

3D Printing

With two DLP 3D printers, the MicroFabSpace gives access to the fabrication of polymer 3D structures with submillimetre resolution. These printers are mostly indicated for fast prototyping of microfluidic devices (with resolution down to 100-150µm) and the fabrication of polymer pieces as fluidic cells, small frames, accessories, tools, etc.

UV CURING TO HARDEN

THE 3D STRUCTURE

LIGHT IMAGE

In a 3D printing process:

a high-definition light projector shines a XY image at a resin tank, curing a certain layer thickness of the resin on a platform that moves in Z direction. After the 3D structure is built, a post curing process is usually required to harden the piece for its further application.



3D master for microfluidic fast prototyping.

The upper image shows the master and the lower image shows the PDMS replica bonded to a glass slide, conforming a chip of 200 μ m smallest section.

ucture 200 μm 400 μm

400 µm

200 µm

3D printed structures:

- Inverted structures, T-structure
- Pyramids
- Round channels
- 2 Thick layers structures

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150 µm

300 µm

150 µm

500 µm

Aquest equip ha estat cofiançat en un 50% pel Fons europeu de desenvolupament regional en el marc del Programa operatiu FEDER de Catalunya 2014-2020

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Generalitat de Catalunya



400 µm

300 µm

‡150 μm

3D REPLICA

PHOTO-CURABLE RESIN TANK