

## New solutions for microfluidics through innovative glass processing LIDE

**Contact:**

Cordula Krause-Widjaja  
cordula.krause-widjaja@lpkf.com  
Tel. +49 (0)5131 7095-1327  
Fax +49 (0)5131 7095-90

**LPKF  
Laser & Electronics AG**  
Osteriede 7  
D-30827 Garbsen  
www.lpkf.de

**Board of  
Managing Directors:**  
Dr. Goetz M. Bendele (CEO)  
Christian Witt (CFO)

**Shares:**  
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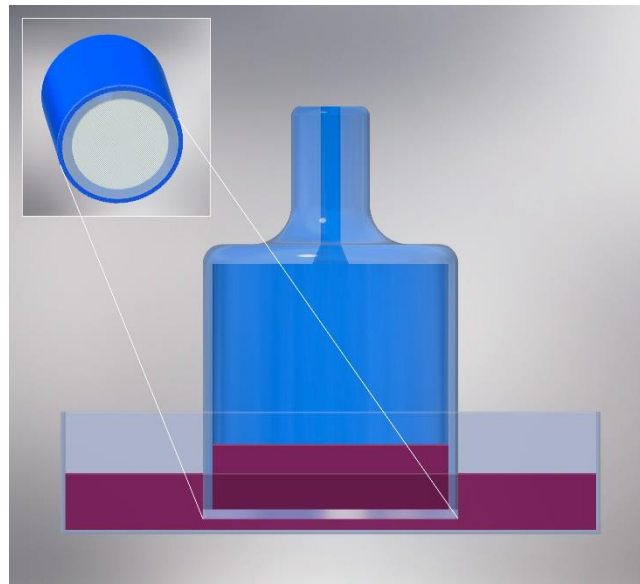
Due to its properties, glass is an ideal material for use in microfluidics. Thanks to the innovative processing method Laser Induced Deep Etching (LIDE), the application spectrum of glass in microfluidics has been significantly extended. Efficient micromachining makes material defects in glass a thing of the past. This opens up new possibilities and overcomes the disadvantages of existing processes.

The LIDE technology developed by LPKF Laser & Electronics AG enables the high-precision generation of defect free microstructures in thin glass for use in microfluidics. In his presentation at the SPIE in San Francisco, Dr. Robin Krüger, Head of Development Innovation at LPKF, gave an outlook into the future: "LIDE realizes clean drill holes, cuts and other structures in standard thin glass extremely precise, quick and for high quantities," says Dr. Krüger. "This makes glass processed with LIDE ideal for microfluidics, for example in flow-through microarrays or for the functional integration of complex microfluidic applications. Glass processed with LIDE is in many cases an alternative to expensive micro-structured silicon".

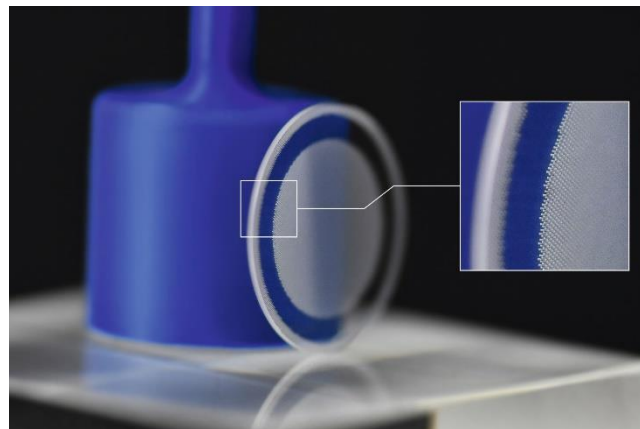
Questions about thin glass processing, possible applications in areas such as medical diagnostics, individual cell studies, lab-on-a-chip applications and much more are welcome to the LPKF specialists. Contact details and further information can be found at

<https://www.vitron.com/en/applications/microfluidics/>

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**Fig. 1:** Sectional view of a flow-through microarray showing the laser-processed glass chip.



**Fig. 2:** With the flow-through microarray, higher productivity and shorter reaction times can be achieved. The glass shown in the detailed view is 440  $\mu\text{m}$  thin and the hole diameters are 60  $\mu\text{m}$ .

### About LPKF

LPKF Laser & Electronics AG manufactures machines and laser systems used in electronics fabrication, medical technology, the automotive sector, and the production of solar cells. Around 20 percent of the workforce is engaged in research and development.