

Drive components for headlamp adjustment



## High-end moldings and subassemblies for innovative product solutions

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### Precision and economic efficiency ...

Whether it is gearwheels, binoculars, or gas pedals: However high-precision moldings may differ, they have one thing in common – high quality requirements. Precision moldings have to ...

- feature a high degree of dimensional accuracy and must be free from flash, even if the parts geometry is complex (e.g., connectors);
- meet highest requirements in terms of appearance and repetitive accuracy, and all that in any quantity required (e.g., displays, casings);
- be extremely loadable, resistant to abrasion and wear (e.g., actuator for electric parking

brake) and integrate a variety of functions.

Despite the expenditure of design and engineering work it involves, one thing is for sure: Precision injection molding is economical. For it is one of the central advantages of this technology that – by being able to concentrate the value-added in a single complex tool – the work steps can be reduced.

In comparison with several single-cavity tools or components, this not only reduces unit and assembly cost – but precision processes also enable a high degree of process safety and stable cycles which are indispensable to meet highest quality standards.

Optimized tools and process management for highest quality

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### ... by optimum process layout

Therefore, a basis for precision moldings is to create, at every level of manufacture, the preconditions for optimum process safety.

- **The materials:** The right process layout already starts with selecting the plastics. In this context, we choose the material perfectly suitable for the respective process and application, ensuring both optimum filling of the mold and quality-relevant characteristics of the component.
- **Moldflow analysis:** With filling simulations we exclude in advance further sources of error, e.g., in the parts geometry, and thus enable optimizations in the tool concept at an early stage.



Drive unit for curve-following light

- **The tooling:** To achieve precision and repetitive accuracy, we, in terms of tool technology, attach greatest importance to the accuracy of the components and innovative tempering techniques, and use sensor technology to ensure an optimum control of the process flows.

- **Process control:** Important parameters for achieving high process safety are optimum machine technology and controlled process management. The latter one is, inter alia, ensured by employing statistical methods.

## The power to innovate ...

*The know-how we have in specialized tool making, but also in multi-component technology and automation, forms the basis for high-quality precision products designed and developed jointly with our customers. From components for health care applications, drive and automotive technology to optical and electronic assemblies – with our solution competence we serve all branches of industry. Together with you we develop precision products for tomorrow – for the markets of tomorrow.*

### ... finds expression in the solution

Competence in detail – Precision moldings by OECHSLER

- For example **Air mass meter:**  
The aim of this development was to achieve more precise measurement values, even under conditions of high air humidity. With a special OECHSLER tool we managed to integrate the four individual components of the previous solution into one complete part. Thus, as compared with several single-cavity tools, we reduced the unit cost and simplified assembly: both the mechanical system and the dimensional accuracy could be decisively improved.

- For example **Casing assembly for remote car keys:**  
Abrasion-resistant key symbols and a waterproof/media-tight key casing were the specific product characteristics demanded by our customer. Using a completely new concept in manufacturing key upper shells, i.e., 4-component technology, we were able

to meet both requirements without any problems, thus also dispensing with further work steps in the assembly of keys/touchpads or printing of symbols.

- For example **Adjusting unit** for dynamic curve light:  
In close cooperation with the customer, we realized a headlight adjusting unit which, after being completed by light module, control and drive unit, is able to cast light on road curves with a high brightness, and thus increases driving safety. A high degree of rigidity and thermal stability plus flexibility for the variety of variants were among the basic challenges we had to implement. Hence, components for headlight adjusting units produced by OECHSLER are fully in line with modern requirements, and are offered as an extra by many renowned automotive manufacturers.

## OECHSLER – Precision injection molding at a glance

- Advisory service in the choice of material and molded parts design
- Filling simulations with Moldflow
- Layout and construction of precision tools for series production
- Manufacture of precision components with state-of-the-art injection molding and tempering techniques; integration of fully and semi-automatic handling systems
- Certified to ISO TS 16949

#### Locations:

- Germany**
  - Ansbach
  - Weißenburg
  - Kűps
- China**
  - Taicang
- Romania**
  - Lipova



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