Print Recommendations

PETG CFJet

PETG filled with carbon fiber • Bambu Lab P1S and Prusa Core One • 0.4 mm nozzle

About the material

PETG CFJet is a PETG-based composite filled with 17% carbon fiber. Compared to pure PETG, it offers higher stiffness and strength and a characteristic matte surface that hides individual layers well. It's intended for mechanical and functional parts.

Carbon fiber has two practical consequences that shape the whole approach to printing: the material is abrasive (a hardened nozzle is required) and more brittle on impact than pure PETG. It's an ideal material for stiff, dimensionally stable parts; for parts exposed to impact, pure PETG is a better choice.

Recommended settings

Values are verified by printing on both platforms. The profile for each printer is based on the manufacturer's tuned PETG-CF profile in that slicer

Parameter	Bambu Lab P1S	Prusa Core One
Nozzle	255 °C	255 °C
Bed	85 °C	85 °C
Nozzle – type / diameter	hardened steel / 0.4 mm	hardened (ObXidian) / 0.4 mm
Build plate	textured PEI	satin PEI
Cooling	per profile (mild, always on)	per profile (mild, always on)
Extrusion multiplier / flow	default from profile	default from profile

Golden rules

1. **A hardened nozzle is a must.** 17% carbon fiber acts as an abrasive. A brass or stainless nozzle wears out within a matter of hours when printing CFJet – the orifice widens and both accuracy and surface quality drop. Use hardened steel, at least 0.4 mm.
2. **Drying.** Both PETG and carbon fiber are moisture-sensitive. Wet filament shows up as surface stringing, spitting (steam bubbles in the nozzle), and weaker layer bonding.
3. **Nozzle temperature.** CFJet needs more heat than pure PETG for good layer bonding – the fibers hinder layer adhesion and flow. Below 240 °C, layer bonding quality drops significantly.
4. **Bed and separator.** At 85 °C, CFJet holds very well on both textured and satin PEI. However, the PETG base can bond to smooth PEI so strongly that removing the part can tear a piece off the plate. Use a separator.

5. **Don't push the flow.** With a filled material and a 0.4 mm nozzle, the risk of clogging is higher. A verified volumetric speed of up to about 12 mm^3/s is sufficient, and there's no reason to push beyond it.

Deviations from the technical datasheet

This profile contains one deliberate deviation from the technical datasheet (TDS); we state it here transparently, along with the reasoning.

- Nozzle temperature of 255 °C is 5 °C above the TDS upper limit (220–250 °C). Reason: for filled PETG, temperature is decisive for layer bonding, and the upper end of the range gives noticeably stronger parts. The value is verified with a temperature tower (240–260 °C range, defect-free) and matches both the recommended range for comparable PETG-CF materials (240–270 °C) and the manufacturer's system profile for this material.
- Bed temperature of 85 °C is within the TDS range (80–90 °C)

One last tip

> CFJet is stiffer but more brittle on impact than regular PETG (impact strength approx. 23 vs 61 kJ/m^2). Design parts to take advantage of its stiffness and dimensional stability – not for areas exposed to impact or heavy bending. Where you need toughness, stick with pure PETG; where you need a stiff, dimensionally stable part with a nice matte surface, CFJet is the ideal choice.