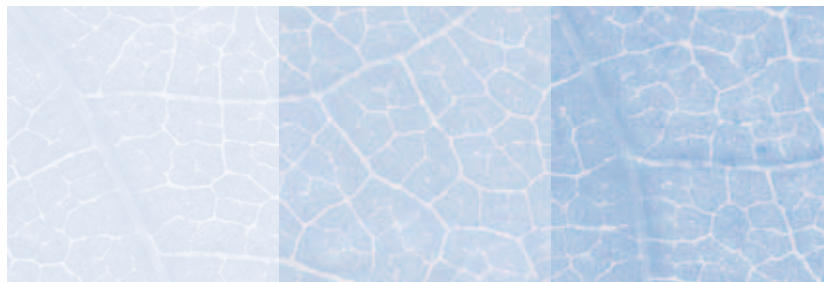
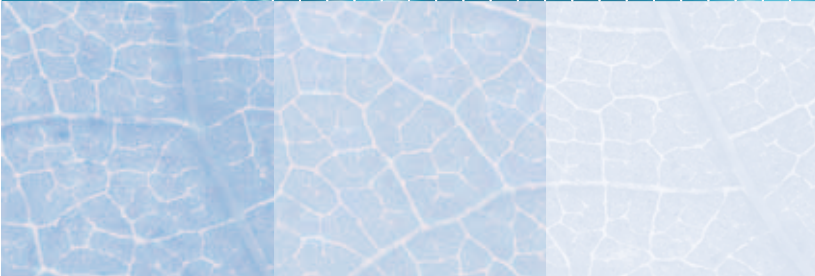
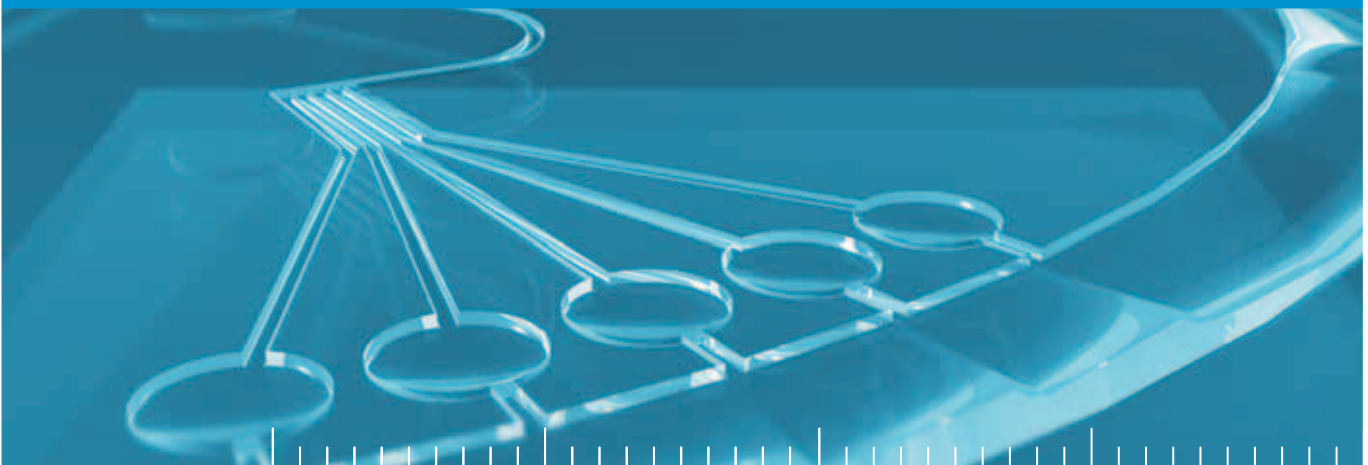


temicon  
your access to the microscale



## Going to Micro Dimensions



temicon GmbH is a micro technology company.

■ The company was established on the 1st October 2005 based on a technology spin-off from the business area “Micro Technologies“ of technotrans AG. temicon GmbH is located in the MST.factory in Dortmund. At the future-oriented location of Phoenix West in Dortmund the company is right in the middle of one of the hubs for micro and nano technology in Europe.

## Technology company



■ temicon manufactures micro and nano structured components for various high-tech applications. Our customers are multi-national corporations, as well as small and medium-sized companies dealing in **display technology, microoptics, microelectronics / semiconductors, biotechnology, fluidic technology** and **micro actuator technology**. The product range of temicon covers three major areas:

- Micro / Nano Mould Inserts
- Micro / Nano Metal Foils
- Micro / Nano Components



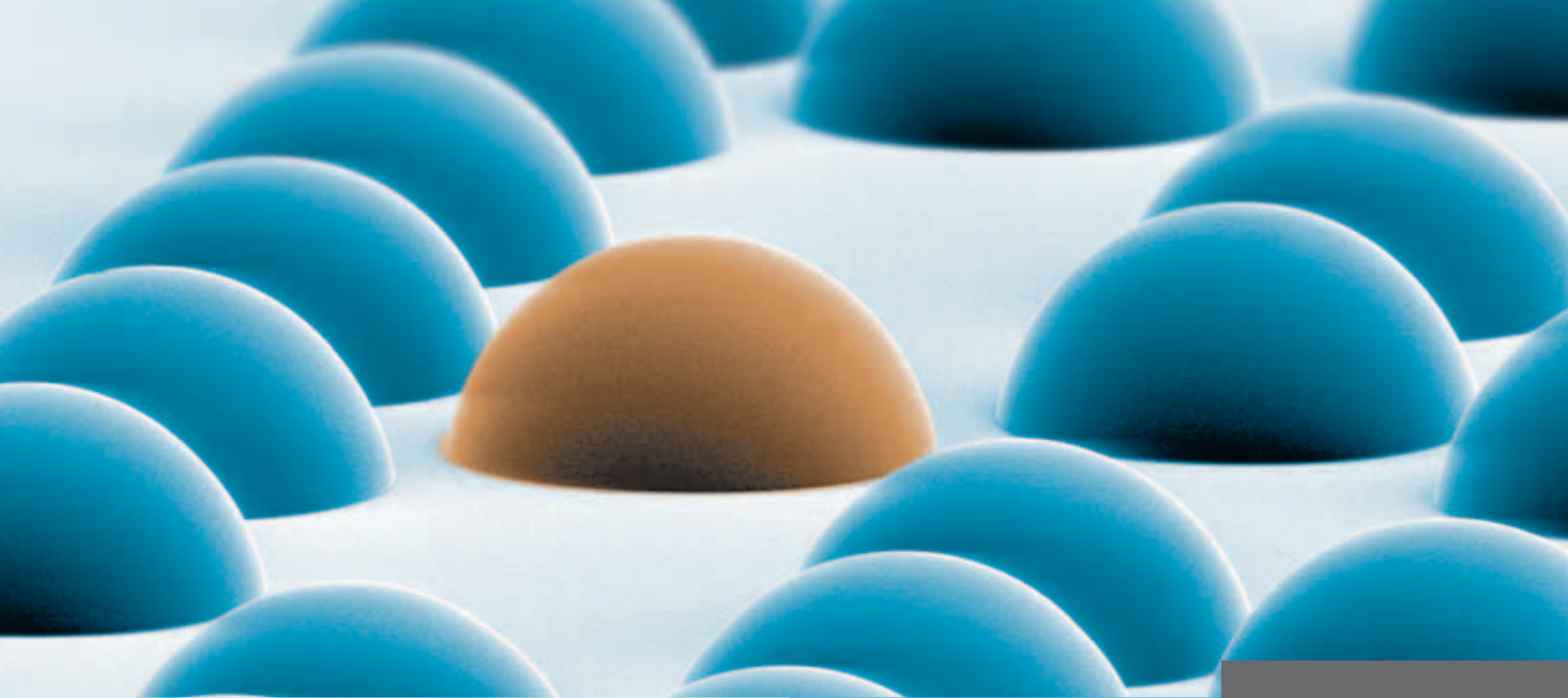


## Innovation and growth power

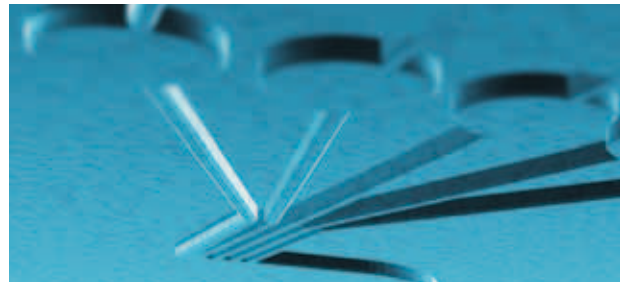
■ We are a technology company with high innovation and growth power. As a service manufacturer of micro and nano components we make highest demands on quality, reliability and speed. Our customers are our partners – in this highly innovative area we rely on close partnerships and mutual success.



■ At the Micro Technology Competition 2005 in Dortmund temicon GmbH was awarded with the second price as well as the special price “MST.factory dortmund GmbH”, together a total value of 60.000,- Euro.



## ■ Micro / Nano Mould Inserts



■ temicon manufactures micro and nano structured mould inserts for plastic injection moulding, embossing or the UV-curing process. Typical applications are display technology, microoptics and bio technology.

Micro / Nano mould inserts can be supplied with the following specifications:

- Small formats:  
up to 200 mm circular or 150 x 150 mm square
- Large formats:  
up to DIN A2 or 500 x 600 mm rectangular
- Substrate thickness:  
5 – 500  $\mu\text{m}$ , typically 300  $\mu\text{m}$ , on request up to the mm range
- Micro / Nano structure layout and dimensions as per customer request

***Material: nickel***

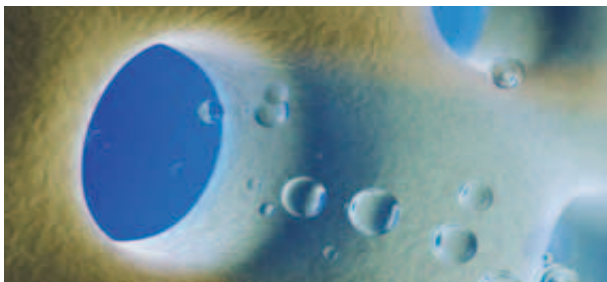
temicon is manufacturer

of micro and nano structured components.

■ All these products have a microscopic precise structure, scaling from 1 mm down to 10 nm (0,00001 mm), and meet the requirements of highest precision and quality. In this highly innovative field approximately half of the products are new developments. Key technologies in the production chain are **Lithography** and **Electroforming**. The products are manufactured in excellent laboratory and clean-room facilities.

## Products of highest precision

### ■ Micro / Nano Metal Foils



■ temicon produces micro and nano structured metal foils, for example micro jet nozzles, vaporizer membranes and micro sieves for the fluidic technology. Other foil products are micro stencils for screen printing in the printed circuit board and semiconductor technology or in polymer electronics.

Micro / Nano metal foils can be supplied with the following specifications:

- Small formats:  
up to 200 mm circular or 150 x 150 mm square
- Large formats:  
up to DIN A2 or 500 x 600 mm rectangular
- Foil thickness: 5 – 500  $\mu$ m
- Micro / Nano structure layout and dimensions as per customer request

**Material:** *nickel, hard nickel, nickel alloys*

### ■ Micro / Nano Components



■ As a service manufacturer temicon produces micro and nano structured components according to customer requirements. Product examples are electrode structures on plastic, glass or semiconductor substrates. Other examples are metallic micro parts for the micro reaction technology or for the micro actuator technology.

Micro / Nano components can be supplied with the following specifications:

- Small formats:  
up to 200 mm circular or 150 x 150 mm square
- Large formats:  
up to DIN A2 or 500 x 600 mm rectangular
- Micro / Nano structure layout and dimensions as per customer request

**Material:** *metal, plastic, glass, semiconductor*



## Technology and Production



### Clean-room production

temicon manufactures the micro and nano structured products in production and clean-room laboratories equipped with state of the art equipment. The production line consists of lithography, sputtering, electroforming, finishing and quality control.

The know-how of specific process technologies is very valuable for temicon. This know-how is based on many years of experience in micro and nano technology, which is the employees contribution to the foundation of temicon GmbH. Our main aim is to continuously expand this knowledge with practical R&D projects and patents. New products and innovation are the basis of our success.





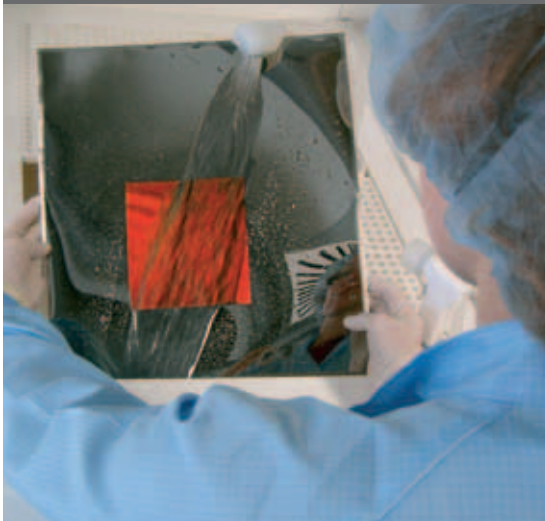
Foto: Uni Dortmund, AG MST

## Lithography

■ Lithography stands right at the beginning of the technological chain. Depending on the product requirements different lithography processes can be used: UV, laser or electron beam lithography. temicon mainly relies on UV lithography for wafer formats and large formats and uses a lithography line in the clean-room. The photo-resist, coating, exposure and development techniques are selected to suit the product, as required by the customer. Furthermore, temicon can access other lithography methods within the technology network in Dortmund.



# Lithography and Electroforming

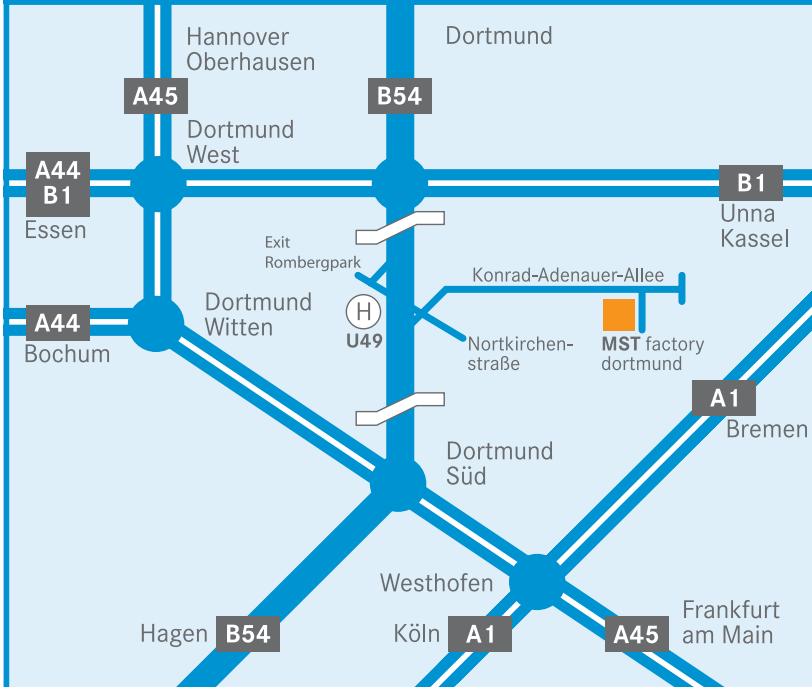


## Electroforming

■ The metal mould inserts, foils and components are produced by electrochemical deposition of metal into the photo-resist structure. This galvanic process can use different electrolytes, depending on the requirements: nickel, hard nickel and nickel alloys. temicon uses state of the art electroforming equipment, which is specifically designed for the requirements of micro and nano technology. The small format units can handle dimensions of up to 240 mm round or 150 mm square, the large format units up to 20 x 24 inches (508 x 609.6 mm). The adjustment of electrolyte recipe and process parameters is essential to optimize material and product characteristics to a great extent.



# Contact



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