

Soft Lithography Polymers

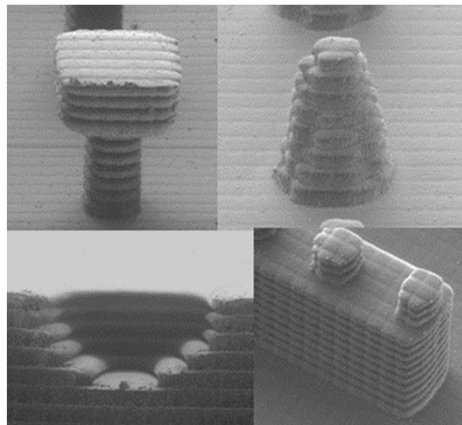
Polydimethylsiloxane (PDMS) is an elastomer widely used for biomedical applications due to some unique attributes, as its excellent optical and mechanical properties, its biocompatibility, resistance to biodegradation, gas permeability, etc.

These properties have tremendous benefits for the development of devices in the fields of microelectromechanical systems (MEMS), microfluidics, bio-models and medical implants, which everyday move towards the demand of more complex structures made out of this material.

In the MicroFabSpace we are at the forefront of innovation, having developed a set of techniques to improve the fabrication of such challenging devices.

We use very flexible polymers, as intermediates between a prime master and a final PDMS device, easing the replication process of intricate structures, without loss of accuracy. And also, highly resistant polymers (to chemicals, pressure and temperature) to replicate fragile prime masters, which could be broken by direct replication with PDMS.

3D Printed prime master

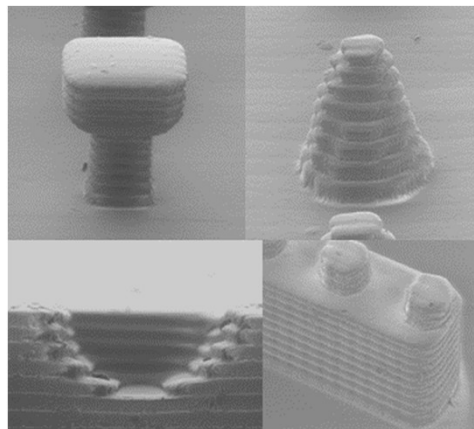


- T-structure: 200 μm foot, 400 μm roof
- Pyramid: 300 μm base, 150 μm tip
- Round channel: 250 μm radius
- 2 layers structure: L1 = 300 μm wide and 500 μm thick, L2= 150 μm wide and 150 μm thick

Flexible Polymer



PDMS



Highly Resistant Epoxy

