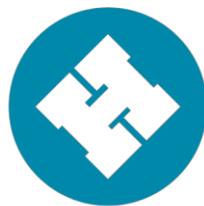


# Ultimaker 2 User Guide



Oxford Hackspace



## How to print with the CURA 3D printer.

In order to print you will need:

- A 3d file in STL or OBJ format.
- Filament with a diameter of 2.85mm
- The time available to wait for a print to finish.

Step 1: Please pick your filament, on each reel there will be a large written number.

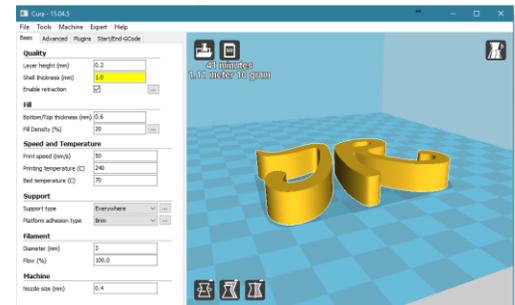
Look at the setting sheet slotted under the Ultimaker, it has the settings you will need to change in Cura to print with that filament.

If the reel you have does not have a number, check to see if it is ABS or PLA and follow the settings on the sheet.

Once you know your settings, open CURA 3d printing app by clicking this icon :



Cura will open to this screen →



Step 2: With this screen open, check that the settings match the filament sheet on both the basic tab and the advanced tab, if they don't, change them.

Step 3: Now that the settings are correct you will need to load in a 3d file to print, to do this click:

Cura will accept a .OBJ or .STL file format.



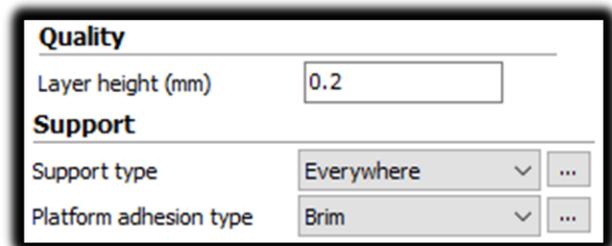
Step 4: Once your object has loaded you will have 3 fields to edit depending on your print.

Layer height will effect the resolution of your print (the lines you see on a 3d printed object).

The higher the resolution the better the print will look but the longer it will take.

Support type is best left to everywhere for prints with overhangs however if your print doesn't have overhangs that need supporting, it is best to turn this option off for better print results.

(An overhang is any part of the model that is printing into air without support underneath it)



Platform adhesion is best left to brim, this if for unusual objects or objects with a small footprint that may move when being printed, you can turn this option off if you think the print doesn't need support.



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Step 5: Now that you have your desired settings, check that the model is positioned correctly for your print, do this by clicking on one of the 3 icons and manipulating the object either with your mouse or by modifying the values presented to you.

Now that your object is positioned correctly, you can add more objects by repeating step 1.



### DO NOT REMOVE SD CARD WHILST PRINTER IS PRINTING!

Step 6: remove the SD card from the front left of the Ultimaker by pressing it in once, the SD card will pop out and is ready for you to insert into the computer you have been using, insert it into the computer you are using.

Step 7: click this symbol to save the print to the SD card:



Step 8: Cura will tell you how much filament your print will use, please fill in the log book the required details including:

Please fill out the print details for every item you print.

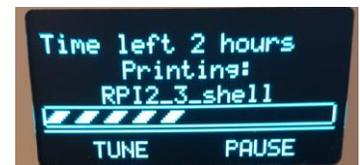


- Filament type used (the number or description if number not available).
- Amount used (In meters or grams).
- Estimated print duration (below sd button in cura).
- start time of print.
- end time of print.
- Your Name.
- Tick if you have paid for the filament used.
- Date of use.
- Approximate completion of print.
- Was print successful.

Please note, if you cancel an object mid print or the print fails, you still need to enter in a percentile estimate of how far the print got and pay for the filament used based on that percentage.

EG: The progress bar represents approx 50% of the print is complete, if the print were to be cancelled here, you would divide the amount used by 50% and only pay for 50%.

Please understand, if you print and do not pay for the item, the cost of the prints will have to increase to compensate for the losses, so please be honest.





### **Print steps for ultimaker.**

1. Once you have filled in the log book and are ready to print, prepare the ultimaker for use, make sure there is nothing on the print platform.
2. Turn on the machine by flicking the switch on the back, left, bottom half of the printer.
3. Insert the SD card into the printer.
4. Scrape off any remnants of a previous print.
5. Open the ABS acetone mix container and push the brush against the side of the container to remove excess material.
6. Brush onto the platform a thin layer of the solution and place the brush back in the container.
7. Seal the container properly and place back on the 3<sup>rd</sup> shelf of the 3d printer cabinet inside the blue tray.
8. Select print on the ultimaker by turning the wheel to highlight print and pushing it in to select.
9. Turn wheel anticlockwise until you find your print (it should be the last on the list) and select.
10. Wait for the printer to heat up and start printing, watch carefully that the filament is sticking to the bed and not balling up, if it does ball up, apply more ABS mix otherwise step 11.
11. Stay in the vicinity of the printer and occasionally check the print is going ok, if something goes wrong click the SD card out to stop the print otherwise, leave the printer to its job.
12. Once print is complete, remove print using scraper if you cannot remove by hand and scrape up any remnants from your print.
13. Please pick of the scrapings and bits of extruded leftover and put into the dustbin.
14. MAKE SURE THE LOGBOOK IS FILLED IN!.

