



mt-para.net

SUCCESS STORIES

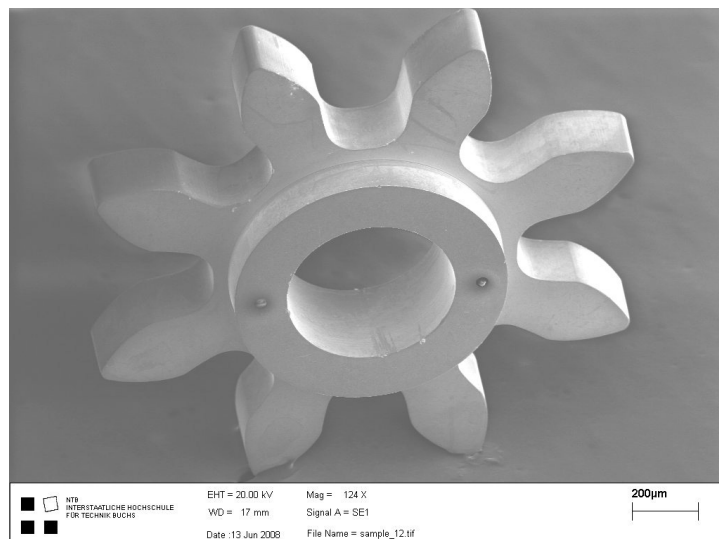
UFER: High-rate, residue-free, and non-destructive removal of SU-8 based materials using dry etching techniques: Equipment, process, and resist development and characterization for improved mold removal in the LIGA process

PROJECT DESCRIPTION

Specific innovation objectives

Objective of the UFER project was to develop and characterize a novel highly efficient remote plasma strip process with greatly enhanced SU-8 etch rate, which will be capable of removing SU-8 without leaving residue and without attacking or degenerating metal features obtained in the LIGA process.

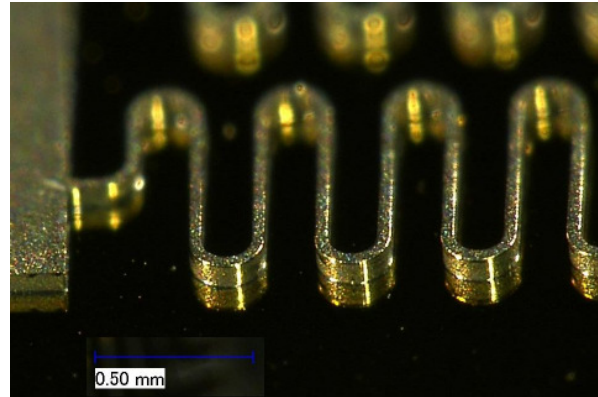
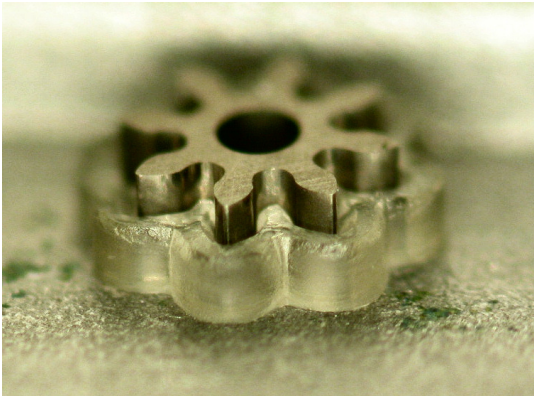
The research and development efforts led directly to a commercial product: a production worthy plasma strip chamber for SU-8 with stable, repeatable, and controlled removal rates of 200 $\mu\text{m}/\text{h}$ on large-area substrates (corresponding to etch rates $>20 \mu\text{m}/\text{min}$ on small wafer pieces). In particular, the new process is suitable for the residue-free removal of extremely thick layers of several 100 μm up to and exceeding 1 mm also in high aspect ratio applications. The project results provide the first production-worthy SU-8 plasma removal process & equipment solution with enhanced SU-8 strip rate for high aspect ratio structures intended to remove SU-8 from electroplated metal structures without either leaving residue on or causing harm to the electroplated material.





mnt-epa.net

SUCCESS STORIES



PARTNERS:

Project coordinator: Interstate University of Applied Sciences of Technology Buchs NTB, Buchs, **Switzerland**

Project partners: Micros Resist Technology GmbH, Berlin, **Germany**
R3T GmbH, Taufkirchen (near Munich), **Germany**
Mimotec SA, Sion, **Switzerland**
Berliner Elektronenspeicherring-Gesellschaft mbH BESSY, Application Center for Micro Engineering, Berlin, **Germany**

PROJECT DURATION AND TOTAL PROJECT COST:

Duration: 01/11/2006 – 30/06/2008

Cost: 849.000 Euro

CONTACT:

Coordinator: Martin Gutsche
E-mail: martin.gutsche@ntb.ch
Tel: +41 81 7553 468