

Overview

- The MACRObotics lab is equipped with a Form 3+ [stereolithography \(SLA\) printer](#)
- A good summary of the features and specifications of the Form 3+ printer can be found [here](#)
- The Form 3+ is capable of printing a variety of resins; in this lab we mostly use Grey, Draft or Durable (flexible resins are also available)
- Consult the relevant datasheets to select the appropriate resin

Part Approval Process

- Please send a Teams message to Professor Sedal with an estimate of the volume of your print (obtained through the [Form slicer](#)) and some screenshots of your part
- External users should contact Professor Sedal via email for approval audrey.sedal@mcgill.ca

Important Details

- **Keep the Form workspace clean**; the resin is very sticky but can be washed off surfaces using IPA
- We have many micro-fibre cloths in the workspace which can be used to clean parts and tools or wipe down surfaces
- Put all tools back in their proper place
- If in doubt, please ask Wilfred or contact [\[wilfred.mason@mail.mcgill.ca\]](mailto:wilfred.mason@mail.mcgill.ca); it is best to be safer than sorry, Form replacement parts are expensive and re-calibration is time-consuming
- Please note that unlike in a fused deposition modelling (FDM) printer, you **can not easily modify the infill density** in SLA parts (the reason being that internal fill patterns will inevitably trap resin); with that in mind, please be mindful about the volume of your parts-they will be entirely solid
- The printer's resin tank contains a thin and very delicate film through which laser light is projected and upon which, layers of resin are cured
- **Never** use sharp tools to attempt to remove debris from the resin tank, doing so may pierce the film and result in resin pouring directly into the [Light Processing Unit](#)
- It is critical to carefully inspect the resin tank **both before and after each and every print** since debris, such as partially cured or support materials, can be dragged along the film by the [mixer arm](#)
- To inspect the tank (**note**: you should be wearing gloves);
 1. Gently remove the resin tank from the printing bay
 2. Next, gradually tilt the resin tank by approximately +/- 30 degrees perpendicular to its long axis and inspect the tank for debris
 3. If you identify debris, first follow the instructions [here](#) which detail the use of the FormLabs custom scraper tool
 4. If you are encountering difficulties removing debris, follow the step-by-step instructions in the FormLabs UI
- It is also good practice to thoroughly clean the build plate after **every** print using IPA
- Some resin may stick to the bottom of the build plate in the form of ~1 cm diameter nodules, these may be partially cured and should also be discarded (use the metal scraping tool)

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