

Tools and Moulds

for plastic injection moulding, pressure casting
and diecast parts



The company

Dill Werkzeug- und Formenbau was founded in Karlsbad-Ittersbach (Germany) as a one-man company in 1991. Master toolmaker Harald Dill commenced with the manufacture of high-quality injection moulding, pressure casting and diecast tools. The beginning in a rented workshop was followed by a continuous increase in operations.

As a result of a dynamic company concept with high manufacturing depth, state-of-the-art manufacturing technologies and qualified employees, our company has achieved a good name in a variety of markets in the meantime. Customer orientation, quality awareness and delivery reliability are strengths currently appreciated by more than two dozen well-known companies.

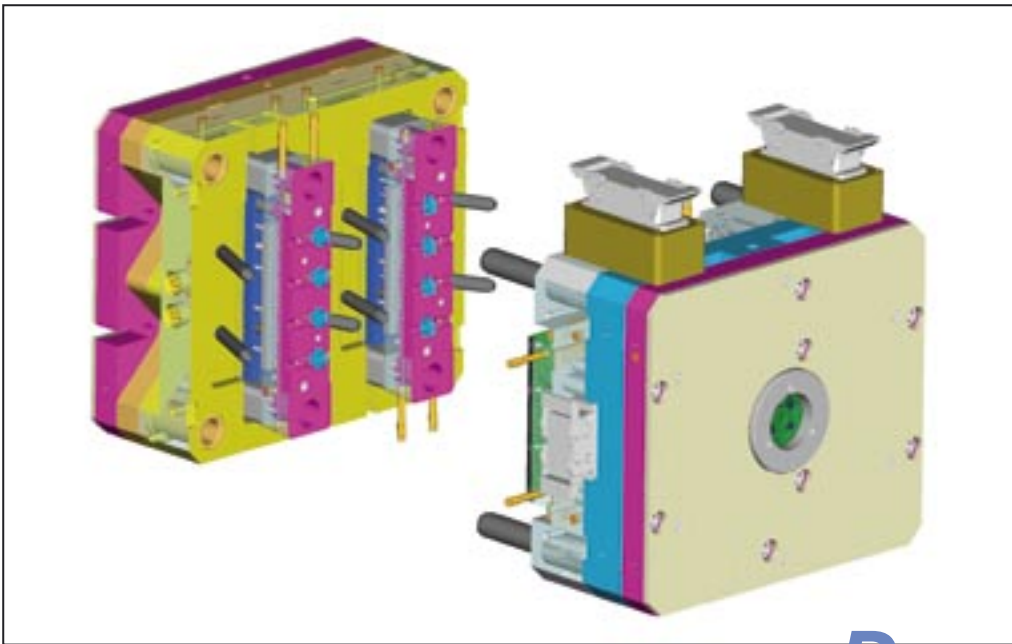
Tools and moulds of highest quality, short delivery times and optimum prices can only be achieved with

highly qualified and exceptionally committed employees. They are our most valuable capital.

- 1991 Founding of company by Harald Dill
- 1998 Occupation of own property in Ittersbach
- 1998 Extension of own design facilities
- 2000 The seventh employee is taken on

- 2000 Introduction of HSC technology
- 2003 Certification according to DIN EN ISO 9001-2000
- 2005 Purchase of a 3D coordinate measuring machine





Design

With the assistance of our CAD programs, we designed the tool required for a customer's product. It is irrelevant whether we are provided with complete 3D data or drawings, or whether the customer only approaches us with an idea. We are also pleased to support our customers with a product design appropriate to plastics.

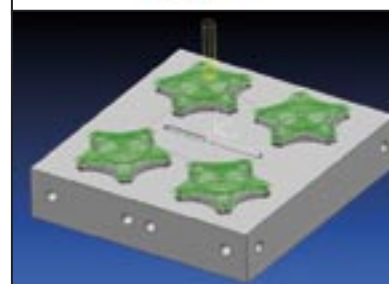
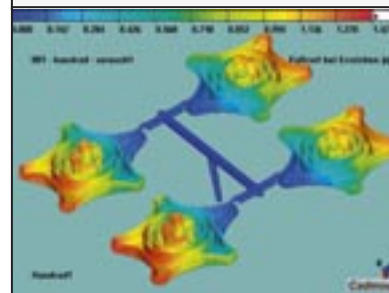
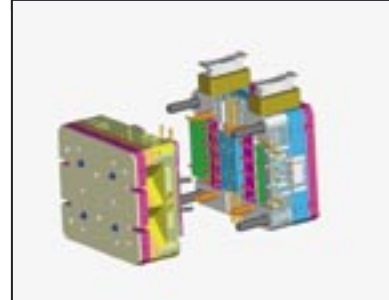
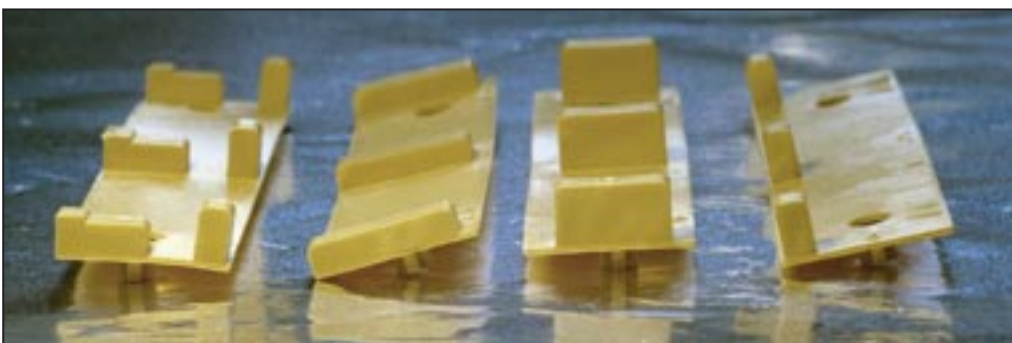
State-of-the-art simulation programs for filling studies enable us to recognize and optimize problematical areas of a component at an early point in time. Laborious correction operations are thus minimized. Design and manufacture from one source means: a closed process sequence which minimize faults and saves time.

To achieve an optimum production process for our customers, we combine practical know-how

with state-of-the-art design technologies when developing our tools and moulds

- CAD system: Visi-Mould
- CAM system: Delcam Powermill, PEPS
- CAE system: Cadmould

- 3D file formats: IGES, VDA, Parasolid, STEP
- 2D file formats: DXF, DWG, IGES
- Data transmission: E-Mail and Fritz!-data





Manufacturing

Our tools and moulds are precision units. And therefore our machinery must also be exceptionally good. We exclusively use precision machine tools, high-quality machining tools and effective manufacturing technologies for the production of the injection moulding, pressure casting and die-cast tools.

Our manufacturing spectrum covers CNC and HSC milling technology, cavity sinking and wire-EDM, up to polish. Most of the equipment used for the precision machining is CNC-based, which can be programmed, monitored and corrected directly from special EDP workstations.

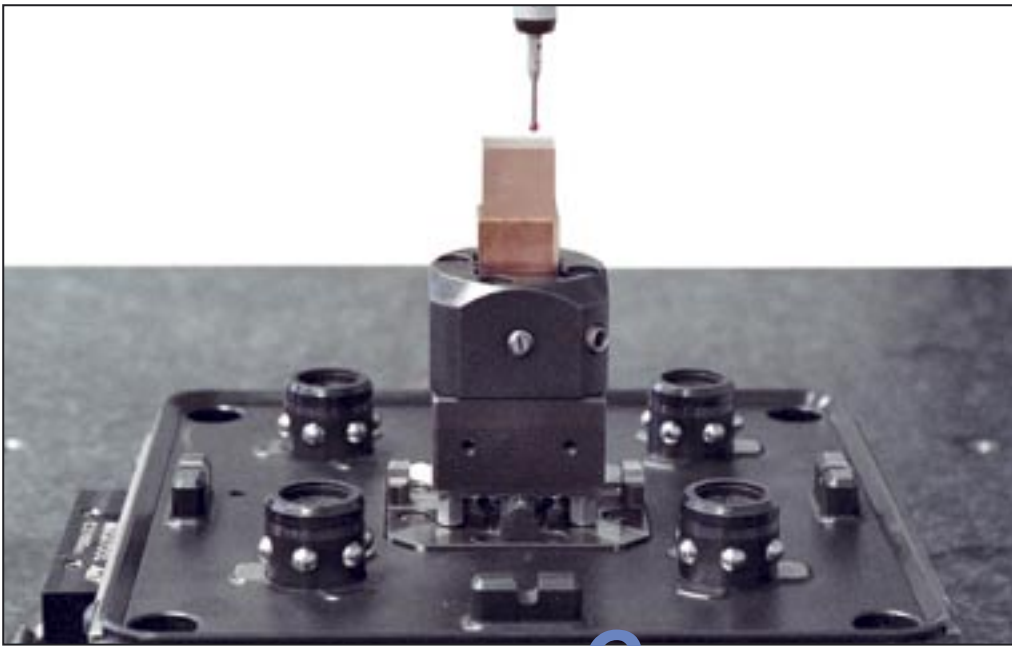
Our technical equipment is always state-of-the-art. Therefore an optimum price/performance ratio

is guaranteed for our tools and moulds in both the high-tech and low-cost segments.

- 1 Rödgers RFM 760 HSC milling machine (X 760 Y 550 Z 300 mm)
- 1 DMG-DMU 60 T machining centre (X 600 Y 560 Z 560 mm)
- 2 Deckel FP3A milling machines (X 400 Y 400 Z 400 mm, dialog control)
- 1 Deckel FP1 milling machine for training
- 1 EMCO Mat 17 D lathe

- 1 Charmilles Robofil 290 wire-EDM machine (X 404 Y 254 Z 200 mm)
- 1 Zimmer + Kreim Genius 850 cavity sinking machine (X 565 Y 400 Z 415 mm)
- 1 Ingersoll-Hansen HS 300 E cavity sinking machine (X 300 Y 193 Z 290 mm)
- 1 Okamoto ACC 63 polishing machine
- 1 Okamoto PSG 52 polishing machine

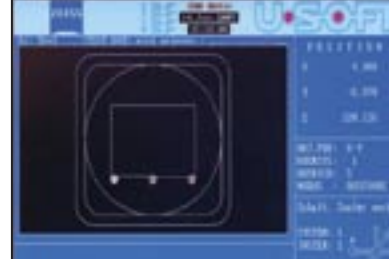




Quality assurance

Dill quality can be proven - our company is certified according to DIN EN ISO 9001-2000 since 2003. In the context of employee self-checking, each of our employees is responsible for the work he has carried out. Furthermore, all standard measuring equipment as well as a state-of-the-art measuring machine are available for technical tests.

The progress of our production work is monitored continuously. Before a tool or mould finally leaves our company, it is subject to a complex and strict final inspection, and a report is produced. If requested by the customer, we can additionally carry out initial sampling with an initial sample test report, or manufacture a pilot series.

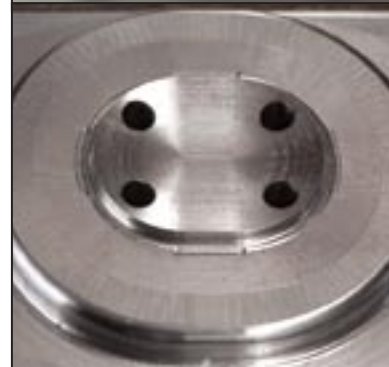


Continuous quality is not achieved through testing, but is already provided during the origination

of products. Each employee at Dill knows that quality assurance commences at his workstation.



- Zeiss VISTA 3D coordinate measuring machine (X 400 Y 500 Z 350 mm)
Probe: Renishaw probe system
Integrated microcomputer control (3-axis vector control)
Maximum platform load: 280 kg
- Zoller Saturn 1 tool presetting unit (With digital image processing and control software)
- Various digital and conventional measuring units and equipment





Performance spectrum

We manufacture tools and moulds for simple and complex high-precision components. We orientate ourselves according to technical specifications as well as economic definitions.

This flexibility makes it easy for us to provide customers with low-cost solutions or also to develop and supply high-tech plastic injection moulds, as an example.

Dill develops, designs and manufactures simple low-cost and complex high-tech tools and moulds

for the plastic injection moulding industry and for production of pressure casting and diecast parts.

Large photo (top) and medium-sized photo (bottom left): single low-cost injection moulding tool for producing a lid with threaded segments (mould plates hardened and completely HSC-milled).

Medium-sized photo (bottom right): 4-fold high-tech 2-component injection moulding tool (view of nozzle side) and associated plastic part (right page, large photo at top).





References

Our costumers have a wide range of requirements. Many well-known companies use our single-component tools, multi-component tools and multi-activity tools for their production.

The most important industries include automotive, building construction, EDP, electronics, electrical engineering, electrical equipment, power supply, household appliances, building technology, IT, aerospace, medical engineering etc.

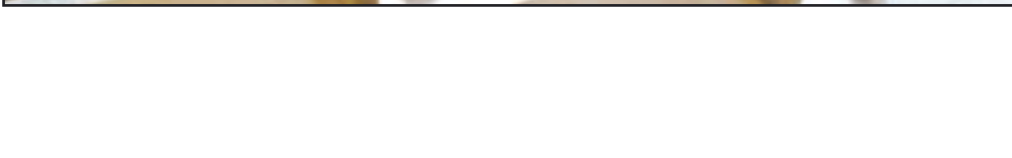
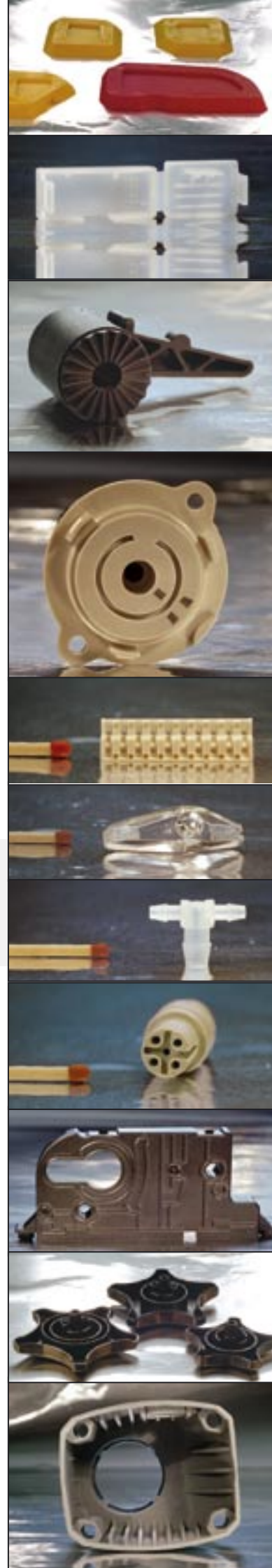
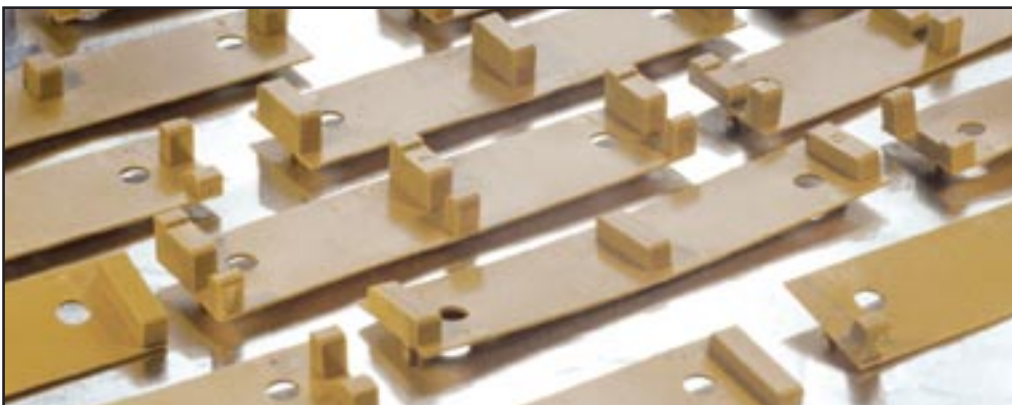
Extract from our list of costumers:
Burkhardt GmbH
Ensinger GmbH
Etzel GmbH

Frank-plastic AG
Helag-electronic GmbH
Müller GmbH
Sarnomotive Schenk GmbH

Large photo (top):
 plastic injection moulded part manufactured with Dill high-tech tool.

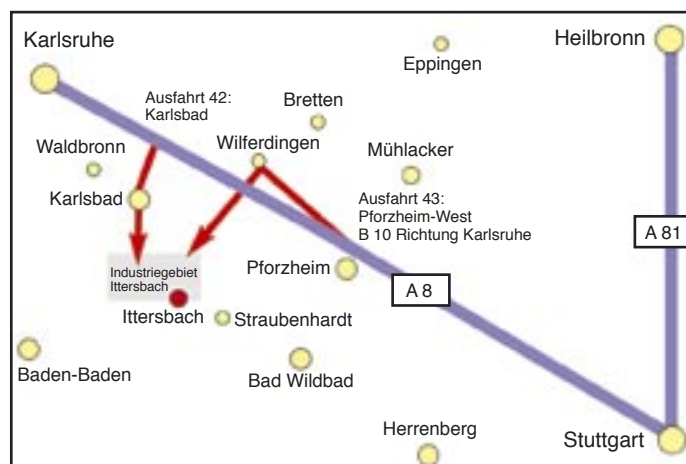
Small photo (top right in photo bar):
 plastic parts manufactured with Dill low-cost tool.

Medium-sized photo (bottom):
 plastic parts from a 2-fold plastic injection moulding tool which can be inverted into many different versions with only a few operations on the injection moulding machine.





How to reach us



Harald Dill
Werkzeug- und Formenbau
Badhausweg 10/1
D-76307 Karlsbad-Ittersbach

Phone: +49(0) 7248 82 75
Fax: +49(0) 7248 87 14
info@dill-formenbau.de
www.dill-formenbau.de