Microfabrication Services

FROM IDEA TO REALIZATION

A highly sophisticated thin-film technology has been developed for the fabrication of Supracon SQUID sensors. This proved to be of extraordinary value for other applications such as microsystem engineering and modern optics.

Supracon has specialized in different deposition methods for metallic and dielectric films, pattern definition by optical or e-beam lithography and pattern transfer into films by wet chemical or dry etching methods.

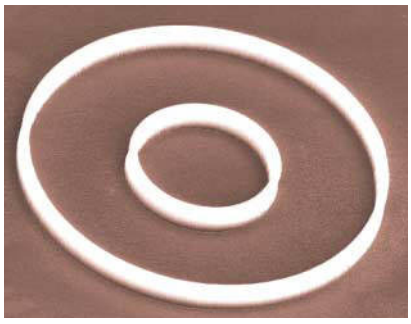
The company has particular expert knowledge with pattern transfer of deep submicron resolution or with very high aspect ratios in films and bulk materials. This is realized by lithography in combination with specially adapted etching procedures.

The very complex equipment for microfabrication processes is installed in a modern clean room and used by Supracon for process development and device fabrication.

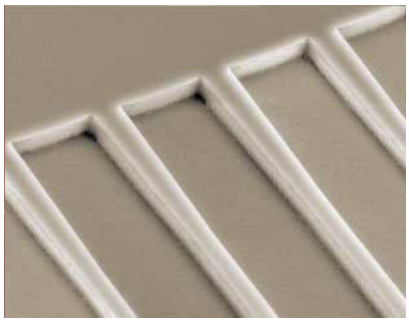
Supracon Microfabrication offers:

- Performing of highly specialized process steps at Supracon as part of customer device production cycle.
- Complete thin film technological fabrication of customer devices.
- Development of customer-specific microfabrication steps or complete processes including technology transfer to the customer.

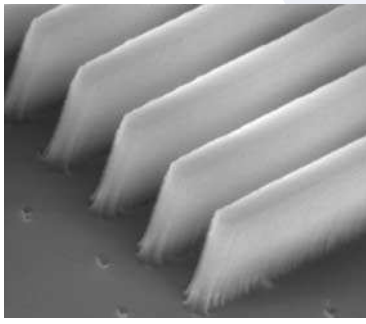
⊢ 10µm ⊣



⊢ 30µm ⊣



⊢ 30µm ⊣



⊢ 6µm ⊣

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supracon®
SQUID and Microfabrication Technologies

Microfabrication Services

SUPRACON CAN PERFORM AND CUSTOMIZE THE FOLLOWING PROCESSES:

Substrate cleaning

- Wet-chemical processes
- Plasma-cleaning

Thin film deposition

- Evaporation (resistance-heated, electron-beam)
- Sputtering (dc-, rf-magnetron, ion-beam)
- Plasma Enhanced Chemical Vapour Deposition (PECVD)

Lithography

- Spin coating processing
- Exposure in contact or proximity mode (mask aligner)
- Exposure in projection mode (automatic repeater)
- E-beam exposure

Pattern transfer

- **Wet etching**
- **Dry etching (reactive ion etching, ion-beam-etching, reactive ion-beam-etching)**
- **Lift-off**

Structure characterisation

- **Scanning Electron Microscopy (SEM)**
- **Profilometry**
- **Atomic Force Microscopy (AFM)**

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