Sonic QuickStart Guide

Resin Safety Reminder

Resin and isopropyl alcohol are TOXIC. Always wear nitrile gloves and safety glasses throughout the cleaning process. Not only are these chemicals poisonous and irritating to the skin, eyes, and throat, but prolonged exposure to their fumes can lead to headaches, dizziness, and eventually unconsciousness and even death. Please follow all safety protocols for the protection of yourself and others.

When working with resin

- Tie up long hair and remove any jewelry/accessories before working.
- Tools labeled “RESIN” should not be used in the FDM area and vice versa.

Cleaning the resin vat

Debris from previous jobs can settle to the bottom of the vat and cause issues during your print. Before sending your file, open the printer’s case and gently scoop any globs of cured resin off the bottom of the vat using a small plastic spatula.

If the vat appears clean, gently stir the resin and close the case. If there is cured resin stuck to the bottom of the vat (aka the FEP layer), DO NOT attempt to force the pieces free. This may puncture the plastic and cause a leak onto the LCD and electronics below.

You can use the “Vat Cleaning” function from the printer’s LCD menu (allow things to settle first) to safely remove stuck debris. This cures an even layer across the bottom of the vat that can then be peeled more easily.
Starting a print

After you have downloaded or created a 3D model in the form of an .STL, .OBJ, etc., you can now import that file into Chitubox and begin the slicing process.

**Step 1:** Move, scale, and rotate model to preference. The dimensions of the print can be visible by selecting the model and hovering over the bounding box.

**Step 2:** Some models can have holes in the geometry mesh or be incompatible with Chitubox due to the way it was created. It may be necessary to use the *Repair* feature at the top of the screen.

**Step 3:** Open *Settings* and ensure the correct printer and resin profile are selected. Change any slice settings that may improve your print—primarily exposure and layer thickness. Please DO NOT save your print settings as the default template.
Step 4: Add two or more “drain holes” to the bottom—or close to the bottom—of your model to guarantee liquid resin is not trapped in the print (this can be poured back into the vat). The Hollow feature in ChiTuBox is extremely useful when printing solid objects as it helps resin drain effectively during the print without the need for additional holes on the top of the model.

Creating holes also aids in relieving pressure between the FEP and model surface which reduces the chance of print failure.

Step 5: Modify the support settings to suit the needs of your model. You can find a complete ChiTuBox supports guide online and printed in the lab.

Step 6: Prime the resin vat and ensure no debris is sitting at the bottom. Repeat the cleaning process as needed.

Step 7: “Slice” your project and save the .CTB file to an external USB flash drive. Next, insert the flash drive into the printer and select “Print”, find your model, and select “Go”.

Center for Innovation
Post-processing

**Step 1:** Put on safety gloves! Aprons and drop clothes can also be found in the bottom drawer by the sink if extra layers of protection are necessary.

**Step 2:** Safely remove the build-plate and replace it with the hook mount found on top of the printer.

Hang the build-plate over the vat to allow all the liquid resin to drip back into the vat.

**Step 3:** Roll out the Formlabs alcohol bath (Cure L) and raise the basket.

**Step 4:** Put on safety glasses! Move the build-plate to a silicon mat(s) and begin removing your parts using the “resin” labeled spatulas. Spraying IP alcohol around the raft can help with breaking tough bed adhesion.

**Step 5:** Insert all partially-cured resin and used tools into the basket and begin the 10-minute cleaning cycle. DO NOT roll the machine back under the table as the lid will open automatically when finished.
Step 6: Allow the washed parts to dry from the IP alcohol. Air drying can take 5-15 minutes but is easier than dabbing with a paper towel. However, you should limit your exposure to IP alcohol fumes.

Step 7: Put safety glasses back on! Now is the best time to remove support structures from the model. Resin supports are normally easy to remove but may require pliers in some cases.

Step 8: Move your print and supports to the Formlabs UV cure station (Cure L). Ensure all resin is completely cured before handling without gloves.

Always clean the workspace when finished.

Clean the build-plate, tools, workspace, etc. with IP alcohol and a dry paper towel. Anything contaminated with uncured resin such as papertowels, drop clothes, and gloves should be thrown into the bucket next to the Phrozen Mega 8K to be cured by staff. Cured supports, however, may be thrown in the trash.