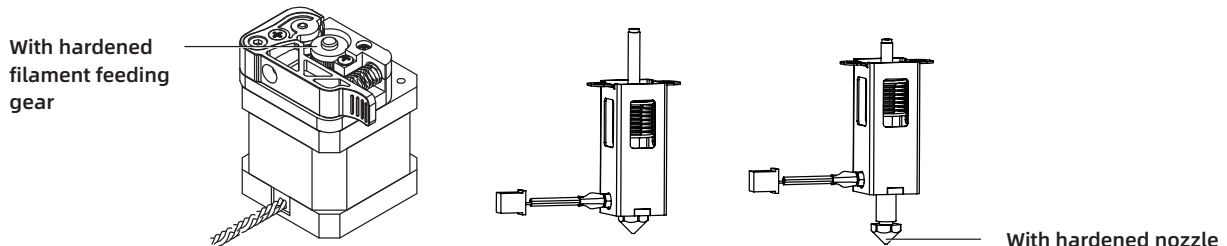


The carbon fiber filament printing guide of Creator 3 with hardened nozzle

It is suggested to use hardened nozzle and high-strength feeding wheel for carbon fiber filament printing.



Twist off the standard nozzle by wrench and replace it with the hardened steel nozzle. After changing the nozzle, please do z-calibration again.

Some tips for carbon fiber composite filament printing, so as to avoid regular issues

- ◆ Upgrade to a nozzle made of hardened steel. It will be more durable for carbon fiber filament printing. While the thermal conductivity of a hardened nozzle is not as good as that of a steel one. So for a hardened nozzle, it is necessary to set the extruder temperature 5-15°C higher than a normal one.
- ◆ If you meet the issue of nozzle clogging immediately after only printing one to two layers, please adjust the printing speed of first layer to 10mm/s or lower so that the filament can be extruded evenly and stick better to the platform.
- ◆ It is easy to cause clogging when printing carbon fiber composite filament (the clogged probability of using a 0.4mm nozzle is higher than the one with 0.6mm diameter). Suggested printing temperature is 260-280°C, various between different brands. For Flashforge PA-CF, the recommended hardened nozzle temperature is 270°C and 90-110°C of platform and proper printing speed is around 50mm/s. When printing the raft with Flashforge PA-CF, the printing speed of the first layer should be slower than 10mm/s.
- ◆ Please clean up the PA-CF filament inside the extruder after printing with PA-CF and change to another filament. The residue filament inside the extruder must be cleaned thoroughly after printing high-temperature filament and changing to a common one. Or, it may causes clogging easily.
- ◆ Cleaning operation when switching filament: insert the other kind of filament, set the extruder temperature at 270°C (the one for PA-CF filament) or suggested temperature of high-temp filament, click to load filament. Printing starts after there is no color mixture on extruded filaments. Pull the filament out by hand afterwards and check if there is residue of former filament on the tips. If yes, please resume the filament cleaning.
- ◆ It will help to extrude filament smoothly and reduce extruding burden to set the printing speed at 50mm/s. Add retraction length and increase retraction speed is good to reduce oozing.
- ◆ Considering the fragility of PA-CF, the curvature of guide tube should be as little as possible to avoid breaking off. Due to that nylon carbon fiber is easily to get wet (water absorption rate varies from different brands), please store it into a drying box during printing.

Note:

Item	Temperature range	Supported Materials
0.4mm regular steel nozzle	180-300°C	PLA, ABS, PETG, PA, PC, ASA, HIPS, PVA
0.4/0.6mm hardened nozzle	250-320°C	ABS, HIPS, PA, PC, ASA, PA-CF, PA-GF
0.8mm regular steel nozzle	180-300°C	PLA, ABS, PETG, PA, PC, ASA, HIPS, PVA

A 0.8mm nozzle is recommended for large-size model printing so as to reduce printing time. But it will affect printing accuracy. It may be stringing when printing tiny or hanging structure models using a 0.8mm nozzle.