

Fully automatic production with rotary plate technique



Competence in complex multi-component moldings

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More functions, higher quality, less cost

Whether it is medical measuring or analysis, optical applications, housing with integrated display or polymer bonded high-tech magnets – the applications for complex molded parts with two and more plastic components is virtually unlimited. Because multi-component techniques offer clear advantages:

- **Innovation advantage:** the possibility of combining different plastics and integrating various functions into a single molded part facilitates the development of innovative and compact product solutions.
- **Quality advantage:** the shortening of the process chain reduces sources of failures

and increases precision and repetitive accuracy.

- **Cost advantage:** the integration of several manufacturing steps into one cycle is cost-effective; additional assembly and joining processes are no longer required.

OECHSLER's extensive know-how, based on many years of research, development and manufacture in the field of multi-component injection molding, ranges from the selection of material over tool making up to the production of molded parts in a variety of processing techniques.

OECHSLER combines advantages

Material combinations for any application

The combination of the plastics for multi-component parts depends on the decision as to whether equal-type, differently modified plastics (e.g., colored, fiber-reinforced) or different types of plastics are to be processed. Depending on the specified requirements there results a variety of combinations. Some examples:

- Selective use of high-quality plastics in component areas subjected to high load (e.g., fiber-reinforced plastics for screwed joints of housings).
- Integration of sealing and damping functions and good tactile properties (e.g., housing with soft touch surface for measuring instruments).

- Combination of multicolored or transparent materials (e.g., housing with integrated and/or illuminated display).
- Integration of conductive plastics and polymer bonded magnets (e.g., antistatic or shielding areas; multipole magnets for position determination – integrated into the housing structure).

We give you advice on all material issues!



4-component housing for remote keys



2-component part for breathing masks

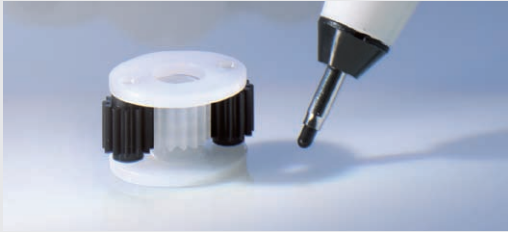
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Processing techniques for high economic efficiency

Depending on the complexity of the molded part, we employ a variety of techniques in order to achieve the best possible results as regards product quality and economic efficiency. Here is an overview:

- **Composite injection molding:**

With this technique, we first of all produce the pre-molding from a plastics component which, in a second step, is overmolded with one or several plastic components; thus a positive, permanent bond between the plastic components is achieved. Advantage: from the technical point of view it is relatively easy to process two or more plastics in an injection system, and also possible in



3-component micro gear

one tool. Presently, OECHSLER's spectrum of composite moldings ranges from micro parts to housing components consisting of four grades of plastics.

- **In-mold component assembly:**

When encapsulating the pre-molding, we deliberately generate a "non-adhesion" effect between the plastic components, e.g., for articulated joints and hinges (example: micro gearing).

Multi-component injection moldings by OECHSLER are produced with state-of-the-art techniques:

- *Simultaneous production* of pre-molding and encapsulated finished component, e.g., with rotary plate or index plate.
- *Time-shifted two-stage production* of the pre-molding with slides or movable cores (Core-back technique).
- *Transfer technique:* the pre-moldings are produced in a separate mold and then transferred to follow-on tools where the next material is molded on.

Special tooling with best performance

OECHSLER develops and manufactures high-performance tools for multi-component moldings – Mold layout and design exactly tailored to your requirements in terms of production volume, complexity and parts geometry.

Tools with transfer/insertion technique, for instance, satisfy highest requirements as regards complexity, because the pre-molding is fully demolded. If, on the other hand, a high degree of repetitive accuracy is required, tools with integrated rotary and slide techniques offer advantages: without losing time, the further components are molded onto the hot pre-moldings. Apart from the

tooling technique and selection of material, the requested adhesion or non-adhesion effect depends not least on the process coordination, geometry and pre-treatment of the molded part in the contact area. Specimen molds and simulation calculations help us to achieve optimum results (for more details please refer to the OECHSLER info sheet "Tool Making").

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OECHSLER – Multi-component technology at a glance

- Development of multi-component tools, also in combination with special techniques, e.g., compression injection molding or injection molded magnets
- Processing variants such as core-back, transfer or rotary plate technique, in mold assembly
- Simulation techniques, specimen molds, prototype molds, adhesion testing
- Advisory service: combination of materials, molded part layout, tool and process techniques

Locations:

Germany

- Ansbach
- Weißenburg
- Kùps

China

- Taicang

Romania

- Lipova



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