

Printing & Post-Processing

SOURCE:

<https://support.zortrax.com/inkspire-printing-post-processing/>

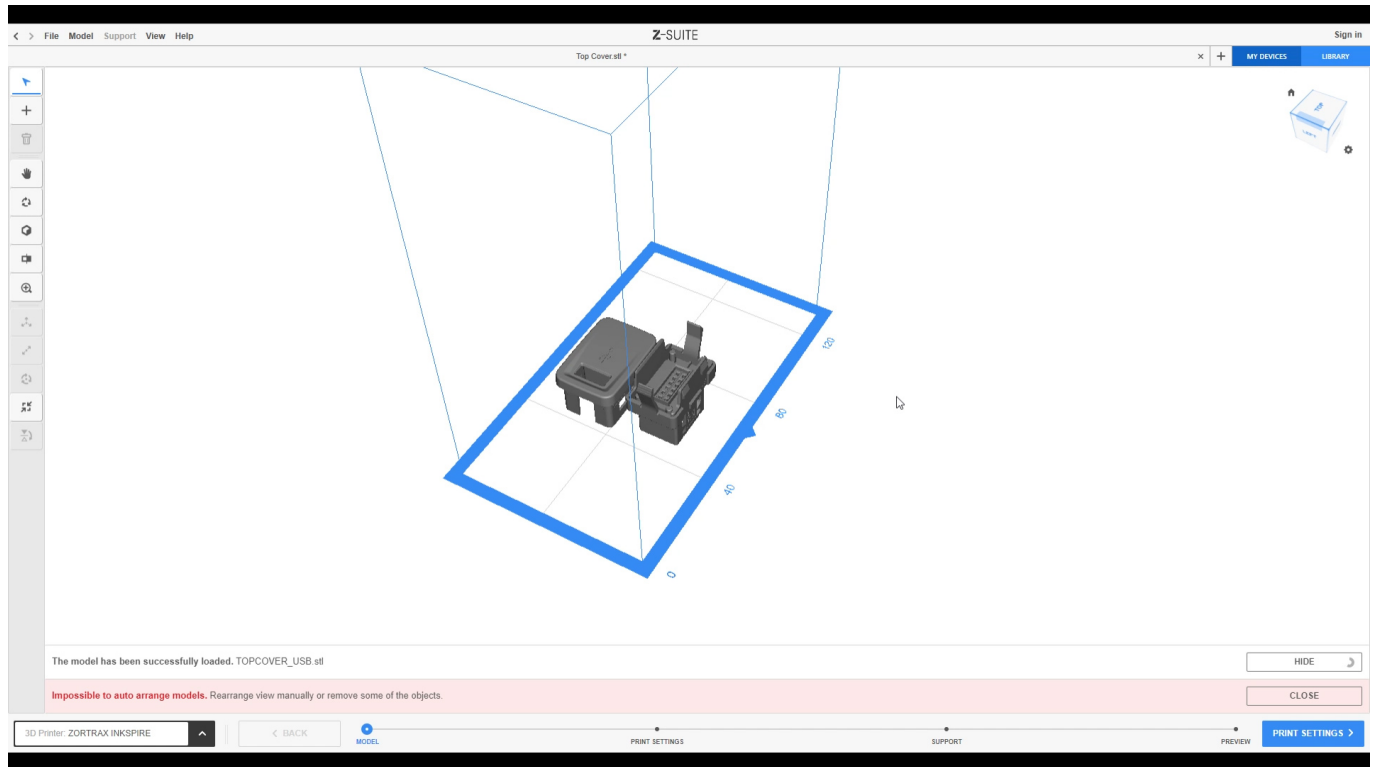
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3D printing with Zortrax Inkspire involves a few procedures that you must follow in order to make the whole printing process easier and produce a successful print. These procedures include model preparation in Z-SUITE, device preparation, and model post-processing. All these activities do not involve a lot of work and are not complicated, but still have to be properly executed. Follow the instructions and tips from this manual to use the printer to its full potential and achieve good results.

- Wear gloves and glasses during all procedures.
- Prepare paper towels and keep them in your workplace for wiping up liquids.
- Printing and post-processing waste, including empty bottles, failed prints, supports, rafts as well as paper towels with resin residues should be put in the UV Station or in any source of UV light before disposal. Uncured resin has to be disposed of in accordance with national and local regulations concerning hazardous waste.
- Detailed information regarding usage and waste disposal of the liquid detergent utilized to clean 3D prints should be found in the SDS delivered by the producer of the liquid.

Model Preparations



Proper orientation and adequate supports are key factors for successful Inkspire prints. Once you upload a file to Z-SUITE, you have to find the best position for your model. In UV LCD 3D printing each layer that will be parallel to the platform during the printing process has to be as small as possible to be printed successfully. That's why you have to arrange the model at an angle. Also, arrange the model in such a way that it will be easier for you to add support for all the overhanging and protruding parts. Use the *Rotate* option to change the model's orientation in the workspace. To rotate the model in one or more axes, use the control grips marked red, blue and green.

Before uploading a model, make sure that it is designed properly and its mesh is closed because Z-SUITE does not repair files for Zortrax Inkspire.

Another important step you have to make is to add support in the form of pillars in all the necessary areas of the model. The position and number of support structures depend on the model's application. In the case of technical models, it is important to acquire as high dimensional accuracy as it is possible, therefore, you have to support all the edges (including those in openings). In the case of non-technical models, you have to support areas with overhanging details.

Each model has to be evaluated individually in terms of adding support. Select the

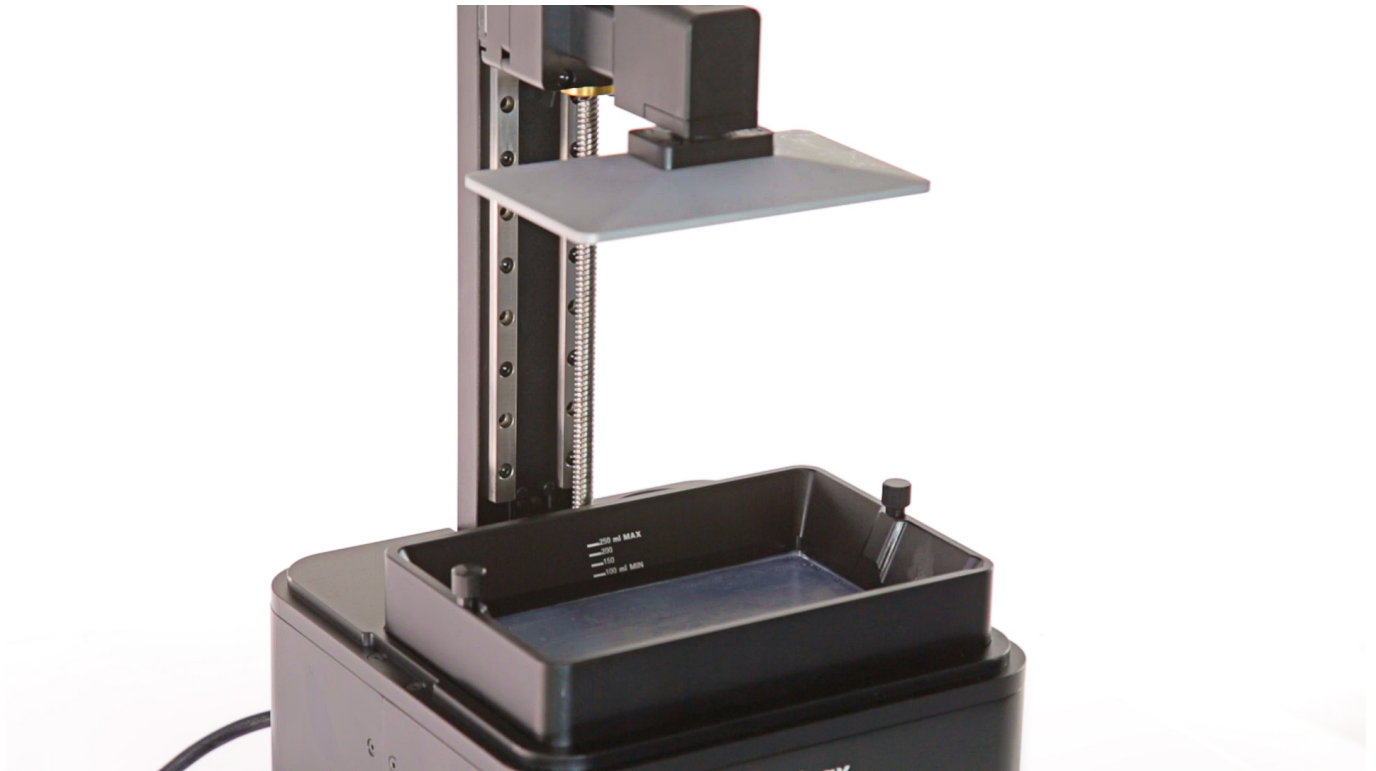
Automatic Support option, determine the spacing between individual pillars (smaller values adds more pillars), choose pillar and tip size, and click *Generate*. Next, you can delete the already added pillars in the *Edit Support* menu or add new ones. Add two or three pillars of support close to one another so that it will be easier to reinforce them by adding cross support.

UV Cover Removal



Remove the UV cover.

Filling the Tank



Fill the tank with resin. The resin level must fit the MIN and MAX marks.

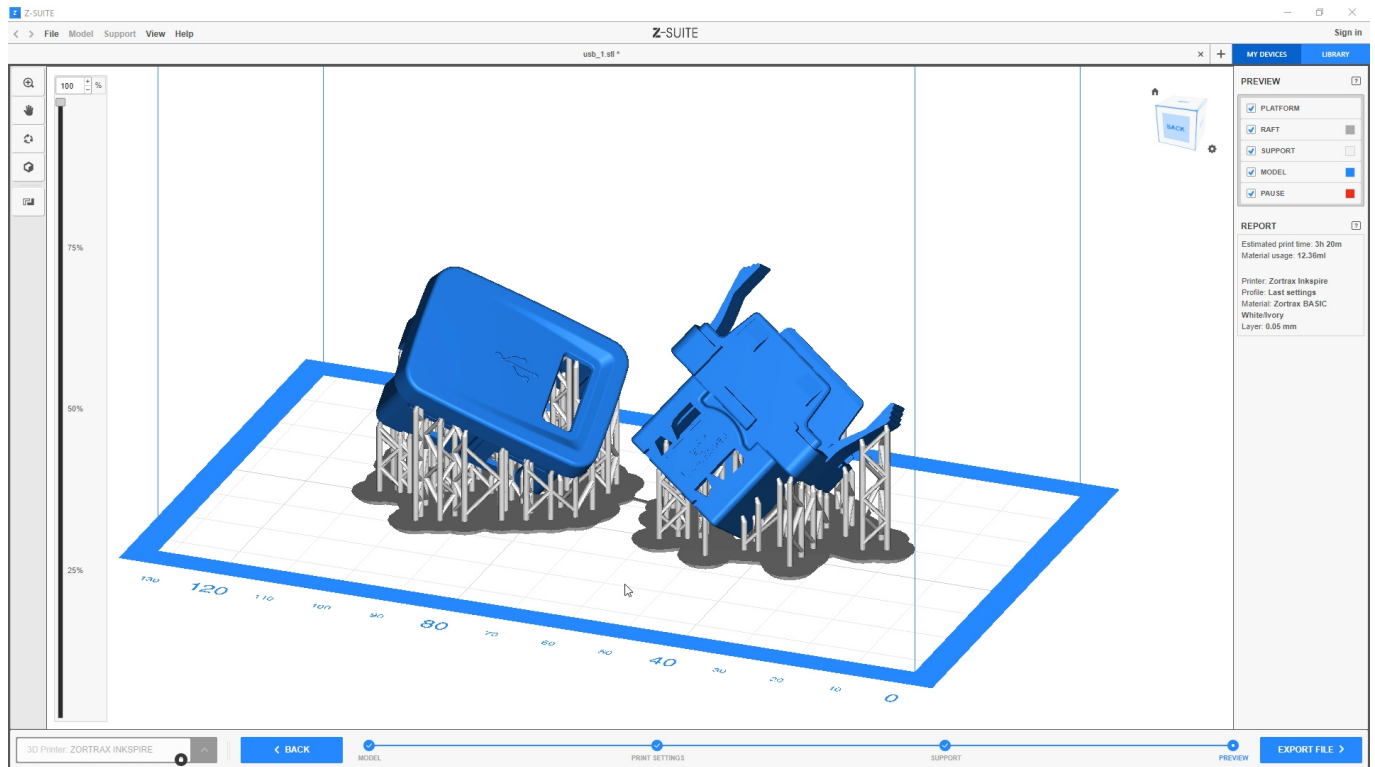
Select *TOOLS* -> *MATERIAL* and pick the type of resin you've poured into the tank. Next, select the resin level with the arrows and tap *Confirm*.

UV Cover Installation



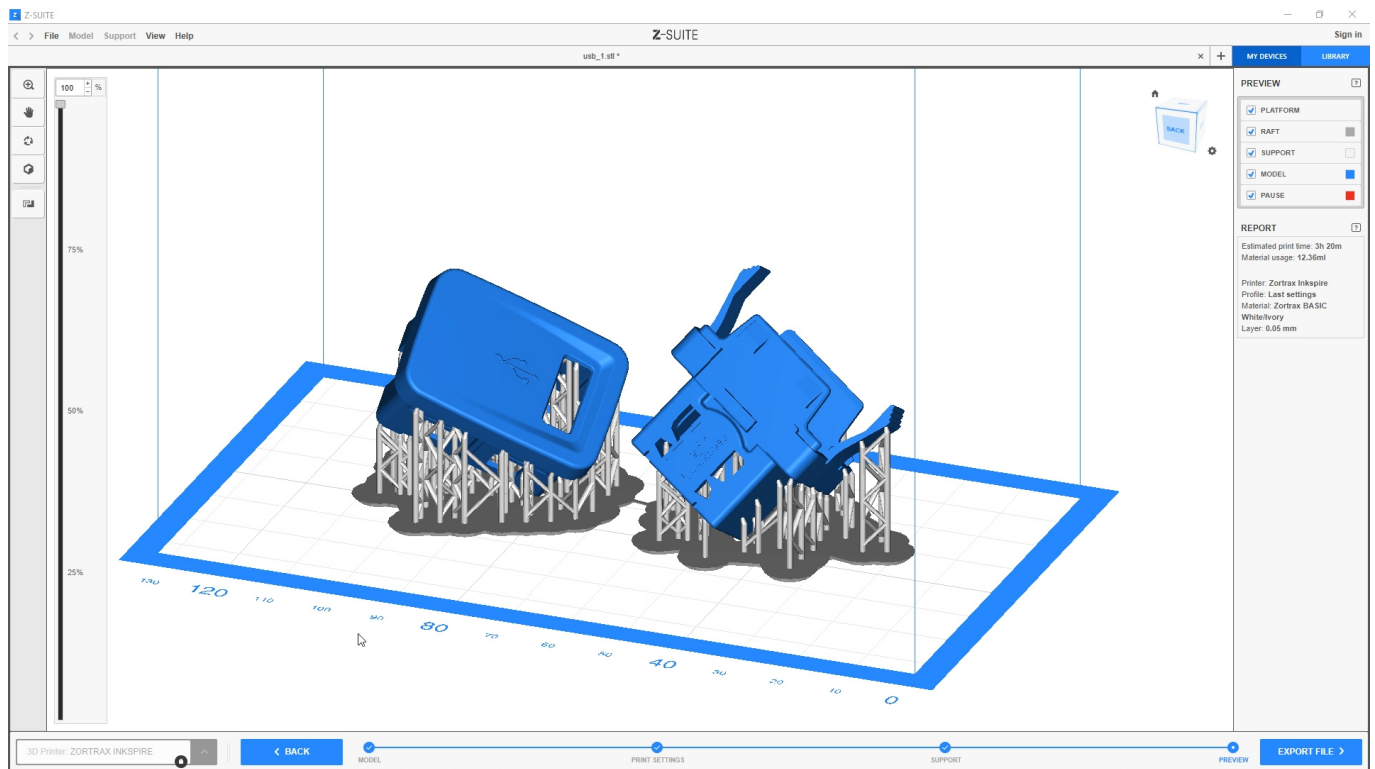
Install the UV cover back on the printer.

Starting the Printing Process



Once you finish preparing the file, transfer it from Z-SUITE to the printer's storage (via Wi-Fi/Ethernet cable) and start the printing process.

Once the printing process is finished, wait until the resin fully drains off of the model.



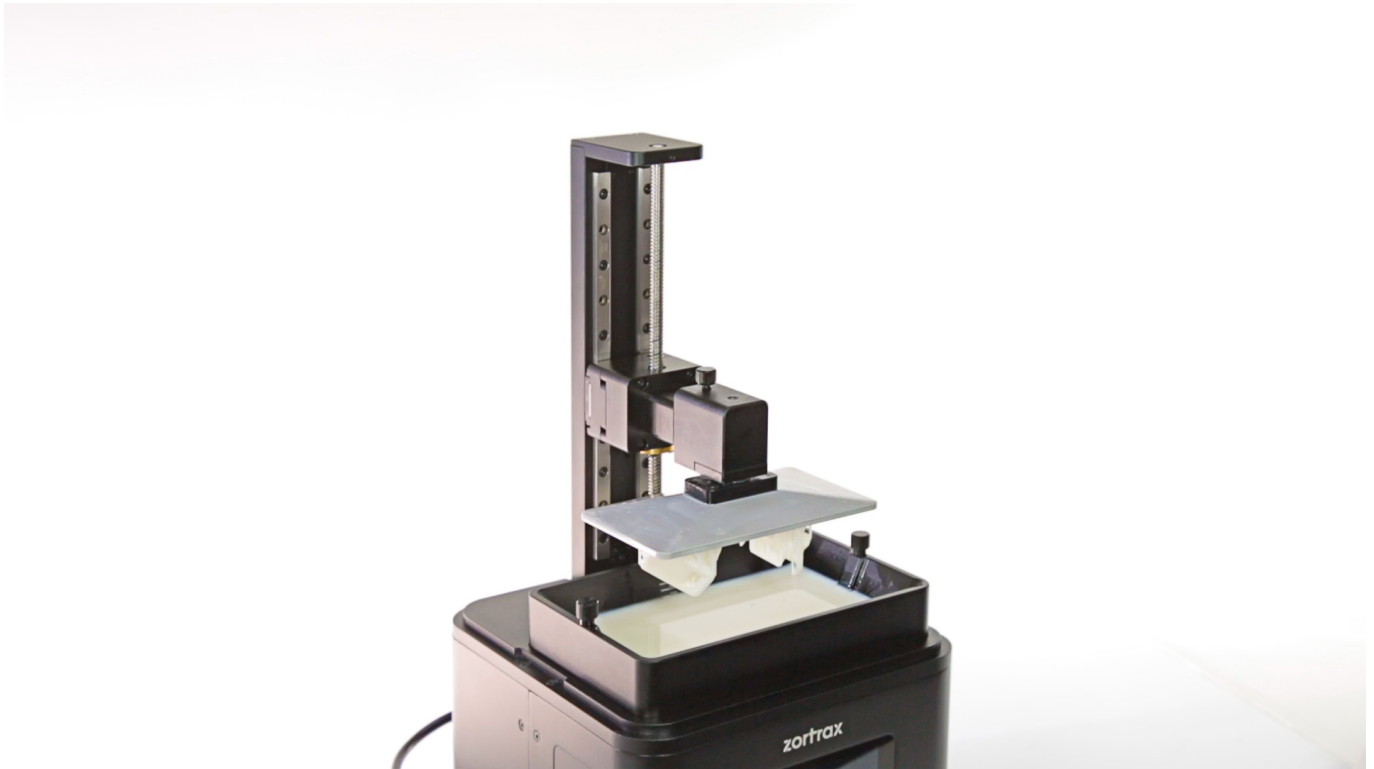
You can also save the file on a USB flash drive and plug the drive into the port at the front of the device. To start the printing process, select *Print*, choose the file you want to print, and select *Print* again.

UV Cover Removal



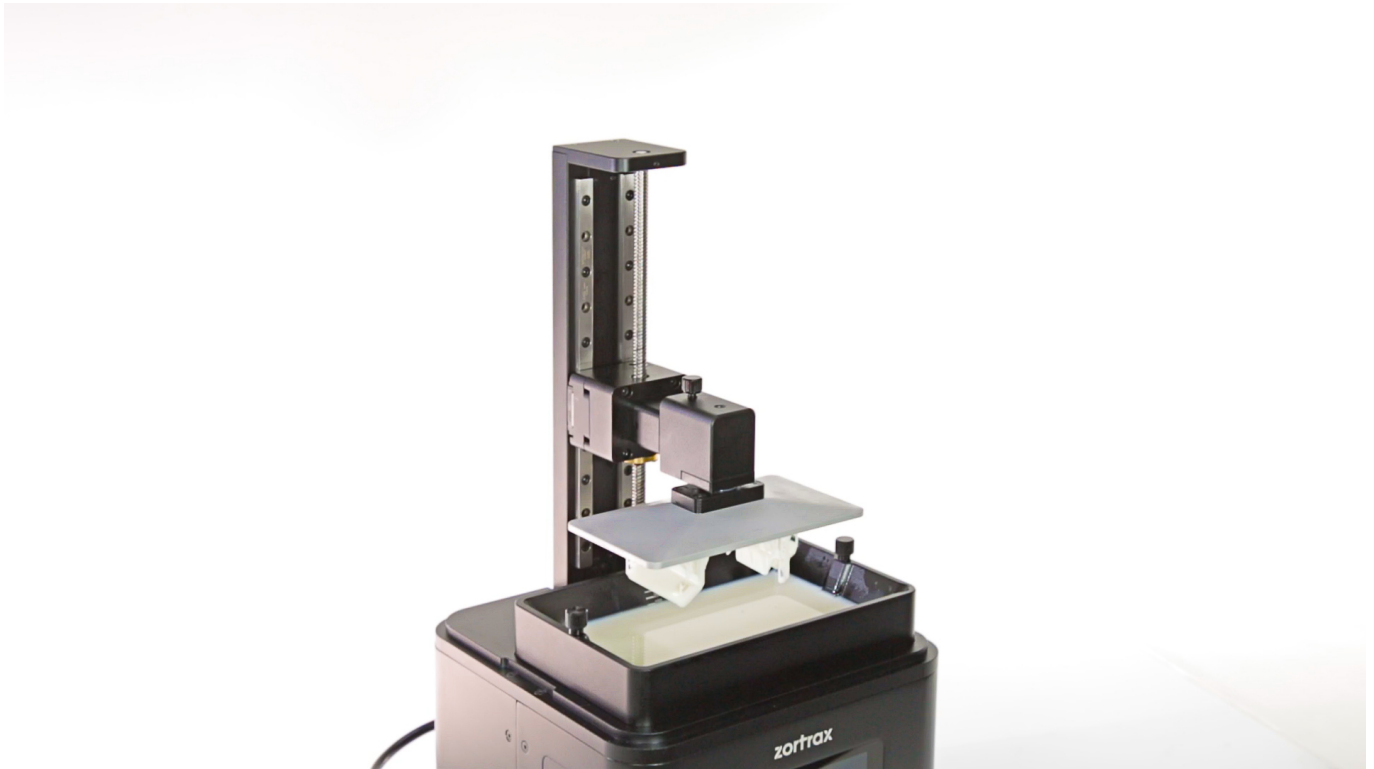
Remove the UV cover.

Wiping the Platform



Wipe the top and edges of the platform with a paper towel.

Platform Removal



Unscrew the platform screw and remove the platform.

Cleaning the Model, part 1



Immediately put the platform with the model in the Ultrasonic Cleaner and turn on the device.

Cleaning time depends on the size of the model but it shouldn't exceed three minutes. Longer cleaning time causes the liquid to heat up.

UV Cover Installation



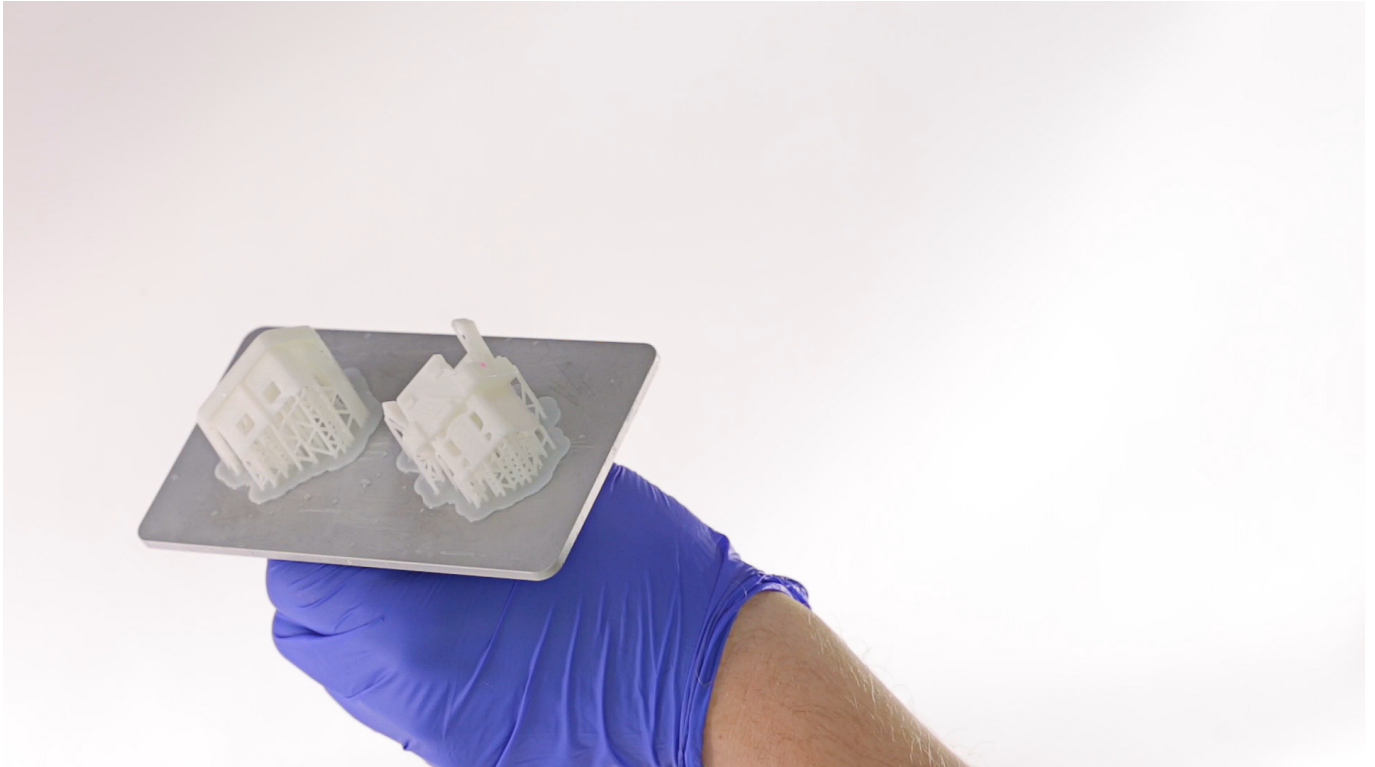
Install the UV cover back on the printer.

Cleaning the Model, part 2



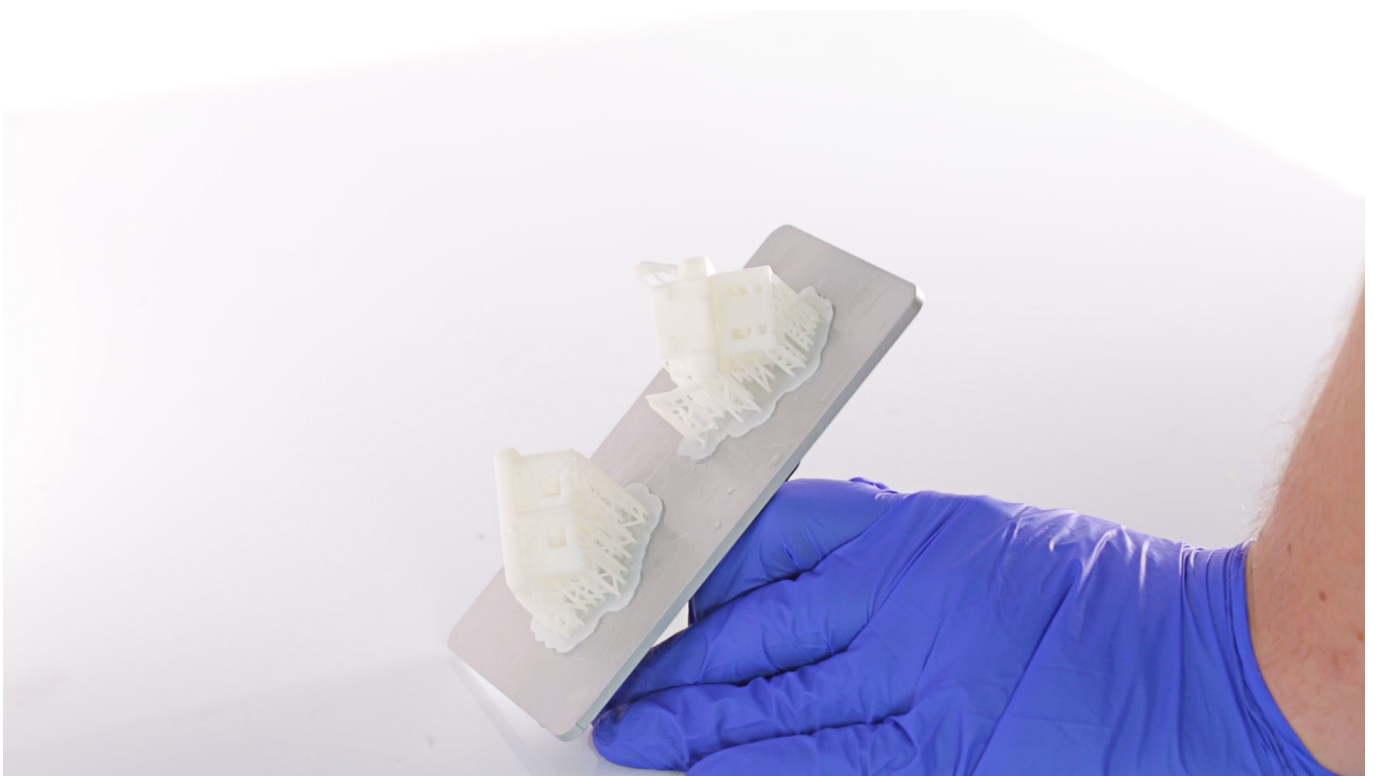
Turn off the Ultrasonic Cleaner and remove the platform with the model.

Drying the Model



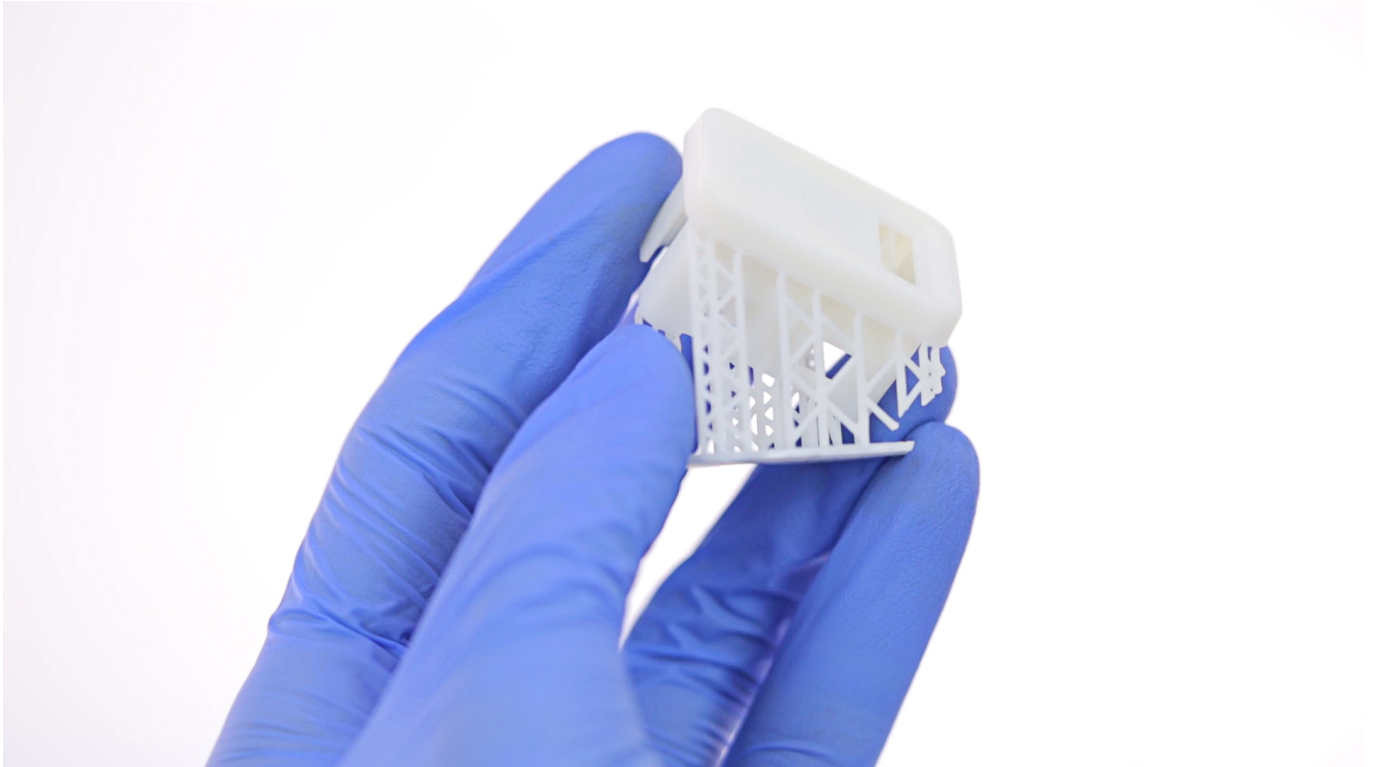
Leave the platform with the model to air dry and ensure that the model isn't exposed to the UV light until it's completely dry. You can use compressed air for better and faster drying.

Model Removal



Remove the model from the platform by hand or use a spatula. If you have problems with removing the print, use a cutting knife.

Supports Removal



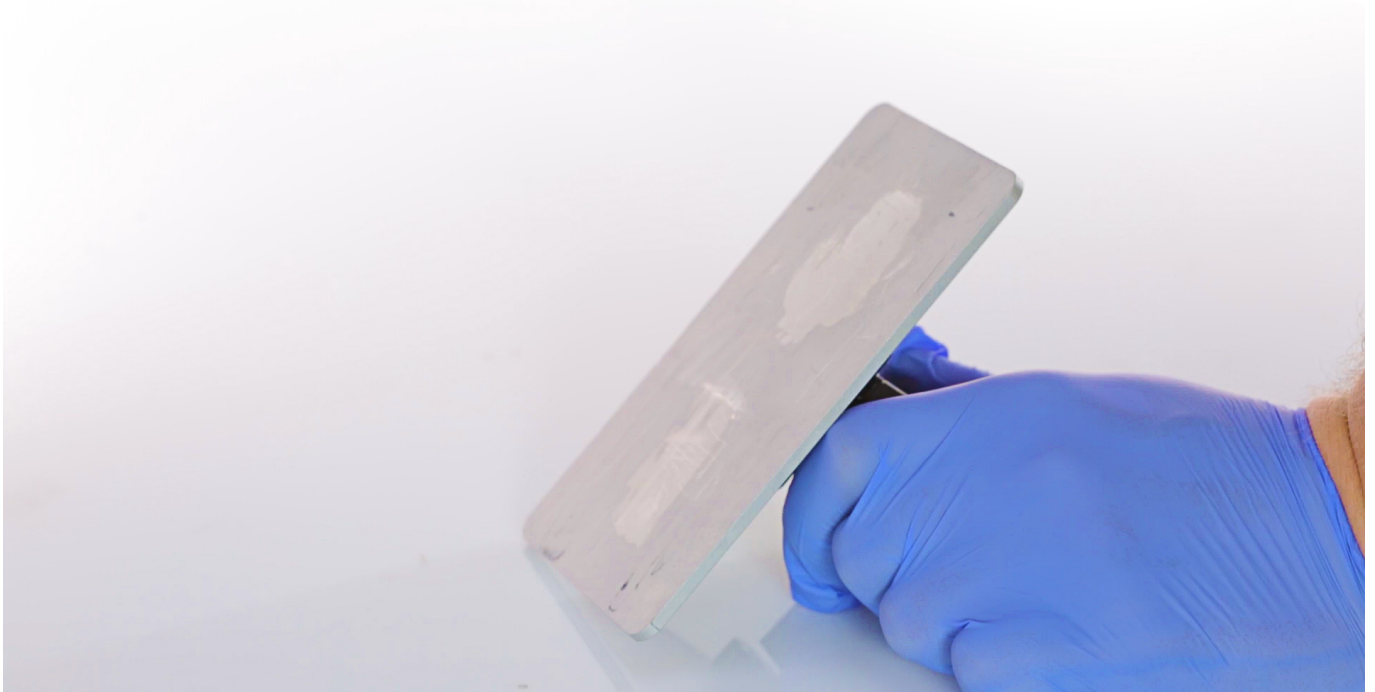
Remove the raft and support structures from the model.

Curing the Model



Put the model in the UV Station or in any source of UV light (e.g. direct sunlight).

Cleaning the Platform, part 1



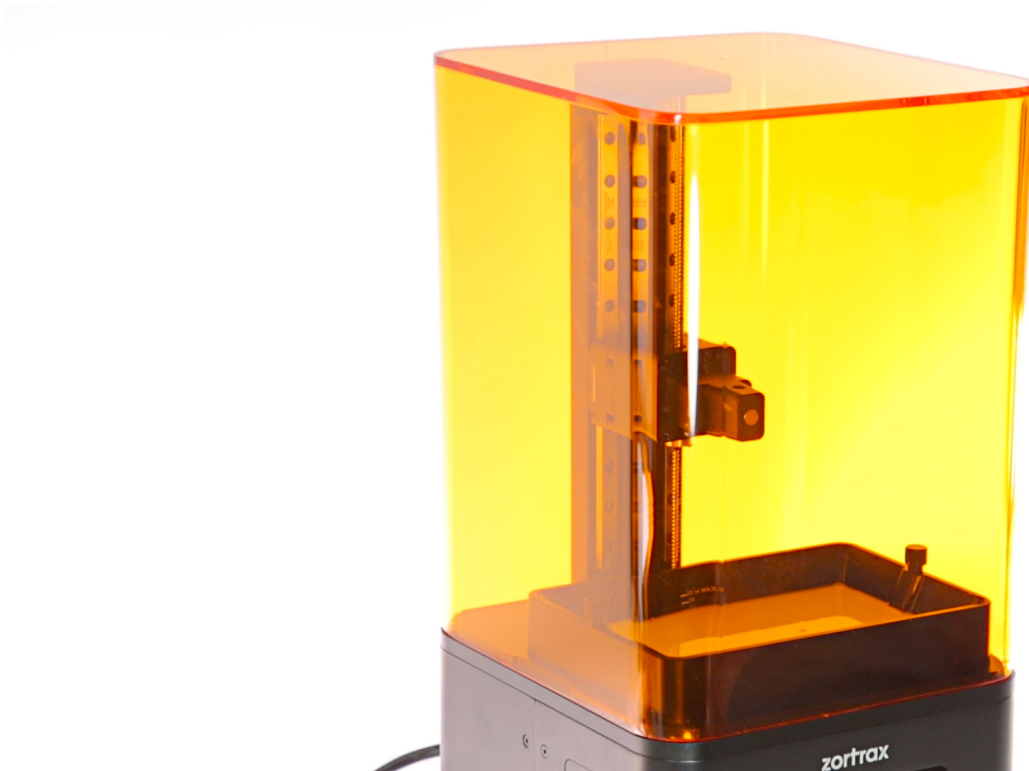
Clean the platform surface with a spatula to remove residues of cured resin. Next, put the platform in the Ultrasonic Cleaner and turn on the device for about 30-60 seconds.

Cleaning the Platform, part 2



Turn off the Ultrasonic Cleaner, remove the platform and leave it to air dry.

Platform Installation



Remove the UV cover. Install the platform back in the printer and secure it with the screw.

Resin Tank Removal



Unscrew the two screws that secure the resin tank and remove them. Next, remove the resin tank.

Emptying the Resin Tank



Insert the resin filter into the silicone funnel and put them together in the bottle with resin. Pour the resin left in the tank through the filter and funnel. If it's necessary, use a plastic spatula.

Cleaning the Resin Tank, part 1



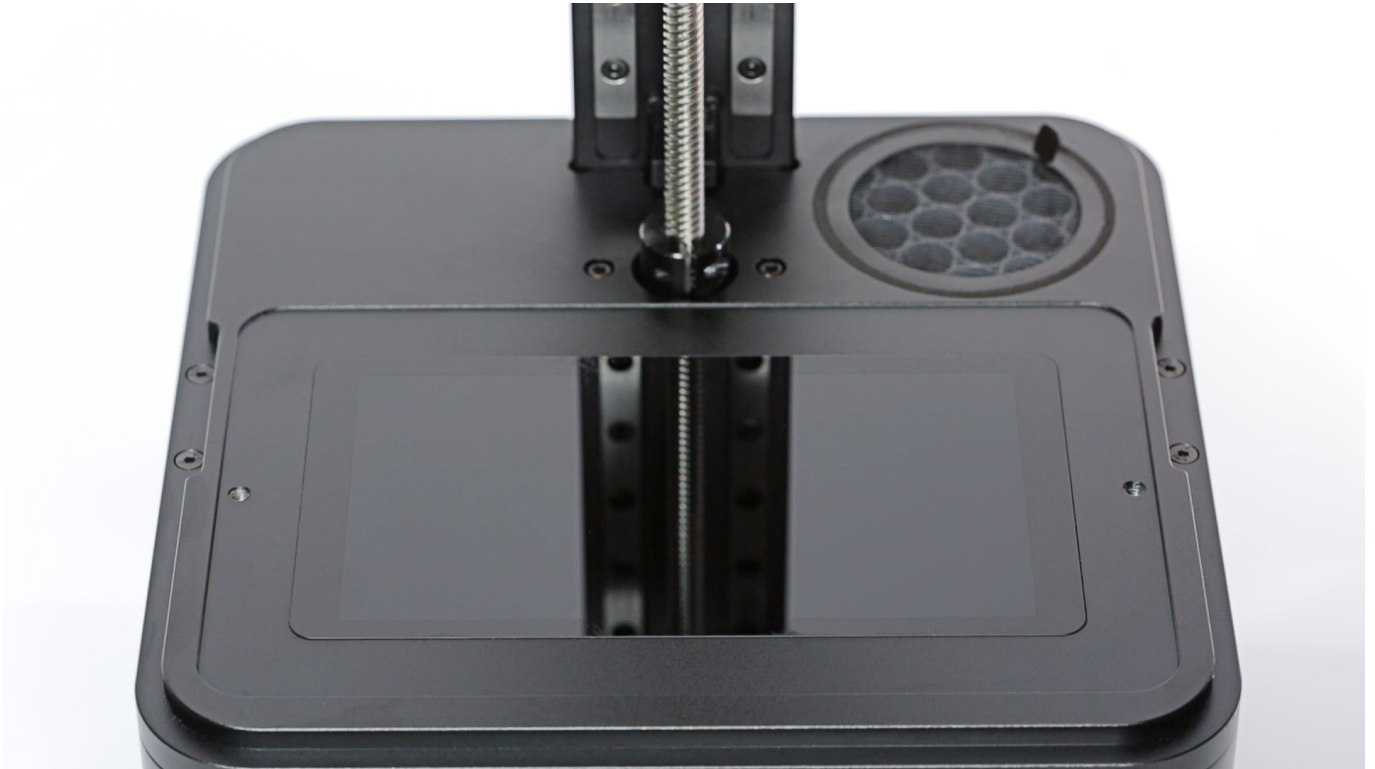
Clean the resin tank with a paper towel. You can also use 99% isopropyl alcohol for that purpose. If you change the color or type of resin, clean the tank in the Ultrasonic Cleaner.

Cleaning the Resin Tank, part 2



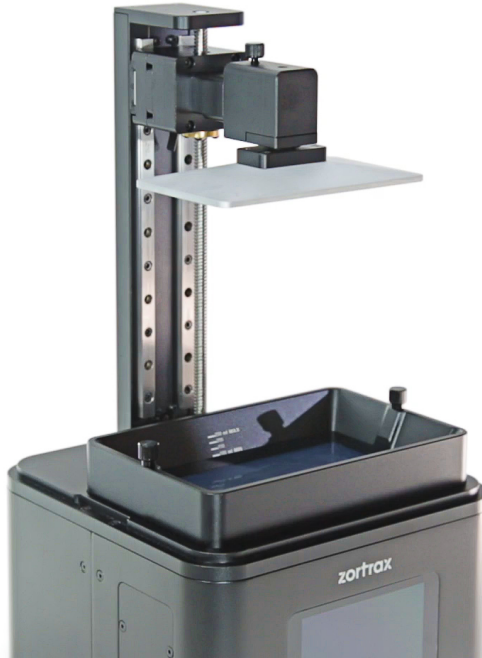
Clean the FEP film and the LCD screen with a soft cloth soaked with isopropyl alcohol.

Resin Tank Installation



Install the resin tank back in its place and secure it with the two screws.

UV Cover Installation



Install the UV cover on the printer.