



SUPPORT FOR MICROFLUIDICS MANUFACTURING: SENSONIT

For technical guidance on microfluidics services, please contact
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Do you require industry-calibre microfluidic technology for lab-on-a-chip and other biotechnology applications for your microsystems research project? CMC now offers fabrication services for the Sensonit technology from Micronit Microfluidics BV (based in The Netherlands).

About the Technology

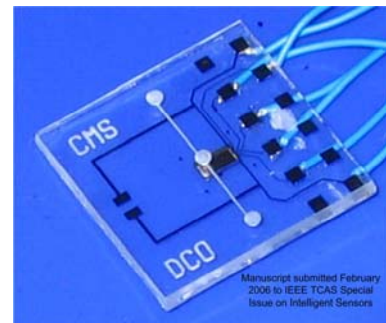
The Sensonit technology allows researchers to realize a network of bulk-etched or powder-blasted microchannels and integrated electrodes in glass substrates. This technology has been explored and tested successfully by leading researchers who are supported by CMC.

Who Can Benefit from this Technology?

- Researchers with requirements for embedded electrodes for electrical heating, temperature sensing, and fluid manipulation within microfluidic devices.
- Chemists and biologists who are involved in the identification, analysis, separation (both CE and DEP), or synthesis of compounds as well as bioassays.

(Right) Sensonit Device with Integrated CMOS Sensor

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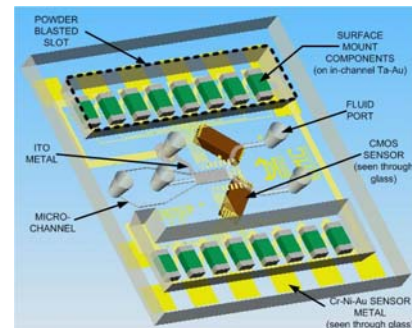
Important Information about this Fabrication Service

- **Design rules** are available in a User Guide that can be obtained from CMC's Technology Gateway website. Registered clients of CMC may go to: <https://www2.cmc.ca:2804/> and search for 'Sensonit'.
- CMC supports **design kits** for the Cadence and MEMS Pro software tools.
- CMC will schedule **fabrication runs** according to user demand; the projected turnaround time is eight weeks.
- Requests for **process options** will be handled on case-by-case basis; the specific process can be adjusted (e.g., for channel depth, material and material thickness) according to a consensus of participations on a fabrication run. Design dimensions must be in multiples of 15mm x 15mm, up to the maximum size of 90mm x 90mm.
- The **subsidized price** for five copies of each granted design project is projected to be \$250 per 15mm x 15mm in the base process.

For more information about design size requirements, pricing, and related topics, please contact: fab@cmc.ca.

Technology Options

- **Technology overview:** Dual plane in-channel electrode metallization (tantalum-gold electrodes).
- **Base process:** Three design layers (blasted holes, channel structures and in-channel metallization), with bottom plate thickness of 170 microns.
- **Process options:** Optically transparent indium tin oxide on back side of top plate; bottom side chrome-nickel-gold (Cr-Ni-Au) metallization suitable for integrating CMOS sensors and computing/control chips on Sensonit chips through a flip-chip bonding technology; bottom plate thickness of either 100 or 140 microns.



A Sensonit Hybrid Microsystem