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CubeX 3D Printer

“Lesson – Printing and Finishing Parts”

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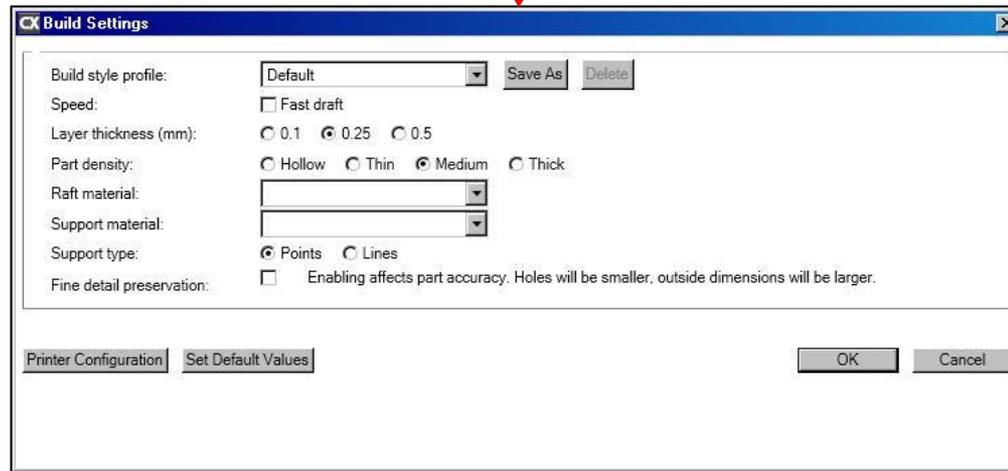
Objectives

After completing this lesson you will:

- Know how to create .cubex files
- Be able to save .cubex files to the USB flash drive and print them
- Understand the various methods for finishing printed parts
- Be able to finish parts using your method of choice

Using the CubeX Software to Build a .cubex File

- Once you are satisfied with the orientation, scale, etc. of the part, you are ready to create a .cubex file
- Click the Build button to activate the Build Settings Window



Using the CubeX Software to Build a .cubex File

Build Window Features

BUILD STYLE PROFILE	Use this to select previously saved print settings. To save print settings you are using for future quick selection, press the save as button and give the profile a name.
LAYER THICKNESS	This is the resolution your part will be printed at. <ul style="list-style-type: none">• 0.1mm: The CubeX 3D Printers finest resolution. This layer height takes the longest to print but gives the best quality parts.• 0.25mm: A middle ground between 0.1mm and• 0.5mm: This layer height is faster than 0.1mm but is slightly lower quality.• 0.5mm: The CubeX 3D Printers fastest resolution. This layer height has a lower quality than 0.1mm and 0.25mm but has a much faster print time.
PART DENSITY	This is how much solid fill your part will contain. <ul style="list-style-type: none">• Hollow: The part will have no internal structure.• Thin: The part will have a small amount of internal structure to give it support.• Medium: The part will have a good internal structure supporting it.• Heavy: A heavy part with a strong internal structure.
RAFT MATERIAL	Use this to select which material will print your raft or the raftless option. We recommend printing raftless but some larger parts may require a raft.

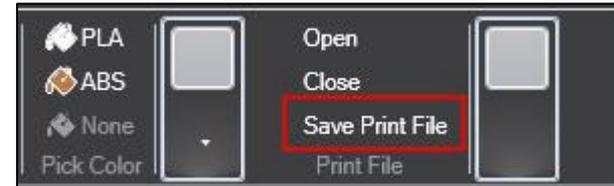
Using the CubeX Software to Build a .cubex File

Build Window Features (cont.)

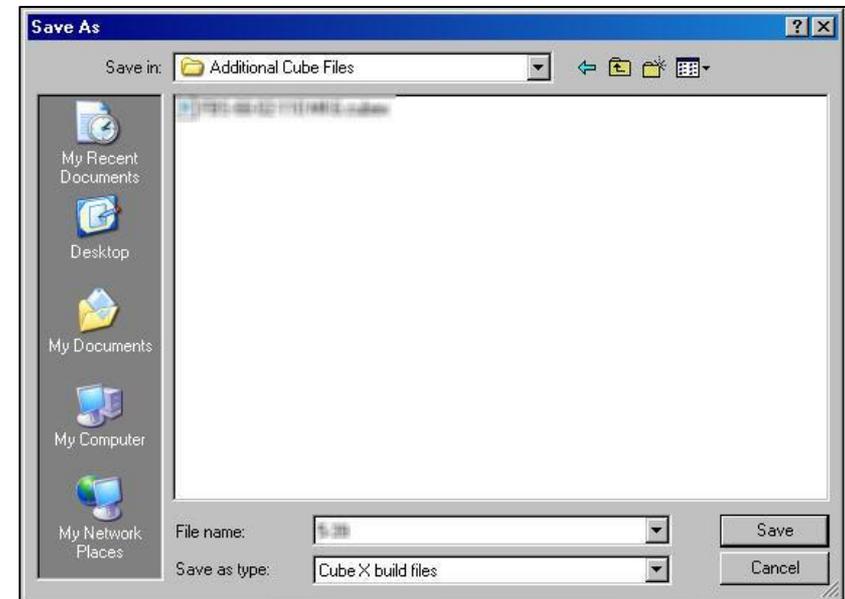
RAFT MATERIAL	Use this to select which material will print your raft or the raftless option. We recommend printing raftless but some larger parts may require a raft.
SUPPORT MATERIAL	Use this to select your support material or the no support option. Support material may be required when printing parts with overhangs greater than 50°. Before printing with supports try rotating your model in the software to see if this can eliminate the overhangs. If this is not possible then supports may be required.
SUPPORT TYPE	Choose between points and lines for your support material. Does not affect the print if no support is selected.
FINE DETAIL PRESERVATION	Enabling this will preserve finer details of your part, but may affect accuracy.
PART MATERIAL	Similar to Printer Configuration, this tells the software which materials are loaded into which print jets. Part materials works in a similar way to Printer Configuration, telling the software which materials are loaded into which print jets. Please be sure that the materials selected in part materials correspond to the print jets the materials are allocated too.
BUILD	Once you have selected all of your preferences, press the build button to create the .cubex file.

Saving a .cubex File for Printing

1. Click the Save Print File button.



2. Your file can be saved on the USB stick or your computer. Choose the location you wish to save the .cubex file, give it a suitable name and click “Save.” Transfer the .cubex file to your USB stick for printing or save it on your USB stick.



Printing Your Creation

1. When you are ready to print your creation, insert the USB stick containing your .cubex file into the USB port on the CubeX.



2. Use the Magic CubeX Glue to coat the Print Pad with a layer of glue. Turn the CubeX Glue upside down so the glue flows to the tip.



Printing Your Creation

3. Apply 3 layers of Magic CubeX Glue using a slow circular motion. If the print is large, ensure that the glue covers the Print Pad surface where the creation will print. If it is a smaller print, cover the middle of Print Pad with the glue.



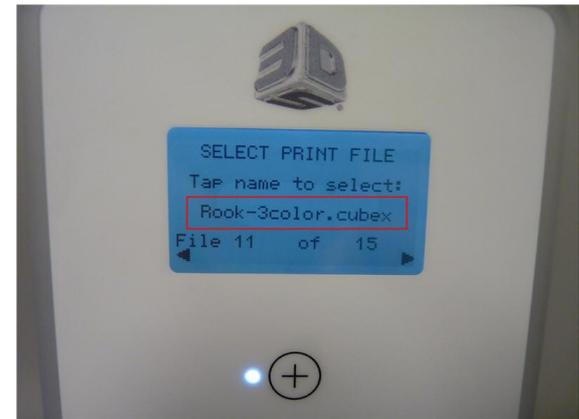
Note: Wait until the glue is tacky before starting the print. When the glue is ready, very little will come off on your finger when touched.

Printing Your Creation

4. Select the 'Print' option from the main menu.



5. Using the arrows at the bottom of the screen, scroll to the .cubex file you wish to print and tap on the file name. Your creation will start printing.



Finishing Your Creation

REMOVING YOUR CREATION FROM THE PRINT PAD

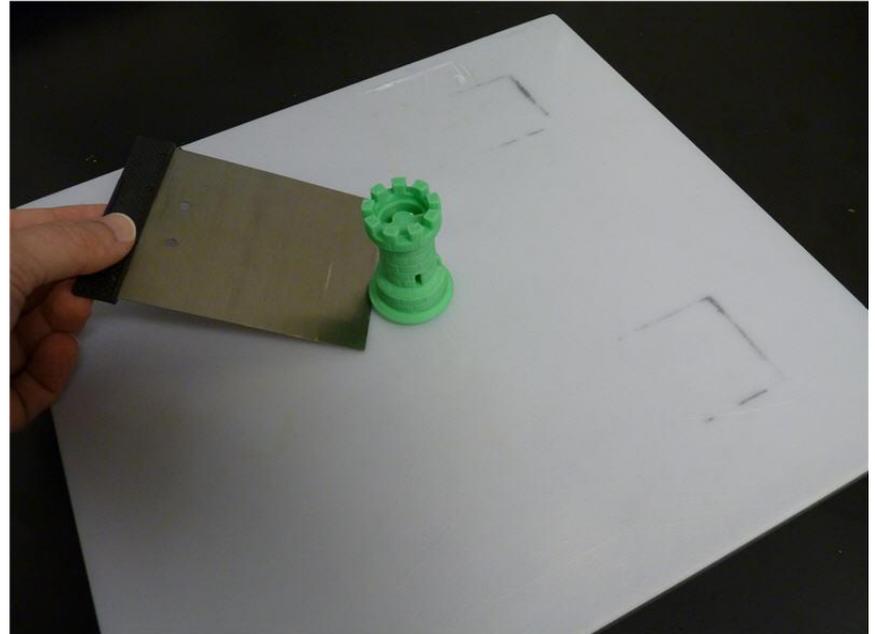
 Before you attempt to remove your creation from the Print Pad, please ensure that the CubeX has finished printing and that the Print Pad has moved to the bottom of the CubeX.

1. Lift the Print Pad from the side and pull up to remove the Print Pad from the CubeX.
2. Submerge Print Pad and the base of the part in warm water for five minutes. If you do not have the ability to submerge the Print Pad place Print Pad in sink and let hot water run over the base of the part for about 5 minutes.



Finishing Your Creation

3. Using the scraper (included in tool kit), gently release your creation from the glass.
4. Rinse your creation under warm water to ensure all of the Magic CubeX Glue paste has been removed.
5. To clean the Print Pad, rinse the pad under hot water to clean off any remaining Magic CubeX Glue paste.
6. Dry the Print Pad thoroughly before reinstalling it into CubeX.



Finishing Your Creation

REMOVING RAFTS

A raft is the flat support structure that is attached to your creation. Though we recommend printing without a raft, some larger or more complicated parts may require one. If you print with a raft, the following instructions will help you remove it:

ABS RAFT / PLA PART - PLA RAFT / ABS PART	ABS rafts can be peeled away from PLA parts.
ABS RAFT / ABS PART - PLA RAFT / PLA PART	Use pliers to pull away as much of the raft as possible. Then use a rough-grade sandpaper to remove the remaining raft, followed by a fine-grade wet and dry sandpaper to achieve a smoother finish.

REMOVING SUPPORTS WITH WIRE CUTTERS

Use wire cutters to cut away the support structure from your model. You should cut the supports at the point where they touch the model.