**Mark4 PrusaSlicer**

**User Guide**

# Overview

Slicing operations in PrusaSlicer are mostly the same as for other Tech Lab 3D printers, once the Mark4 Printer has been selected. This section only discusses slicing options that are important for using the Mark4.

Other slicers may be able to generate acceptable gcode for the Mark4 printer, but we have only created a printer profile for PrusaSlicer because it's the slicer most used in the Tech Lab.

This version of the user guide is written around the current (as of June 2023), single extruder version of the printer. If we are successful in implementing a tool changer for this printer, major changes in the process will be needed.

# Select the Mark4 printer

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| **1** | In the ***Plater*** or **Printer Settings** Tab, pull down the printer list and select "***TechLab Large 3D Mark4 V2***" from the Physical Printers near the bottom of the list.  In the future, if we update the printer profile, you may find V3 (or later) instead of V2.  You should not need to make changes to any of the settings for the Mark4. If you think there are some needed, please talk to the Mark4 team. |  |
| **2** | The Plater Tab should show the shape of the Mark4's bed and the printable area of the build plate. |  |

# Filament Settings

In general, the Mark4 should use filament settings similar to the Prusa printers in the Tech Lab.

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| **1** | In the drop down menu in the **Plater** or **Filament Settings** Tab, select one of the filaments starting with "***TechLab Large 3D Mark4 V2***". |  |
| **2** | At present we only have a filament setting for PLA, but we plan to add more soon. In the meantime, you can create a new user preset for other types. | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | **First Layer** | | **Other Layers** | | | **Material** | **Bed** | **Nozzle** | **Bed** | **Nozzle** | | PLA | 60 | 215 | 60 | 215 | | PETG | 68 | 225 | 65 | 225 | | TPU | ?? | ?? |  |  | |

# Print Settings

In general, the Mark4 should use print settings similar to the Prusa printers in the Tech Lab. We'll only list the parameters with "strong" recommendations here.

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| **1** | In the drop down menu in the **Plater** or **Print Settings** Tab, select one of the filaments starting with "***TechLab Large 3D Mark4 V2***".  Are you spotting the naming trend? |  |
| **2** | Layers and Perimeters (**Print Settings** Tab)  Note: First Layer heights below 0.2mm are not recommended, to avoid possible damage to the plastic surface of the build plate. | ***Layer Height*** 0.2mm \*  ***First Layer height*** 0.2mm  \* Layer heights as low as .1mm are achievable for finely detailed prints. |
| **3** | Speed (**Print Settings** Tab)  The Mark 4 is faster than the Prusa printers because the bed does not move and toss your part around. Expect to use higher speeds for faster print jobs.  Note: As we continue to test and tune the Mark4, we will try to increase the speed limits. | Quality parts can be achieved with Print speeds of 100mm/s and higher.  The machine speed limit is 150mm/s |
| **4** | Acceleration control (advanced) - don’t mess with it. | The printer configuration should have blocked user changes to acceleration. Do not unblock this. |
| **5** | Pressure Equalization (experimental) – don’t mess with it. | The printer's firmware has pressure equalization settings for most common filament types. No need to use this setting |

# Export your gcode file

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| **1** | Save your gcode file to an SD card and head to the printer. |  |