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CreatBot

CreatBot UltraPA-CF Filament

Specifications:

- **Material:** UltraPA-CF Filament
- **Moisture Content:** Keep below 15%
- **Nozzle Diameter:** 0.6mm (recommended)
- **Printing Speed:** 30 – 120 mm/s
- **Annealing Treatment:** Required

Product Usage Instructions

Filament Handling:
After unpacking, store the filament in a dry environment. Use a filament warehouse with drying function or a moisture-proof box to maintain humidity below 15%. For long-term storage, vacuum preserve the filament in an aluminum foil bag.

Loading Method:
When loading filament, seize the line head and carefully insert it into the extruder to prevent tangling or jamming. Standardize the unrolling operation to ensure a smooth feeding process.

Fragility:
Due to high fiber content, the filament is brittle. Avoid breaking by handling gently and consider placing the spool outside the machine during use to prevent damage during installation.

Nozzle Material:
Use a hardened steel nozzle with a diameter of 0.6mm or higher to ensure wear resistance and longevity, especially with fiber-containing filaments.

Parameter Settings:
Adjust the following parameters for optimal printing results:

- **Nozzle Temperature:** Ensure complete melting of material for smooth extrusion.
- **Base Plate Temperature:** Enhance adhesion and reduce warping.
- **Cooling Fan:** Keep closed to prevent poor interlayer bonding.
- **Print Speed:** Start at 30mm/s and adjust based on printing quality.

- **Rebound Distance & Retracement Rate:** Adjust to reduce drawing and optimize extrusion control.

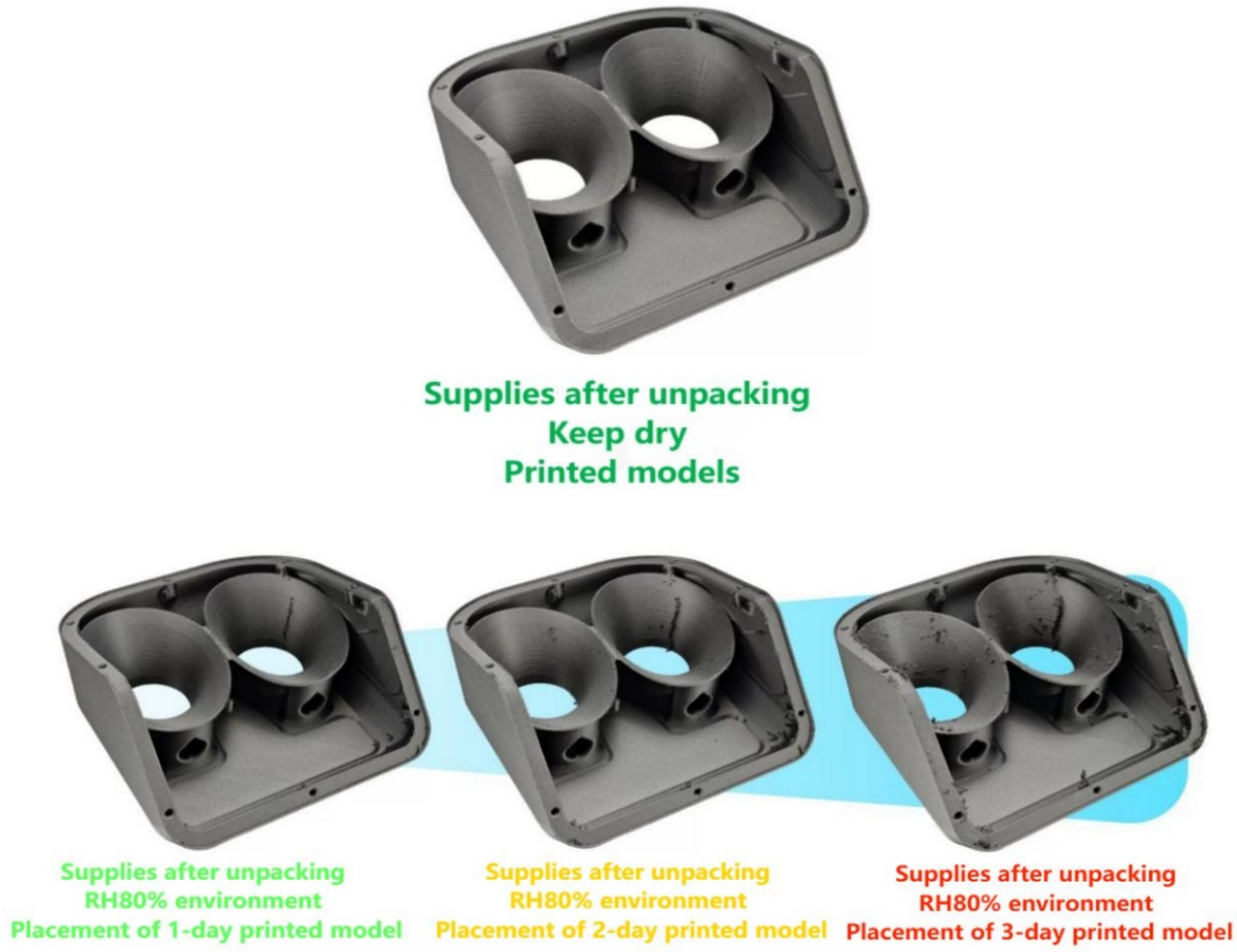
Annealing Treatment Guide:

Follow the provided annealing treatment guide for post-printing processing to enhance material properties.

Keep dry

1. After the filament are unpacked for the first time, they should be put into the filament warehouse immediately and the drying function of filament should be turned on; or they should be placed in an external moisture-proof box for use and the humidity should be kept below 15%. If not used for a long time, they should be put into an aluminum foil bag and vacuum preserved.
2. Due to the characteristics of the material itself, dampness will affect the printing quality. Strict moisture-proof storage is the basis for ensuring the printing effect. The damp filament can be dried to restore the printing quality. The damp filament should be dried in a drying oven at 100°C for 6-8 hours.

*The model shown is a display of a common filament material under moisture.
The color and brushed state of different filament may vary, so please refer to the actual situation.



Loading method

When loading filament, the line head of filament should be seized and put into the extruder to prevent the full roll of filament from being scattered and falling off the hand, resulting in disordered winding of filament and wire jam. Standardizing the unrolling operation can avoid wire jam faults in the feeding process and ensure smooth printing process.

Easy to break

Due to the high fiber content and the material being dried before leaving the factory, 3D printed short-cut fiber materials are typically brittle and prone to breaking. These materials are easily broken when installed through the guide tube, so it is recommended that customers place the spool outside the machine for use. Refer to the diagram below to ensure that the pneumatic joint between the extruder end and the moisture-proof box end has a bending angle of at least 110°.

Nozzle material

Hardened steel or higher hardness (recommended 0.6 mm diameter)
The hardened steel nozzle is wear-resistant and suitable for fiber-containing filament, which can extend the service life of the nozzle and avoid frequent replacement affecting printing.

Print the parameter setting template

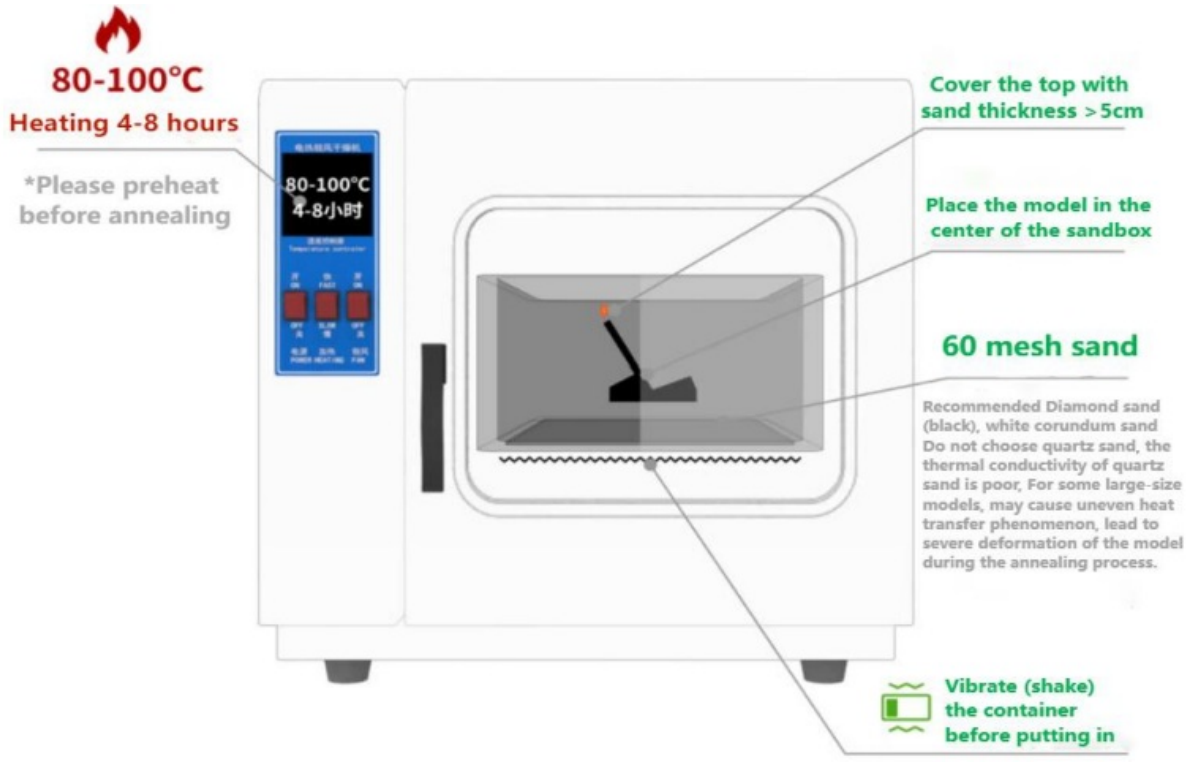
Parameter ty pe	Recommended scope	Explain
Nozzle tempe rature	300 – 320°C	Ensure that the material is fully melted to a void plug and provide smooth extrusion co nditions for printing

Base plate temperature	70 – 90°C	Improve the adhesion of the first floor, reduce warping, and ensure that the bottom of the printed piece is well bonded with the base plate
Storage temperature	Support unsealed box printing	No additional temperature control equipment is required to simplify the printing environment requirements
cooling fan	close	Prevent the interlayer bonding from being poor due to rapid cooling and ensure the interlayer bonding strength
print out rate	30 – 120 mm/s	It is recommended to start debugging at low speed, avoid drawing, and optimize the speed according to the actual printing effect
Rebound distance	0.8 – 3 mm	Reduce the drawing phenomenon, adjust according to the equipment, and adapt to the feeding characteristics of different equipment
The retracement rate	30 – 60 mm/s	Cooperate with the return distance to optimize extrusion control and ensure the appearance quality of printing

Annealing treatment guide

Ordinary way

Sand bath method



Recommended Diamond sand (black), white corundum sand Do not choose quartz sand, the thermal conductivity of quartz sand is poor, For some large-size models, may cause uneven heat transfer phenomenon, lead to severe deformation of the model during the annealing process.

Different annealing methods Methods Comparison of deformation

*It is important to note that the annealing process is usually accompanied by shrinkage and deformation of the model, so you need to be careful in choosing whether or not to anneal the model.

Frequently Asked Questions

How should I store the filament when not in use?

Store the filament in an aluminum foil bag and vacuum preserve it to prevent moisture absorption.

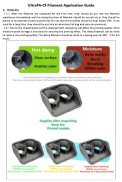
What is the recommended nozzle material?

Use a hardened steel nozzle with a diameter of at least 0.6mm for optimal performance with fiber-containing filaments.

How should I handle the fragile filament?

Carefully load the filament into the extruder to avoid breakage, and consider keeping the spool outside the machine during use.

Documents / Resources

	CreatBot UltraPA-CF Filament [pdf] Instructions UltraPA-CF Filament, Filament

References

- User Manual

CreatBot, Filament, UltraPA-CF Filament

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