

Cura Software User Manual

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Cura Software

1. Installation of Cura14.07

a: Where can I find the software?

- 1) TF card with shipment;
- 2) download from Internet; b: Installation process

- 1) From TF card with shipment

Insert TF card and open the file

1.1 File location in the TF card

1) Insert TF card , open the file

名称	修改日期	类型	大小
Installation Instruction	2016/7/7 星期四 ...	文件夹	
Print Model STL	2016/6/22 星期三 ...	文件夹	
Software	2016/7/7 星期四 ...	文件夹	
Test file GCODE	2016/6/22 星期三 ...	文件夹	
Tool List&other pictures	2016/7/7 星期四 ...	文件夹	

名称	修改日期	类型	大小
CH340G Drive	2016/7/7 星期四 ...	文件夹	
Cura 14.07	2016/7/7 星期四 ...	文件夹	
RepetierHost_1_0_5	2016/7/7 星期四 ...	文件夹	

名称	修改日期	类型	大小
Cura download link.txt	2016/7/1 星期五 ...	文本文档	1 KB
Cura_14.07.exe	2015/8/11 星期二 ...	应用程序	18,377 KB

2) Download from Internet

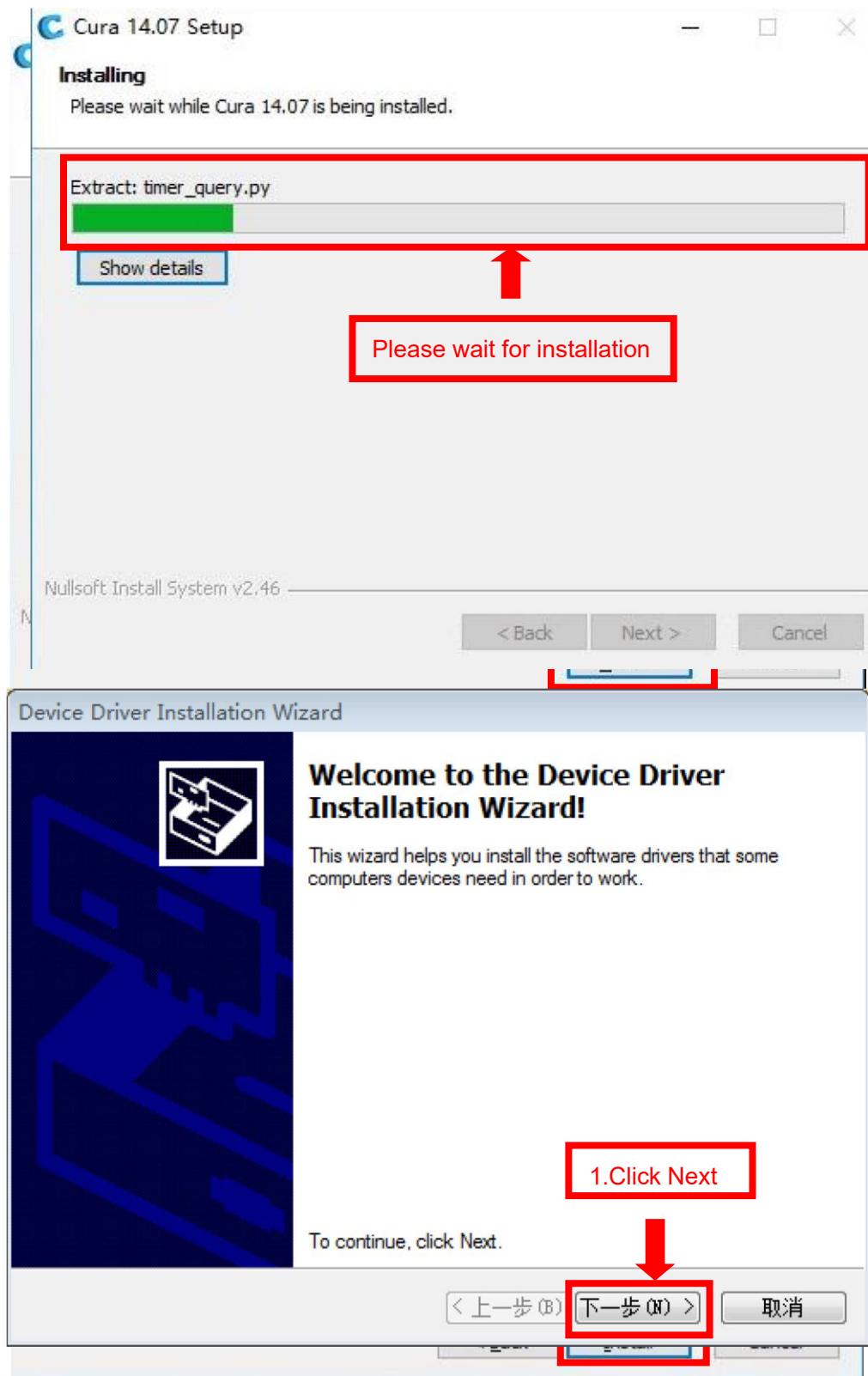
Official Website: <https://ultimaker.com/en/cura-software/list>

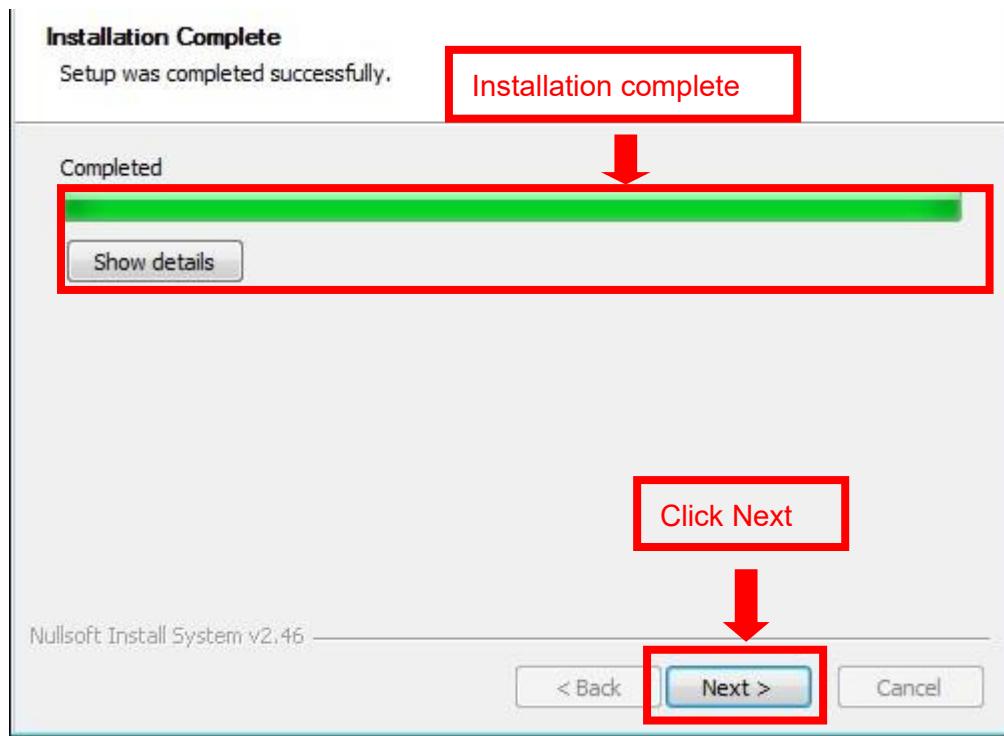
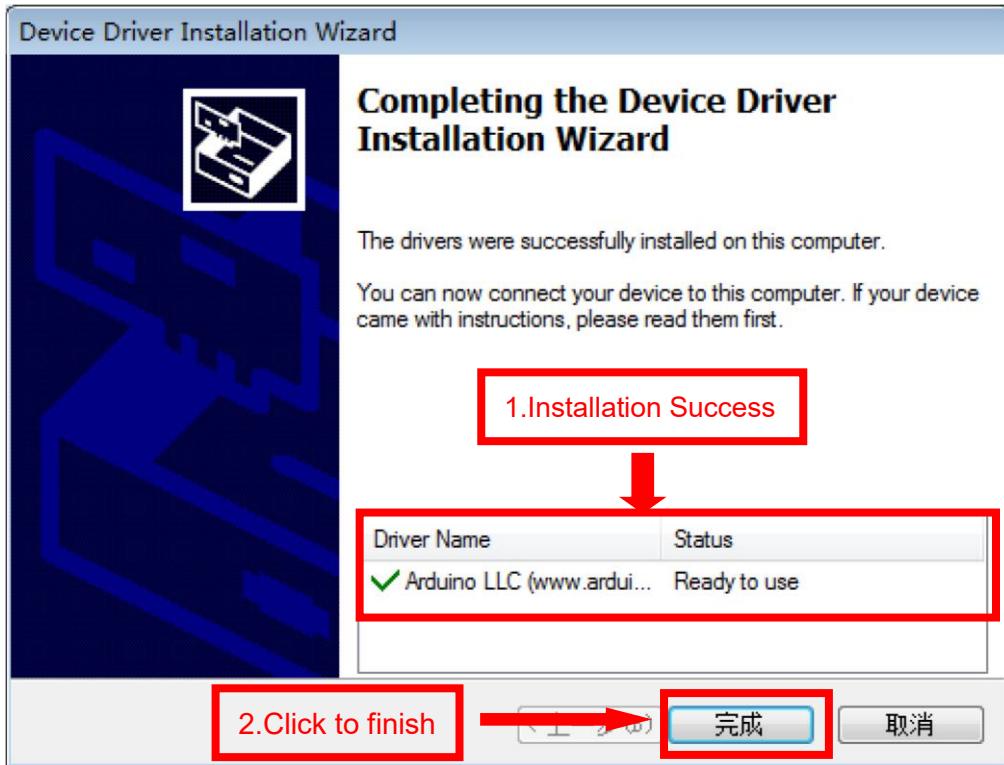
Choose corresponding software to download

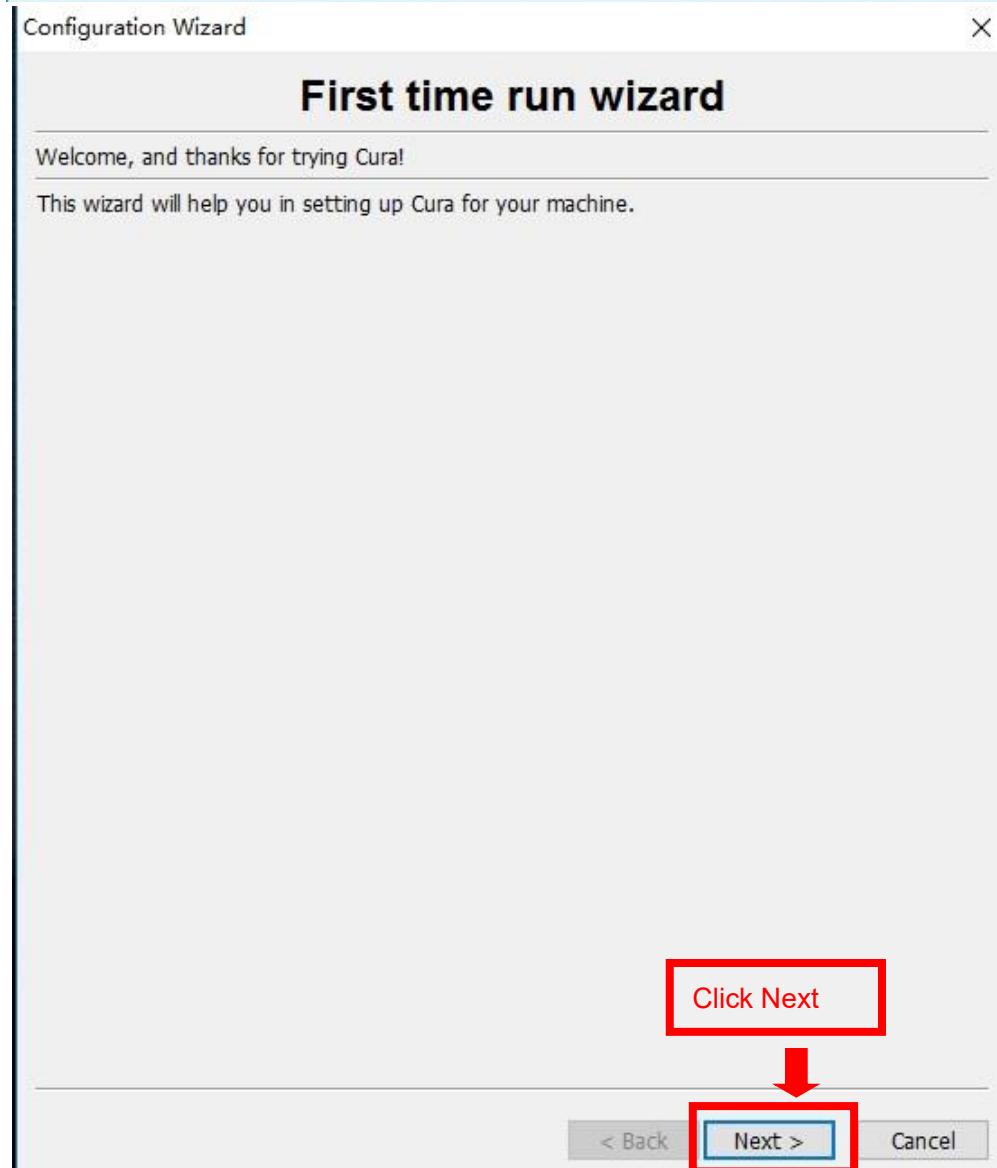
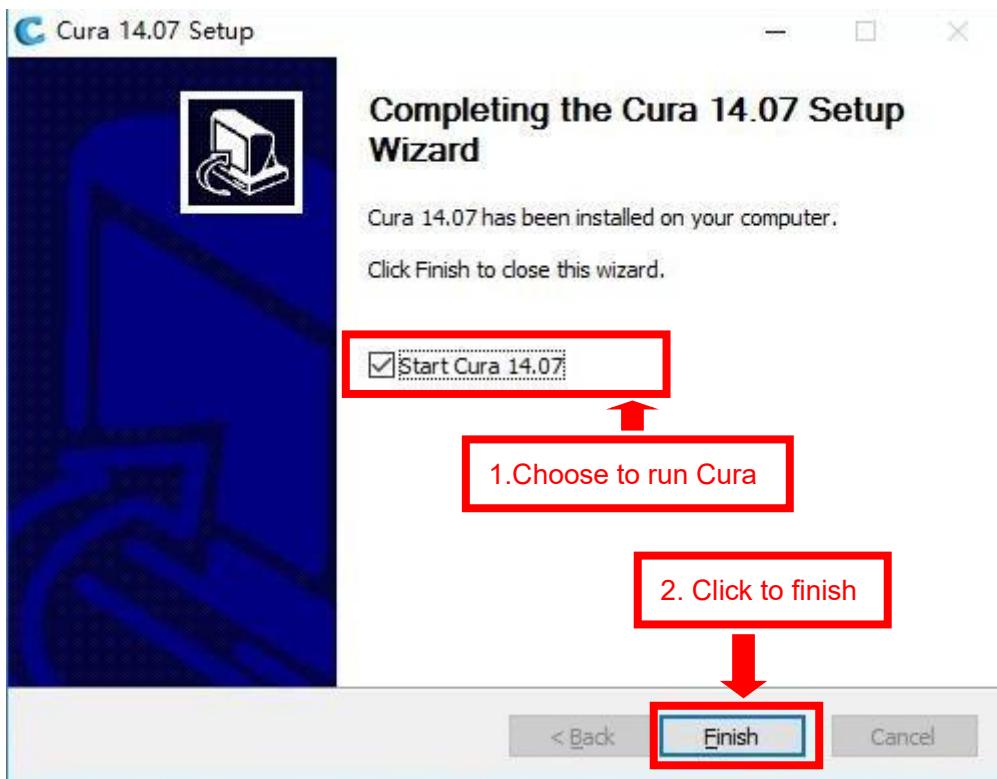
WINDOWS

Version: 2.1.2 32 bit	Release date: 6/7/16
Version: 2.1.2 64 bit	Release date: 6/7/16
Version: 15.04.6	Release date: 6/7/16
Version: 15.04.5	Release date: 3/17/16
Version: 15.04.4	Release date: 1/5/16
Version: 15.04.03	Release date: 11/4/15
Version: 15.04.2	Release date: 7/28/15
Version: 15.04	Release date: 4/15/15
Version: 15.02.1	Release date: 2/19/15
Version: 15.01	Release date: 1/30/15
Version: 14.12	Release date: 12/15/14
Version: 14.09	Release date: 9/19/14
Version: 14.07	Release date: 7/3/14
Version: 14.06	Release date: 6/16/14
Version: 14.03	Release date: 3/17/14
Version: 14.01	Release date: 1/10/14
Version: 13.12	Release date: 12/23/13
Version: 13.11	Release date: 11/22/13
Version: 13.10	Release date: 10/18/13
Version: 13.06.4	Release date: 6/26/13
Version: 13.04	Release date: 4/26/13
Version: 13.03	Release date: 3/8/13
Version: 12.12	Release date: 12/24/12
Version: 12.11	Release date: 11/12/12
Version: 12.10	Release date: 11/8/12

b. Software Installation Process







Custom RepRap information

RepRap machines can be vastly different, so here you can set your own settings.

Be sure to review the default profile before running it on your machine.

If you like a default profile for your machine added,
then make an issue on github.

You will have to manually install Marlin or Sprinter firmware

Machine name

A8

This is A8 parameter

You can customize name here.

Machine width (mm)

220

We default these data .

Machine depth (mm)

220

You can fill in according to
actual condition

Machine height (mm)

240

Nozzle size (mm)

0.4

Heated bed

Choose this option

Bed center is 0,0,0 (RoStock)

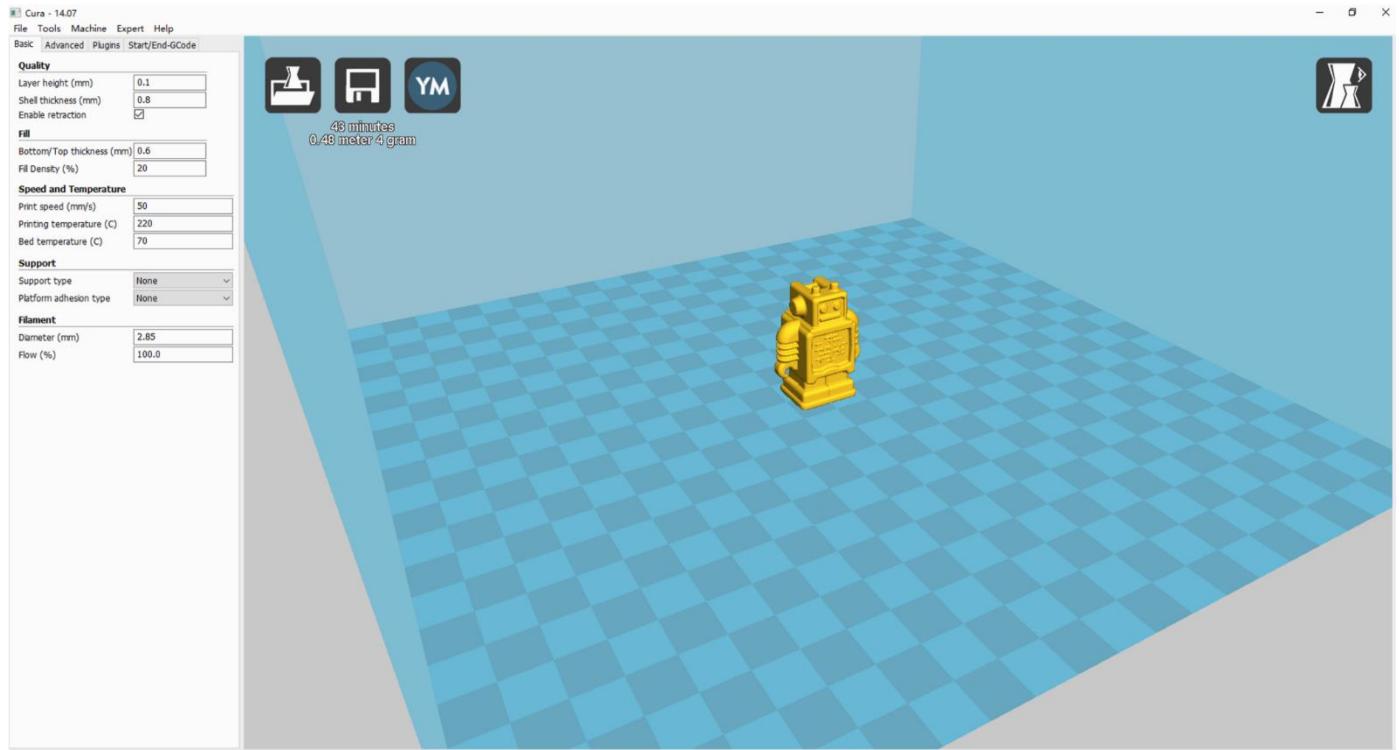
DO NOT choose this option !!!

1.Click to finish

< Back

Finish

Cancel



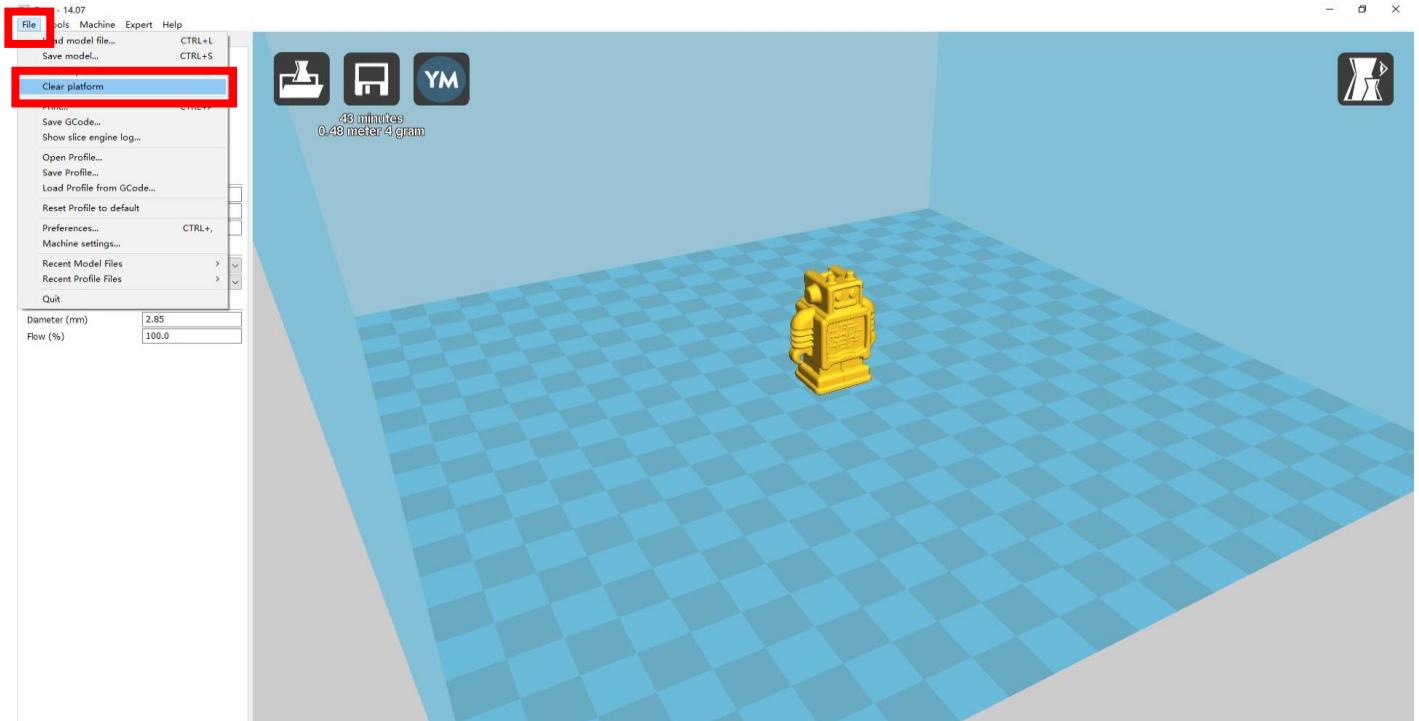
Now you have finished the installation. Next , enter Cura .

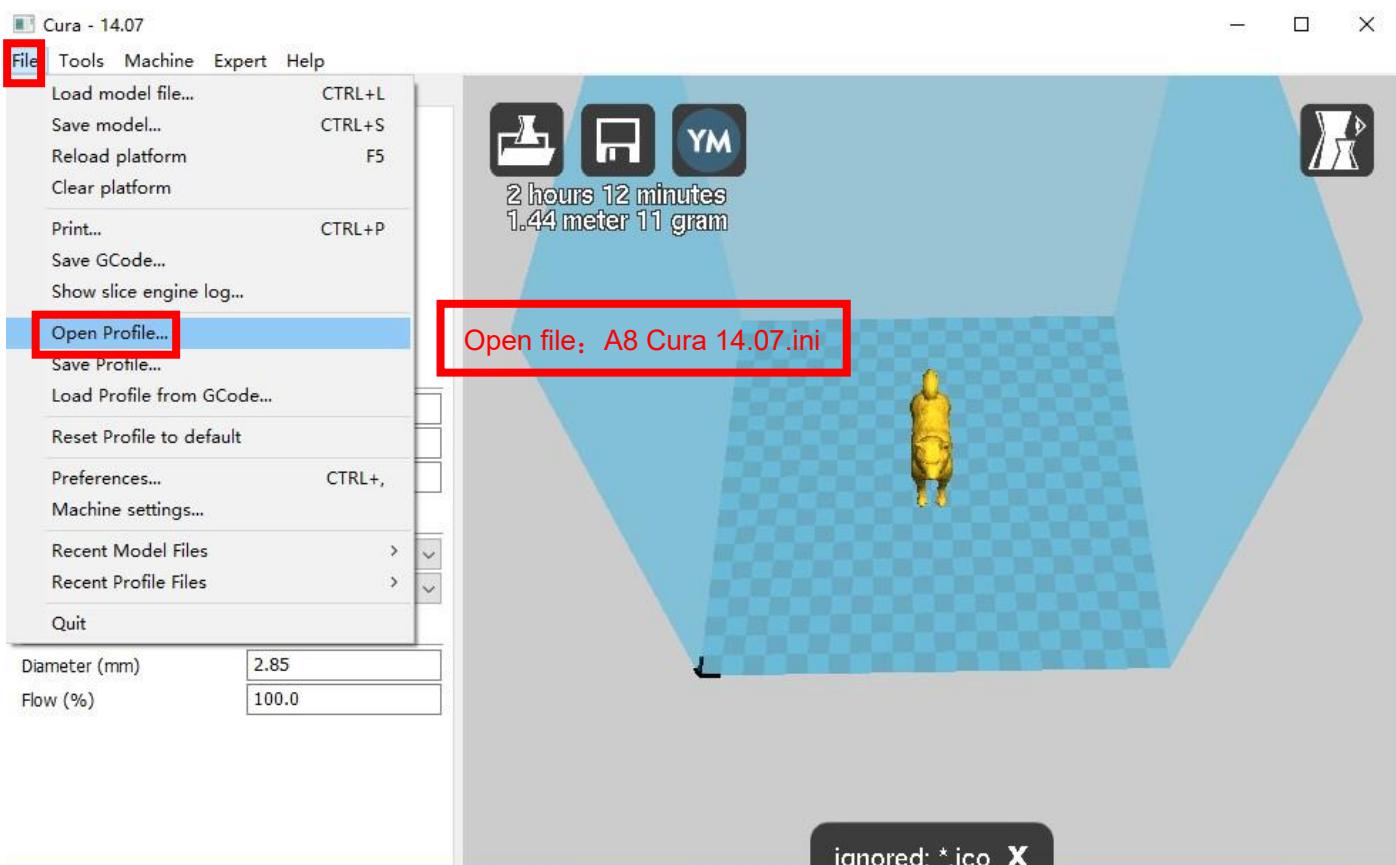
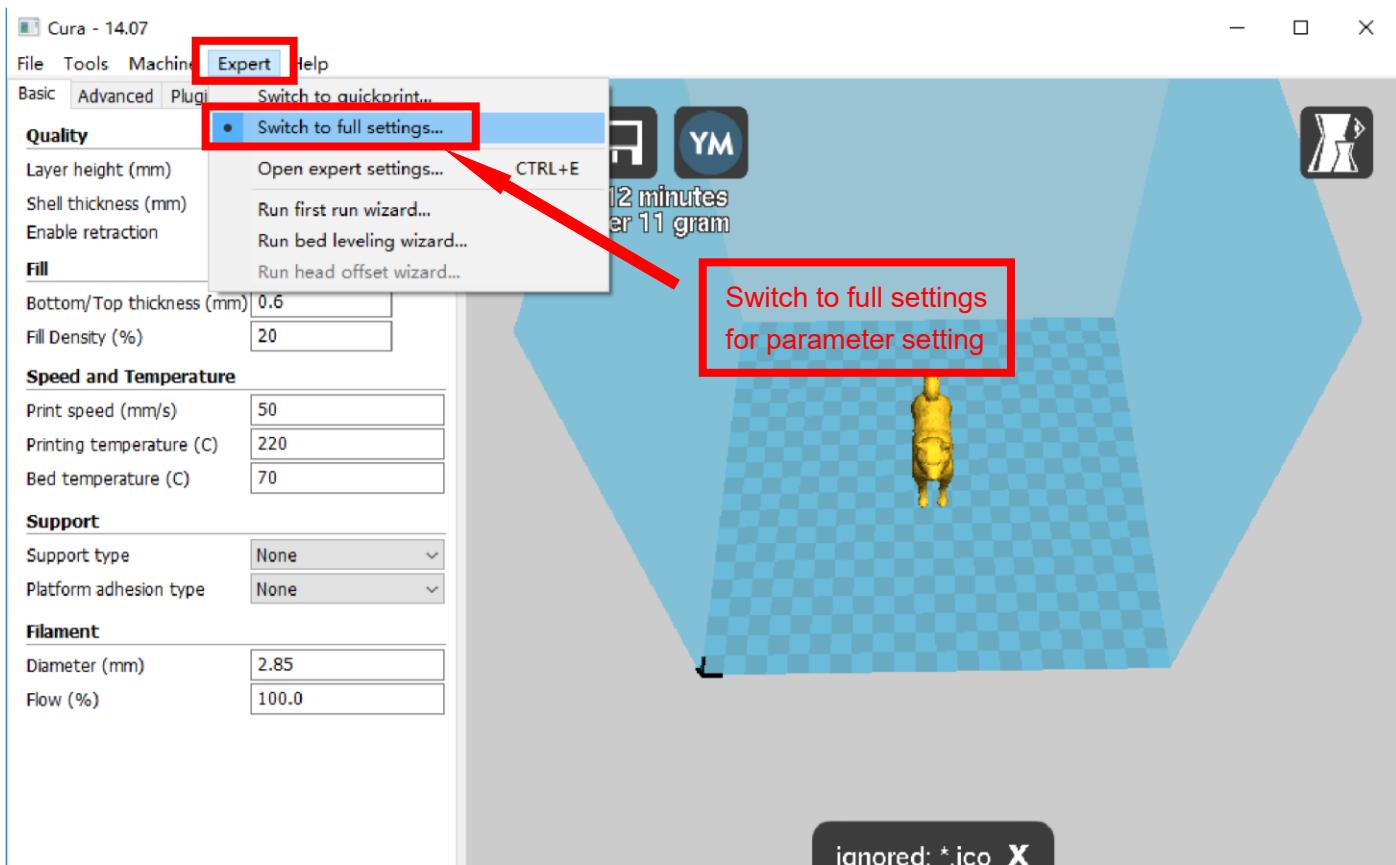
2. Cura Setting

2.1 Clear platform

Delete the dog. Two ways for you :

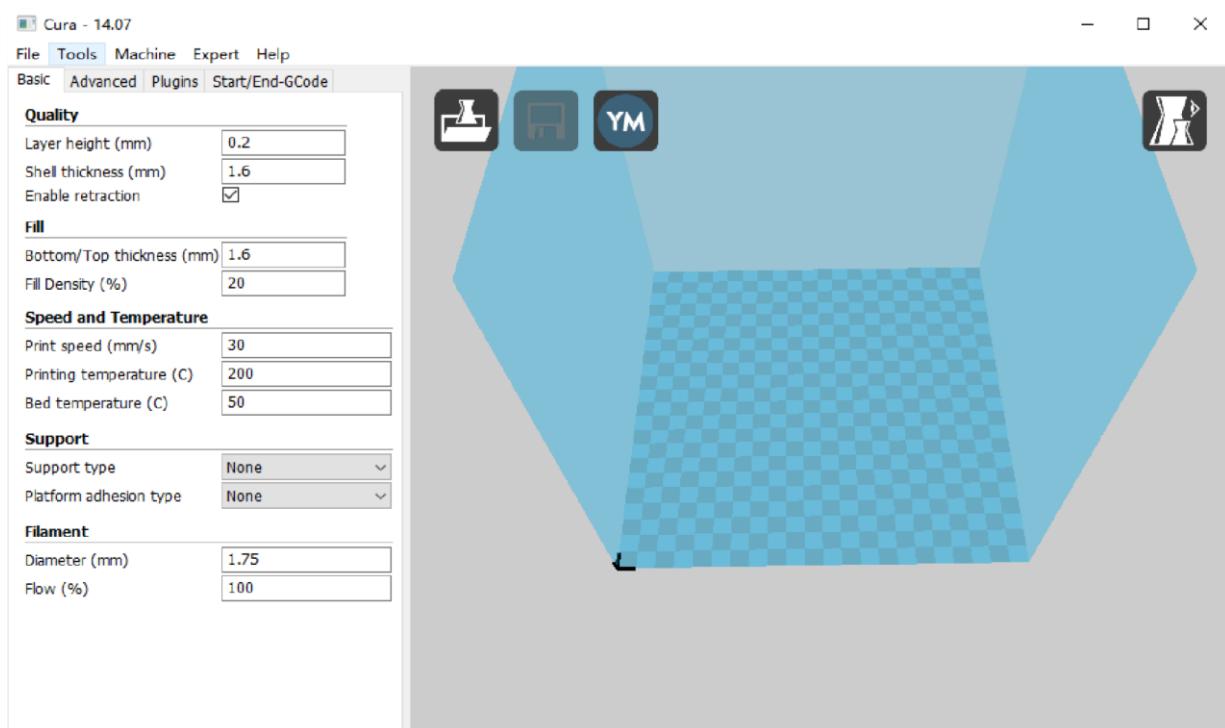
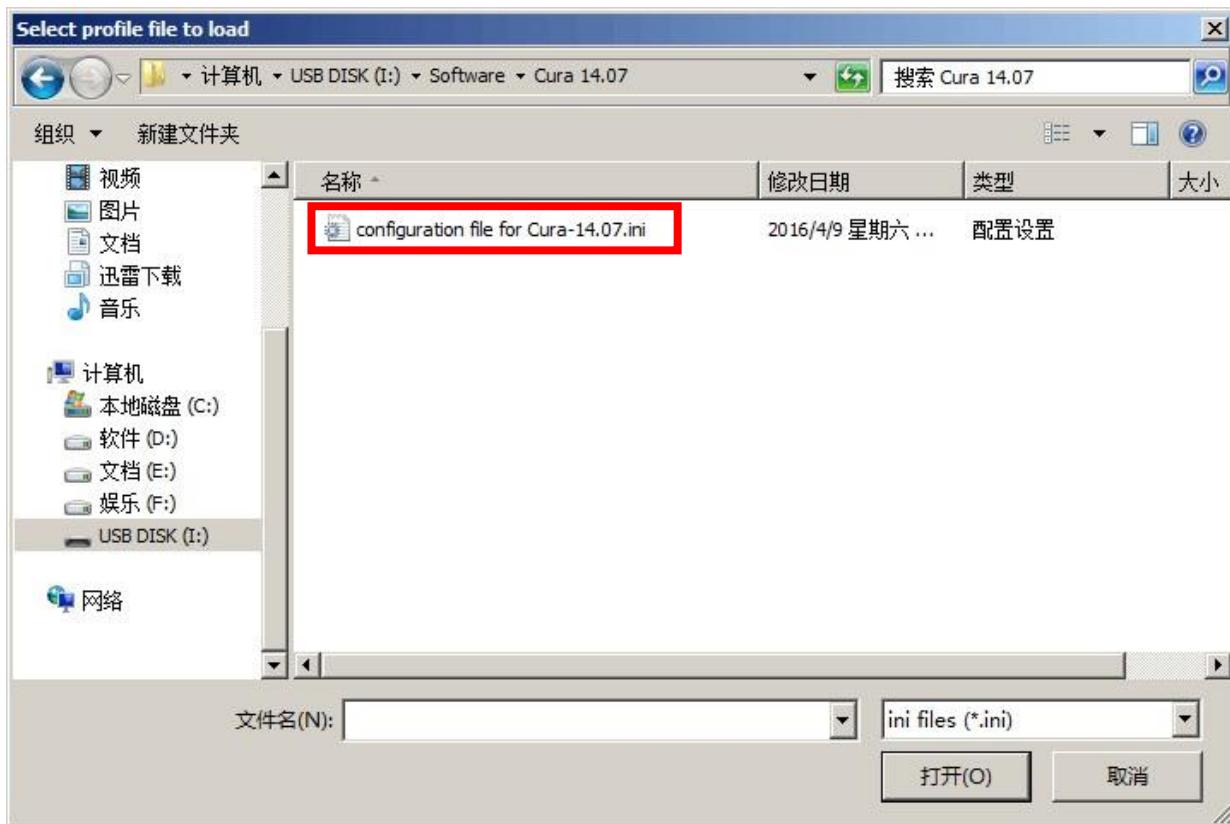
- 1.Move mouse to dog ,right click, click “delete object”.
- 2.Left click “File” , choose “Clear platform”.

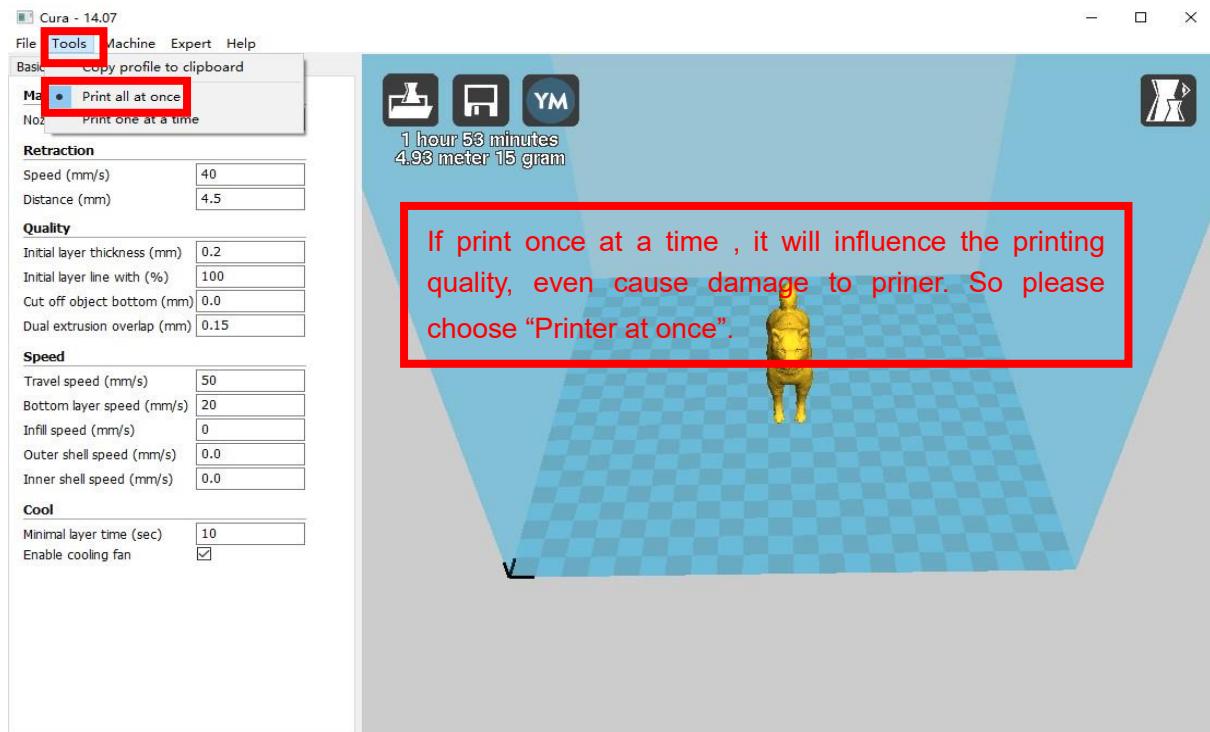




Position of configuration file: Computer/TF card)/ configuration file for cura-14.07

(suggestion :keep this file copy to your computer)





2.2 Layer height settings

Cura - 14.07

File Tools Machine Expert Help

Basic Advanced Plugins Start/End-GCode

Quality

- Layer height (mm)
- Shell thickness (mm)
- Enable retraction

Fill

- Bottom/Top thickness (mm)
- Fill Density (%)

Speed and Temperature

- Print speed (mm/s)
- Printing temperature (C)
- Bed temperature (C)

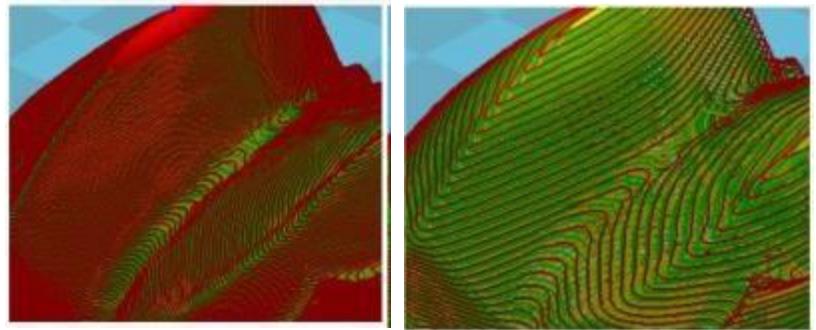
Support

- Support type
- Platform adhesion type

Filament

- Diameter (mm)
- Flow (%)

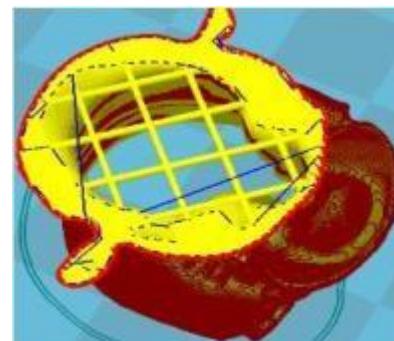
Layer height : 0.1mm cost long time but have the best printing precision. 0.2mm cost half time compared to 0.1mm , but have general printing precision. 0.3 cost less time with not good precision. It defaults 0.2mm.



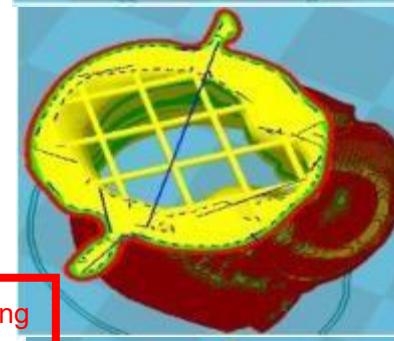
Left: 0.1mm
Layer height

Right: 0.2mm
Layer height

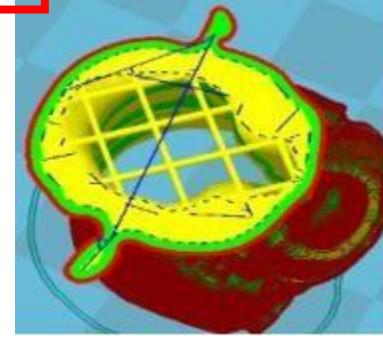
Layer height setting



0.8mm



1.2mm



2mm

Cura - 14.07

File Tools Machine Expert Help

Basic Advanced Plugins Start/End-GCode

Quality

- Layer height (mm)
- Shell thickness (mm)
- Enable retraction

Fill

- Bottom/Top thickness (mm)
- Fill Density (%)

Speed and Temperature

- Print speed (mm/s)
- Printing temperature (C)
- Bed temperature (C)

Support

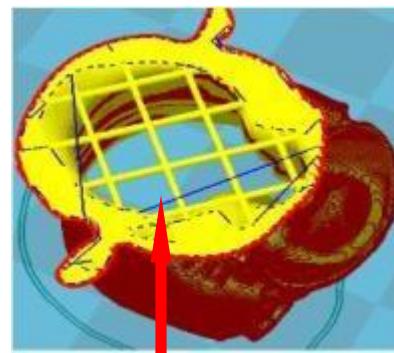
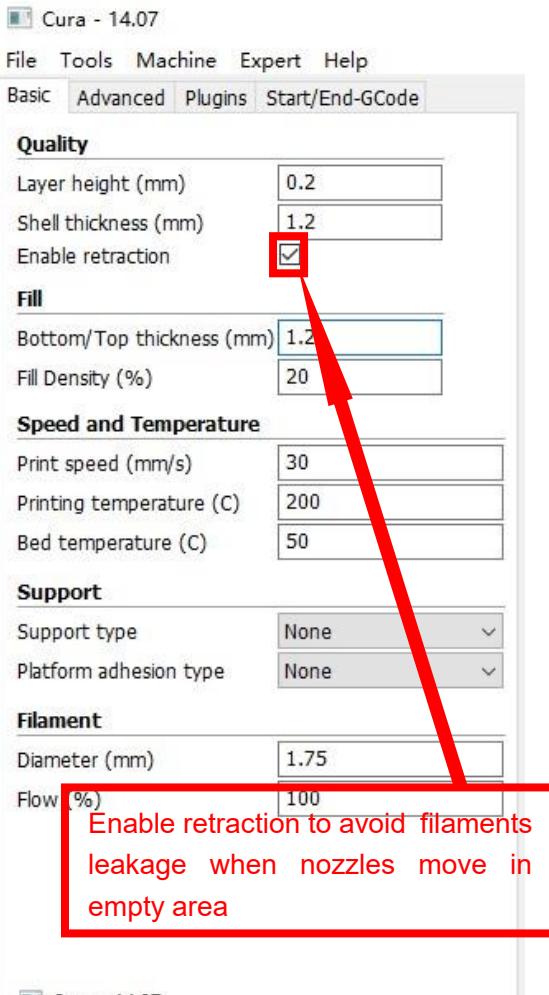
- Support type
- Platform adhesion type

Filament

- Diameter (mm)
- Flow (%)

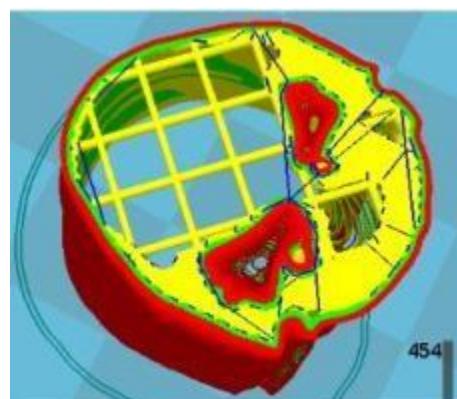
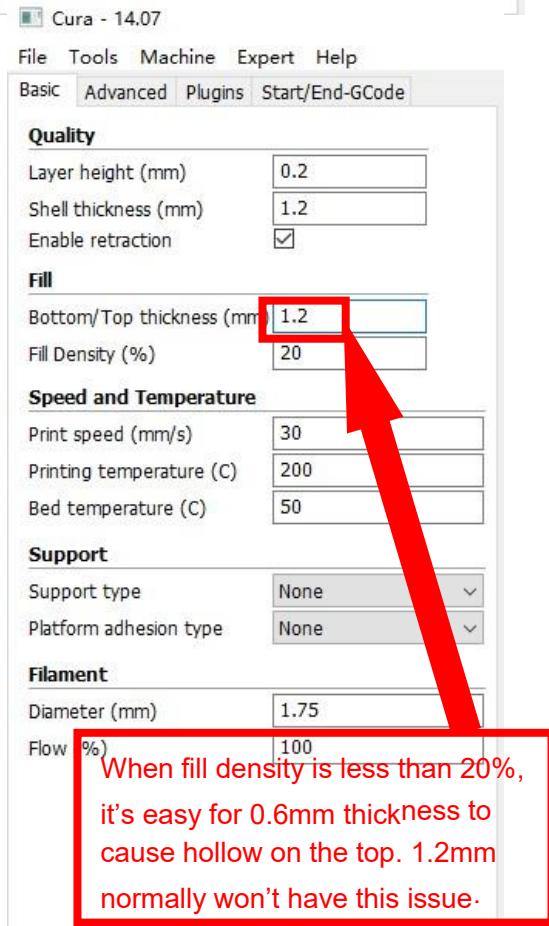
Shell thickness setting

0.8mm is too thin for shell, 2mm shell costs more time , 1.2mm is relatively better. Please use the integer mutiple of nozzle diameter.



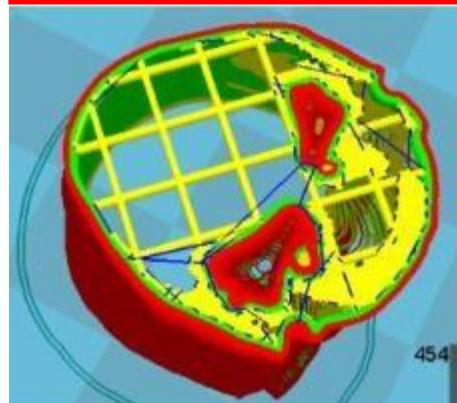
The Blue line is the leak filament

Enable retraction



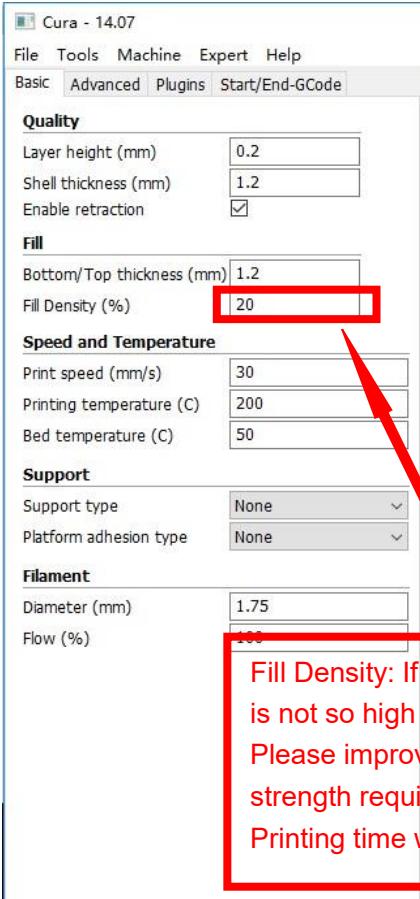
Bottom/Top thickness: 1.2mm

Under the same fill density

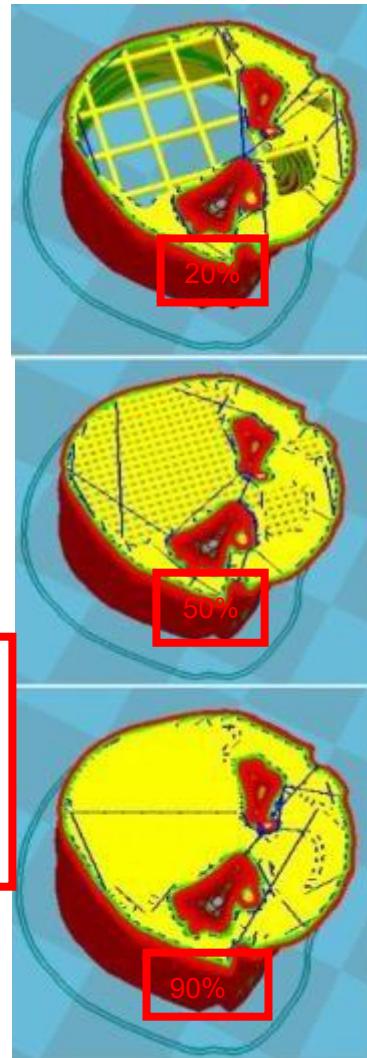


Bottom/Top thickness: 0.6mm

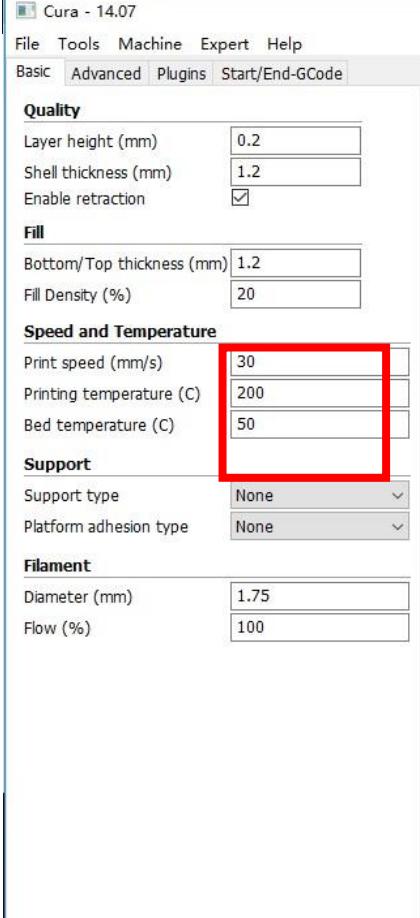
Bottom/Top thickness setting



Fill Density Setting



Fill Density: If strength requirement is not so high , set 10% is ok.
Please improve fill density when strength requirement gets higher.
Printing time will go up as well.



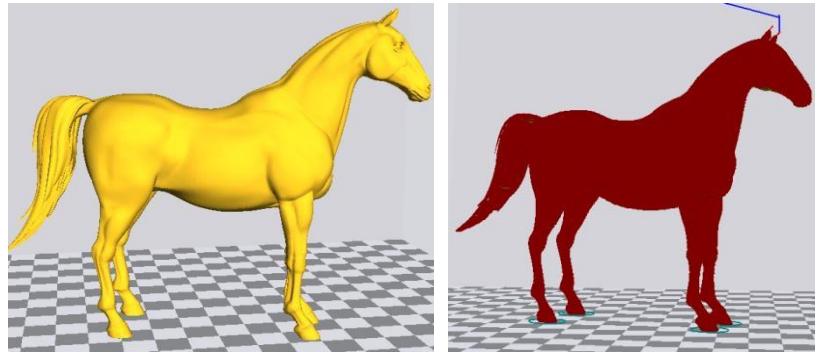
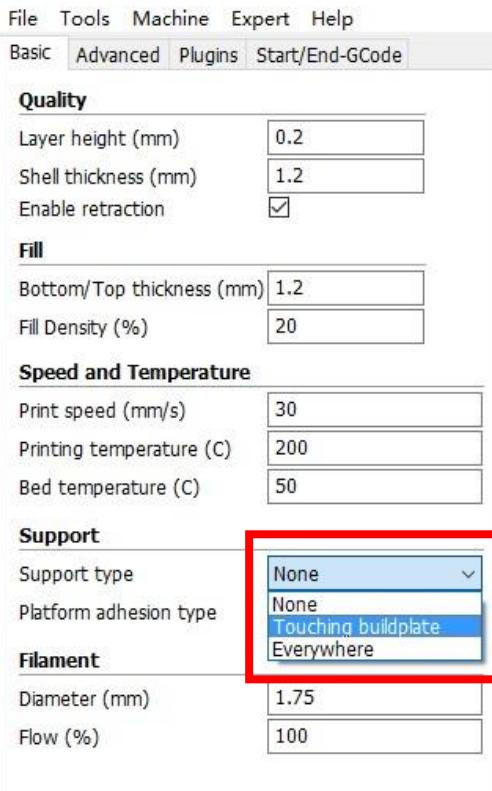
Printing Speed setting

This is default speed. If other settings aren't changed, it prints more accurately while the printing process takes more time.
High printing speed takes less time while it cannot print accurately , making the model have bad quality.
Normally 40-60 print speed is suitable for printing.

Pringting Temperature

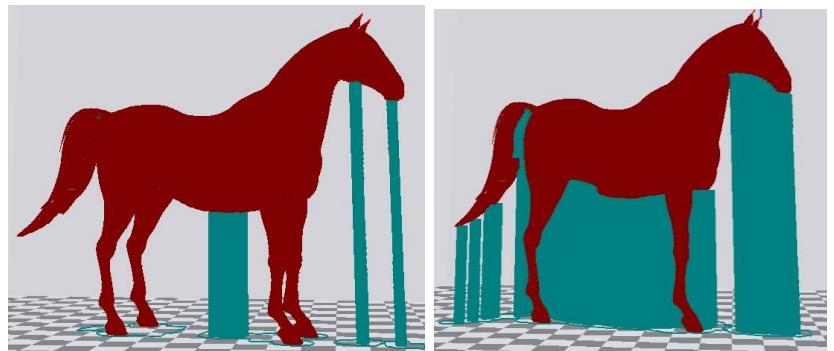
PLA filament temperature setting: nozzle: 190-210 °C hotbed: 40-60°C

ABS filament temperature setting: nozzle: 230-250°C hotbed: 60-90°C



Original Model

Support type: None

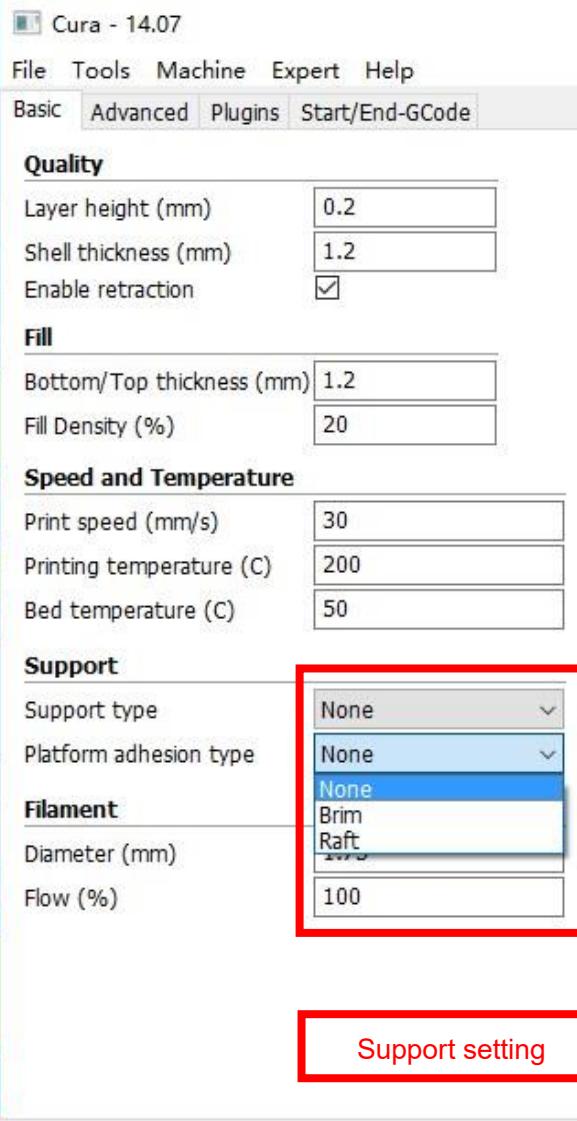


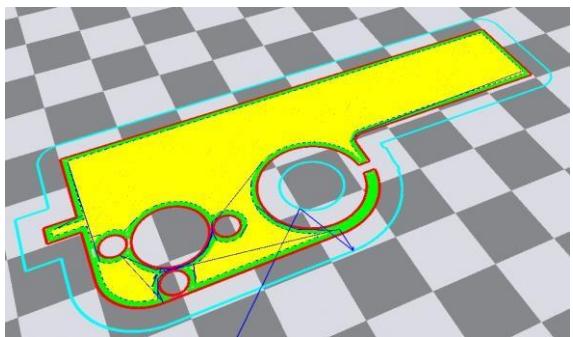
Support type setting

Support type: Touching

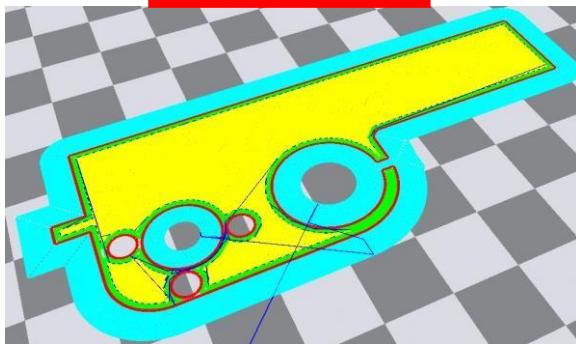
Support type: Everywhere

Attention: Normally we add support to complex model or model with vacant parts. It may have influence on the surface if you choose everywhere. You'd better circle around the model and try to avoid unnecessary support.

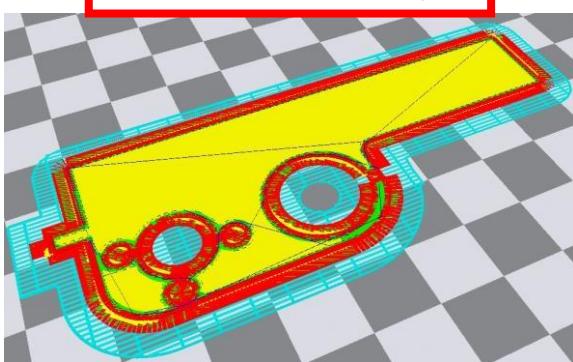




None: no support

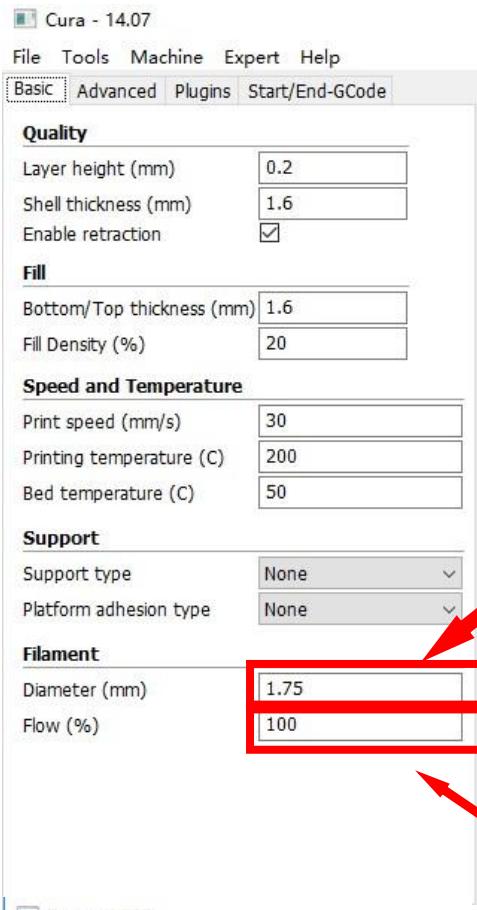


Brim: Touch with the edge

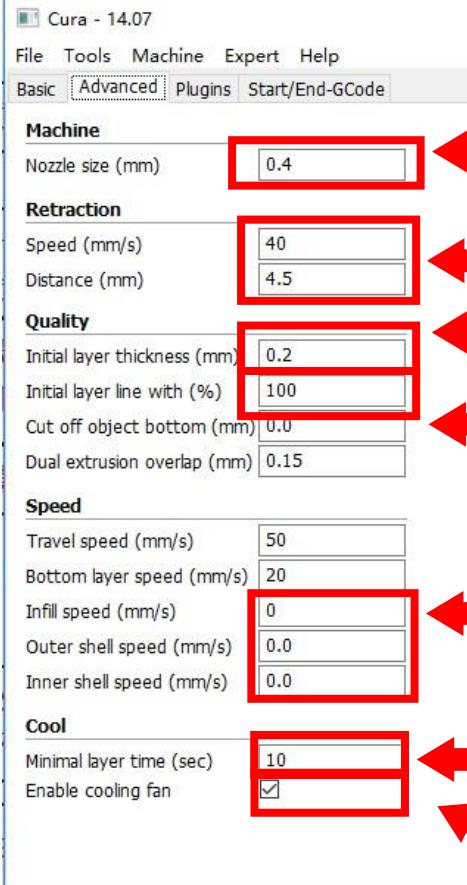


Raft: Totally touch with the bottom

Attention: please choose None if the printing platform is ready and the high temperature adhesive tape is good. Please choose Brim when the model is small . Choosing Raft makes it difficult to separate model from the platform



Attention: A8 use 1.75mm filament



Attention:

Flow is proportion of filament , we suggest to use 100
Increasing flow & decrease diameter has the similar effect.

Model surface gets many bumps when flow is too big;model frame gets flimsy if flow is too small.

We suggest not to change it , A8 default 0.4mm

We suggest not to change it , or use the date in the picture

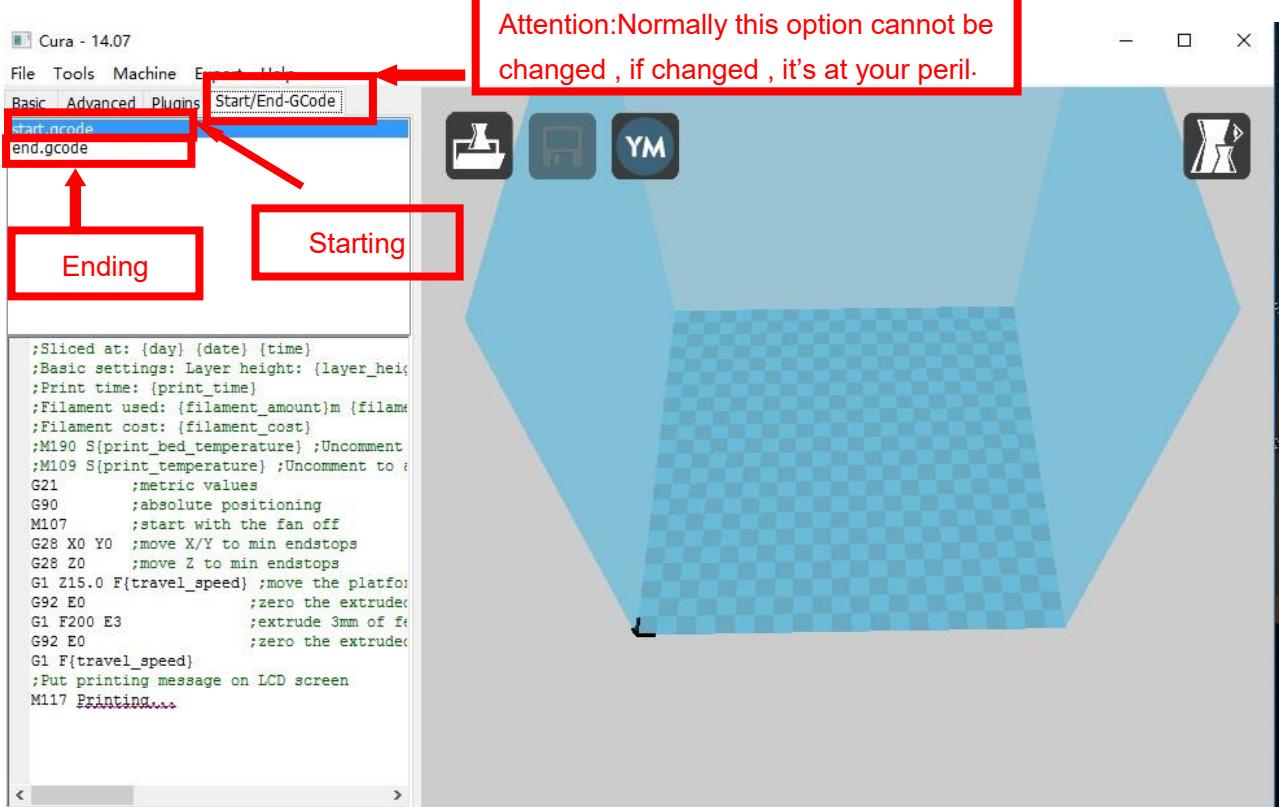
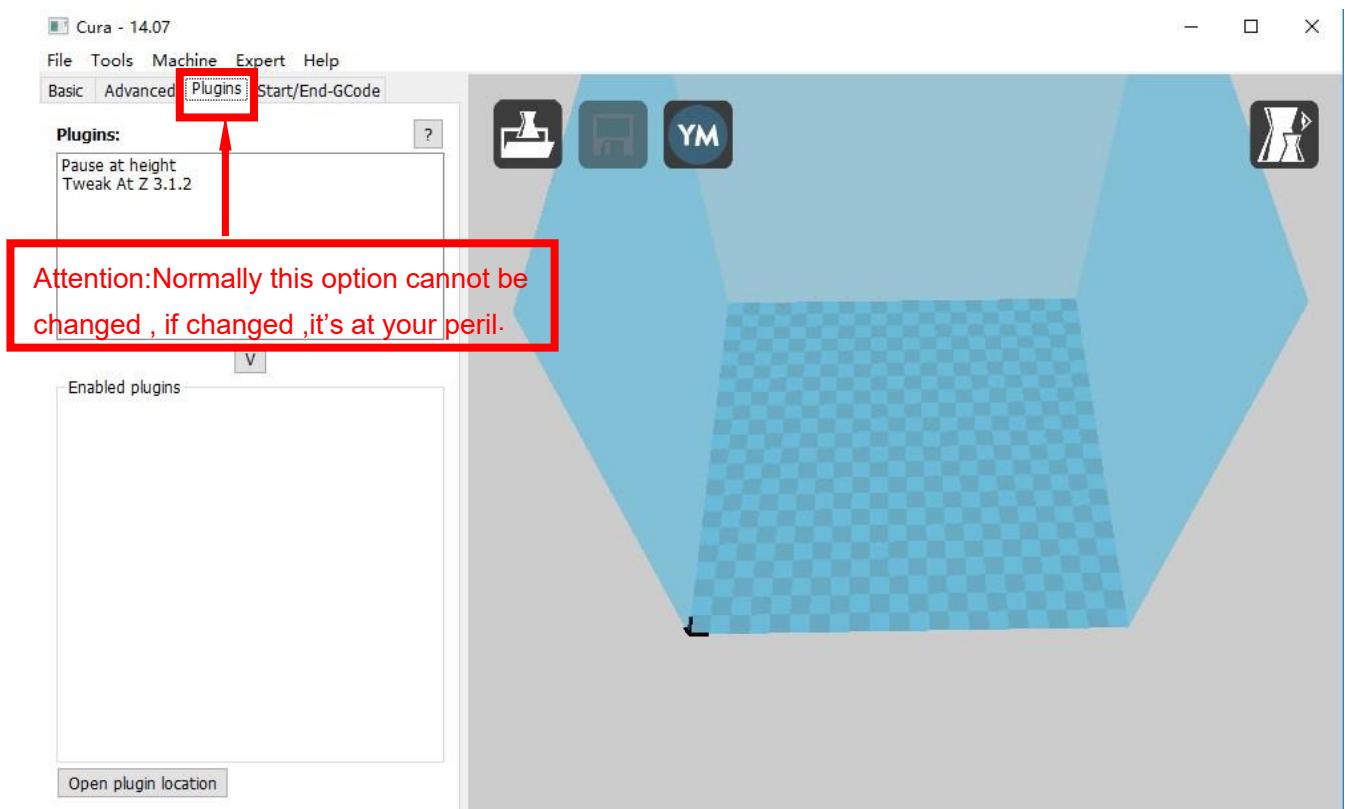
We suggest 0.2mm to avoid initial layer tilt,0.3mm is more easy to seperate from the platform.

Initial layer line proportion

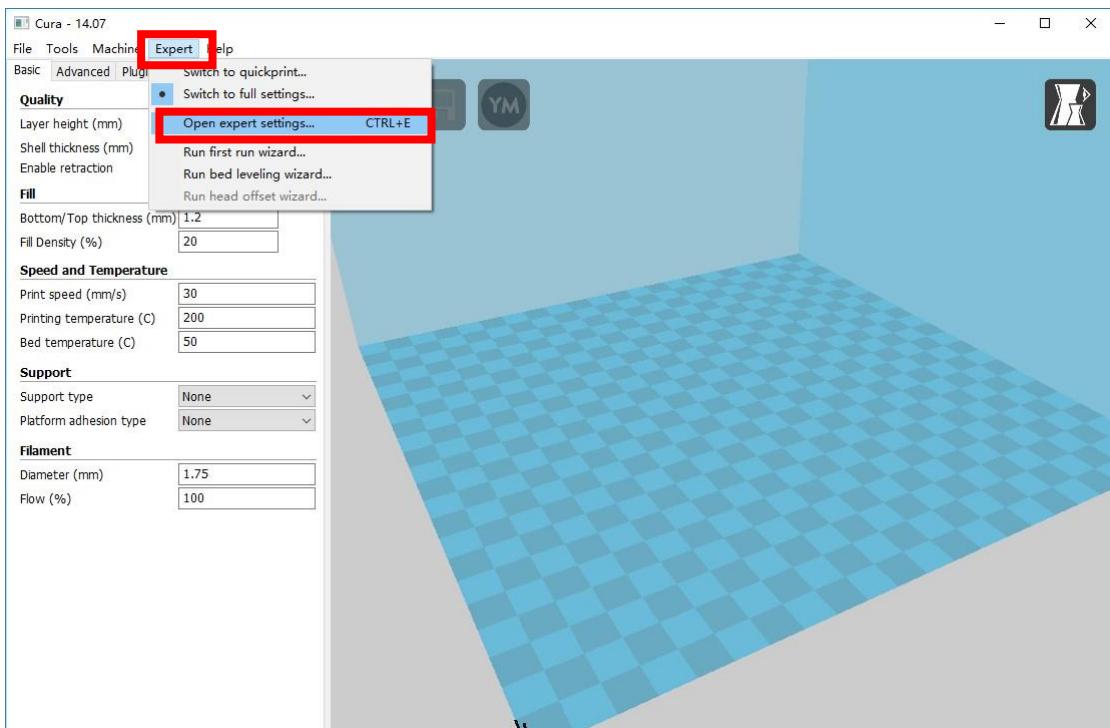
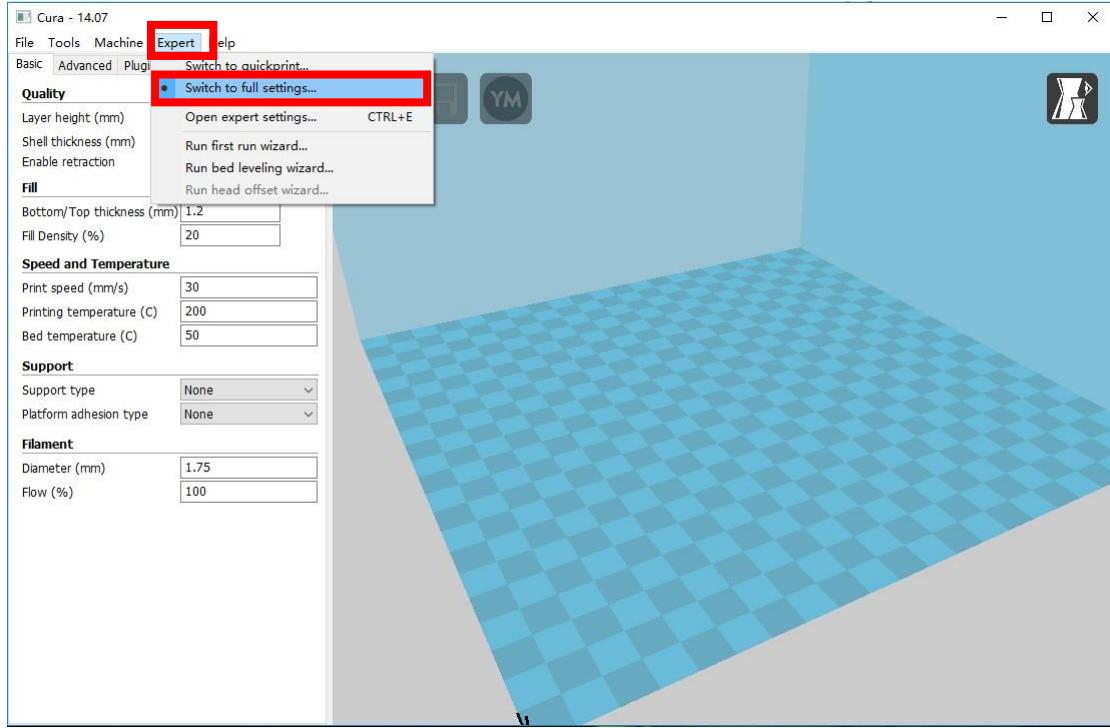
"0" means using default speed

Min printing time for each layer. When the time is less than 10 , it prints slower. It's better to decrease time when printing thin and long models.

We suggest not choose this when printing ABS.



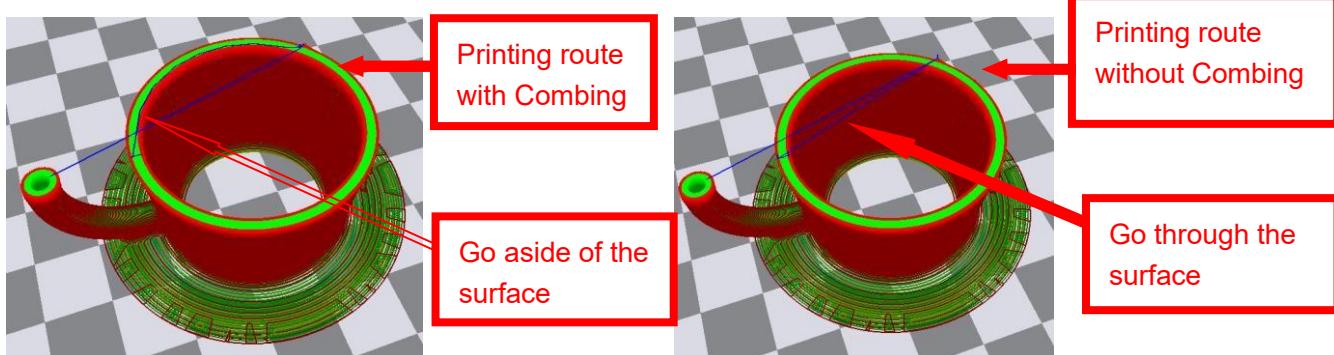
2.3 Expert Setting



Expert config

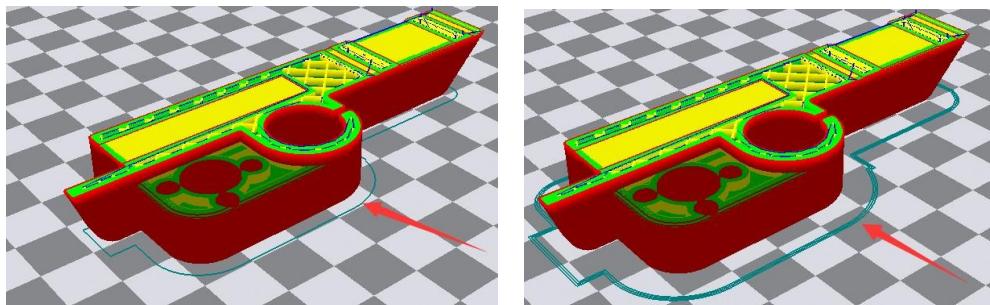
Retraction	
Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0
Skirt	
Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0
Cool	
Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>
Infill	
Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15
Support	
1 Structure type	Lines
2 Overhang angle for support (deg)	60
3 Fil amount (%)	10
4 Distance X/Y (mm)	0.7
5 Distance Z (mm)	0.15
Black Magic	
Spiralize the outer contour	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>
Brim	
Brim line amount	4
Raft	
Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2
Fix horrible	
Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>
Ok	

1. The minimum length before retraction . Used to avoid frequent retraction. No need to change.
2. Enable Combing: Digital for surface quality , the nozzle will try not to go through surface , that's why Cura is better than Slic3r.
3. Minimum extrusion length , to avoid frequent extrusion.
4. The height extruder rise in the retraction . If you need to set this option , 2mm is suitable .



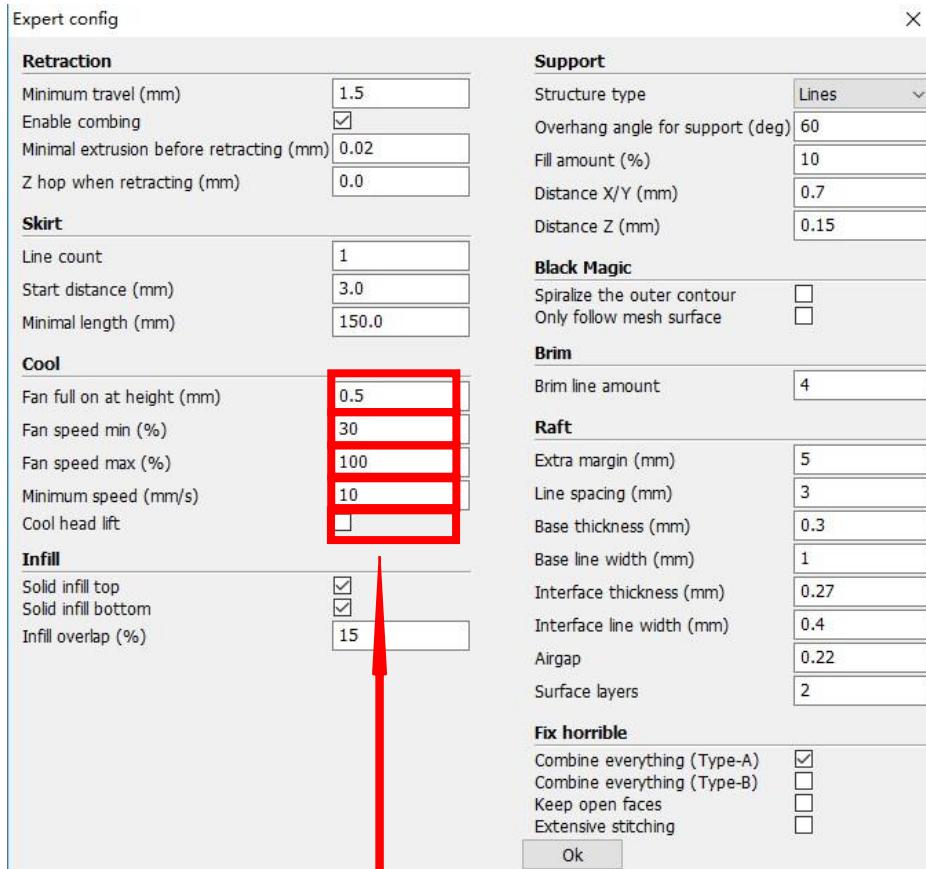
Expert config	
X	
Retraction	
Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0
Skirt	
Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0
Cool	
Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>
Infill	
Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15
Support	
Structure type	Lines <input type="button" value="▼"/>
Overhang angle for support (deg)	60
Fill amount (%)	10
Distance X/Y (mm)	0.7
Distance Z (mm)	0.15
Black Magic	
Spiralize the outer contour	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>
Brim	
Brim line amount	4
Raft	
Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2
Fix horrible	
Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>
Ok	

Skirt is to avoid extruder unfilled before printing , and it appears only when platform attachment type is None. Normally “1” is ok . Change it to “0” when your model reaches the maximum size , or the printing size will be too big.



Peripheral line quantity: 1
Start distance: 3

Peripheral line quantity: 1
Start distance: 3



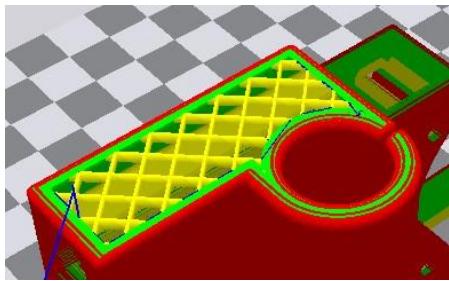
1. To ensure the attachment of model to platform , fan won't start at the beginning.
- 2-4. Fan speed min & max : If they are not equal , the soft ware will choose a suitable speed during them.
5. Condition to choose cool head lift : When it's printing with the minimum speed but still cannot reach the minimum time , you need to choose cool head lift . But it may cause filament leak.

Expert config

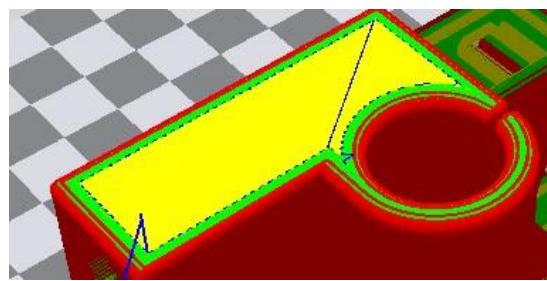
Retraction	Support
Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0
Skirt	Black Magic
Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0
Cool	Brim
Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>
Infill	Raft
Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15
Fix horrible	
Combine everything (Type-A) <input checked="" type="checkbox"/>	
Combine everything (Type-B) <input type="checkbox"/>	
Keep open faces <input type="checkbox"/>	
Extensive stitching <input type="checkbox"/>	

Ok

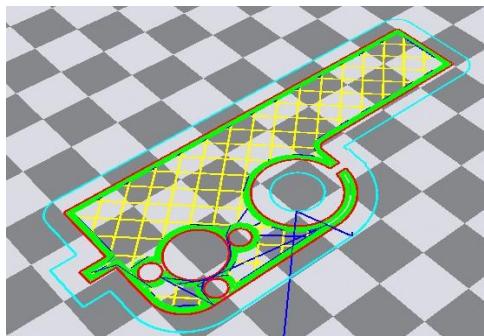
If no solid infill top , the only qualification is the surface thickness .
Please check the detail below.



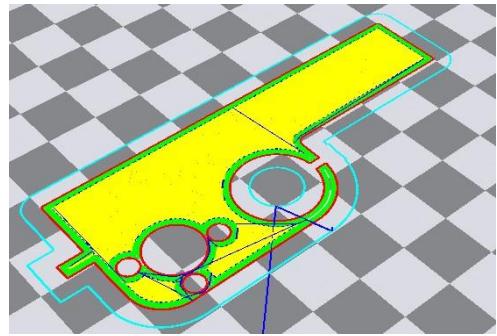
No solid infill top



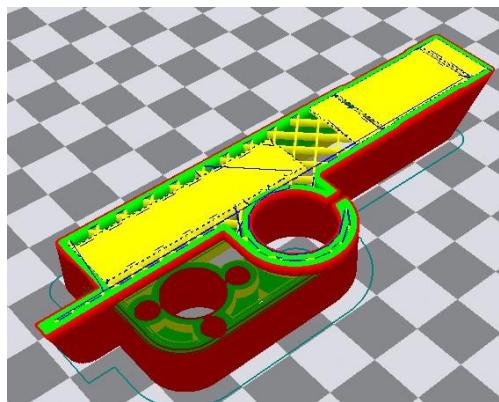
With solid infill top



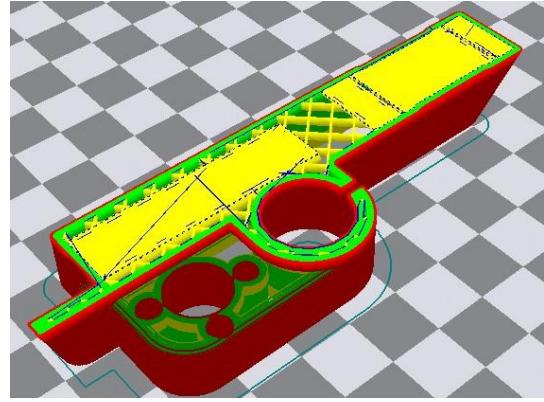
No solid infill bottom



With solid infill bottom



Infill coverlap: 20

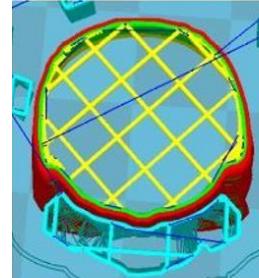
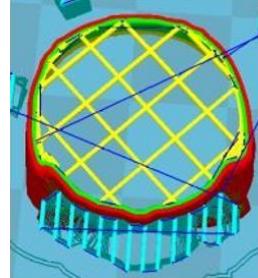
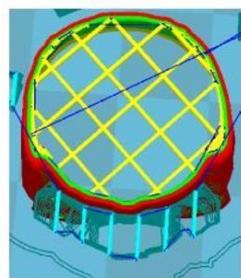


Infill coverlap: 40

Expert config

Retraction	Support		
Minimum travel (mm)	1.5	Structure type	Lines
Enable combing	<input checked="" type="checkbox"/>	Overhang angle for support (deg)	60
Minimal extrusion before retracting (mm)	0.02	Fill amount (%)	10
Z hop when retracting (mm)	0.0	Distance X/Y (mm)	0.7
Skirt	Distance Z (mm)	0.15	
Line count	1	Black Magic	
Start distance (mm)	3.0	Spiralize the outer contour	<input type="checkbox"/>
Minimal length (mm)	150.0	Only follow mesh surface	<input type="checkbox"/>
Cool	Brim		
Fan full on at height (mm)	0.5	Brim line amount	4
Fan speed min (%)	30	Raft	
Fan speed max (%)	100	Extra margin (mm)	5
Minimum speed (mm/s)	10	Line spacing (mm)	3
Cool head lift	<input type="checkbox"/>	Base thickness (mm)	0.3
Infill	Base line width (mm)	1	
Solid infill top	<input checked="" type="checkbox"/>	Interface thickness (mm)	0.27
Solid infill bottom	<input checked="" type="checkbox"/>	Interface line width (mm)	0.4
Infill overlap (%)	15	Airgap	0.22
Fix horrible	Surface layers	2	
Combine everything (Type-A)	<input checked="" type="checkbox"/>		
Combine everything (Type-B)	<input type="checkbox"/>		
Keep open faces	<input type="checkbox"/>		
Extensive stitching	<input type="checkbox"/>		

Ok



Structure types:lines
Infill covertap: 15
Distance X/Y: 0.7

Structure types:lines
Infill covertap: 30
Distance X/Y: 0.7

Structure types:grids
Infill covertap: 15
Distance X/Y: 0.7

These above are examples , you can set these options according to actual requirements. The biggest progress Cura has made is the kinds of support structure types , making it easier to separate from the model.

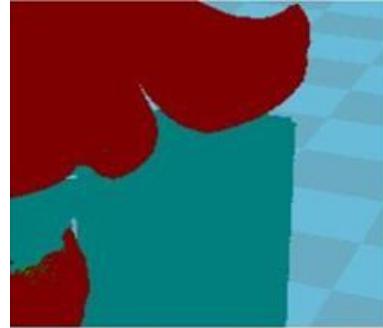
Expert config

Retraction	Support
Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0
Skirt	
Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0
Cool	
Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>
Infill	
Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15
Black Magic	
Spiralize the outer contour	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>
Brim	
Brim line amount	4
Raft	
Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2
Fix horrible	
Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok



60°



45°



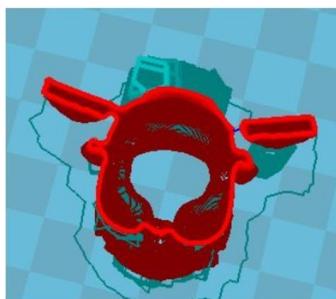
30°

It's difficult to separate if the distance between support and the supported place is too close; The surface will be influenced if the distance is too far.

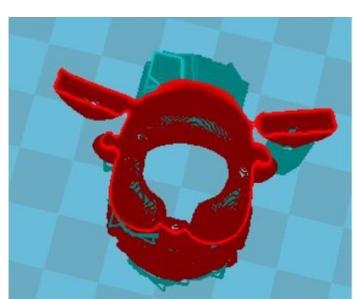
Different angle will generate different support , you can try the examples we provide above which will have different effect.

Expert config X

Retraction	Support
Minimum travel (mm) 1.5	Structure type Lines
Enable combing <input checked="" type="checkbox"/>	Overhang angle for support (deg) 60
Minimal extrusion before retracting (mm) 0.02	Fill amount (%) 10
Z hop when retracting (mm) 0.0	Distance X/Y (mm) 0.7
Skirt	Distance Z (mm) 0.15
Line count 1	Black Magic
Start distance (mm) 3.0	Spiralize the outer contour <input type="checkbox"/>
Minimal length (mm) 150.0	Only follow mesh surface <input type="checkbox"/>
Cool	Brim
Fan full on at height (mm) 0.5	Brim line amount 4
Fan speed min (%) 30	Raft
Fan speed max (%) 100	Extra margin (mm) 5
Minimum speed (mm/s) 10	Line spacing (mm) 3
Cool head lift <input type="checkbox"/>	Base thickness (mm) 0.3
Infill	Base line width (mm) 1
Solid infill top <input checked="" type="checkbox"/>	Interface thickness (mm) 0.27
Solid infill bottom <input checked="" type="checkbox"/>	Interface line width (mm) 0.4
Infill overlap (%) 15	Airgap 0.22
	Surface layers 2
	Fix horrible
	Combine everything (Type-A) <input checked="" type="checkbox"/>
	Combine everything (Type-B) <input type="checkbox"/>
	Keep open faces <input type="checkbox"/>
	Extensive stitching <input type="checkbox"/>
	Ok



When choosing “Spiralize the outer contour” : Z axis rises while X,Y axis moves , and only a hollow bottom and a single layer of surface.



When choosing “Only follow mesh surface” : The nozzle prints along the surface.

Attention: The software defaults not open the option above , you'd better not turn it on .

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0

Skirt

Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0

Cool

Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15

Support

Structure type	Lines
Overhang angle for support (deg)	60
Fill amount (%)	10
Distance X/Y (mm)	0.7
Distance Z (mm)	0.15

Black Magic

Spiralize the outer contour	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

Brim

Brim line amount	4
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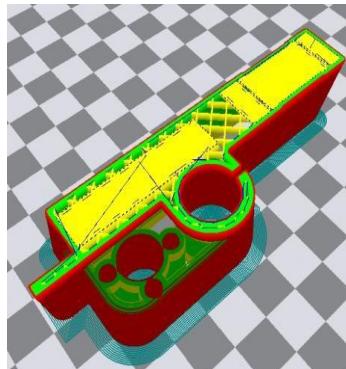
Raft

Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2

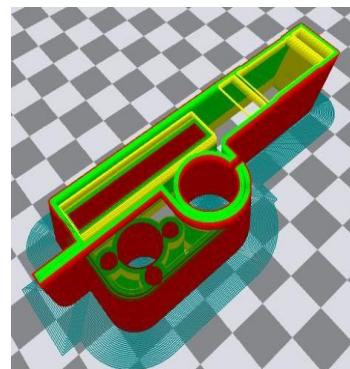
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok



Brim line amount: 10



Brim line amount: 20

Guidance to use Brim if needed: Expert → Expert Settings → Support → Support Types → Birm.
 The images above are only for reference , please set the parameter according to actual requirement.

Expert config

X

Retraction

Minimum travel (mm)	1.5
Enable combing	<input checked="" type="checkbox"/>
Minimal extrusion before retracting (mm)	0.02
Z hop when retracting (mm)	0.0

Skirt

Line count	1
Start distance (mm)	3.0
Minimal length (mm)	150.0

Cool

Fan full on at height (mm)	0.5
Fan speed min (%)	30
Fan speed max (%)	100
Minimum speed (mm/s)	10
Cool head lift	<input type="checkbox"/>

Infill

Solid infill top	<input checked="" type="checkbox"/>
Solid infill bottom	<input checked="" type="checkbox"/>
Infill overlap (%)	15

Support

Structure type	Lines
Overhang angle for support (deg)	60
Fill amount (%)	10
Distance X/Y (mm)	0.7
Distance Z (mm)	0.15

Black Magic

Spiralize the outer contour	<input type="checkbox"/>
Only follow mesh surface	<input type="checkbox"/>

Brim

Brim line amount	4
------------------	---

Raft

Extra margin (mm)	5
Line spacing (mm)	3
Base thickness (mm)	0.3
Base line width (mm)	1
Interface thickness (mm)	0.27
Interface line width (mm)	0.4
Airgap	0.22
Surface layers	2

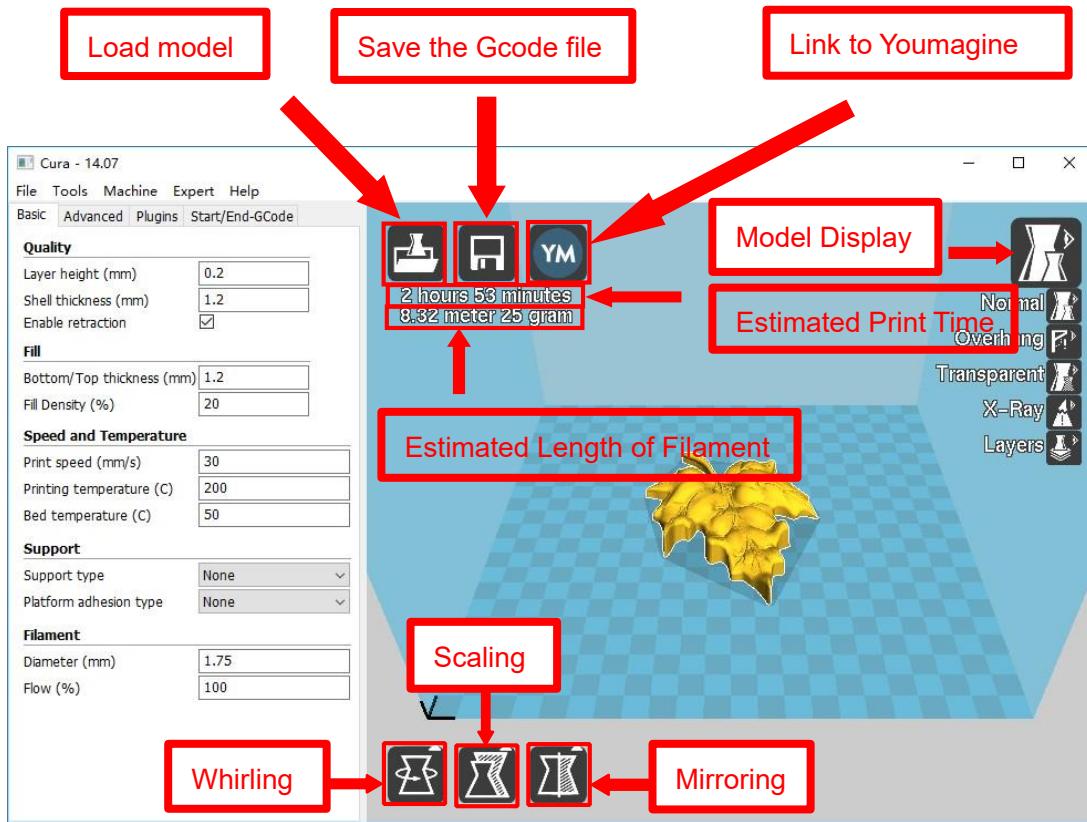
Fix horrible

Combine everything (Type-A)	<input checked="" type="checkbox"/>
Combine everything (Type-B)	<input type="checkbox"/>
Keep open faces	<input type="checkbox"/>
Extensive stitching	<input type="checkbox"/>

Ok

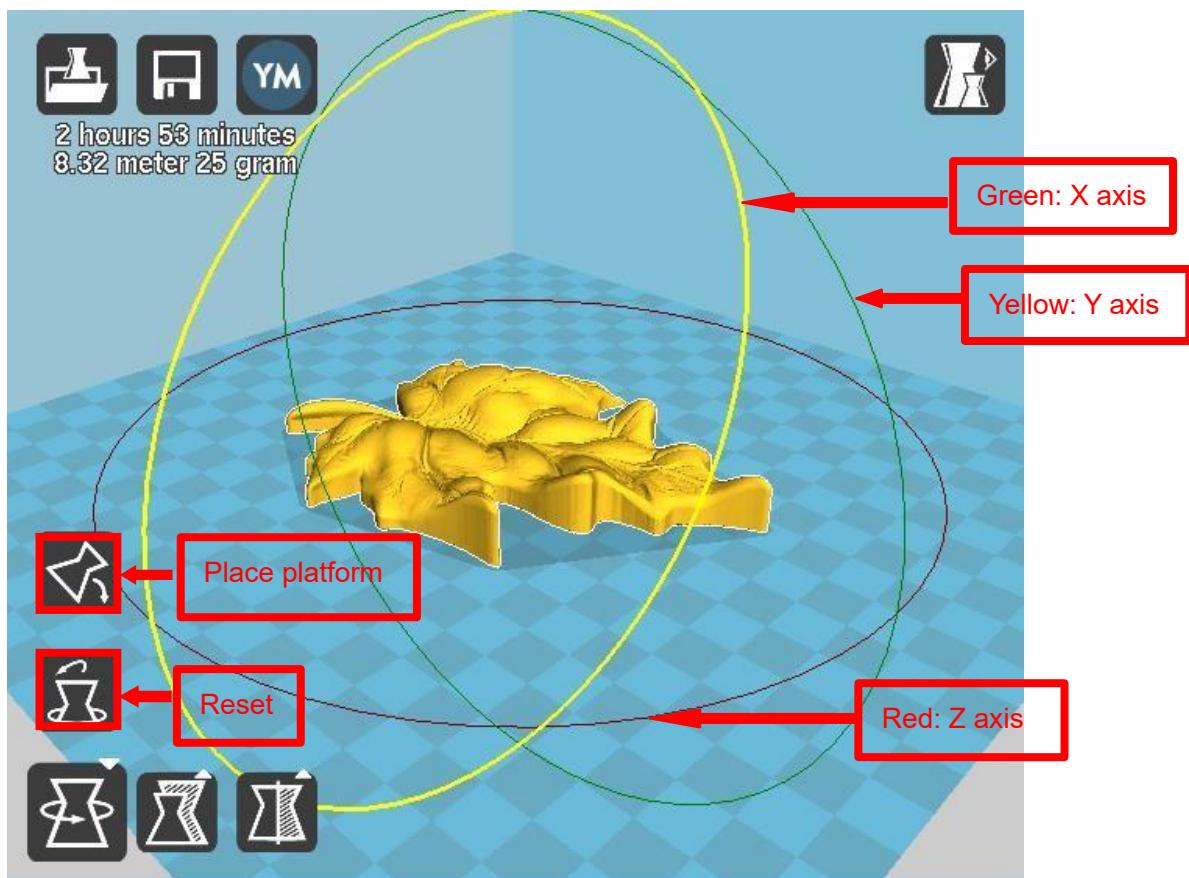
Guidance to use Raft if needed: Expert → Expert Settings → Support → Support Types → Raft.

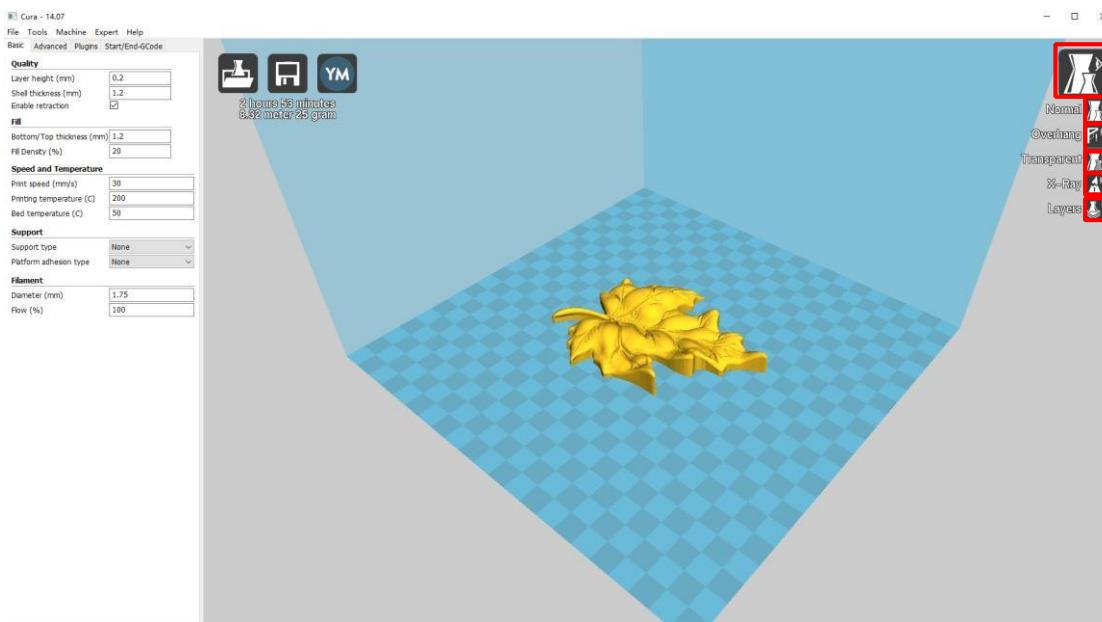
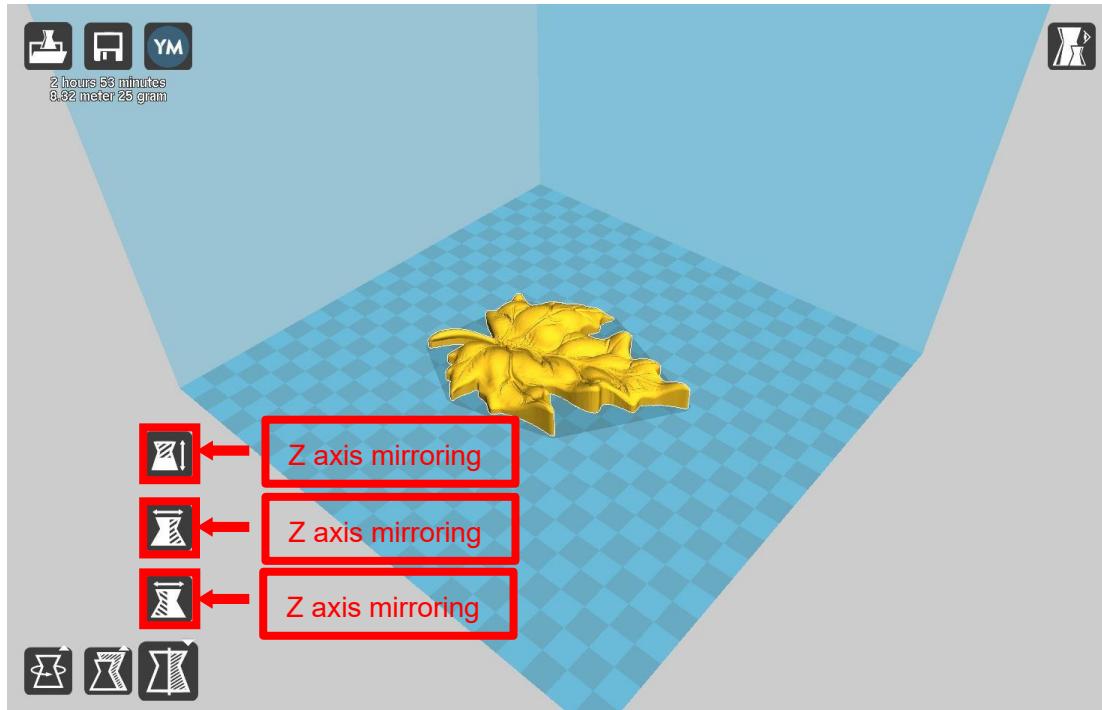
The images above are only for reference , please set the parameter according to actual requirement.

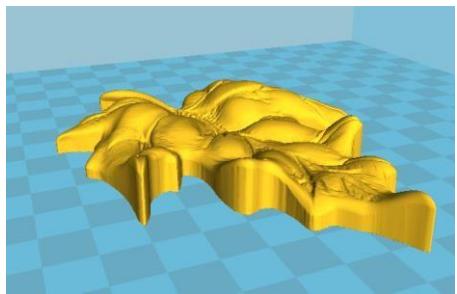


Left click the model and you will see the icon of “whirling, scaling, mirroring.”

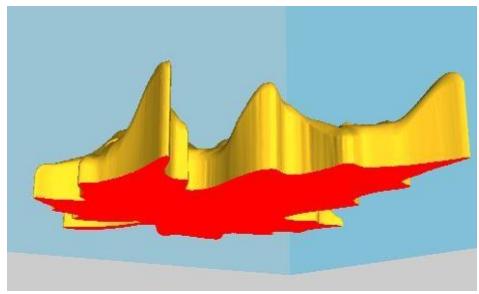
Left click to select model and move → move model.
 Slide mouse wheel → scaling.
 Right click to select model and move → whirling.
 Shift + right click platform and move → move platform



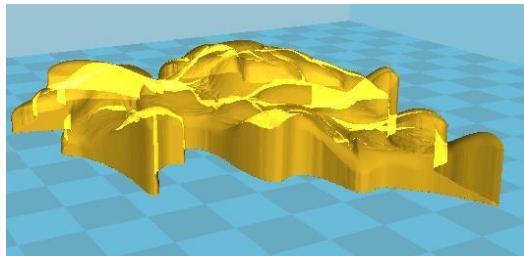




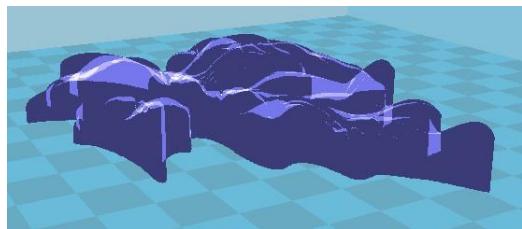
Normal: Most used.



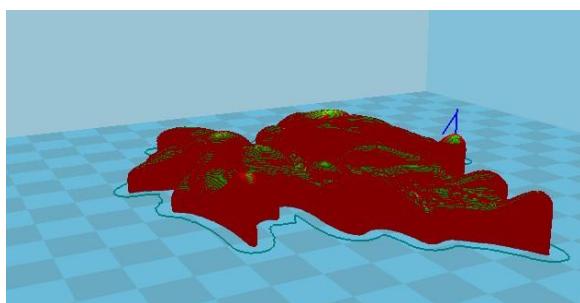
Overhang: Used to see the vacant part.



Transparent



X-Ray



Layers:Used to simulate the effect of each layer and the path.

