

3D Printing Using the Saturn Resin Printer

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Resin printing is more complex than filament printing, but allows for final detail in the finished print. The liquid resin is messy, sticky, odorous and toxic. Wear latex disposable gloves and be careful what you touch. Clean any sticky resin smudges with alcohol and paper towels. Throw the paper towels in the trash.

Slicing the 3D Model using Chitubox

1. Open the Chitubox slicer.
2. Click on the File Folder icon to select and open the STL file.
3. Use the Icons on the left to Move, Rotate and Scale the model on the build plate.
4. Change the 3D view by moving the mouse while holding down the right mouse button.
5. Click the Settings button to set the desired settings, typically
 - Machine = Elegoo Saturn (Do not change these values)
 - Resin = Normal (Do not change these values)
 - Print (In general, do not change these values)
 - Layer Height = 0.050 mm
 - Bottom Layer Count – typically 7
 - Exposure Time – typically 3-5 seconds
 - Bottom Exposure Time – typically 30-60 seconds
 - Profile = Normal
 - Advanced (Do not change these values)
6. Click the X to close the Settings window.
7. If supports are needed on account of large overhangs in the model, click the Support Tab to access the support settings. (Icon looks like a brick on 3 columns.)
 - Selecting the Light, Medium, Heavy boxes selects the thickness of the supports. Thicker supports are needed to support heavier overhangs.
 - Clicking the +Platform button will add supports only on the outside of the model.
 - Clicking the +All button will add supports both inside and outside the model.
 - Click the Gear icon to return to the Settings Tab.
8. Click the Slice button to slice the model.
9. Click the Save button to save the .CTB file to a USB stick.
10. Close Chitubox by clicking the X

Printing the 3D Model

IMPORTANT: Before starting your print, ask a staff member to verify that the build plate is level, nothing is stuck to the film at the bottom of the vat, and that there is enough resin in the vat.

1. Plug in the USB stick (rear of right side).
2. Turn on the printer
3. Press the Print button
4. Use the up and down arrows to scroll through the file listing.
5. Select the desired file.

6. Press the forward arrow to start the print. The build plate will lower into the resin vat.
7. Press the open box icon to stop and cancel the print. Press the double line icon to pause the print.
8. When finished, the build plate will raise the print out of the vat. Wait a while to allow the excess resin to drip off the print and plate.
9. Loosen the top knob to remove the build plate from the printer.
10. Over an aluminum tray, remove the print from the build plate using a scraper blade.
NOTE: The resin print is soft, so use care not to distort it.
11. Immediately, place the print in an alcohol bath in the ultrasonic cleaner to remove the excess resin. Clean for 5 minutes. If necessary, turn the print over to clean all sides.
12. Immediately, remove the print from the cleaner and place on the turntable of the UV hardener.
 - Replace the cover
 - Turn on the hardener.
 - Press the Mode button to set the mode to Cure.
 - Press the Speed button to set the speed to Slow
 - Press the Time button to set the time to 5 minutes
 - Press the Start button to start.
 - When finished, remove the print from the turntable & replace the cover.

IMPORTANT: When finished, ask a staff member to re-attach and level the build plate and clean the film at the bottom of the vat.

Use paper towels to clean the area and tools with alcohol.