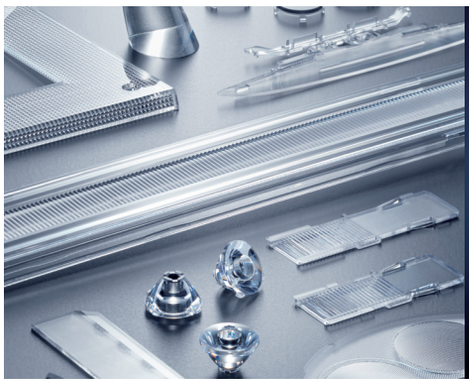
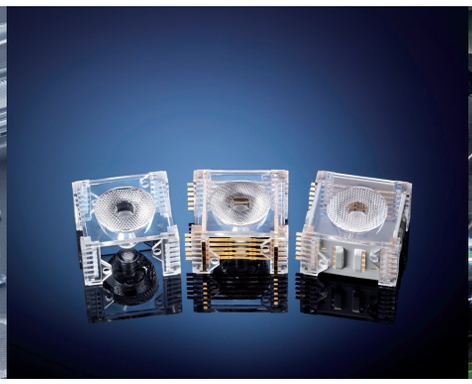




Polymer-based optical components

- Spheric, aspheric and free-form surfaces
- Fresnel lenses, prisms, microlens arrays, light guides and reflectors
- From small lot series to high volume / from prototyping to mass production

Manufacturing processes

- In process (measurement) and quality supervision by video and SPC analysis
- Quality assurance by state of the art measuring equipment
- Customized tools
- Tool life cycle management

Manufacturing technologies

- Moulding machines, closing forces from 25t to 500t
- 2-component injection moulding
- Variothermic moulding
- Multi shot technology
- Overmoulding of mechanical accessories and electronics
- Automated and integrated handling, robot loading, material supply etc.
- Advanced assembly processes

Quality management

- IATF 16949



We offer the full range of capabilities
On demand: complete, partly or shared

Development process:
- Target definition
- Feasibility study
- Optical development (based on ray-tracing simulation)
- Detailed process simulation (incl. tool filling, pack, warp analyses)
- Mechanical constraints
- Prototyping

Tool Design:
- Manufacturing of (in-house) tooling
- Manufacturing of prototypes
- Manufacturing of mass production tooling (in-house: optical surface quality through diamond ultra precision tooling, electroforming)

Manufacturing processes
- Mass production (in-house or in one of Jungbecker manufacturing plants)

Series production and qualitiy assurance

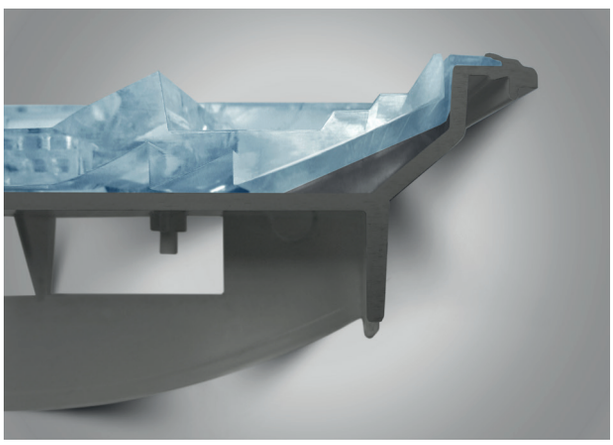
- Optional assembly / integration into functional system (housings, adapters, stamped leads, plugs, sockets assembly / soldering, welding)

Deutschland / Germany
Karl Jungbecker GmbH & Co. KG
E-Mail: sales@jungbecker.de

Außerhalb Deutschlands / Outside Germany
InterTek Trading AG
E-Mail: sales@intertektrading.com

JUNGBECKER
Enlightening Solutions

Lenses, light guides, prism, microprism arrays, compounds of optics and peripherals



Applications

- Sensor technology, automotive, lighting industry and others

Materials

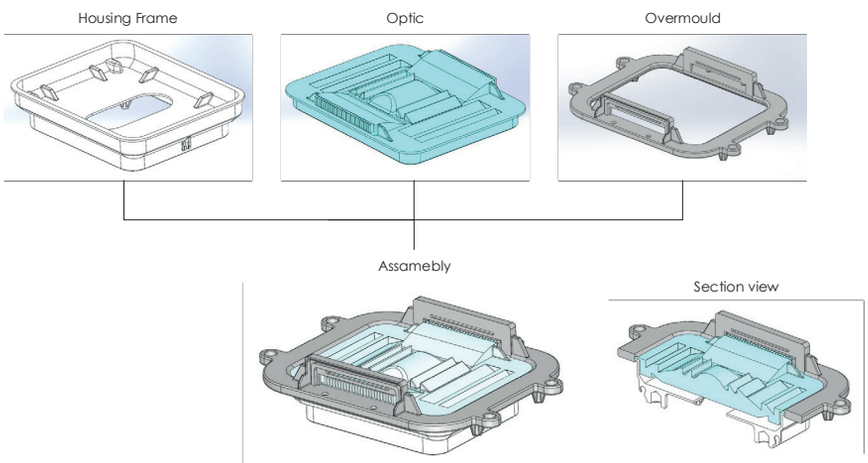
- Different grades of Acrylic, Polycarbonat, Silicon, various technical Polymers

Available technologies

- Injection moulding (standard, temperature cycling, compression added, multi-shot, 2k-injection moulding)
- Silicon injection moulding (LSR) and casting
- Overmoulding with variable material pairings (Glas, Silicon, Polycarbonat, Acrilyc)

Featuring

- Thick optics (up to centimeters) with optical feature precision <10 µm
- Free of birefringence, flow mark, voids, tension (optional: annealing)
- Costant density



Application example:

LED optic assembly

Thick walled, large-scaled lens with integrated functionality:

- High aspect ratio of the lens geometry
- Optical surface quality with high precision structure details
- Overmoulding of housing and in-tool-sealing and combining different materials

Deutschland / Germany
Karl Jungbecker GmbH & Co. KG
E-Mail: sales@jungbecker.de

Außerhalb Deutschlands / Outside Germany
InterTek Trading AG
E-Mail: sales@intertektrading.com

JUNGBECKER
Enlightening Solutions