

Highly individualized micro and macro  
optical components and systems

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**3D inkjet printing of optics**



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Eyeglass lens produced with 3D polymer print.

The developed inkjet printing process enables the manufacturing of eyeglasses with high quality and properties comparable to modern requirements.

# 3D inkjet printing of micro and macro optical components and systems

Additively manufactured micro and macro optics and optical systems open up new possibilities in development processes such as rapid prototyping or in the production of individualized small series. We use the inkjet printing technology to develop highly integrated optical components and systems. Even lenses for reading glasses are possible.

## Printable materials

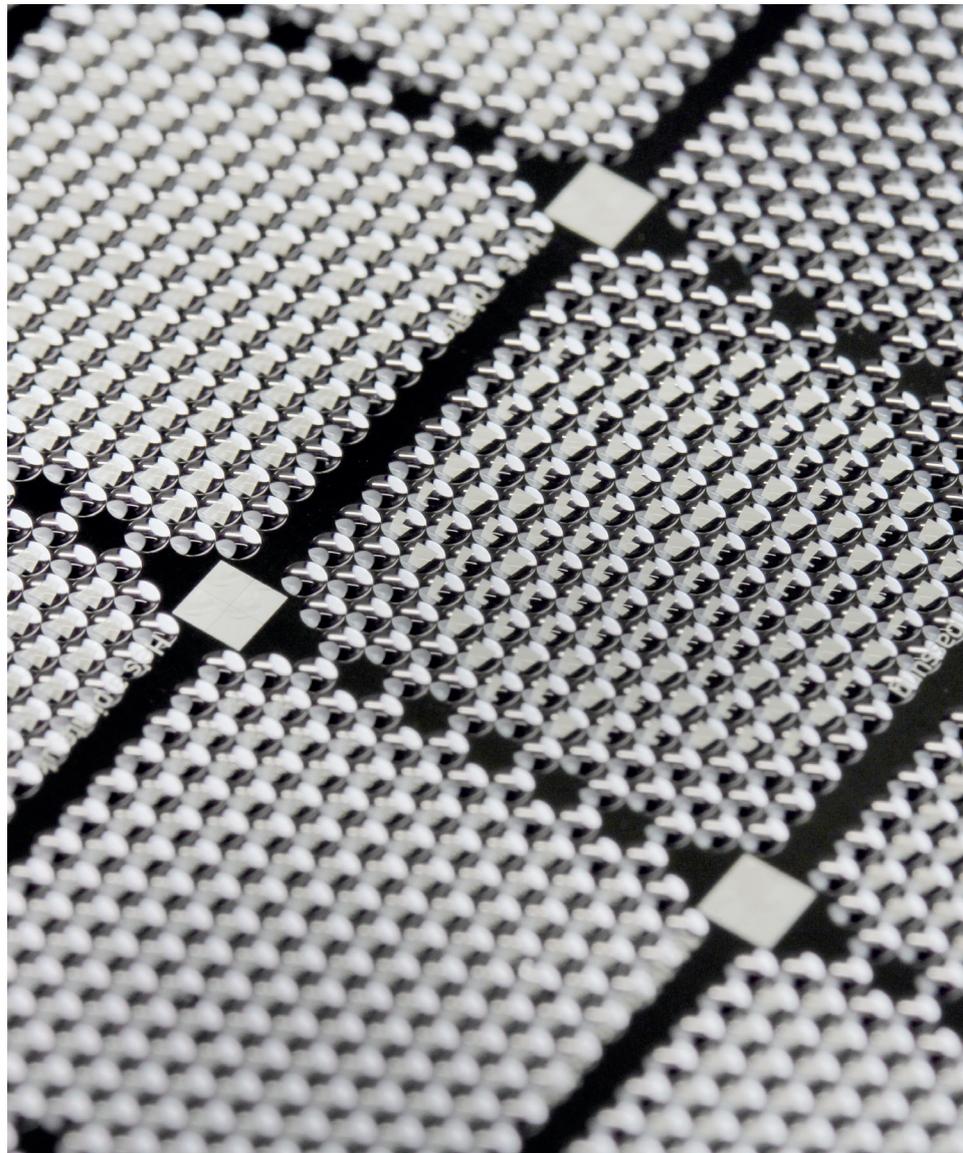
- ORMOCER®  
Organic / inorganic hybrid polymer
  - High thermal / mechanical / chemical stability
- Acrylates
  - Tailoring refractive index
- Silver / gold / graphite
  - Optical mirrors
  - Wiring / electrodes
- Various functional polymers
  - Light filters, baffles, absorbers

## Experience

- Ink development
- Process development
  - Substrate preprocessing
  - Printing
  - Post-processing

## Examples of applications

- Optical components
  - Waveguides
  - Prisms
  - Lenses
  - Freeform optics
- Optical systems
  - Microlens array projectors
  - Freeform projector with integrated inkjet printed silver mirrors, wires, and hybrid integrated LEDs



*Image of inkjet printed microlens-array.*



*Top: 3D inkjet printed waveguide  
for a LED matrix.*

*Cover: Printed freeform optics for  
light field shaping.*



[www  
more info](http://www.more.info)

## Contact

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