly introduced filament can push the old one out." Bambu Lab's procedure for very hot filaments does the same: the new, cooler filament pushes the residue out while the nozzle cools down. Polymaker lists "mixed material residues" from switching hot to cool materials "without proper purge" as a clog cause.

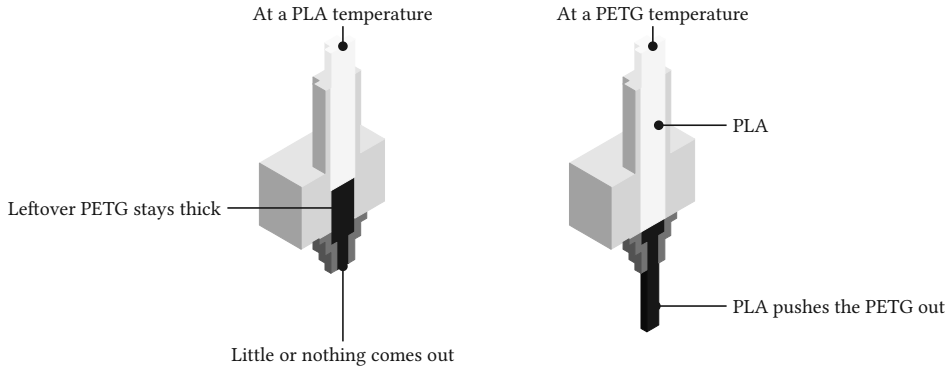


Figure 1. Held at a PLA temperature the leftover PETG stays thick, so Prusa loads the PLA at the PETG temperature and lets the new filament push the old one out.

1.3 How do you prevent clogs when switching materials?

- **Heat to the hotter of the two.** Prusa's rule is "always to the highest temperature filament." PETG to PLA means a PETG temperature. PLA to PETG already runs at PETG heat.
- **On a Prusa printer,** preheat for PETG, then load the PLA. Switch to the PLA temperature only once the PLA comes out clean.
- **On a Bambu printer with an AMS,** Bambu Studio raises the nozzle to the new filament's maximum before flushing. Its change G-code says "always use highest temperature to flush." Bambu suggests a 0.8 or 0.9 flush multiplier to save filament, but only after test prints confirm nothing changes. Leave it at 1.00 on a print that mixes PETG and PLA.
- **Do a cold pull when you change material type.** Bambu Lab recommends one at least once a month, "especially when switching between different filament types."
- **Use a purge material** if hot-to-cool swaps are routine. Polymaker names it as the alternative to thorough purging. See cleaning filament vs a cold pull.

1.4 How to check it on your own print

- **Run the PLA through at PETG heat.** Set 250 °C, inside both makers' PETG ranges, and push PLA by hand until it runs one solid color. Then drop to the PLA temperature.
- **Watch for the clog signs.** Gaps from under-extrusion, or no plastic at all while the printer goes through its moves, mean the plug is still there. The full list is on the clogged nozzle symptoms page.
- **If nothing comes out,** heat to 280 °C (Prusa's figure after PETG), wait 2 minutes and push about 40 cm of PLA through.
- **Then cold pull it out.** Fill the nozzle with PLA, let it cool until soft but not molten, and pull it out in one motion. Repeat until the tip comes out clean. The steps are in how to do a cold pull.
- **If the cold pull fails,** replace the nozzle. Polymaker's fix for a nozzle fouled by earlier materials is cleaning tools or a new nozzle.

References

[1] Under-extrusion (Nextruder printers), Prusa Knowledge Base. https://help.prusa3d.com/article/under-extrusion-nextruder-printers_821253. Accessed October 15, 2026.

[2] Clogged nozzle (CORE One, CORE One L, XL, MK4/S, MK3.9/S), Prusa Knowledge Base. https://help.prusa3d.com/article/clogged-nozzle-core-one-core-one-l-xl-mk4-s-mk3-9-s_411823. Accessed October 15, 2026.

[3] How to Avoid Nozzle Clogs, Bambu Lab Wiki. https://wiki.bambulab.com/en/knowledge-sharing/how_to_avoid_nozzle_clogs. Accessed October 15, 2026.

[4] Reduce Waste during Filament Change, Bambu Lab Wiki. https://wiki.bambulab.com/en/software/bambu-studio/reduce-wasting-during-filament-change. Accessed October 15, 2026.

[5] Bambu Studio X1 Carbon change filament G-code (fdm_bbl_3dp_001_common.json), Bambu Lab on GitHub. https://github.com/bambulab/BambuStudio/blob/master/resources/profiles/BBL/machine/fdm_bbl_3dp_001_common.json. Accessed October 15, 2026.

[6] Bambu Studio default filament profile (fdm_filament_common.json), Bambu Lab on GitHub. https://github.com/bambulab/BambuStudio/blob/master/resources/profiles/BBL/filament/fdm_filament_common.json. Accessed October 15, 2026.

[7] PrusaSlicer 2.9.2 print settings source (PrintConfig.cpp), Prusa Research on GitHub. https://github.com/prusa3d/PrusaSlicer/blob/version_2.9.2/src/libslic3r/PrintConfig.cpp. Accessed October 15, 2026.

[8] Nozzle clogs, Polymaker Wiki. https://wiki.polymaker.com/printing-tips/common-printing-issues/nozzle-clogs. Accessed October 15, 2026.

[9] Bambu Filament Technical Data Sheet V3.0, PETG Basic. https://store.bblcdn.com/s1/default/cb94589bf7994fdcbfa833badefae9cd/Bambu_PETG_Basic_Technical_Data_Sheet.pdf. Accessed October 15, 2026.

[10] Bambu Filament Technical Data Sheet V3.0, PLA Basic. https://wiki.bambulab.com/filament-acc/abs-asa-pc/bambu_pla_basic_technical_data_sheet.pdf. Accessed October 15, 2026.

[11] Prusament PETG Technical Datasheet, Version 1.1 (Prusa Polymers). https://prusament.com/wp-content/uploads/2022/10/

PETG_Prusament_TDS_2021_10_EN.pdf. Accessed October 15, 2026.

[12] Prusament PLA Technical Datasheet, Version 1.1 (Prusa Polymers). https://prusament.com/wp-content/uploads/2022/10/PLA_Prusament_TDS_2021_10_EN.pdf. Accessed October 15, 2026.

Cite as: Asked 3D. "Why does the nozzle clog after switching from PETG to PLA?." October 15, 2026. https://asked3d.com/answers/petg-to-pla-clog. Last verified October 15, 2026.