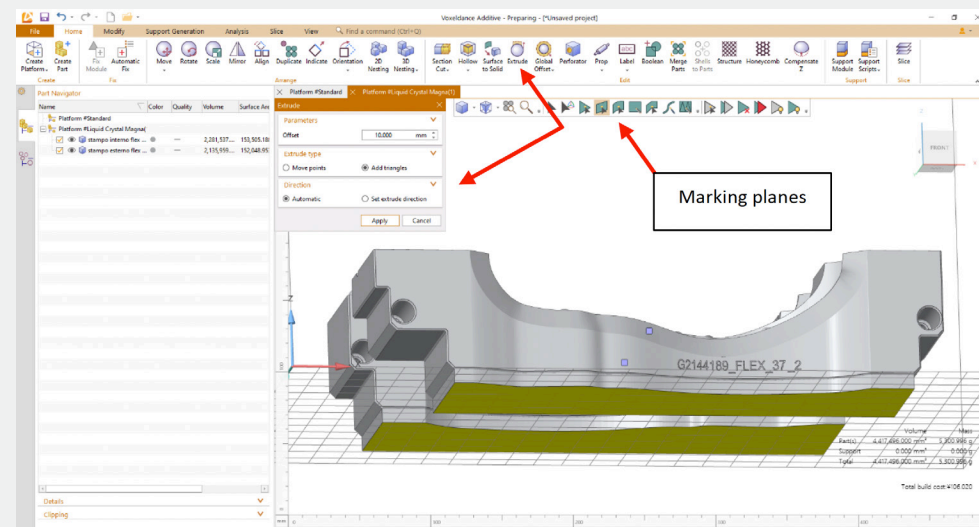# Printing shoe moulds with HighTemp DL401 resin & VoxelDance Additive software on Liquid Crystal Magna

1

Place parts on the platform horizontally and 'Mark' the bottom planes. Extrude both parts by 10mm, this will help with resin drainage.


2

Use the 'Structure' feature from the 'Home' menu and hollow the part with a gyroid lattice structure. This is required to prevent warpage and reduce the mould weight.
• Recommended wall thickness is 3mm
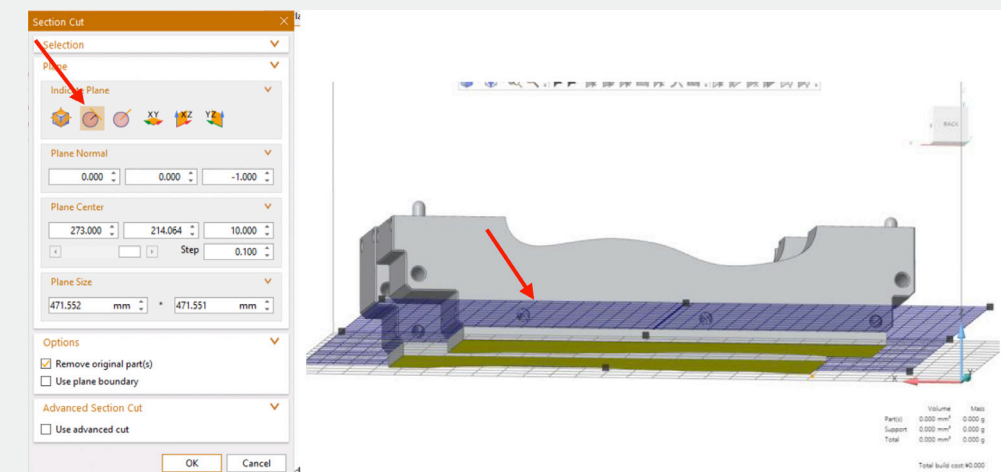• Recommended lattice Gyroid dimensions in XYZ are 20mm
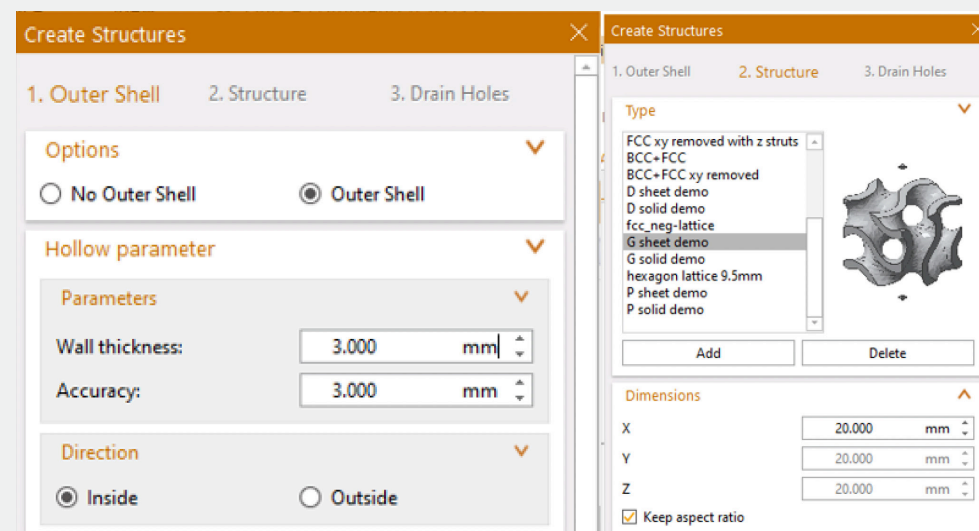
3

Add 2-3 bottom drain holes, with 5mm radius, 10mm in diameter on all sides, to reduce 'cupping effect'. Position them 3mm above the build area.
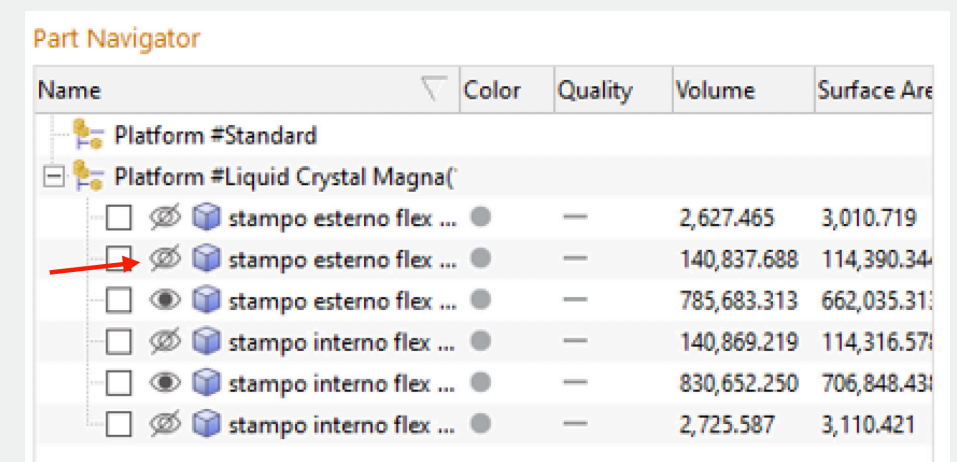Add 2 extra drain holes near to the top of the models.
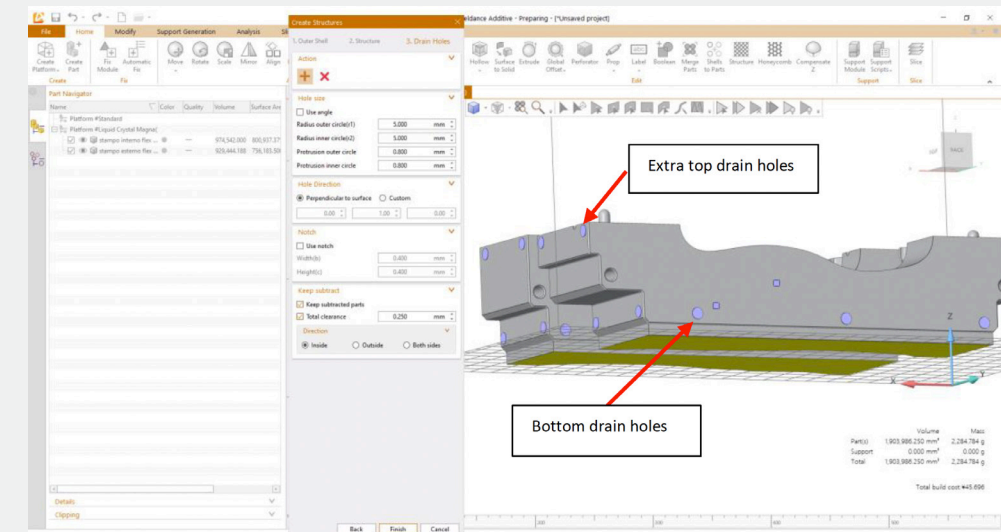
4

From 'Home' menu, Select 'Section Cut' . Select 'Indicate Plane' and click on bottom plane of each part.

5

Move cutting plane 10mm above and click 'Ok'.
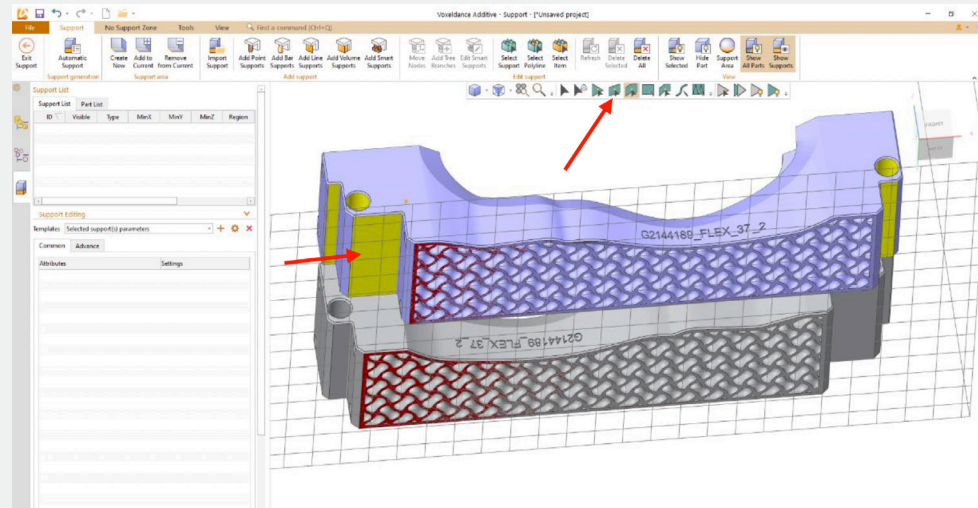Hide or delete cut part and all drain hole plugs.

6

To add supports, select 'Support Generation' tab, then 'Support Module'.
Mark all overhangs and areas that need supports. To mark planes, select the 'Mark planes' icon.


7

After marking the planes, click 'Create New', right click on the part name in the left side window, 'Run support script' and choose your printer and resin support settings profile.
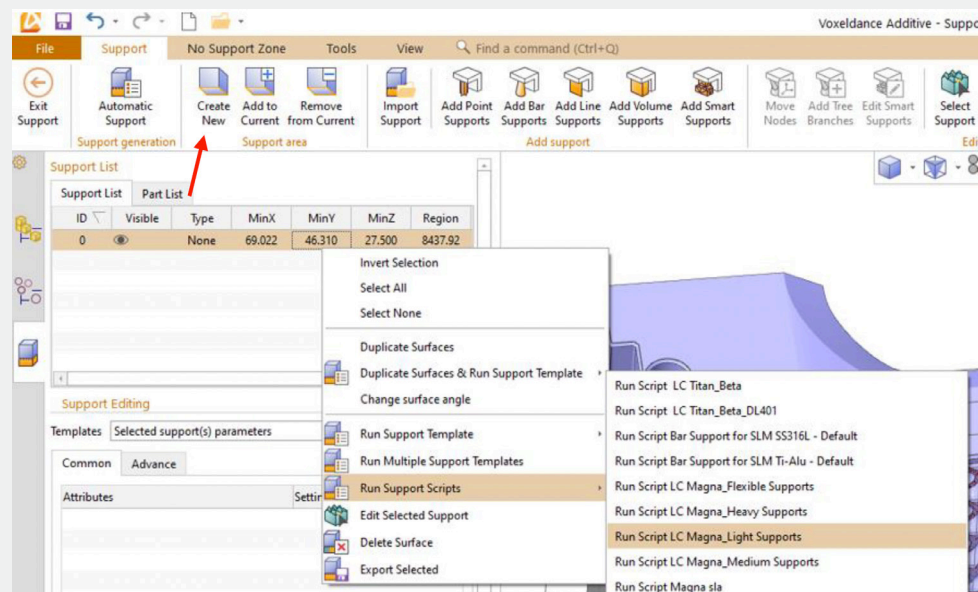
8

After supports have been added, export supported file by clicking 'Export' icon under 'Support Generation' menu in STL format and import in Photocentric Studio or slice the file directly from VoxelDance.


Extra top drain holes

Bottom drain holes
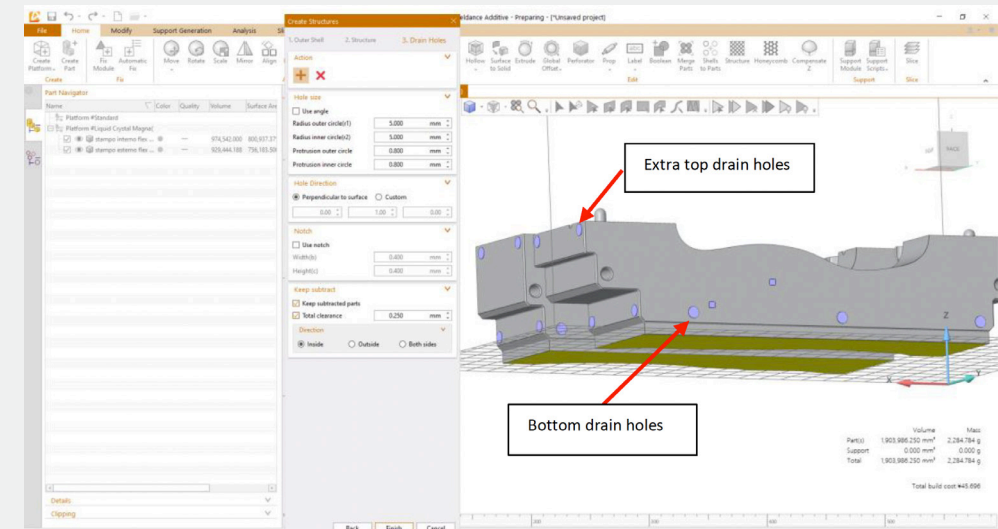
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Printing shoe moulds with HighTemp DL401 resin & Photocentric Studio software on Liquid Crystal Magna

1

Import/Open mould models in Photocentric Studio. Orientate them horizontally, flat on the build plate. We recommend orienting the moulds with surface A (critical surface) facing up, and adding supports to surface B.
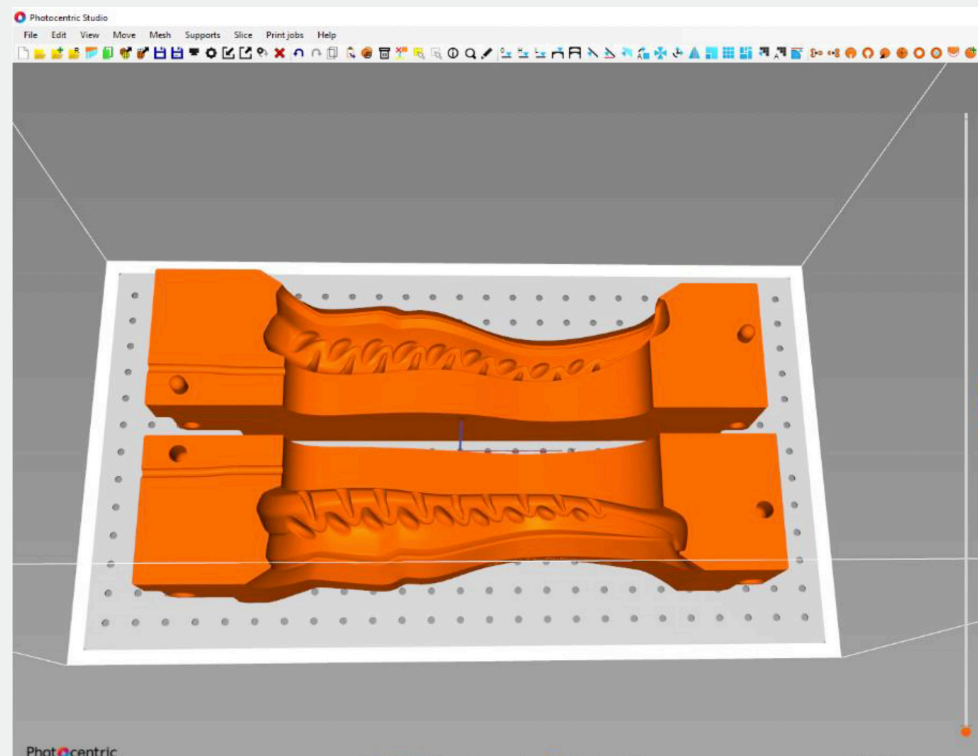

2

Select the support profile available in Photocentric Studio for HighTemp DL401 mould support. Alternatively use array tree supports and manually support the overhang areas (use default setting with a 0.8mm support tip).

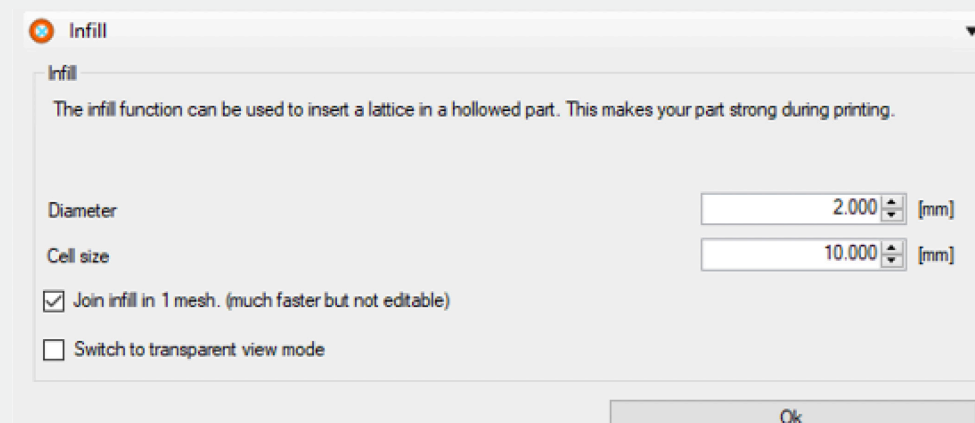Alternatively, use automatic supports with these suggested support settings:
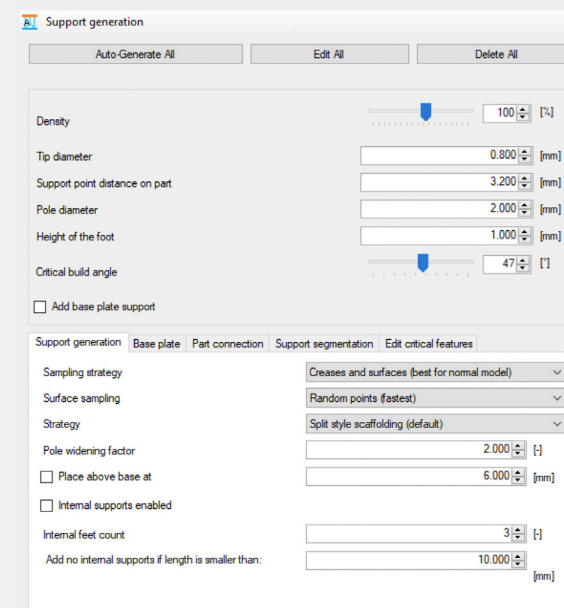
3

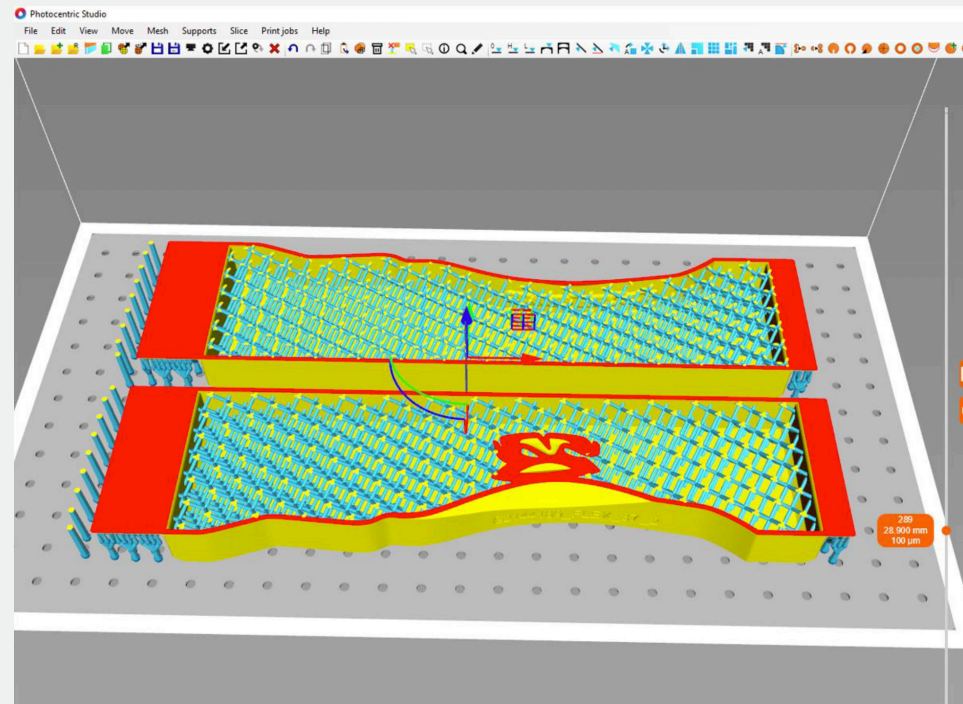Now hollow the parts with a recommended wall thickness of 3mm.
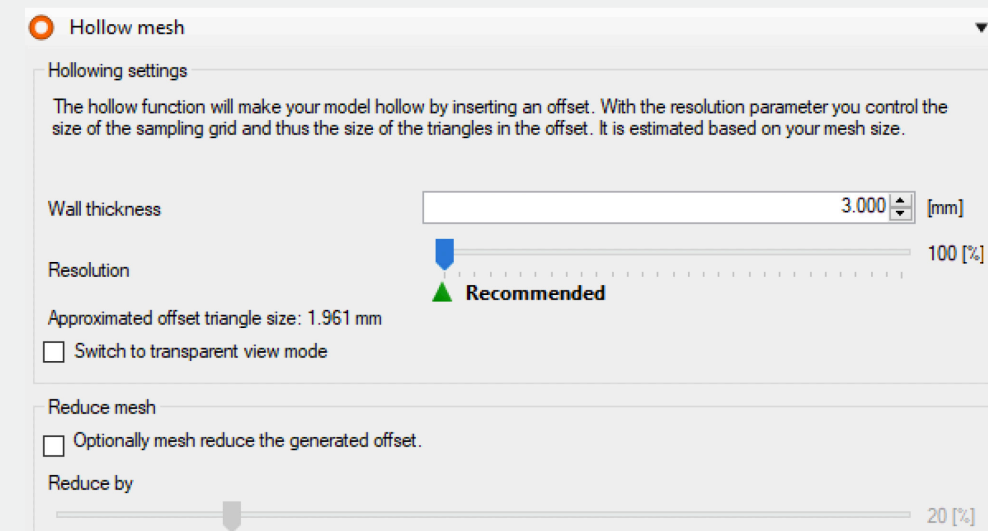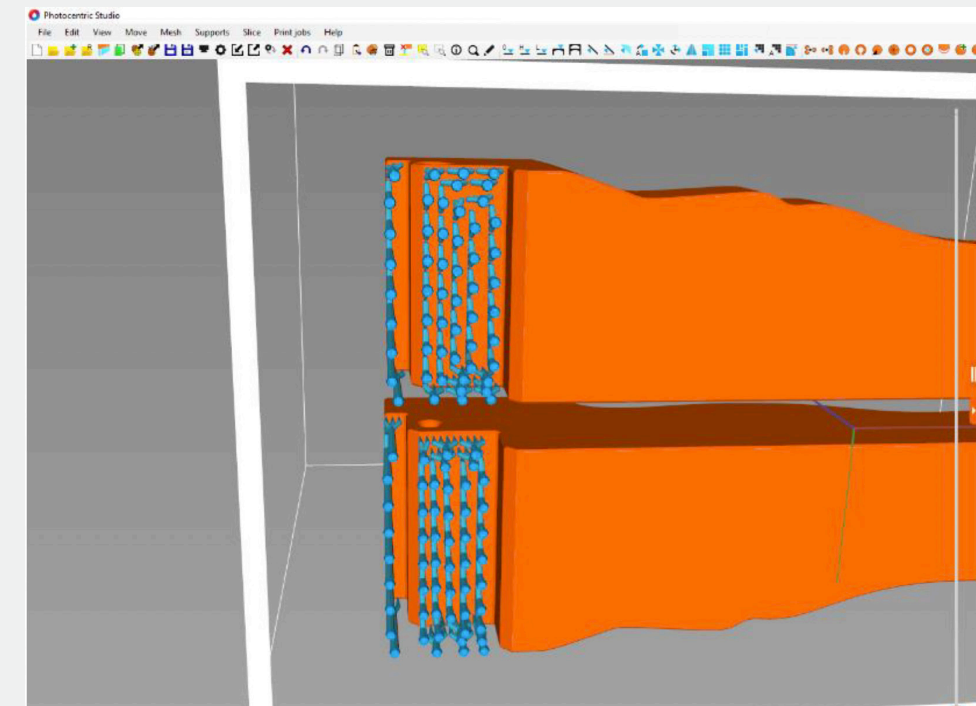
4

Then add infill with 2x10mm infill settings.
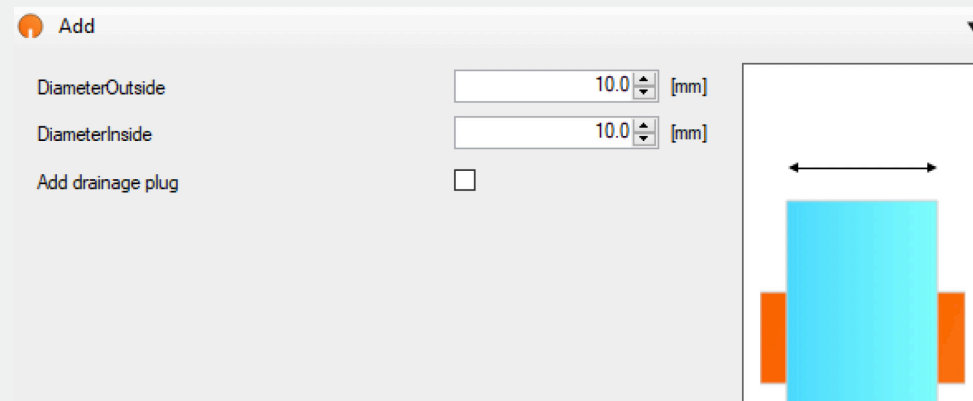
5

Add flexible drain holes. Use 10mm diameter hole size and add as many drain holes as possible on the bottom of the parts. Distance between the holes should be 10-15mm. This is needed to reduce surface area and avoid sludging over the outer surface or delamination on early layers.

Add		
DiameterOutside	10.0	[mm]
DiameterInside	10.0	[mm]
Add drainage plug	☐	
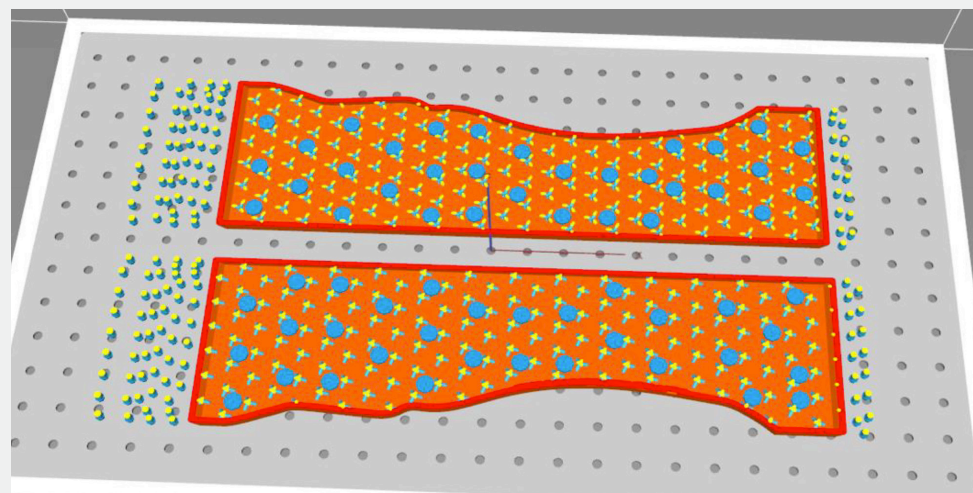
6

Add flexible drain holes on the side and top surfaces.
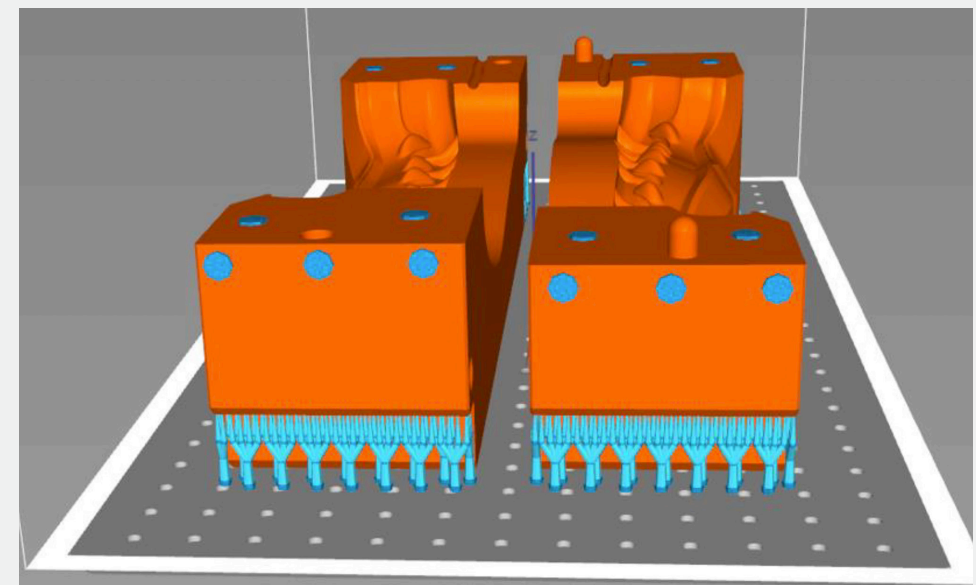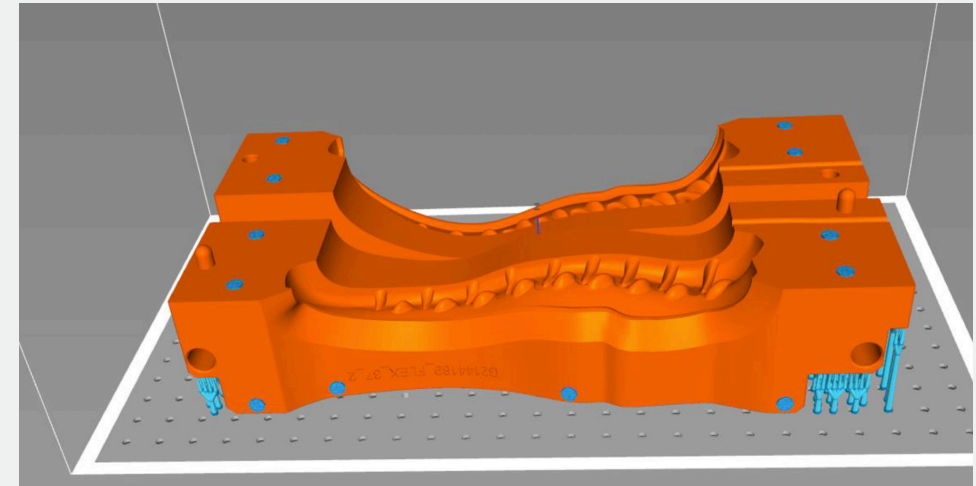
7

Slice the prepared models, we recommend slicing at 100 microns or less to achieve the best surface quality.

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