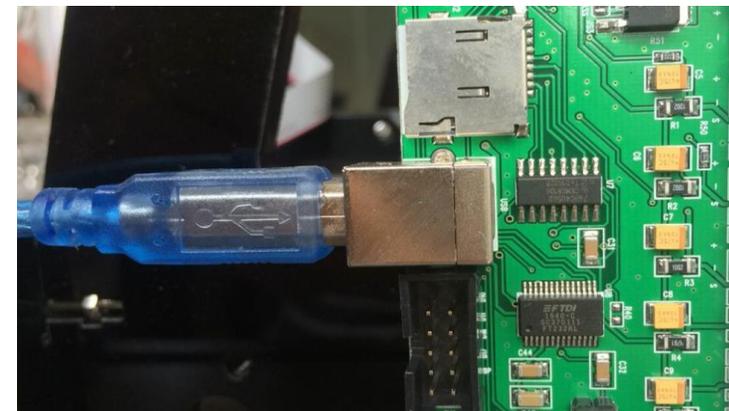




1. Conectar la Máquina al Tomacorrientes



2. Conectar el USB al Ordenador



3. Conectar el USB a la Impresora 3d

**Luego de que el Cable USB sea Conectado, el controlador del USB será instalado automáticamente como se aprecia a continuación.**



1. Sistema instalando el controlador USB

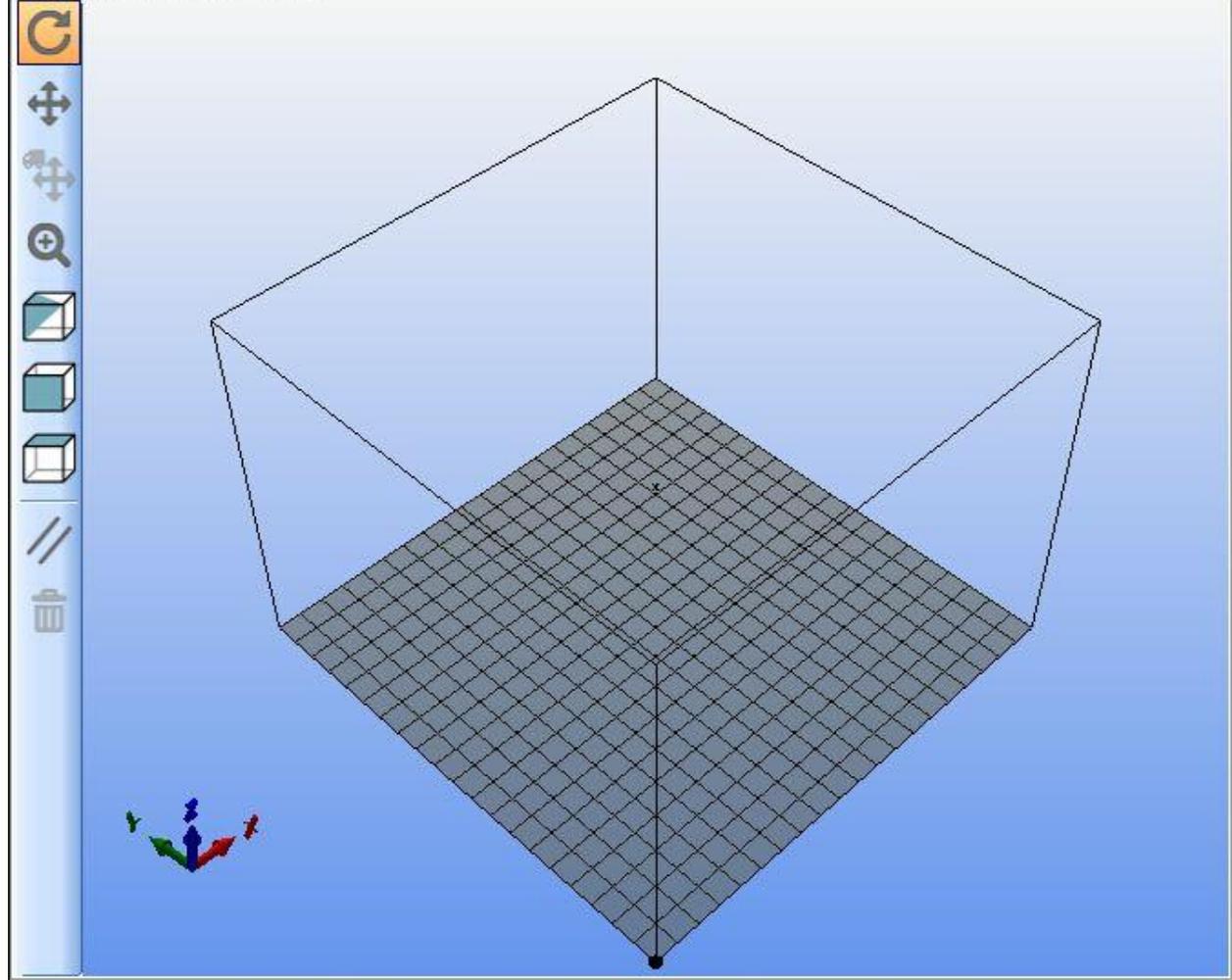


2. Instalación completada, las diferentes impresoras tienen diferentes puertos, aquí se muestra como COM13

**Nota:** Si la instalación automática falla, por favor descargar el controlador aquí:  
[www.ftdichip.com/Drivers/VCP.htm](http://www.ftdichip.com/Drivers/VCP.htm)



3D View Temperature Curve



Object Placement Slicer G-Code Editor Manual Control

Name	Mesh	Co...

**Pincha Aquí para Configurar**

Translation X  Y  Z   
 Scale X  Y  Z    
 Rotation X  Y  Z   
 Cut Objects  
 Position   
 Inclination   
 Azimuth

Show in Log:  Commands  Infos  Warnings  Errors  ACK  Auto Scroll  Clear Log  Copy

```

11:46:50.531 OpenGL renderer:ATI Mobility Radeon X1600
11:46:50.531 Using fast VBOs for rendering is possible
  
```

Disconnected - Idle  1611 FPS

**Printer Settings**

Printer: default

Connection Printer Printer Shape Advanced

Connector: Serial Connection

Port: COM13 Refresh Ports

Baud Rate: 115200

Transfer Protocol: Autodetect

Reset on Connect: Disabled

Reset on Emergency: Send emergency command and reconnect

Receive Cache Size: 127

Use Ping-Pong Communication (Send only after ok)

From Arduino 1 on the receiving cache was reduced from 127 to 63 bytes!

The printer settings always correspond to the selected printer at the top. They are stored with every OK or apply. To create a new printer, just enter a new printer name and press apply. The new printer starts with the last settings selected.

OK Apply Cancel

1. Selecciona el Puerto USB, Diferentes Impresoras 3D mostraran diferentes Puertos

2. El "Baud Rate" es **115200**

Si desconoces el número del puerto, Hacer Click Derecho en "Equipo"- "Administrar"- "Administrador de Dispositivos"- "Puerto" y encuentra el número de Puerto

**Printer Settings**

Printer: default

Connection Printer Printer Shape Advanced

Travel Feed Rate: 4800 [mm/min]

Z-Axis Feed Rate: 100 [mm/min]

Default Extruder Temperature: 200 °C

Default Heated Bed Temperature: 55 °C

Number of Extruder: 1

Check Extruder & Bed Temperature

Remove temperature requests from Log

Check every 3 seconds.

Park Position: X: 0 Y: 0 Z-Min 0

Send ETA to printer display

Go to Park Position after Job/Kill

Disable Extruder after Job/Kill

Disable Heated Bed after Job/Kill

Disable Motors after Job/Kill

Add to comp. Printing Time 8 [%]

OK Apply Cancel

Ingresa la temperatura de acuerdo al material, ya sea ABS o PLA.

Temperatura de Referencia:

ABS Extrusor: **240°C**

Cama (HeatBed): **80~100°C**

PLA Extrusor: **200°C**

Cama (HeatBed): **40~60°C**

Printer Settings

Printer: default

Connection Printer **Printer Shape** Advanced

Printer Type: Classic Printer

Home X: Min Home Y: Min Home Z: Min

X Min: 0 X Max: 220 Bed Left: 0

Y Min: 0 Y Max: 220 Bed Front: 0

Print Area Width: 220

Print Area Depth: 220

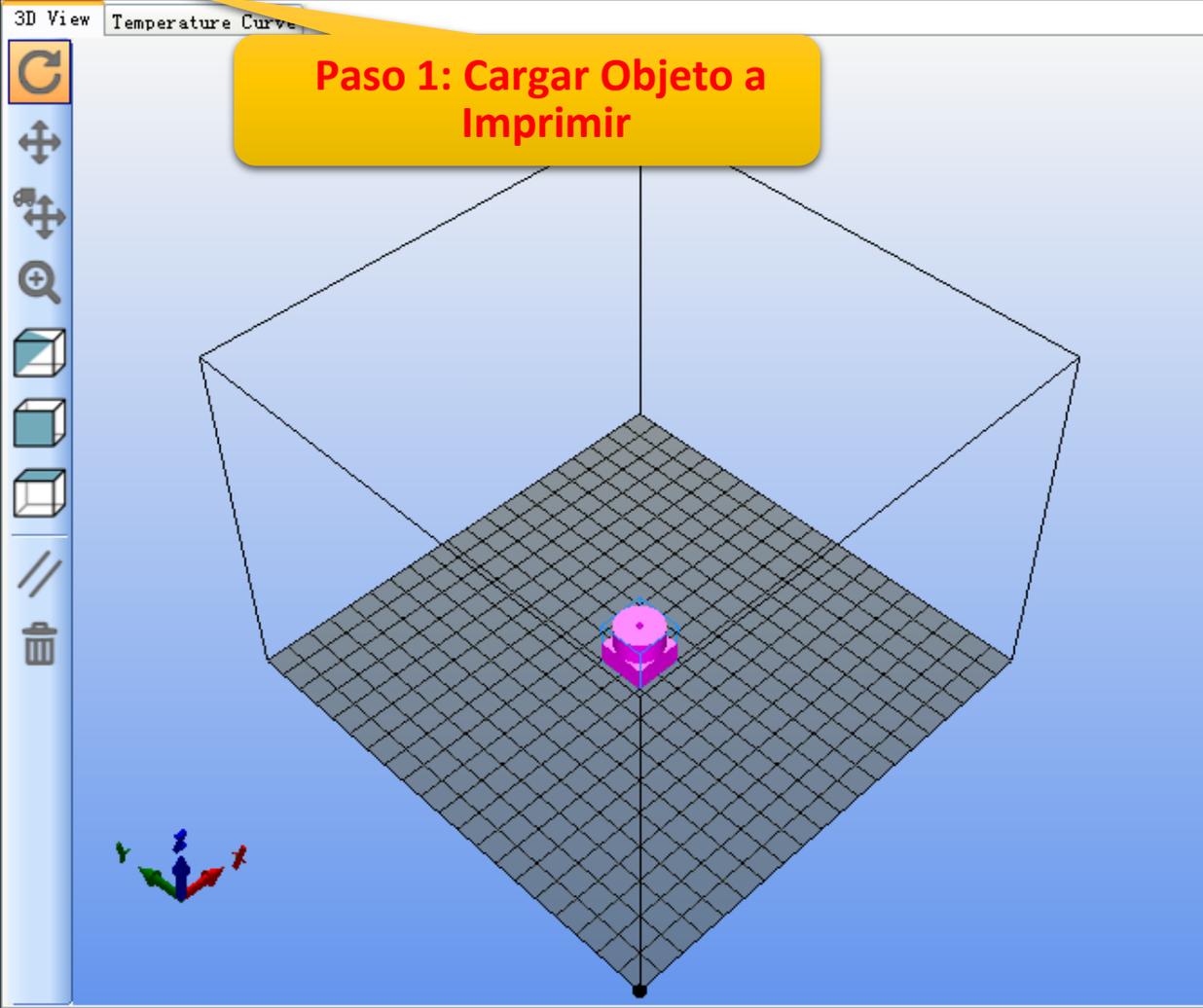
Print Area Height: 240

The min and max values define the possible range. These coordinates can be negative and outside the left/front define the coordinates where the printbed itself starts. By changing the min/max values you can even move the origin in the center of the print bed, if supported by firmware.

OK Apply Cancel

Al terminar la Configuración  
Pincha "OK"

Area de Impresión



Paso 1: Cargar Objeto a Imprimir

Name	Mesh	Co...
20mm_box_pillar.stl	✓	✓

Translation X: 100 Y: 100 Z: 0

Scale X: 1 Y: 1 Z: 1

Rotation X: 0 Y: 0 Z: 0

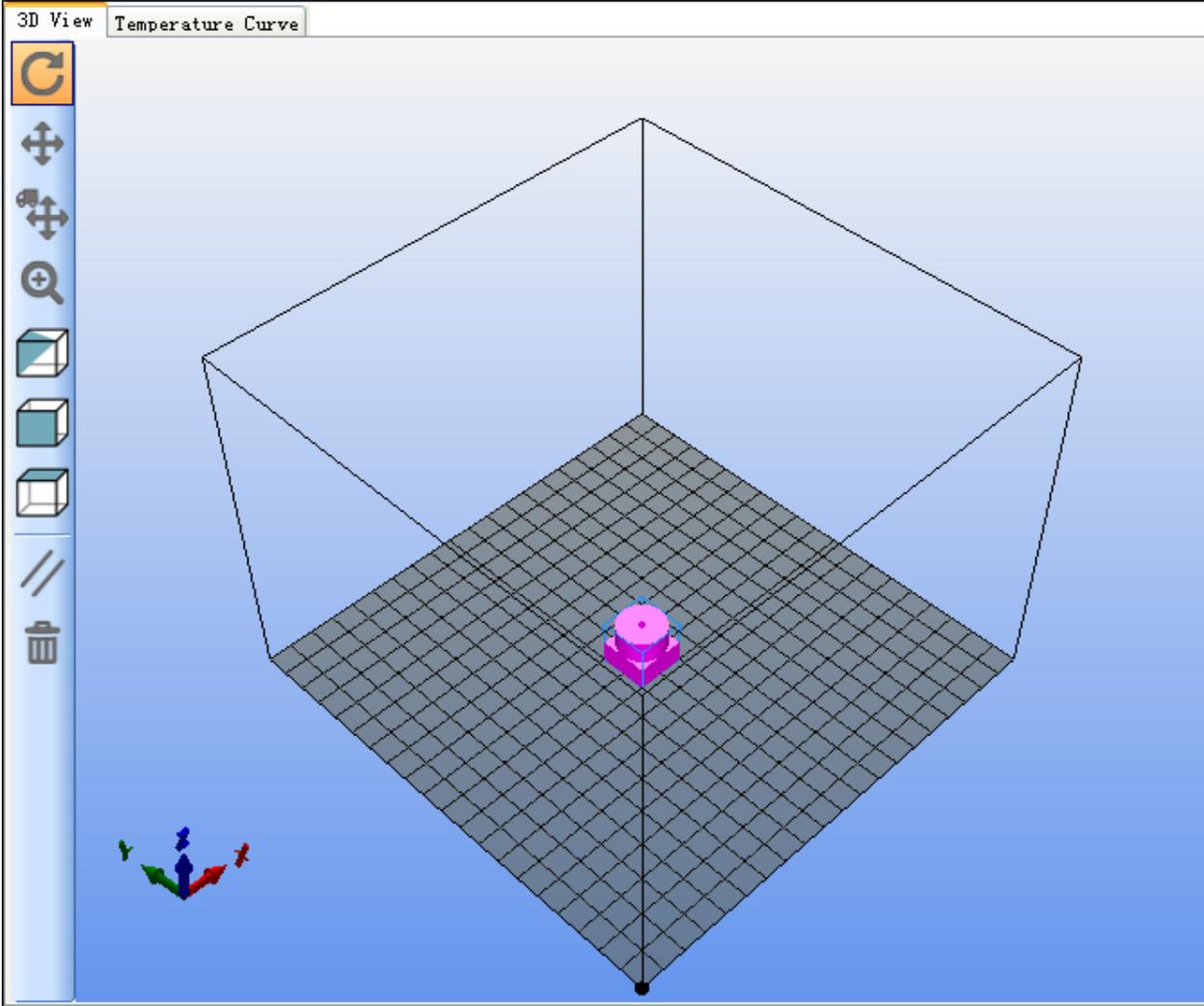
Object Analysis

	Deep Analysis	Original - Modified
Modified:	No	No
Manifold:	Yes	Yes
Intersecting triangles:	Not tested	Not tested
Normals:	Oriented	Oriented
Loop Edges:	0	0
Highly Connected Edges:	0	0
Points:	398	398
Edges:	1188	1188
Faces:	792	792
Shells:	1	1

Cut Objects

Position: [Slider]

```
11:22:46.906 Object is manifold.
11:22:46.906 Analysing finished.
```



Object Placement **Slicer** G-Code Editor Manual Control

**Slice with Slic3r** Kill Slicing

Slicer: **Slic3r** Manager **Configure**

Print Setting: Simple Mode

Printer: [Dropdown]

Filament: [Dropdown]

Extruder 1: [Dropdown]

Extruder 2: [Dropdown]

Extruder 3: PLA2-FanKeepon

Override Slic3r Settings

Copy Print Settings to Override

Enable Support

Enable Cooling

Layer Height: 0.3 mm

Infill Density: [Slider] 6%

Infill Angle: [Slider] 45°

Infill Pattern: honeycomb

Solid Infill Pattern: rectilinear

Slic3r is separate, external program, which can be started separately. For further informations, please visit the following webpage: <http://www.slic3r.org>

**Paso 2: Seleccionar Slic3r y luego "Configurar"**

### Slic3r

File Window Help

Print Settings Filament Settings Printer Settings

- default - (modified)

- Layers and perimeters
- Infill
- Speed
- Skirt and brim
- Support material
- Notes
- Output options
- Multiple Extruders
- Advanced

**Layer height**

Layer height: 0.2 mm  
First layer height: 0.2 mm or %

**Vertical shells**

Perimeters (minimum): 3  
Spiral vase:

**Horizontal shells**

Solid layers: Top: 3 Bottom: 3

**Quality (slower slicing)**

Extra perimeters if needed:   
Avoid crossing perimeters:   
Start perimeters at: Concave points:  Non-overhang points:   
Detect thin walls:   
Detect bridging perimeters:

**Advanced**

Randomize starting points:   
External perimeters first:

**Paso 3:**  
Parámetros

**Configuración  
de Parámetros**

### Print with Slic3r

Kill Slicing

Manager

Configure

Simple Mode

Simple Mode

Simple Mode

LA2-FanKeepon

LA2-FanKeepon

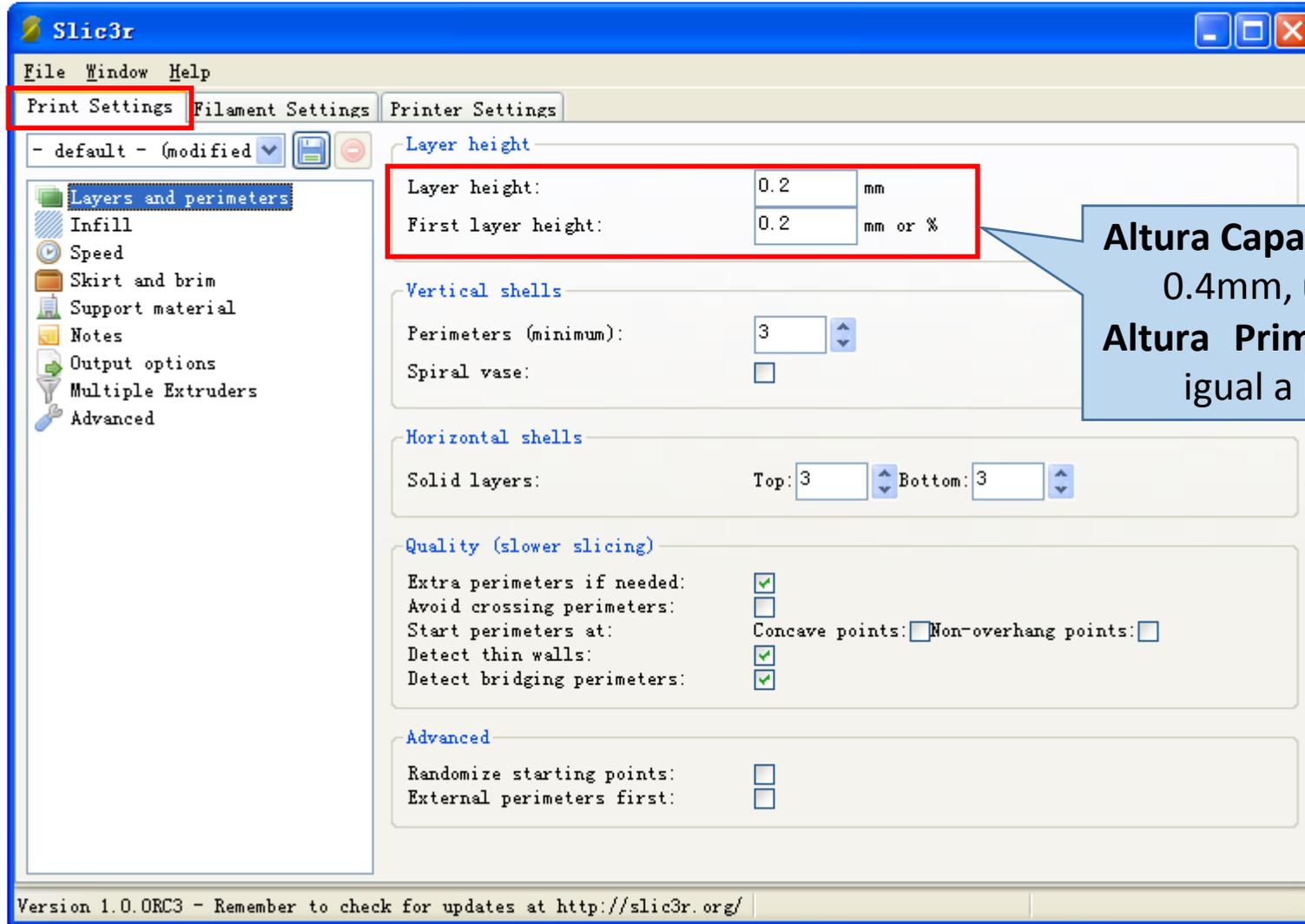
Settings

Settings to Override

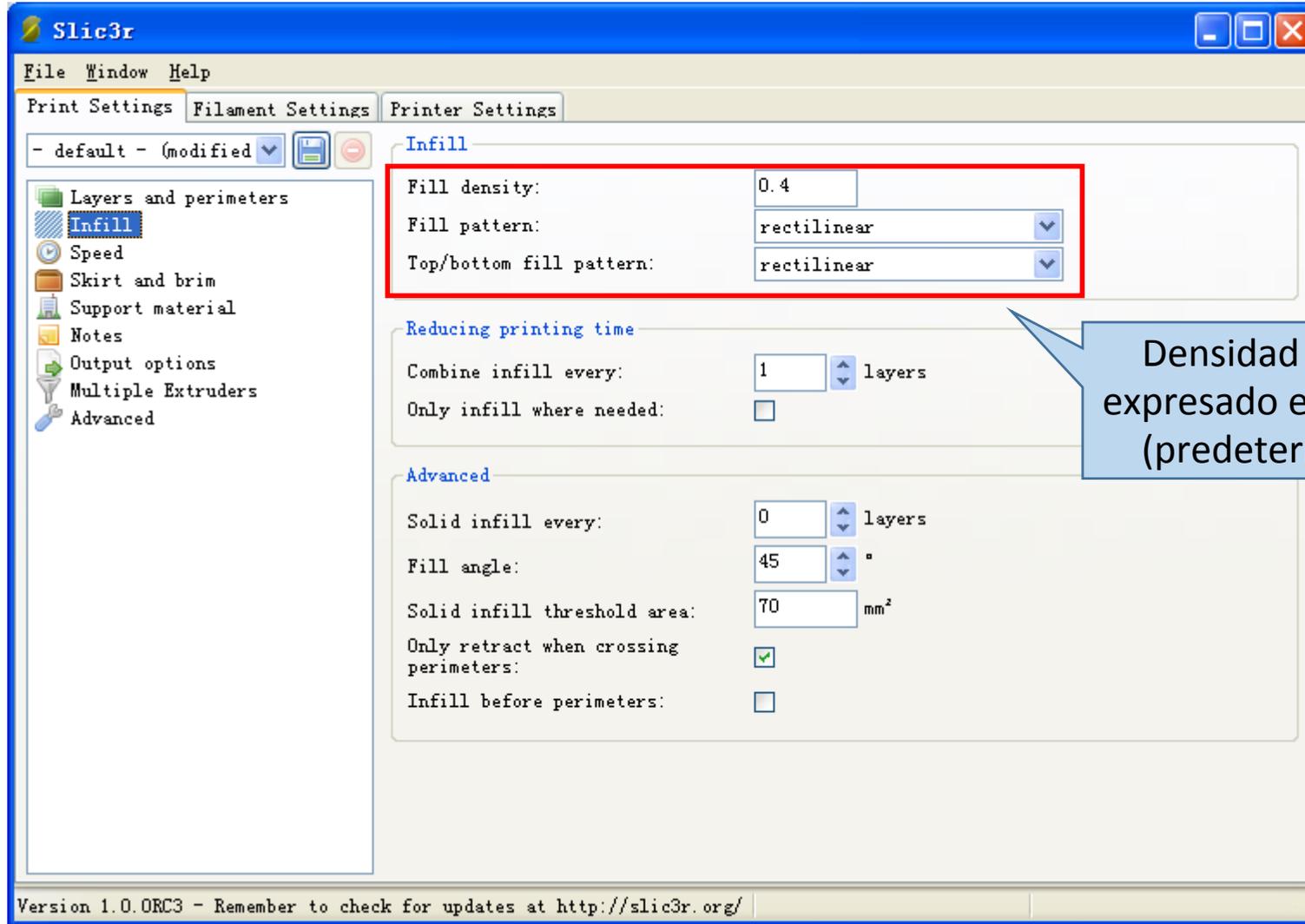
6%

45°

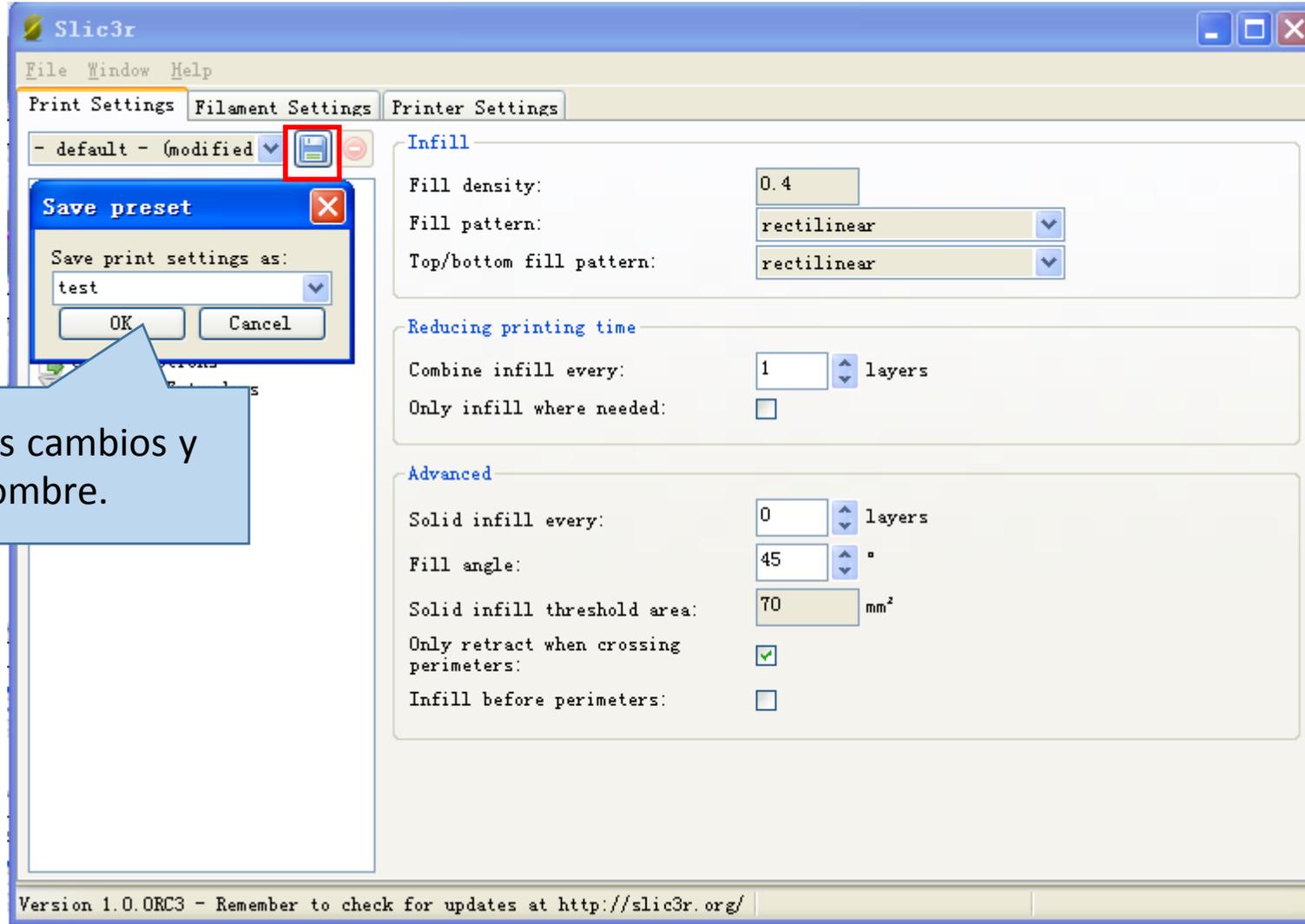
For further informations, please visit the following



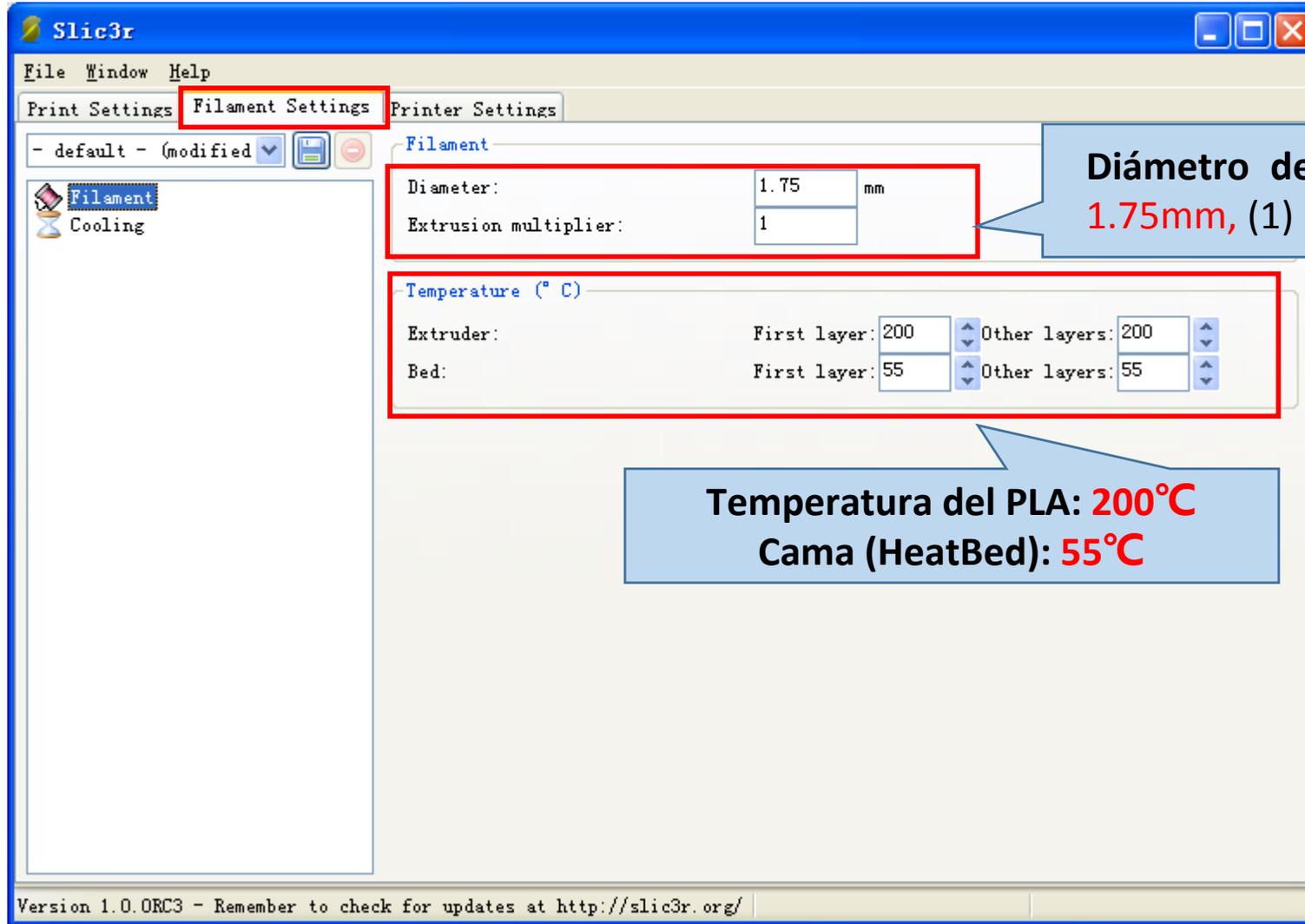
**Altura Capas** entre 0.1mm y 0.4mm, usualmente **0.2mm**  
**Altura Primera Capa** menor o igual a la altura de capas



Densidad de Relleno ,  
expresado en rango de 0-1  
(predeterminado: 0.4)

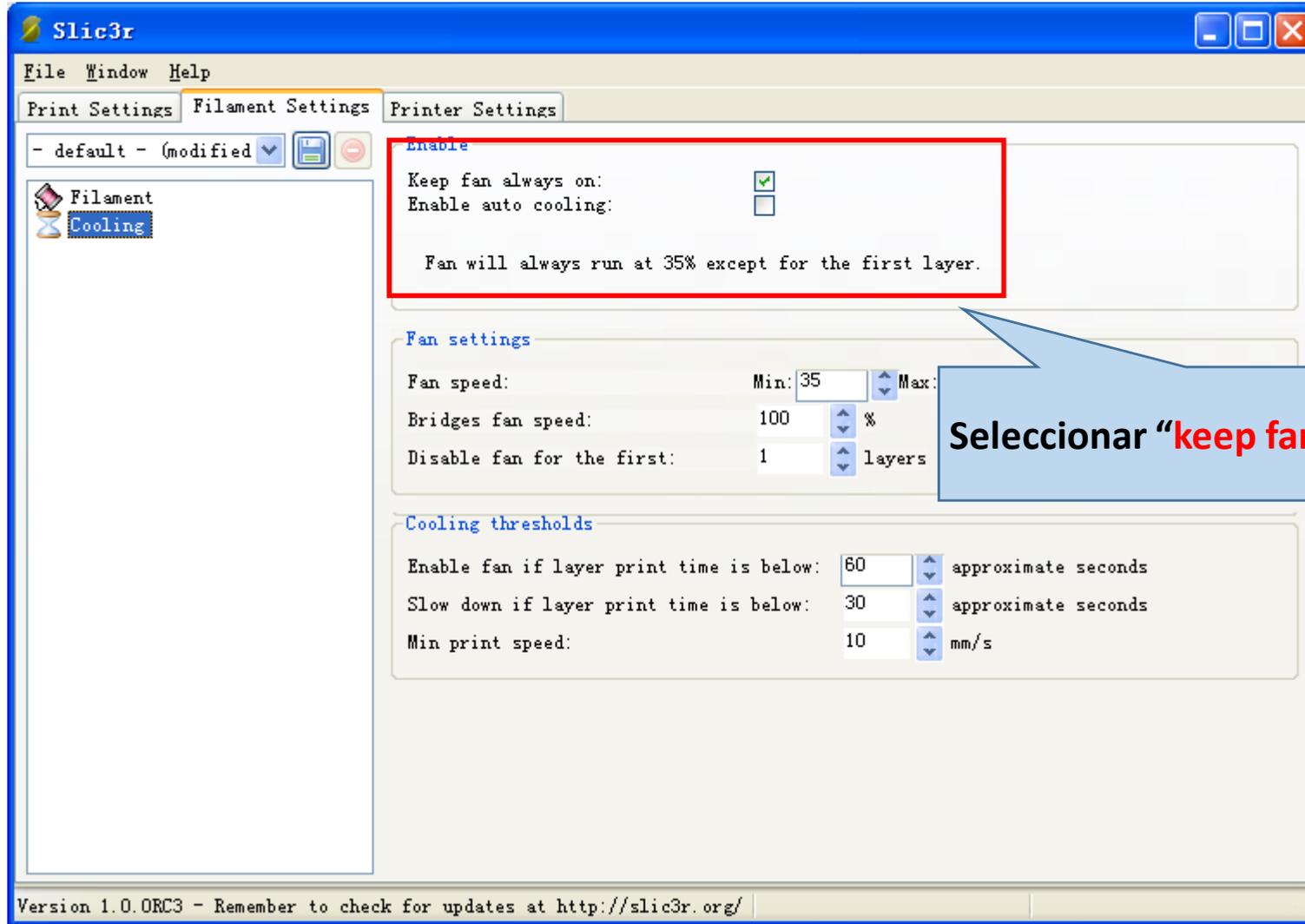


Guardar los cambios y asignar nombre.



**Diámetro de Filamento:**  
**1.75mm, (1) Un Extrusor**

**Temperatura del PLA: 200°C**  
**Cama (HeatBed): 55°C**

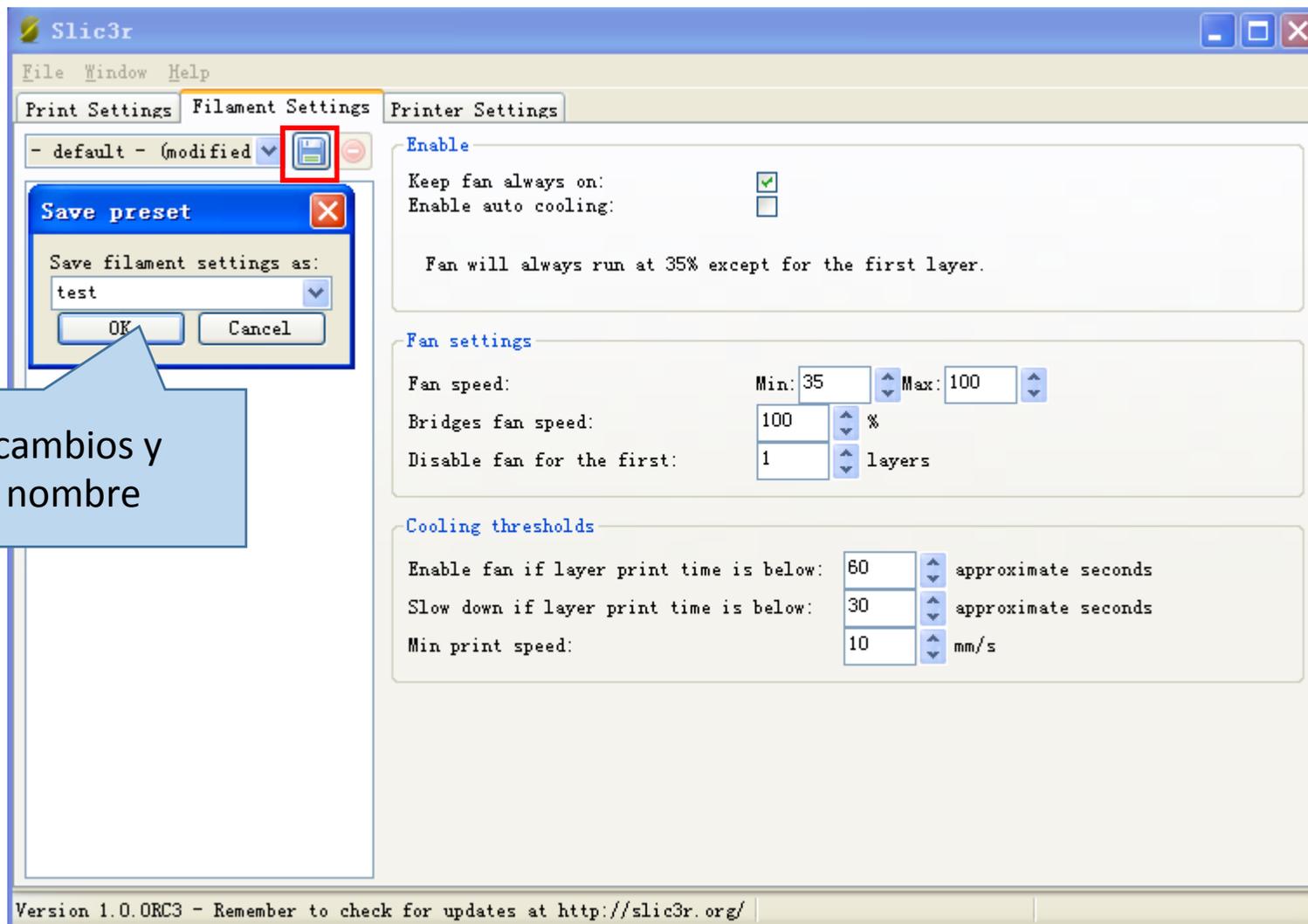


**Enable**  
Keep fan always on:   
Enable auto cooling:   
  
Fan will always run at 35% except for the first layer.

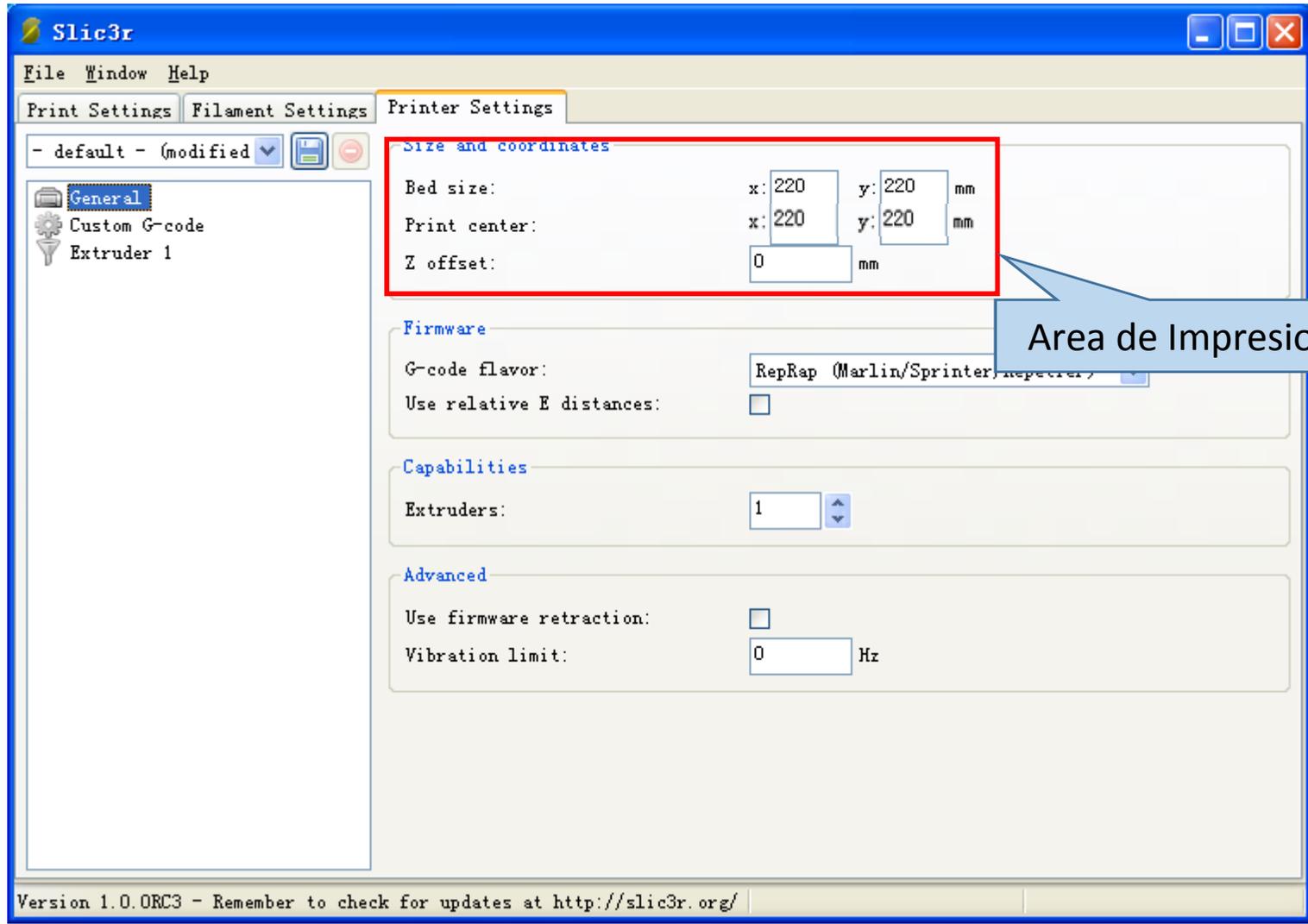
Seleccionar "keep fan always on"

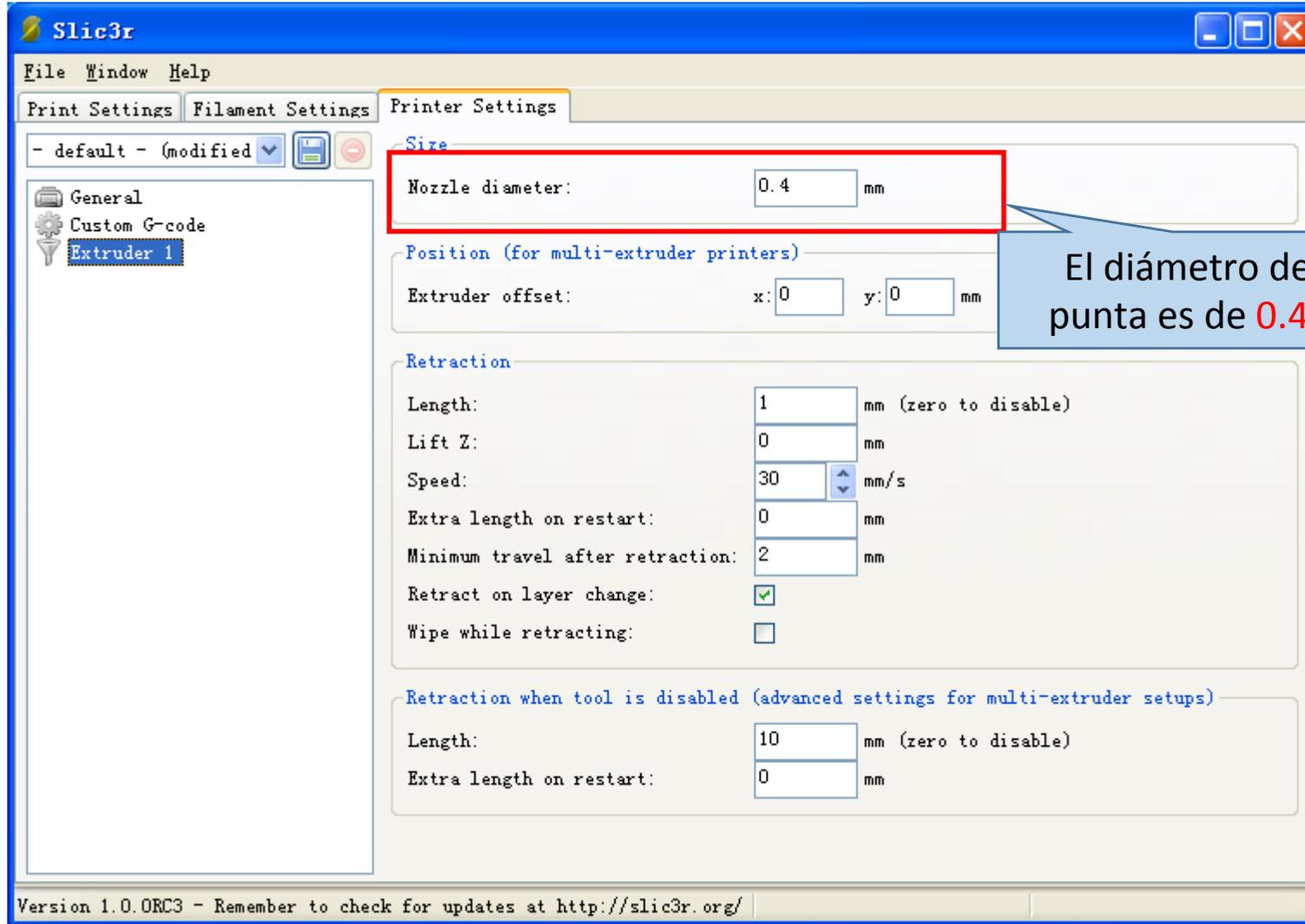
**Fan settings**  
Fan speed: Min: 35 Max: 100  
Bridges fan speed: 100 %  
Disable fan for the first: 1 layers

**Cooling thresholds**  
Enable fan if layer print time is below: 60 approximate seconds  
Slow down if layer print time is below: 30 approximate seconds  
Min print speed: 10 mm/s

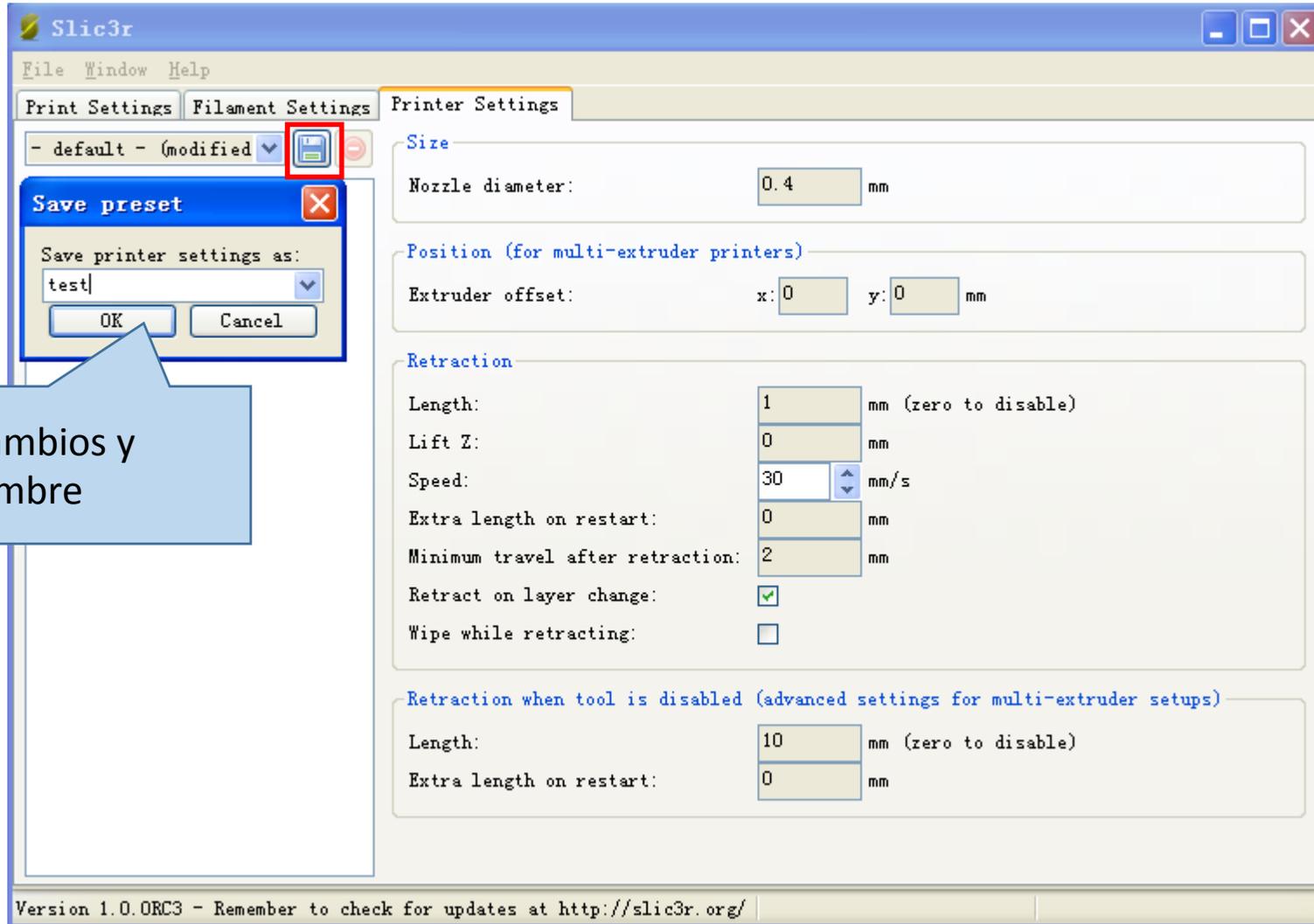


Guardar cambios y  
asignar nombre

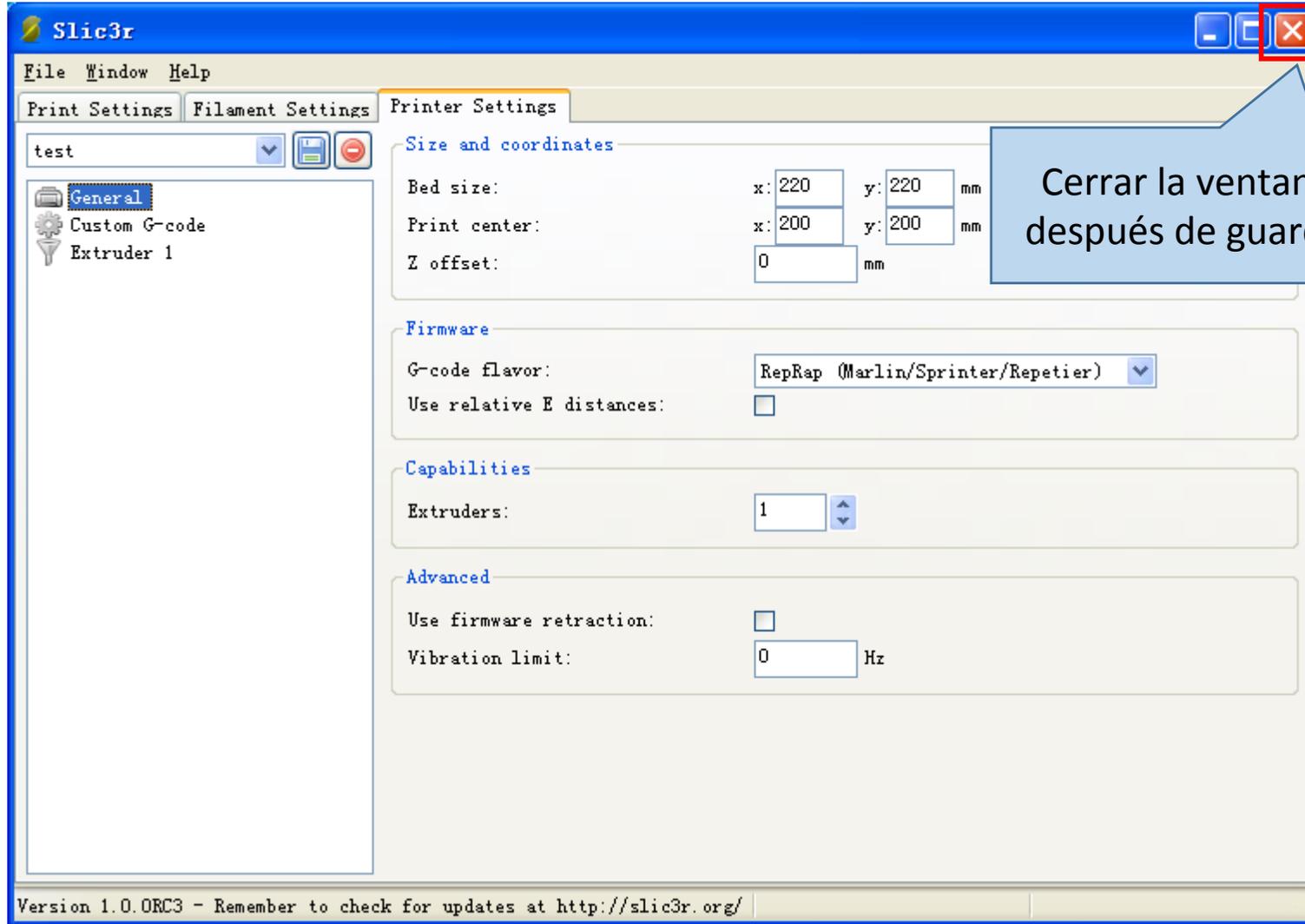




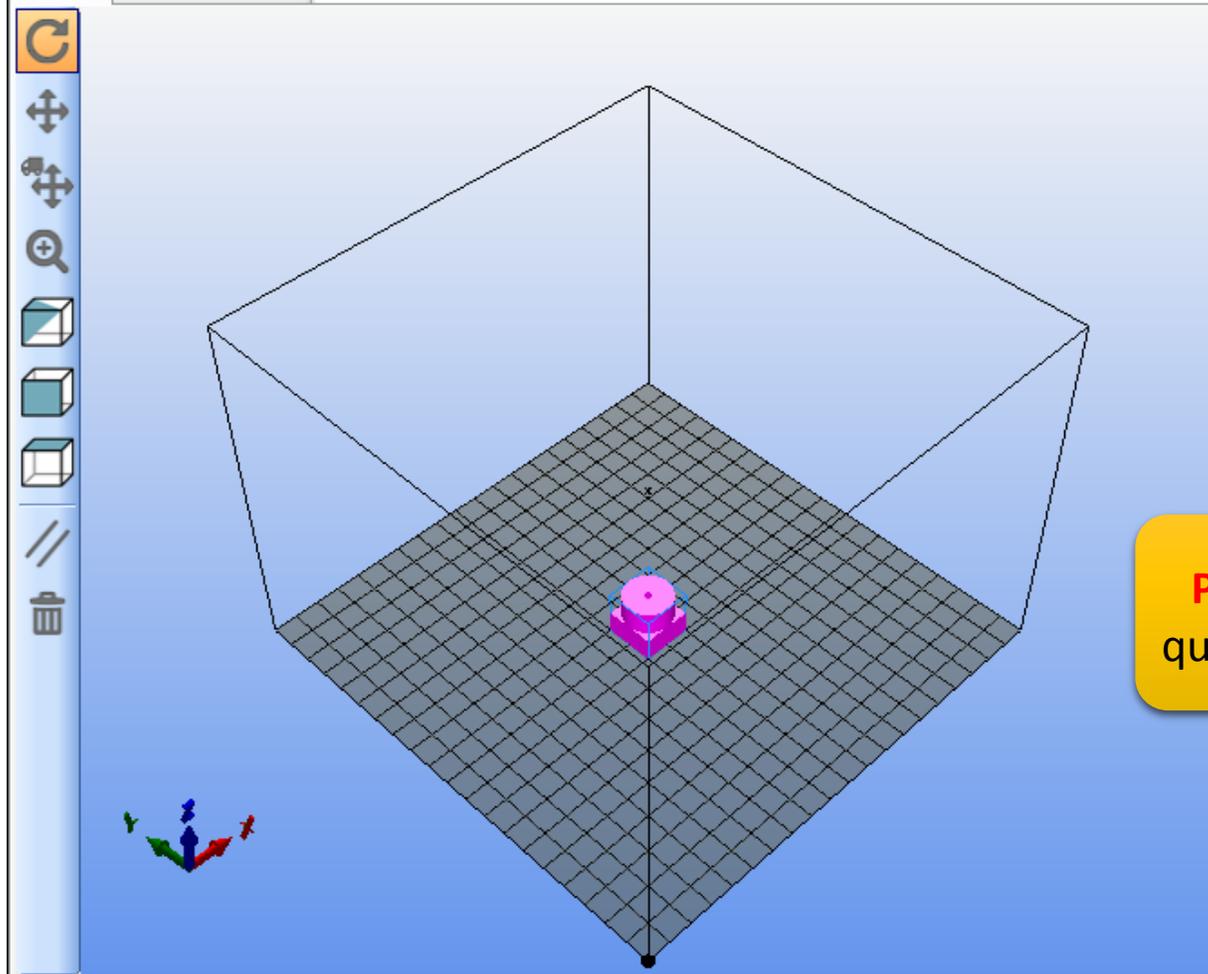
El diámetro de la punta es de 0.4mm



Guardar cambios y  
asignar nombre



Cerrar la ventana después de guardar

**Slice with Slic3r**

Kill Slicing

Slicer: Slic3r

Manager

Configure

Print Setting: test

Printer Settings: test

**Filament settings:**

Extruder 1: test

Extruder 2: PLA2-FanKeepon

Extruder 3: PLA2-FanKeepon

Infill Density 6%

Infill Angle 45°

Infill Pattern: honeycomb

Solid Infill Pattern: rectilinear

Slic3r is separate, external program, which can be started separately. For further informations, please visit the following webpage: <http://www.slic3r.org>

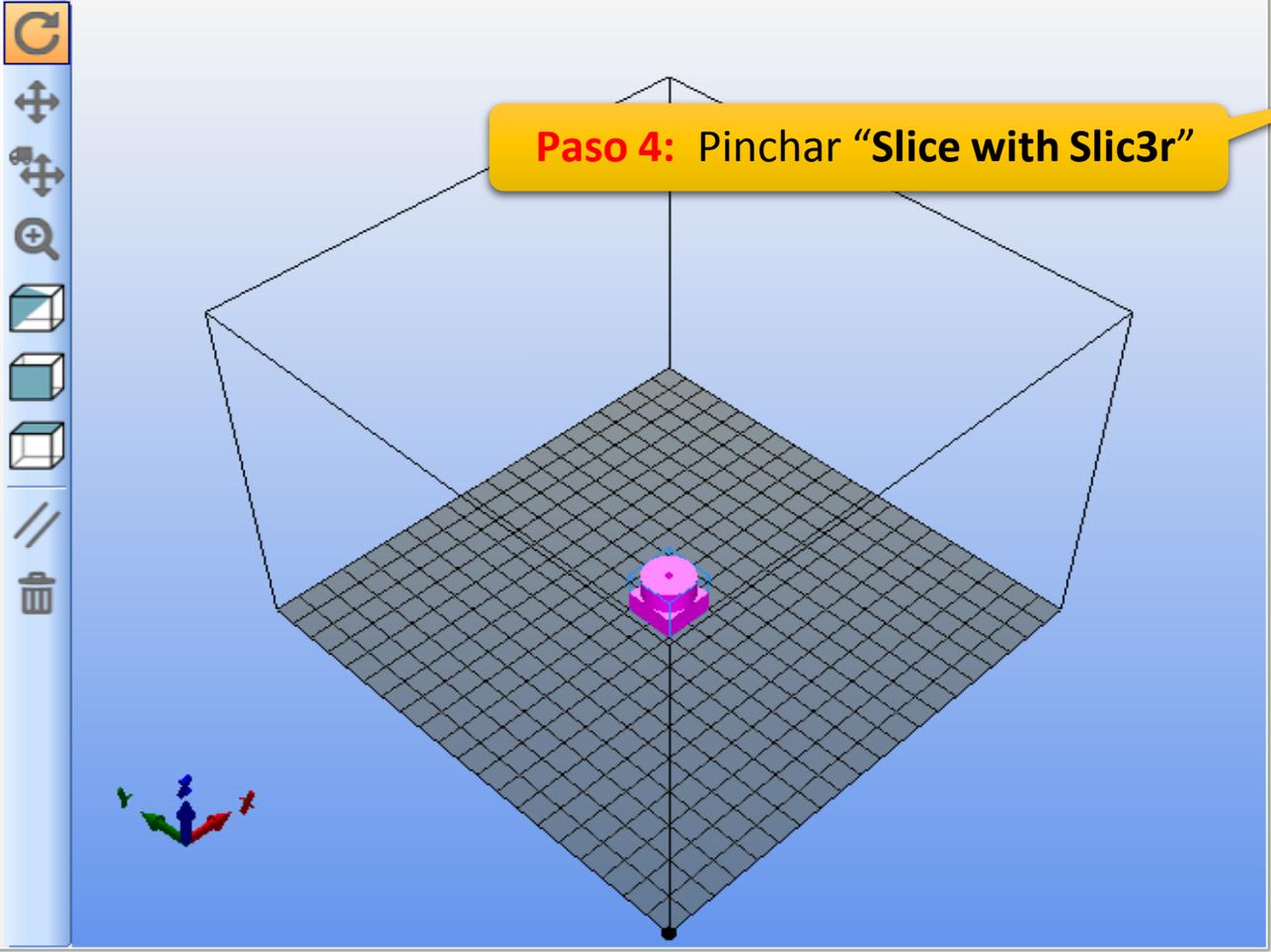
Show in Log: Commands Infos Warnings Errors ACK Auto Scroll Clear Log Copy

11:22:46.906 Object is manifold.

11:22:46.906 Analysing finished.

Disconnected - Idle 1447 FPS

**Paso 4:** Selecciona los parámetros que creastes y nombrastes para slic3r



**Paso 4: Pinchar "Slice with Slic3r"**



Slicer: Slic3r Manager



Action Infilling layers  
 Start job after slicing is finished

Slicing

Slic3r is separate, external program, which can be... for informations, please visit the following webpage: <http://www.slic3r.org>

```
11:36:38.890 <Slic3r> => Combining infill
11:36:38.890 <Slic3r> => Infilling layers
```



Object Placement Slicer G-Code Editor Manual Control

G-Code

```

1 ; generated by Slic3r 1.0.0RC3 on 2014-08-25 at 11:36:40
2
3 ; layer_height = 0.2
4 ; perimeters = 3
5 ; top_solid_layers = 3
6 ; bottom_solid_layers = 3
7 ; fill_density = 0.4
8 ; perimeter_speed = 30
9 ; infill_speed = 60
10 ; travel_speed = 130
11 ; nozzle_diameter = 0.4
12 ; filament_diameter = 1.75
13 ; extrusion_multiplier = 1
14 ; perimeters extrusion width = 0.40mm
15 ; infill extrusion width = 0.67mm
16 ; solid infill extrusion width = 0.67mm
17 ; top infill extrusion width = 0.67mm
18 ; first layer extrusion width = 0.40mm
19
20 G21 ; set units to millimeters
21 M104 S200 ; set temperature
    
```

Visualization Help

Show complete Code  Show Single Layer  Show Layer Range

First Layer: 0

Last Layer: 1

R1 C1 Insert Layer 0 Extruder 0 Printing Time:22m:50s



3D View Temperature Curve

**Paso 5: Conecta a la Impresora 3D y Ejecuta el Trabajo**

Object Placement Slicer G-Code Editor Manual Control

G-Code

```

1 ; generated by Slic3r 1.0.0RC3 on 2014-08-25 at 11:36:40
2
3 ; layer_height = 0.2
4 ; perimeters = 3
5 ; top_solid_layers = 3
6 ; bottom_solid_layers = 3
7 ; fill_density = 0.4
8 ; perimeter_speed = 30
9 ; infill_speed = 60
10 ; travel_speed = 130
11 ; nozzle_diameter = 0.4
12 ; filament_diameter = 1.75
13 ; extrusion_multiplier = 1
14 ; perimeters extrusion width = 0.40mm
15 ; infill extrusion width = 0.67mm
16 ; solid infill extrusion width = 0.67mm
17 ; top infill extrusion width = 0.67mm
18 ; first layer extrusion width = 0.40mm
19
20 G21 ; set units to millimeters
21 M104 S200 ; set temperature
22 G00 Z10 ;

```

Visualization Help

 Show complete Code  Show Single Layer  Show Layer Range

First Layer:

0

Last Layer:

1

100

R1 C1 Insert Layer 0 Extruder 0 Printing Time:22m:50s

Show in Log:  Commands  Infos  Warnings  Errors  ACK  Auto Scroll  

11:36:41.406 &lt;Slic3r&gt; Done. Process took 0 minutes and 5.234 seconds

11:36:41.406 <Slic3r> Filament required: 1849.2mm (4.4cm<sup>3</sup>)Disconnected - Idle  654 FPS