

EN

RAMPF TOOLING SOLUTIONS

# RAKU<sup>®</sup> TOOL

For the Foundry Industry

# RAMPF

## #DiscoverTheFuture



### Engineering and Chemical Solutions



Machine Systems



Production Systems



Composite Solutions



Eco Solutions



Polymer Solutions



Tooling Solutions

**RAMPF** Tooling Solutions is a company of the international **RAMPF** Group.  
Find out more on page 16.

# RAMPF Tooling Solutions

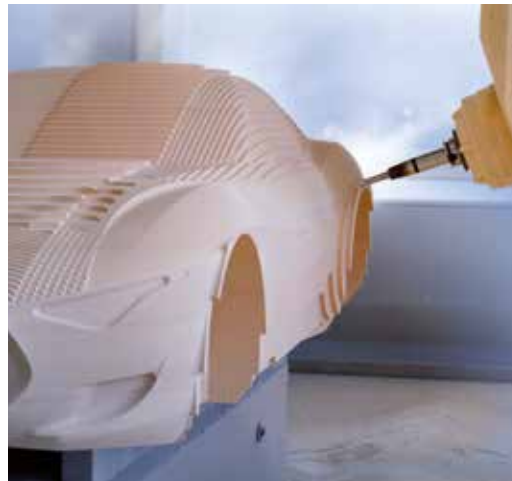
## Innovative solutions for model, mold, and tool engineering

**The company based in Grafenberg (near Stuttgart), Germany, is the world's largest producer of high-performance, high-quality styling, modeling, and working board materials.**

Services and products such as Close Contour pastes, Close Contour casting, including large-volume casting, 1 : 1 casting, and Close Contour blocks ensure the manufacture of outstanding Close Contour models and molds.

The company develops pioneering systems for the composites industry that cover a wide variety of production processes and a broad range of temperatures.

The very latest production processes and facilities, combined with comprehensive R & D activities, ensure that our products are manufactured cost effectively and environmentally friendly, and conform to the highest quality standard – worldwide.



Discover more on  
[youtube.com/rampfgroup](https://youtube.com/rampfgroup)



## **Products and services**

Since 2006 we have been offering materials for pattern and mold making. Our products are used for the production of initial samples and small to large-scale series production.



## MATERIALS

<b>RAKU® TOOL</b> Board materials	<b>RAKU® TOOL</b> Close Contour products	<b>RAKU® TOOL</b> Liquid systems
--------------------------------------	---	-------------------------------------

### **Creative, high-performance, sustainable:**

RAMPF Tooling Solutions develops and produces styling, modeling, and working board materials, Close Contour pastes, Close Contour castings/blocks, and liquid systems.

## PRODUCTION SYSTEMS

Mold design and construction	Model-making	Production	Prototyping	Tool design and construction
------------------------------	--------------	------------	-------------	------------------------------

### **Customized, high-tech, professional:**

RAMPF Tooling Solutions develops systems for use throughout the entire production chain – from prototyping, model, mold, and tool construction to production – for existing and future customers and market requirements.

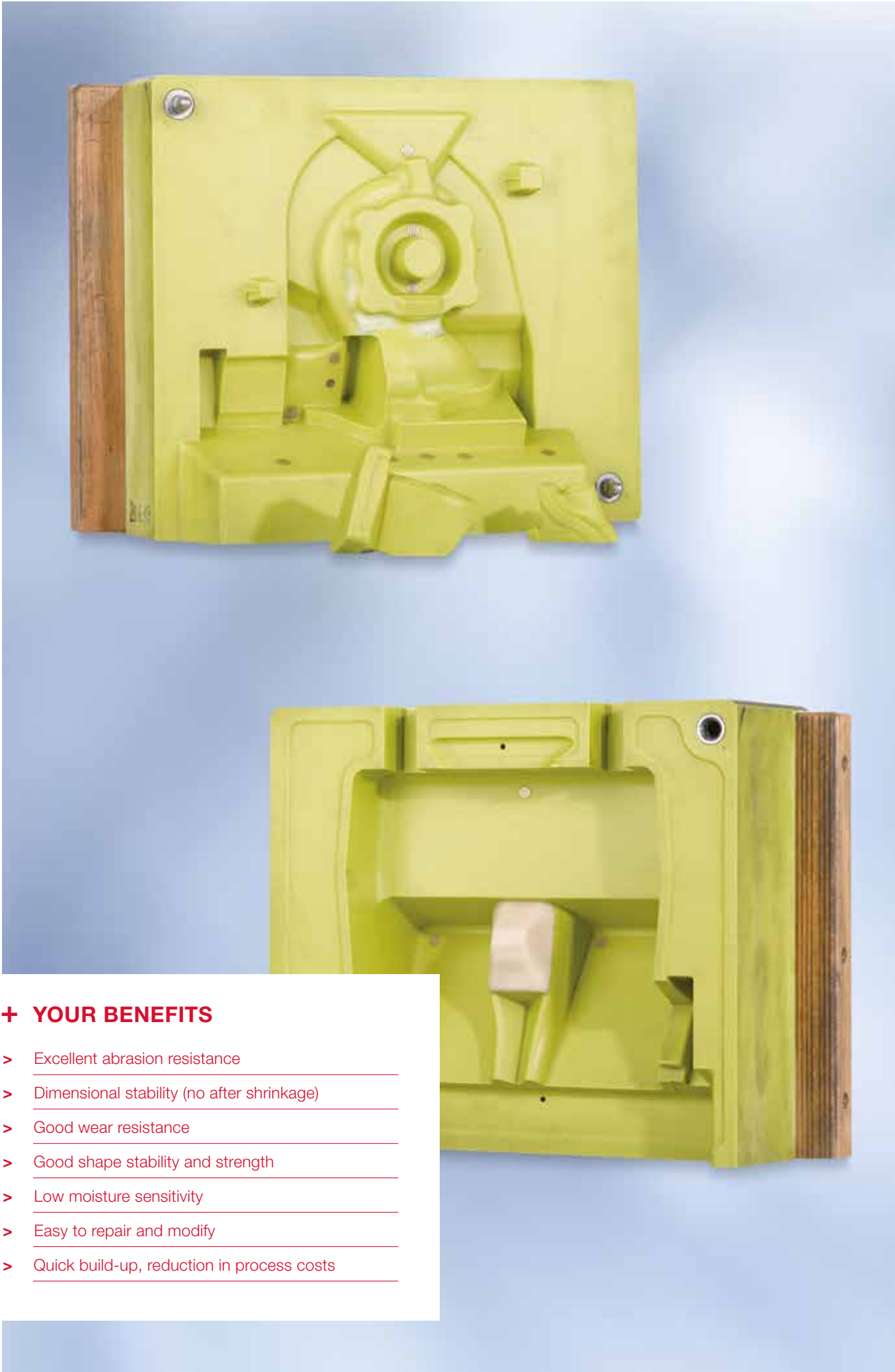
## SERVICES

Technical support and applications technology	Close Contour casting services	Research and Development	Internal and external training
Paste applications	Recycling	Supply-chain management	

### **Customer-oriented, skilled, committed:**

The experts from RAMPF Tooling Solutions support their customers in technology and product applications, and in the implementation of their ideas – also on-site. They also offer training courses in which the products and solutions are presented using practical demonstrations.





## + YOUR BENEFITS

- > Excellent abrasion resistance
- > Dimensional stability (no after shrinkage)
- > Good wear resistance
- > Good shape stability and strength
- > Low moisture sensitivity
- > Easy to repair and modify
- > Quick build-up, reduction in process costs

# RAKU® TOOL | Reliable products

## Epoxy and polyurethane systems for the foundry industry

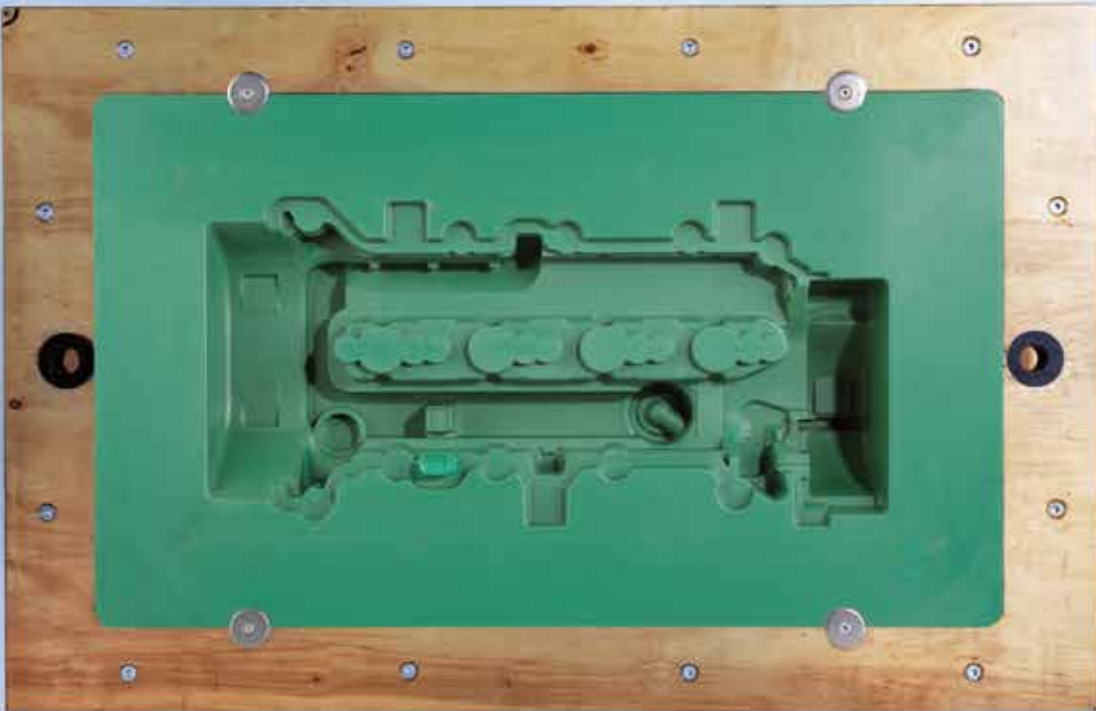
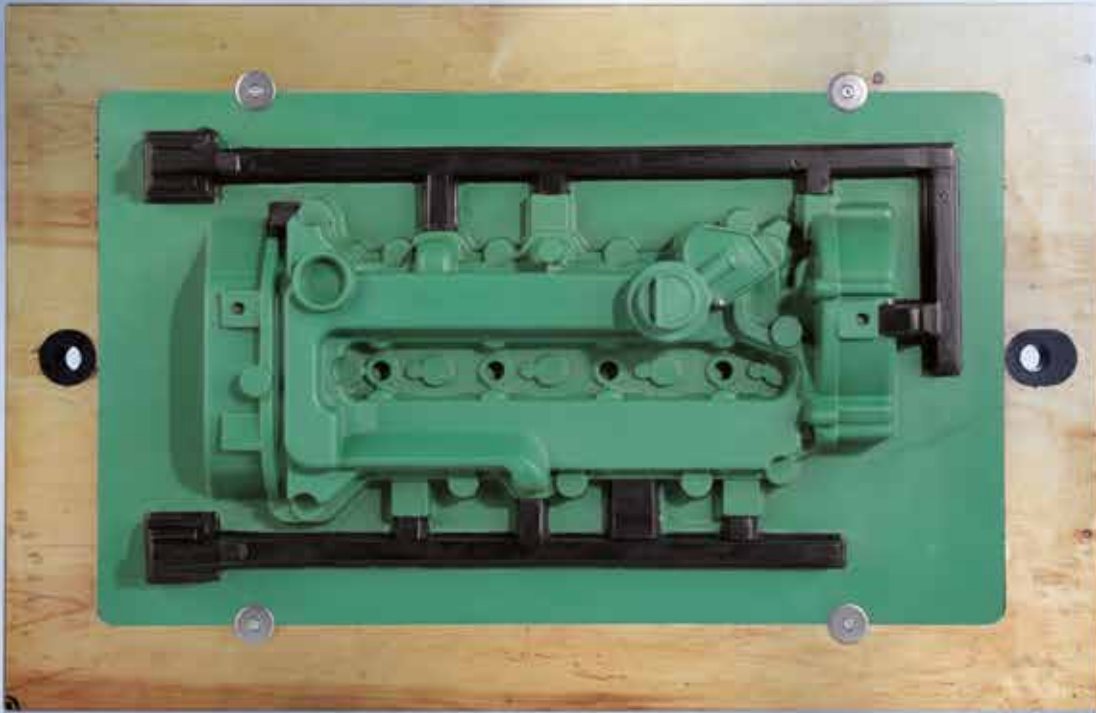
For almost 40 years, RAMPF Tooling Solutions has been developing and producing high-quality products that shape modeling and mold engineering – from design to the start of production. Our comprehensive RAKU® TOOL product portfolio also features a wide range of options and solutions for the foundry industry. Take advantage of our experience!

### Your applications:

<b>MODELS</b>	<b>CORES, CORE BOXES</b>
<b>SINGLE- AND DOUBLE-FACED PATTERN PLATES</b>	<b>CORE INSERTS</b>
<b>REVERSIBLE PATTERN PLATES</b>	<b>NEGATIVES</b>

### Product choice for your application:

<b>RAKU® TOOL PRODUCTS</b>	<b>PROTOTYPING</b>	<b>SMALL SERIES PRODUCTION</b>	<b>MEDIUM SERIES PRODUCTION</b>	<b>LARGE SERIES PRODUCTION</b>
<b>Boards</b>	•	•	•	•
<b>Mass Casting Polyurethane Casting Resins Fast Cast Resins</b>	•	•		
<b>Epoxy Gelcoats Epoxy Casting Resins Multipurpose Resins Laminating Pastes</b>	•	•	•	
<b>Polyurea Gelcoats Polyurea Casting Resins</b>			•	•



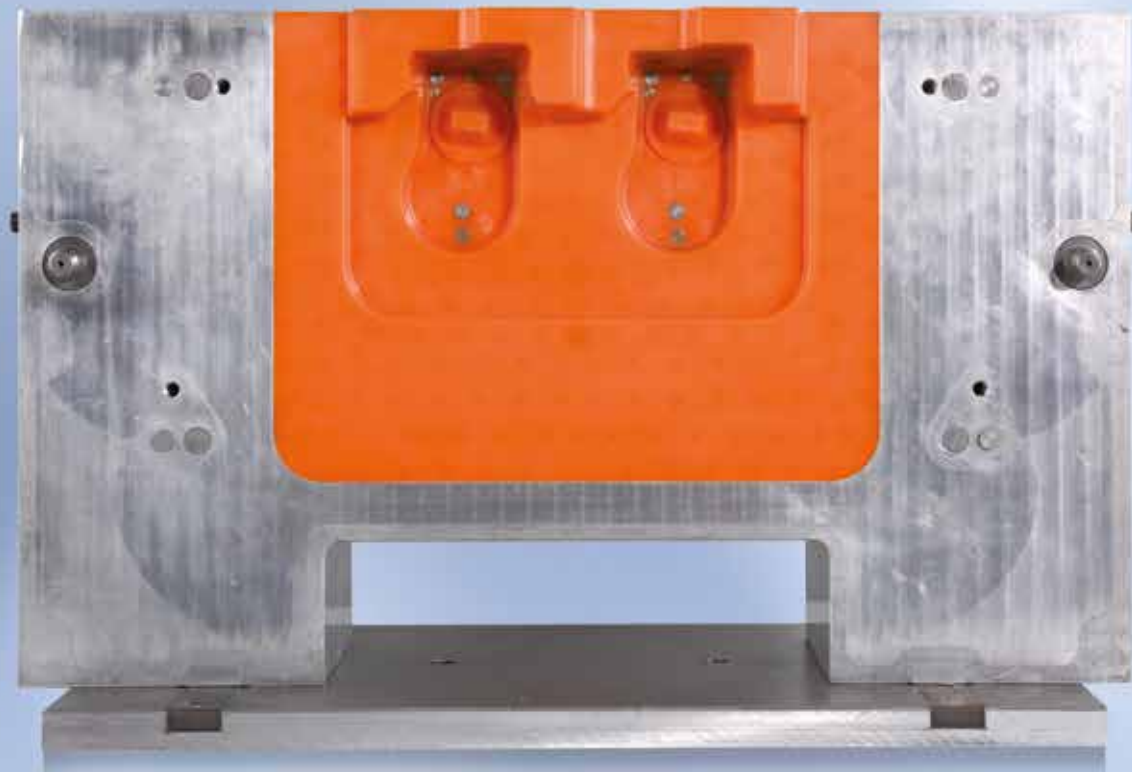


# RAKU<sup>®</sup> TOOL | Production methods

## The ideal solution for all plastic modeling options

When producing foundry patterns and pattern plates various build-up methods can be chosen based on operating conditions, customer requirements, and the number of parts to be produced. With its comprehensive product range, RAMPF Tooling Solutions offers the ideal solution for all build-up methods of plastic pattern equipment.

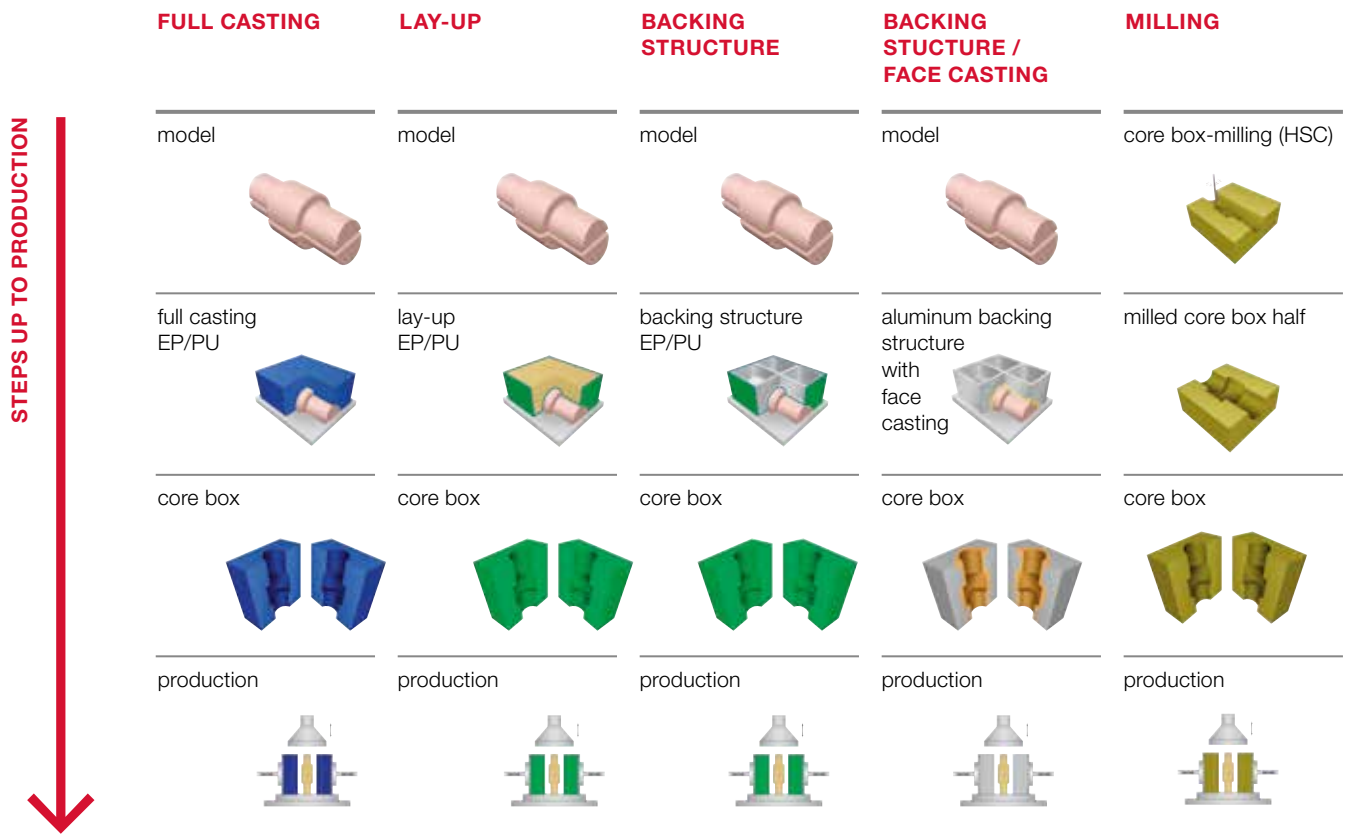




# RAKU® TOOL | Production methods

## Different production methods – consistent high quality

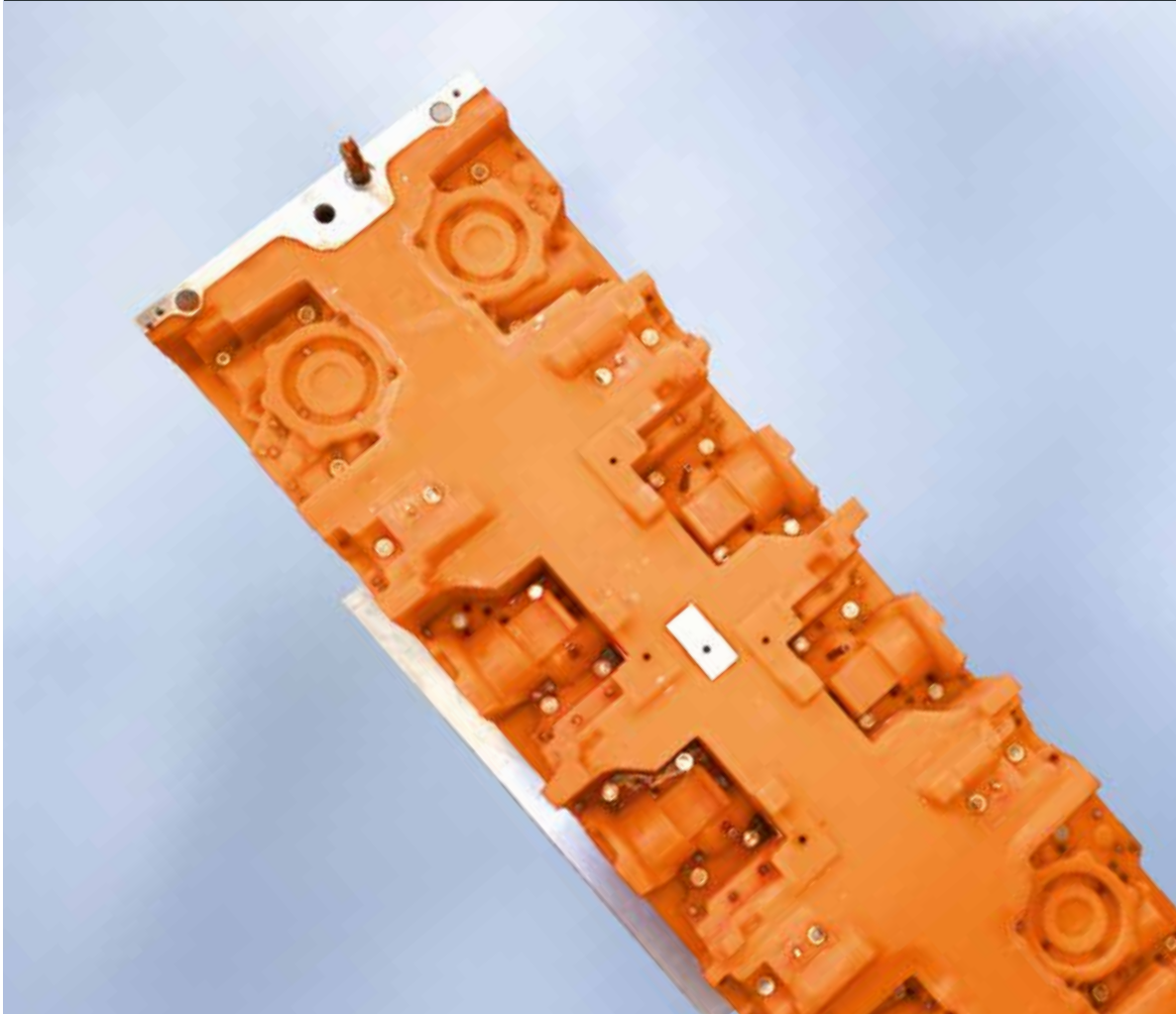
The numerous build-up methods for cores in the foundry industry, whether for small or large series, set high requirements for core boxes. Amongst these are good dimensional stability at temperatures of up to 60 °C as well as high abrasion and good chemical resistance. With its comprehensive product portfolio, RAMPF Tooling Solutions offers a wide range of solutions for various core box production methods.



# RAKU® TOOL in use

## PRODUCTION OF A CORE BOX FOR THE MANUFACTURE OF AN EXHAUST MANIFOLD WITH INTEGRATED TURBOCHARGER

RAKU® TOOL PC-3458/PH-3958 Face casting system



approx. > 100,000 replications

### + ADDED VALUE

- > Dimensional stability and accuracy
- > High number of replications due to excellent abrasion resistance
- > Excellent resistance to chemicals, no swelling
- > Easy to process, by hand or machine
- > Minimal sand adhesion

## CORE BOX FOR THE PRODUCTION OF AN OIL PAN

**RAKU® TOOL** WB-1258 Board material

**approx. 60,000 – 80,000 replications**  
(pattern plate ca. > 100,000 replications)

### + ADDED VALUE

- > For large series production, very high abrasion resistance with high dimensional stability and accuracy
- > Fast and high-precision production of models through direct milling from CAD data
- > Quick and easy modifications
- > Color matched adhesive
- > Cost savings in comparison to metal or face casting
- > Excellent impact resistance and edge strength
- > Excellent resistance to chemicals, no swelling



## PRODUCTION OF PATTERN PLATE WITH MODEL FOR THE MANUFACTURE OF A FLANGE PLUG VALVE

**RAKU® TOOL** WB-1250 Board material

**approx. > 20,000 replications**  
(on FDC molding facility)

### + ADDED VALUE

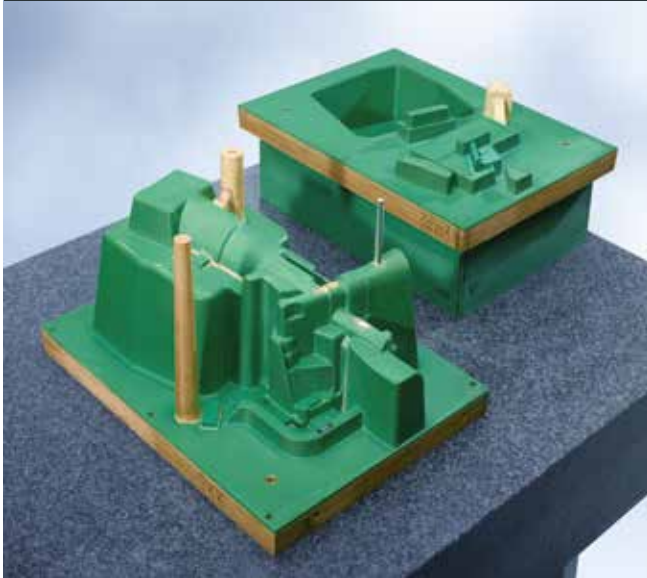
- > Quick model production through direct CNC milling
- > Dimensionally stable due to low coefficient of thermal expansion
- > High-performance – good heat and impact resistance as well as good edge strength
- > Compatible with all paints and release agents in line with industry standards
- > Excellent amine resistance
- > Resistant to dry ice cleaning





## PRODUCTION OF PATTERN PLATE FOR THE MANUFACTURE OF A HOUSING

RAKU® TOOL WB-1222 Board material



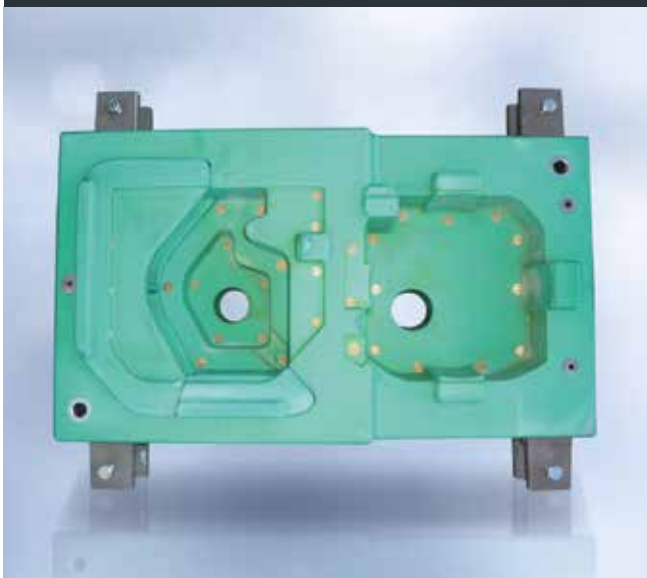
approx. > 20,000 replications

### + ADDED VALUE

- > Quick model production through direct CNC milling
- > Through multilayer milling, models and molds with deep cavities and complicated contours, can be produced using short milling cutters and 3 axis milling machines
- > Low wear of milling tools
- > Resistant to amine
- > Resistant to dry ice cleaning
- > Most proven working board in the foundry industry

## PRODUCTION OF A TWO-PART CORE BOX FOR THE MANUFACTURE OF AN ELECTRIC CHAIN HOIST HOUSING

RAKU® TOOL WB-1250 Board material



approx. > 20,000 replications  
Coldbox process, Laempe L10

### + ADDED VALUE

- > Easy and fast to machine, low wear of milling tools
- > Fast production of core box through CNC milling
- > No swelling
- > Dimensionally stable due to low coefficient of thermal expansion
- > Excellent abrasion and chemical resistance
- > "Sustainable" board, manufactured from recycled polyols based on PET

## PRODUCTION OF A PATTERN PLATE FOR THE MANUFACTURE OF A CUSTOMIZED EVO BUS ARMREST

**RAKU® TOOL** WB-1404 Board material



**approx. > 10,000 replications**

### + ADDED VALUE

- > Bonding of blank with specially matched adhesive RAKU® TOOL PP-3314/PH-3905
- > Fast production of pattern plate through direct CNC machining
- > Easy and quick changes
- > Good styrene and amine resistance
- > Minimal finishing required due to dense, homogeneous, and smooth surface; can be polished
- > Dimensionally stable due to low coefficient of thermal expansion
- > Compatible with all paints and release agents in line with industry standards

# We are inventors. Team players. And a strong partner.

## RAMPF – a global market-leading specialist in custom chemical and engineering solutions

We are experts for reactive resins, machine systems, and lightweight composite construction solutions.

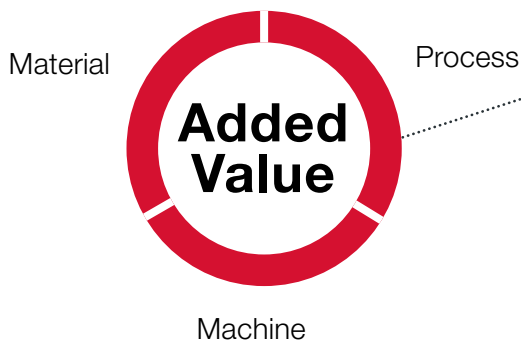
Our mission – discover the future.

In partnership with our customers, we develop tomorrow's products and tailored solutions today – for the decisive competitive edge.

Over the last 40 years, we have grown from an inventive one-man business into an international medium-sized group of companies, with operations at twelve locations on three continents.

Now run by the next generation of our family, the business still maintains the same fundamental values – being a trustworthy and reliable partner for our customers and our employees. This is the only way to build lasting, successful partnerships.

At RAMPF, innovation and tradition go hand in hand. We are one big family, focusing on the future with a sustainable, value-adding approach, and are very much aware of the social and environmental responsibilities associated with our business activities. That is why we are committed to promoting a respectful and appreciative way of dealing with one another.



**RAMPF – Engineering and Chemical Solutions.**  
Utilize our wide-ranging innovative potential for Added.Value.

Founded as a One-man Business

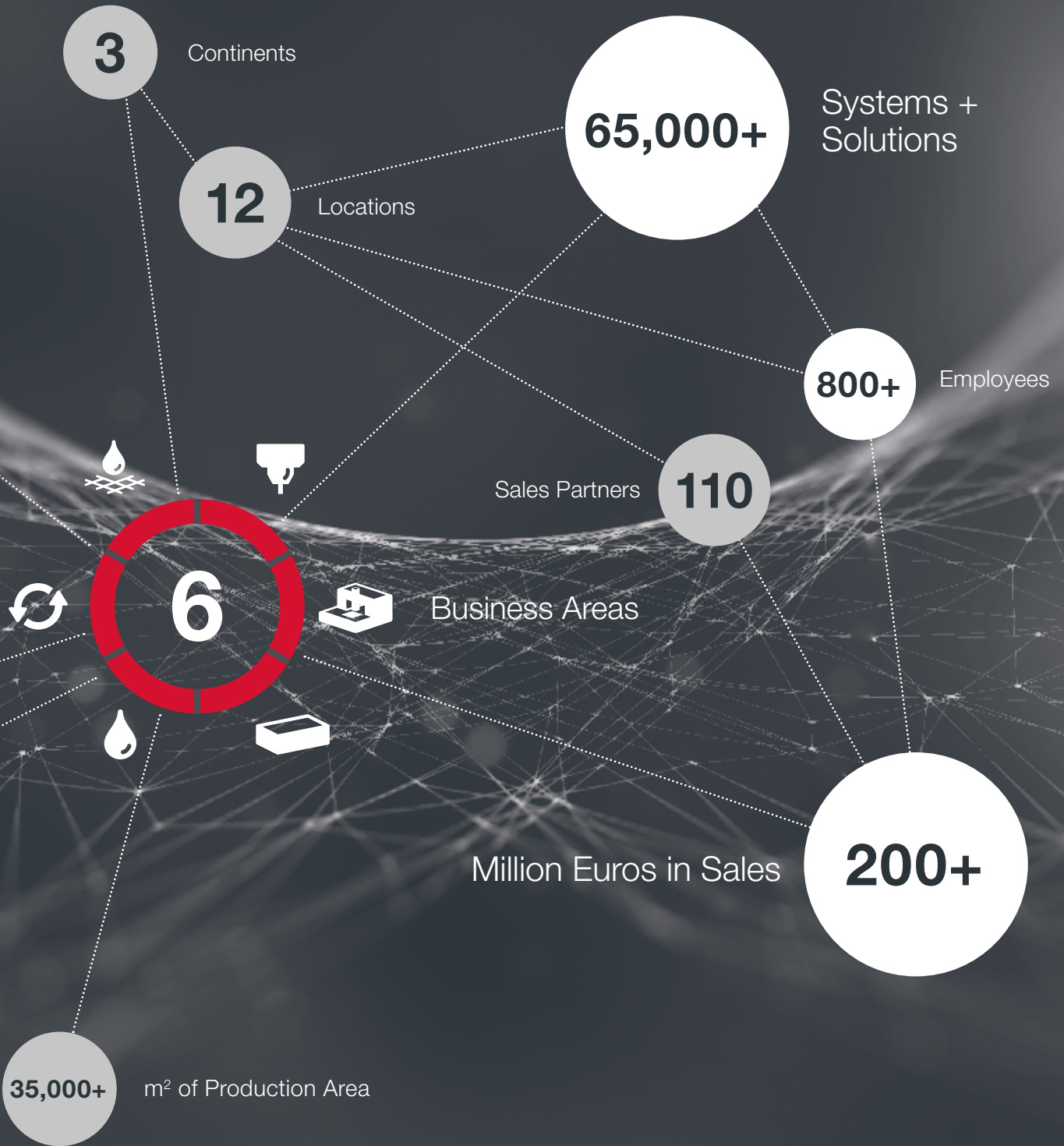
1980

Second-generation Family Company

2

m<sup>2</sup> of Laboratories

3,000+





**RAMPF –**

discover the future

Developing the Solutions  
of Tomorrow – Today.

**+49.7123.9342-1600**

**[tooling.solutions@rampf-group.com](mailto:tooling.solutions@rampf-group.com)**



**Mass production?**

Not at RAMPF.

**We engineer  
made-to-order solutions.**

