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klearia

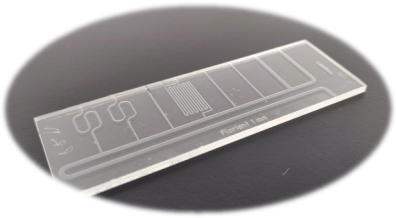
LabInGlass

KLEARIA – Lab In Glass

Klearia is an **R&D intensive company** that manufactures exclusively patented microfluidic glass chips and electrochemical analyzers based on this proprietary technology. Our skills are based on the development of a cutting-edge low temperature glass bonding technology (patented) that enables to integrate also heat-sensitive materials such as carbon or nanostructured gold. We can provide services from fondamental researches to applications (cf our own application: PANDa analyser).

Lab In Glass: Customized Microfluidic Glass Chips

Depending on your needs, **dimensions, channel depths, design, applications**..., we offer experience in designing and developing customized microfluidic chip tailored to your requirements.



Custom made characteristic

✓ Glass chip advantages

Glass is a material of choice for microfluidics. Its advantages include: **high chemical resistance**, **good optical transparency**, **low autofluorescence** and **adapted to prototyping and mass production.**

✓ Material substrate

Depending on the needs (optical transparency, operating temperature, cost ...), we can manufacture microfluidic chips in various types. These include: **fused silica, pyrex, D263, borofloat 33**...

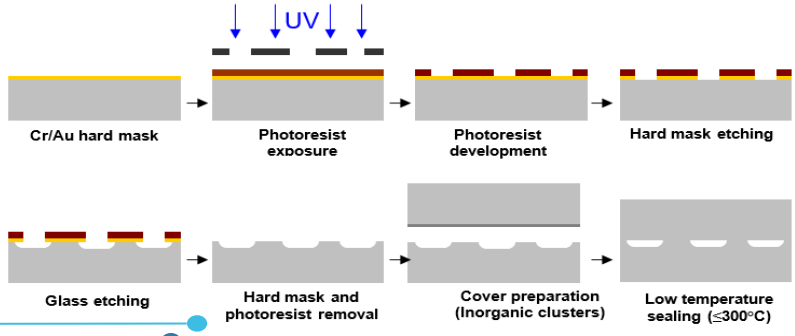
✓ Chip dimensions

We fabricate chips on wafer of 4 inches maximum. The number of chips per substrate will depend on the chip size you desire. **The thicknesses of conventional substrates range are in the range 300 - 2000 microns**.

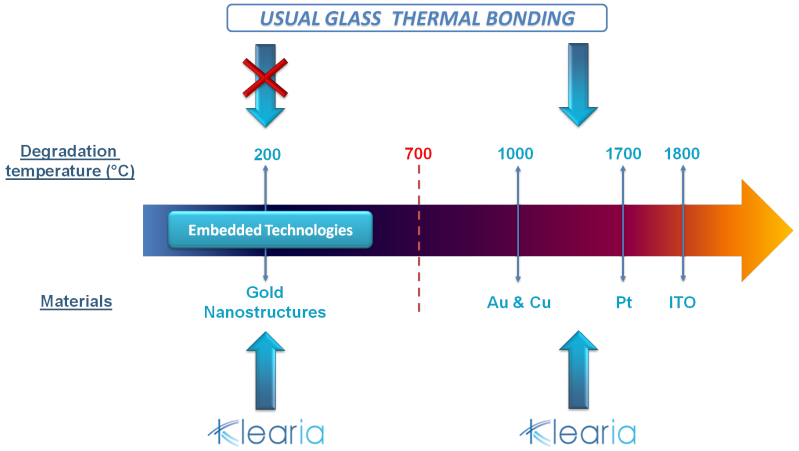
Lab In Glass technology

✓ Fabrication process

Our manufacturing process is carried out in a clean room environment using 4" microelectronic process equipment. Its based on a one glass wafer structuration and cover it using flat glass wafer for sealing. For each layer (channel depth, thin metal layer), one lithography mask is needed.



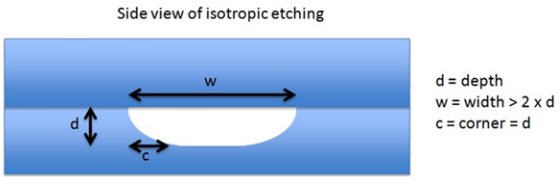
✓ Low temperature bonding

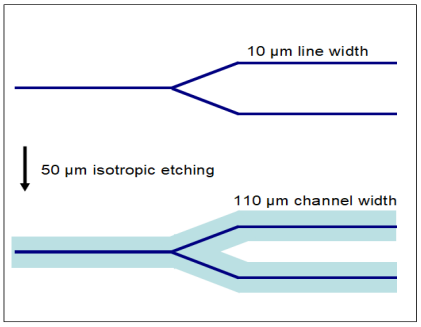


With its capacity to innovate, Klearia has overcome this technological limitation and has developed a technique to bond at a temperature between only 100°C and 300°C which allows to the integration of materials for embedded technologies.

✓ Wet etching

Devices are mainly wet etched (hydrofluoric acid HF). This process leads to a typical isotropic etching.

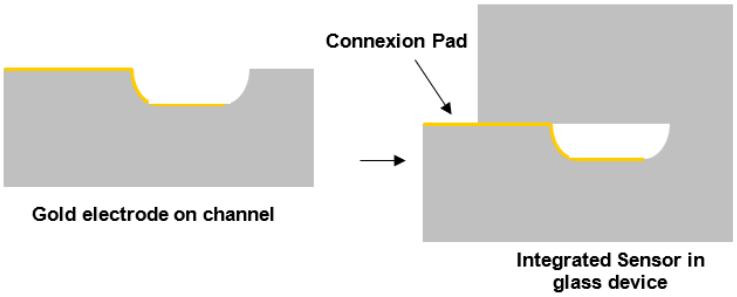




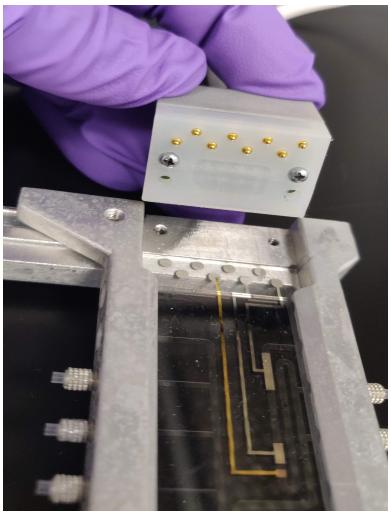
Numerical file must be adapted according to technology request to take into account the principle of wet etching (The final widths in your chips will be the widths in your numerical design + 2 times the depth).

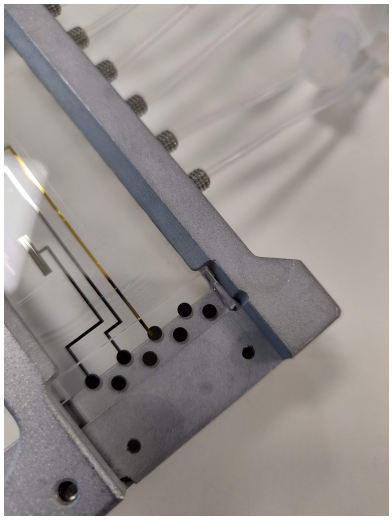
Sensors Chips

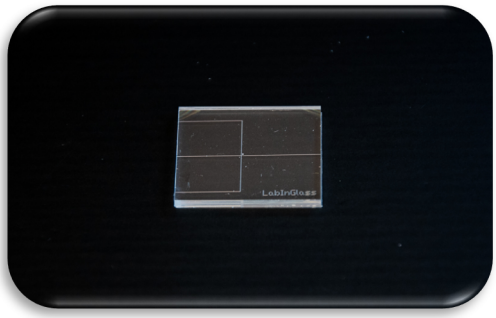
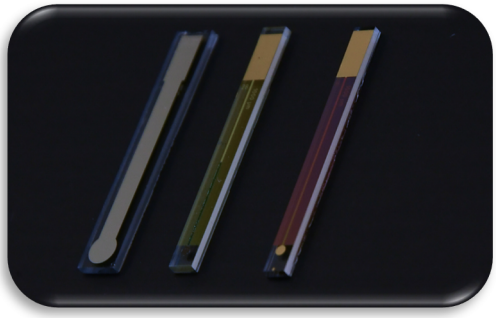
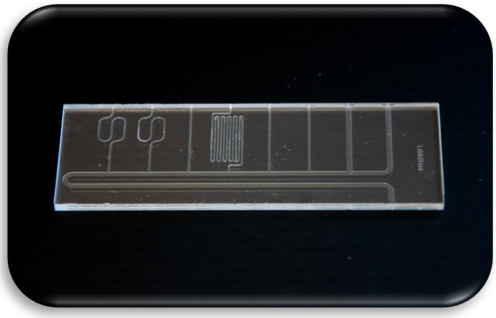
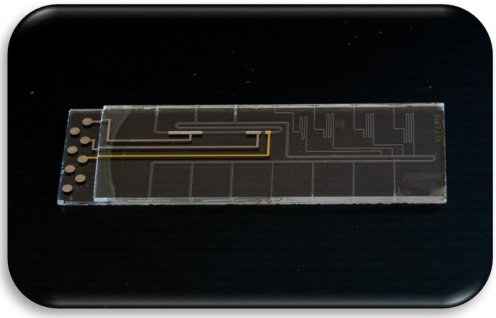
Using our patented cutting-edge low temperature method for glass bonding, we are able to incorporate a large range of electrode materials into the chip for embedded technologies. These materials include thermostable materials like gold and platinum and thermosensitive materials such car carbon, polymers and very small sized metal nanoparticles.



ConnectIn'Glass (eCIG)





Thanks to electrical ConnectIn'Glass, we can developed different **electrochemical sensors or analyzer**, with **many advantages** (User friendly, Adaptable (up to 8 connections), Standard electrical connector…)

Lab In Glass products