

# AUTOMOTIVE



AMBITIOUS  
RELIABLE  
INNOVATIVE  
RESPONSIBLE

**HM** *model.*



## WHO WE ARE, AND WHAT WE CAN DO?

We're a Czech company based in Bučovice, and our specializations are original castings, molds and other final products.

Thanks to modern technologies and guaranteed production processes, we can provide our customers with high-quality and reliable products, delivered in a short time.

## WHAT CHARACTERISES US THE MOST?

- high product quality
- fast delivery
- modern production processes and technologies
- long-term experience and a personal approach



# METALLIZING JIGS

We've been working on your orders since 2005.

## What do we emphasize?

- high accuracy
- shape stability
- stable properties under demanding conditions (vacuum, chemical stress etc.)

## What makes us unique?

- custom solution according to your instructions
- production process repeatability
- part development using 3D design

## CARBON MASKING JIGS

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A mask is composed of two basic materials:

- a carbon composite ensuring strength, stability and durability
- a polyurethane edge copies the required metallization line

### The main advantages are:

- easy and fast mask repairs and modifications
- production of parts with complex shapes

## POLYURETHANE MASKING JIGS

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We produce these jigs in high quality and with time flexibility:

- from verified materials
- made in our own molds
- with the option of additional modifications during serial production

### The main advantages are:

- excellent durability
- additional modification

## PLASTIC (ABS) MASKING JIGS

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ABS masks are suitable for simple parts without appearance surfaces. Possibilities of modifications on these jigs are limited.

### We comply with these main requirements:

- long lifespan
- lower price
- greater toughness

## 3D PRINTED JIGS

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These masks are used primarily during the research and development or testing phase, where short delivery terms are required.

### Our jigs fulfil important requirements:

- modern production technology
- high masking accuracy
- durability
- stability
- fast production

## JIGS FOR FULLY METALLIZED/PAINTED PARTS

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Steel fixtures with simple design.

### We strictly guarantee following properties:

- long-term functionality
- high production capacity
- fast production

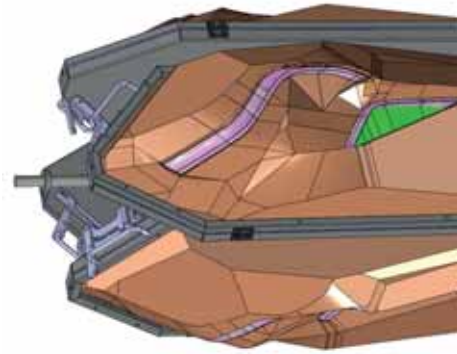


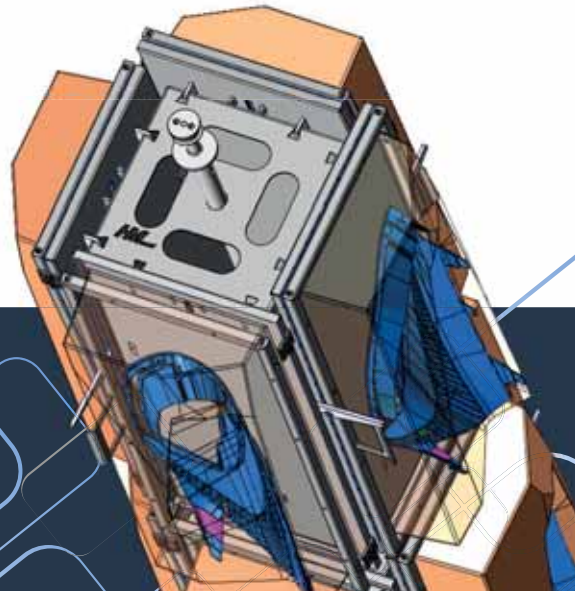
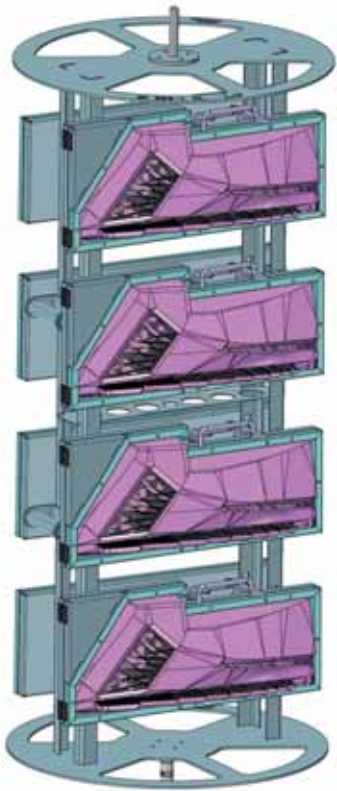
## CARBON FIBER METALLIZATION JIGS

This is a mask composed of two basic materials – a carbon composite (which ensures strength and a long lifespan) and a polyurethane edge (which copies the required metallization line).

### The advantages of this method are:

- easy and fast mask modification, for example due to a change of the pressed part parameters
- option of producing parts with complex shapes

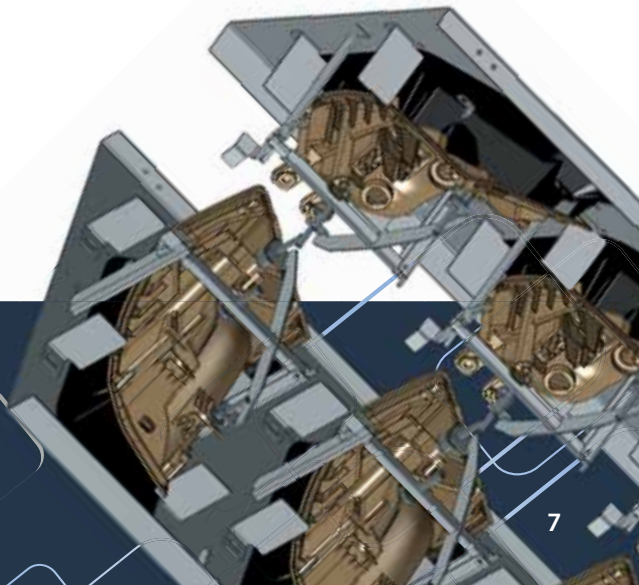






## POLYURETHANE METALLIZING JIGS

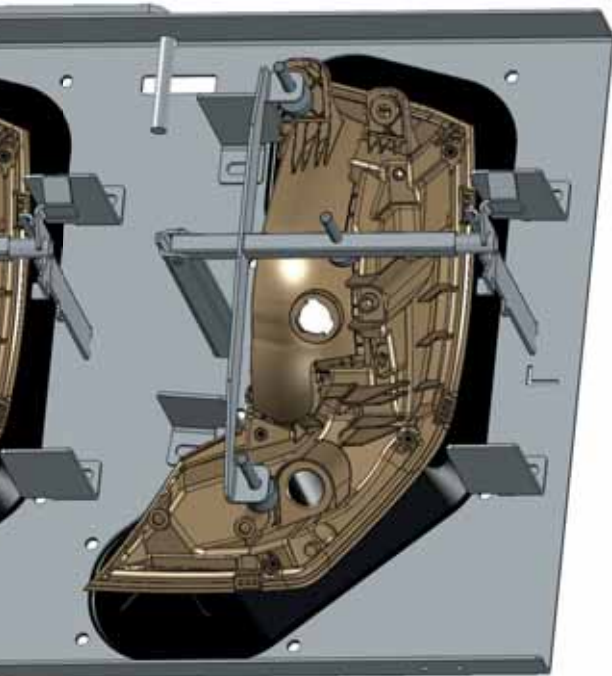
Mask is composed of a durable and long-lasting material. It is made from polyurethane, which has been tested in practice. It is a reliable and strong material, which we process in our own molds with the option of additional modifications during serial production.



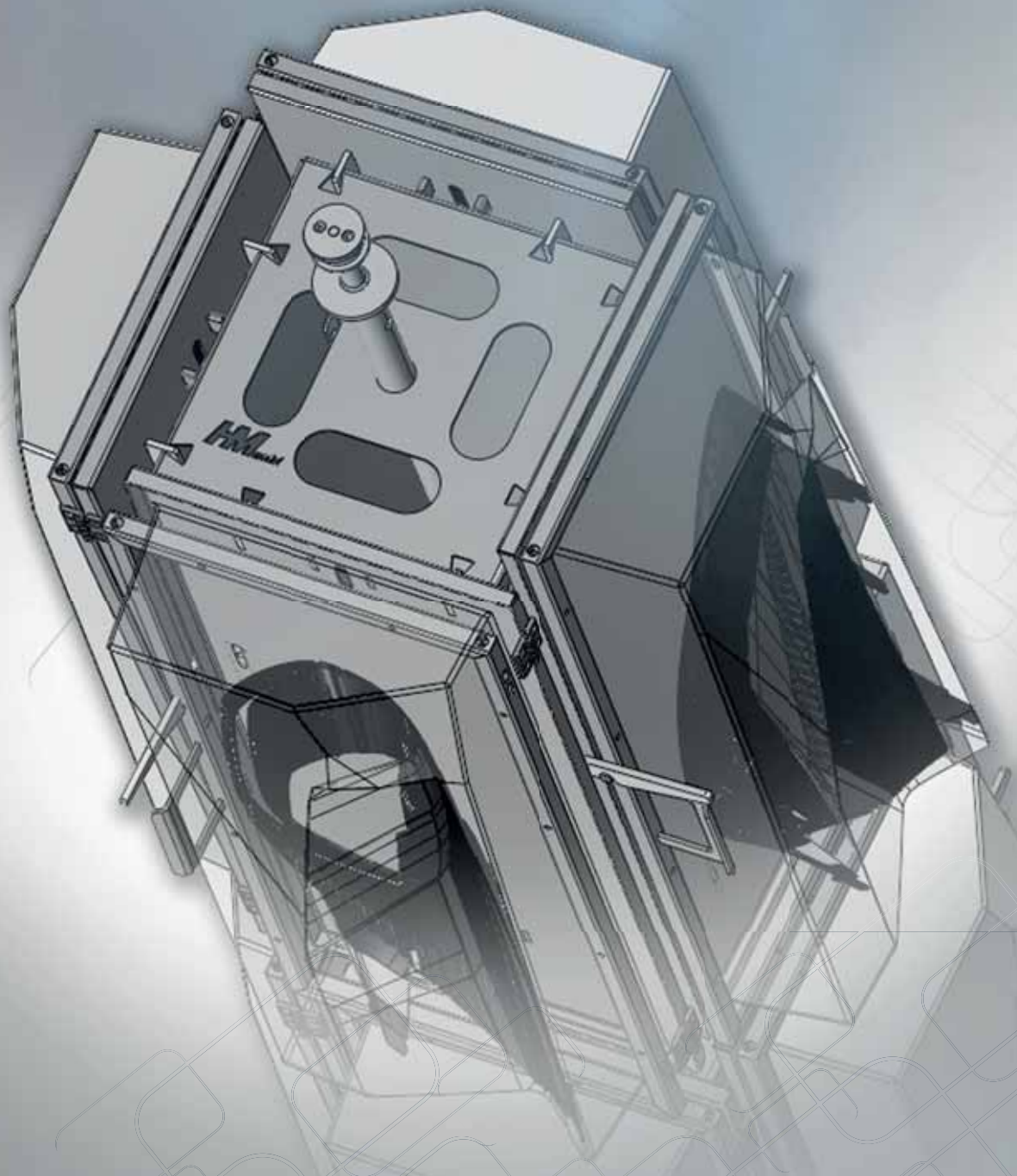
## POLYURETHANE METALLIZING JIGS

This material is characterized by the possibility of:

- fast delivery of initial prototypes
- flexible production in a shorter time
- additional modifications during ongoing production







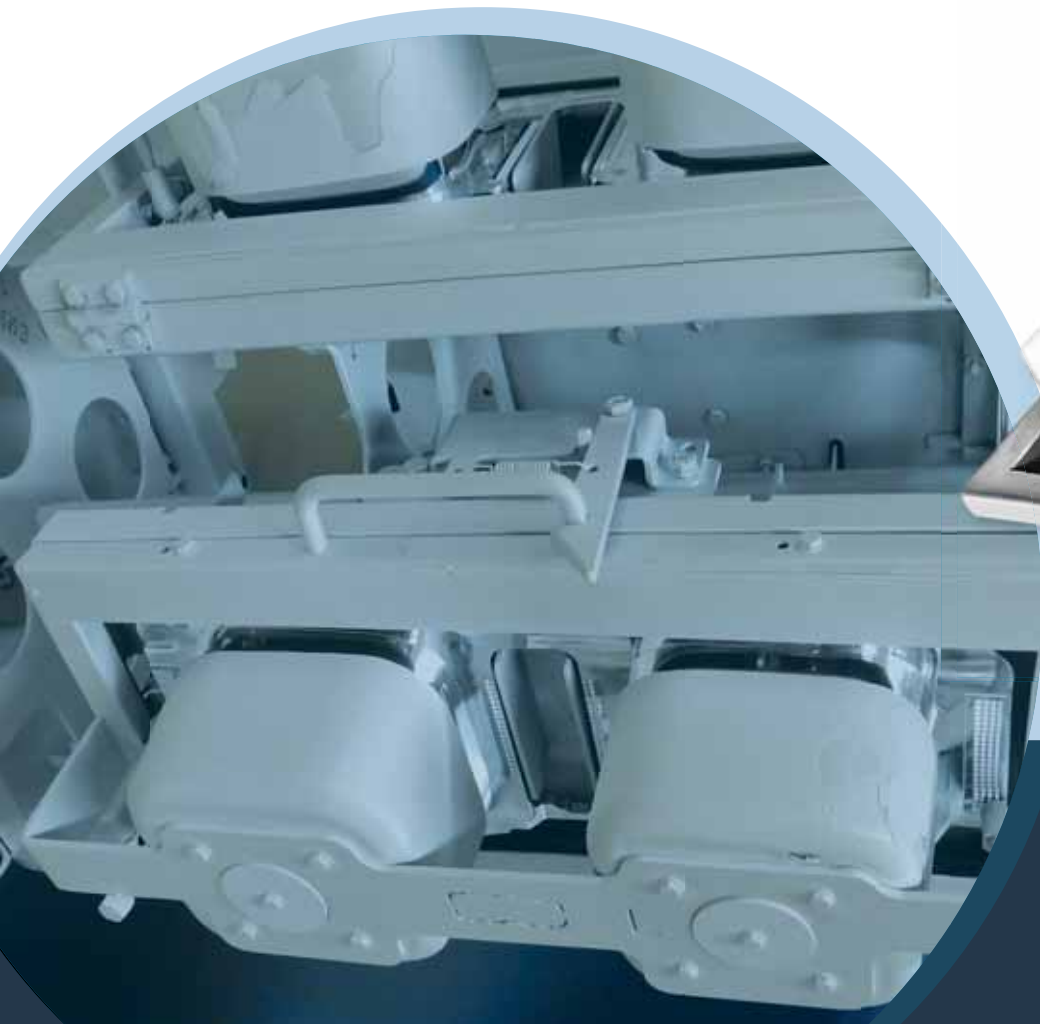
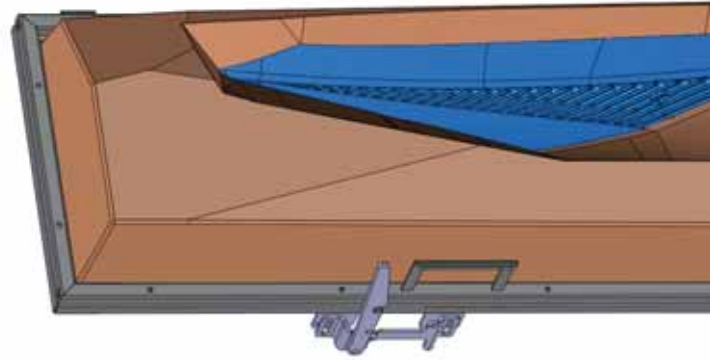
## ABS – PLASTIC METALLIZING JIGS

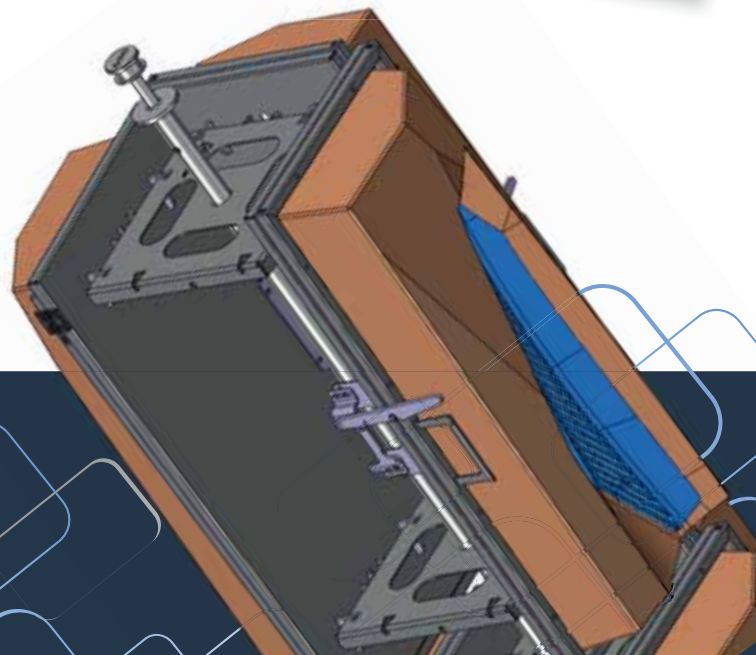
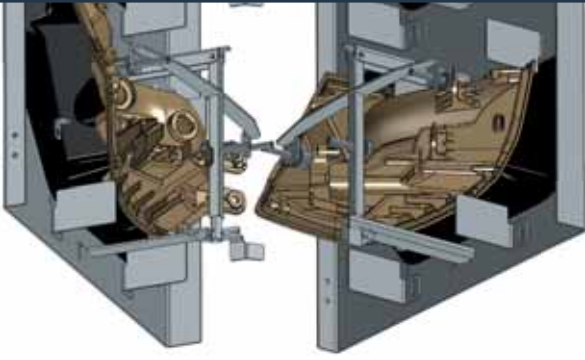
It is made using technology of vacuum forming ABS plastic, which is ideal for parts with simple design. This method is frequently used in the automotive sector for components where the appearance is not emphasized.

Additional modification of metallization line is limited.

### **In production, we comply with following requirements:**

- fast preparations for final production
- long lifespan
- possibility of additional production



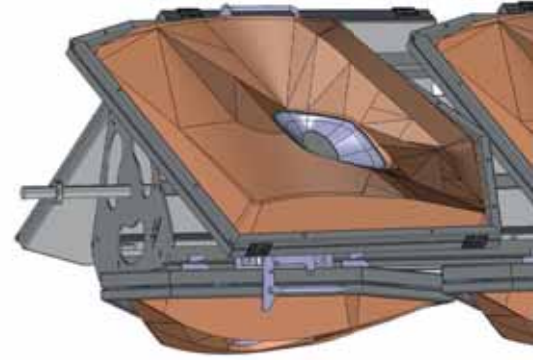


## 3D PRINTED METALLIZING JIGS

3D printed metallization jigs (full assembly). A very fast way of producing masks even with complex shapes, fast modifiability and delivery time.

The mask, with all components, is to a large extent produced by the latest 3D printing technology.

Nowadays, with cost reductions while the speed and technological progress of this production method are improving, we believe that it is a possible future solution for most masking jigs.

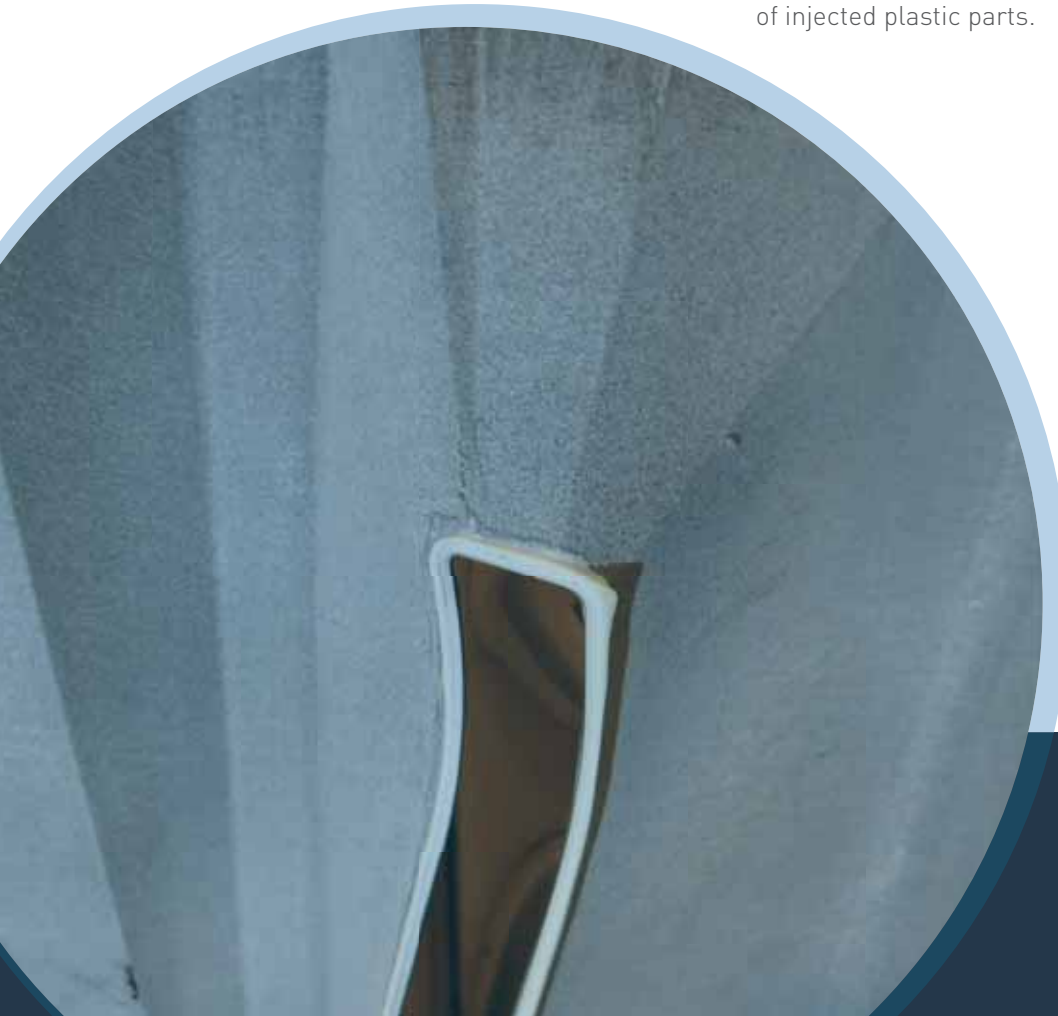


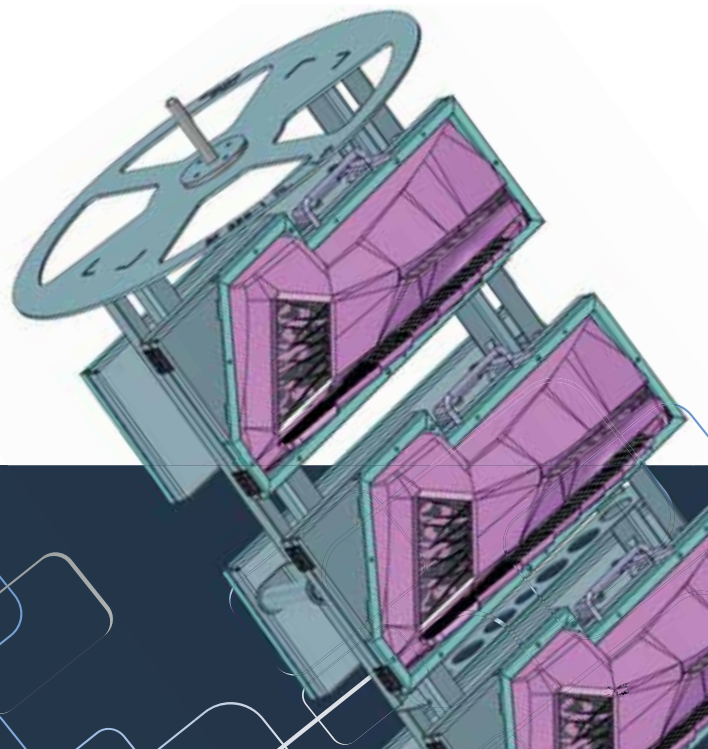
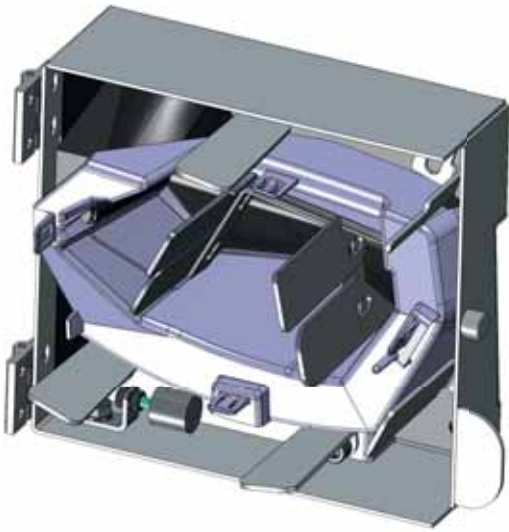
## MASKS

Very fast option of supplying prototype masks, even for projects that require very accurate masking.

The functional part of the mask is produced with use of the latest 3D printing technology, which excels by its durability, stability and production speed.

This technology has a limit for long-term use, and is more suitable for the initial prototyping of injected plastic parts.

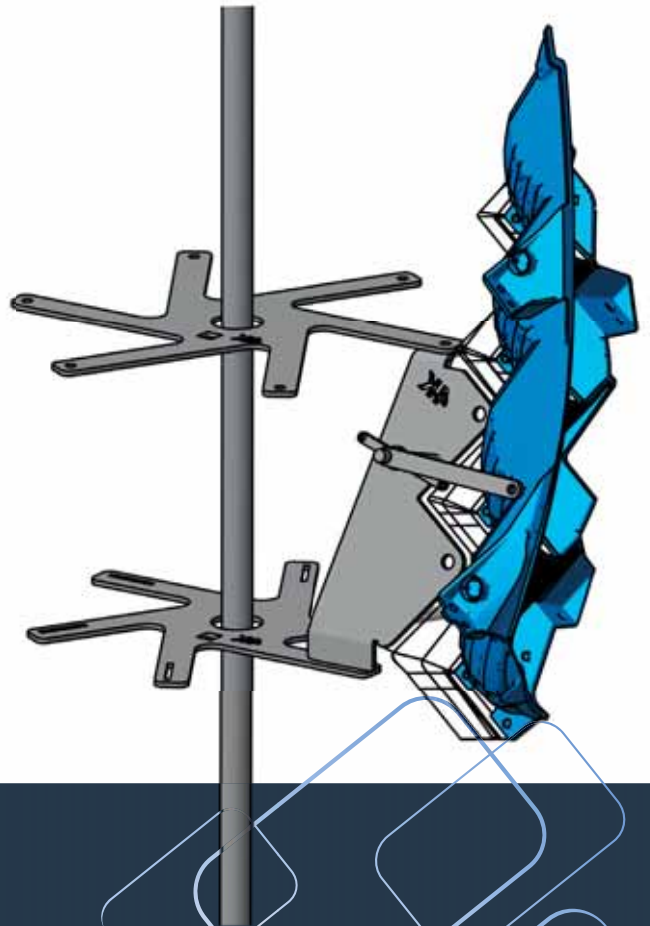
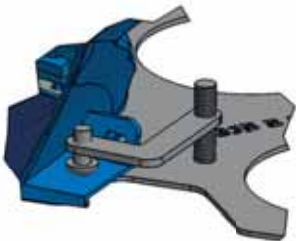
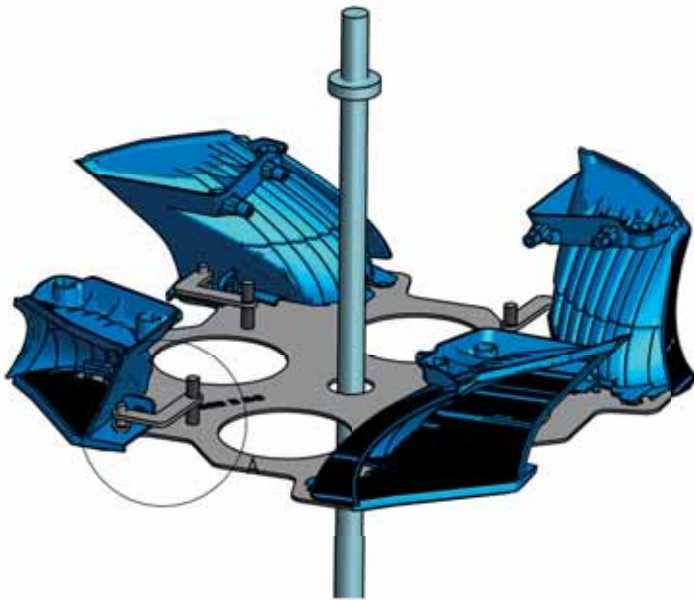
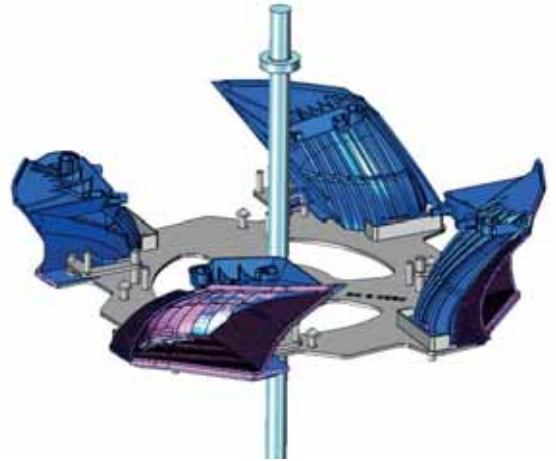




## JIGS FOR FULLY METALLIZED/ PAINTED PARTS AND DESIGN PAINTING

Simple design and operation together with maximum production capacity.

These are jigs with simple design for the surface treatment of the entire part by painting or vacuum metallization. The main construction material is stainless steel, which ensures long functionality and lifespan of these jigs.



# PROTOTYPE AND SMALL-SERIES PRODUCTION



**HM** *model*

## SILICONE PROTOTYPES AND PRODUCTS

According to the customer's specifications, we produce prototypes from addition silicone.

### We recommend this type of prototype for:

- special shape solutions
- painting and protective covers
- printing pads
- food industry

### The materials we use are characterized by the following properties:

- high heat resistance
- abrasion resistance
- shape stability
- option of coloring in the required shade





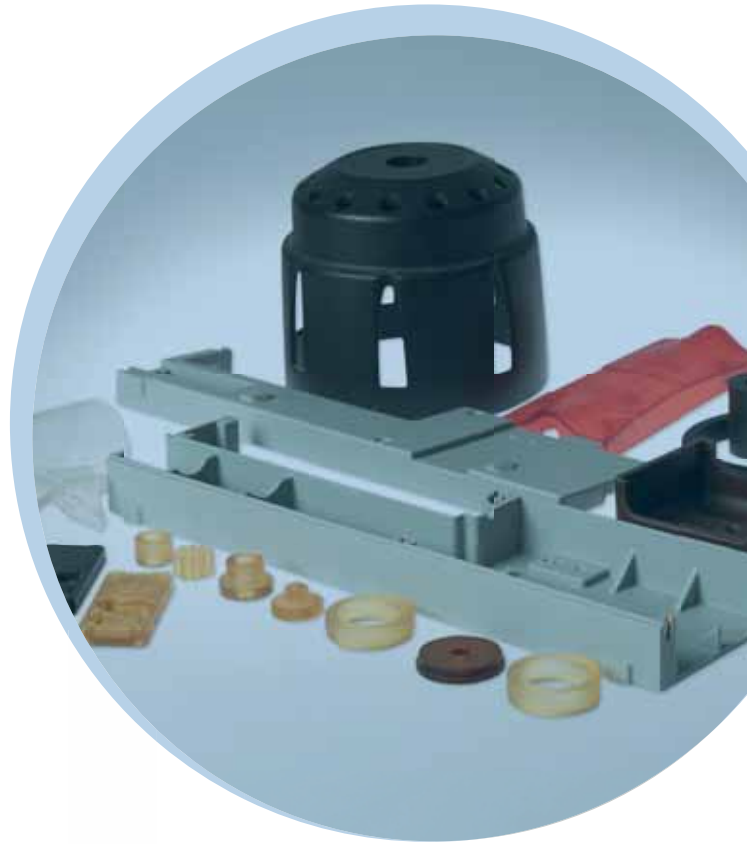


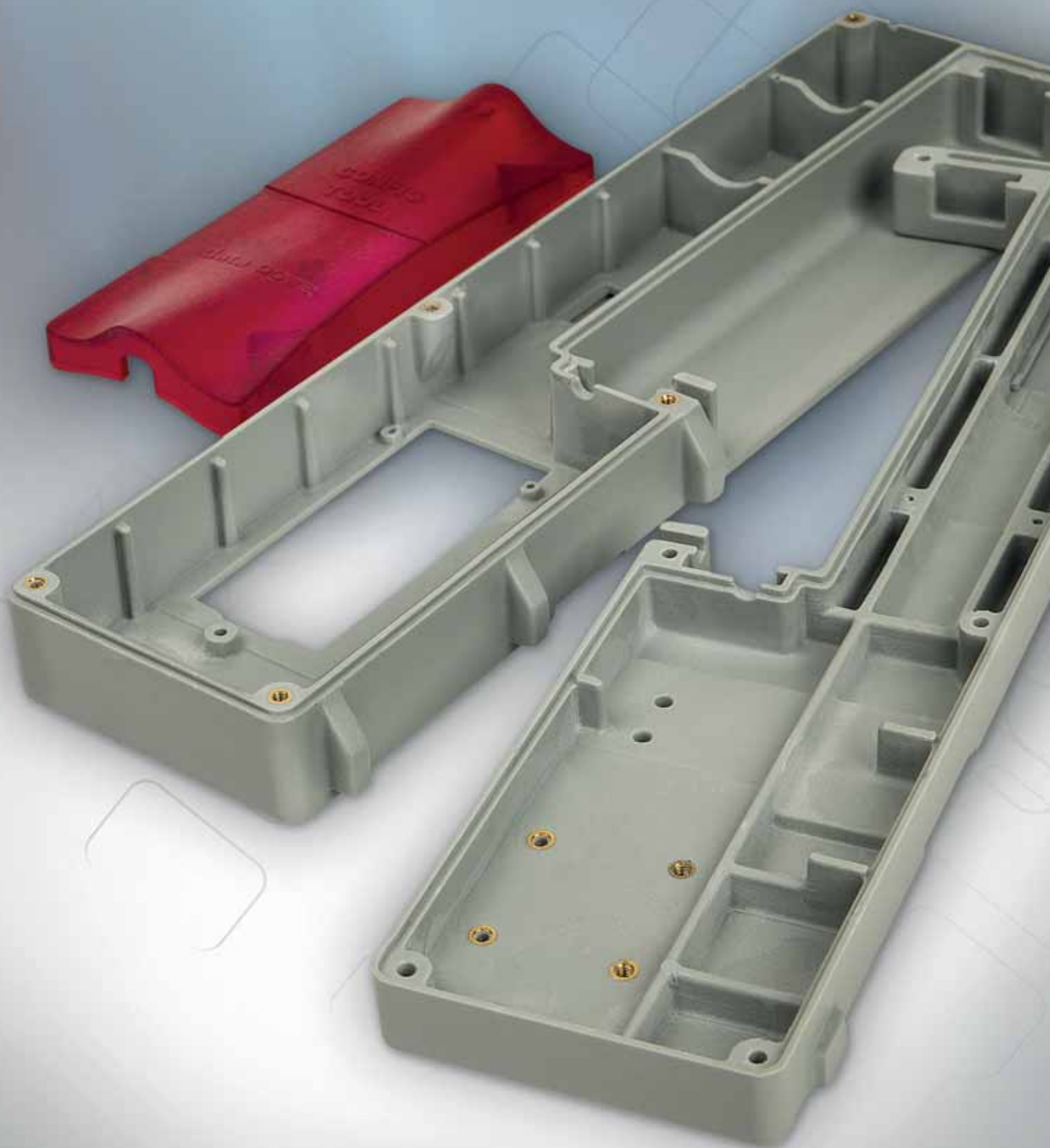
## POLYURETHANE PROTOTYPES AND PRODUCTS

In many cases, this material serves as a replacement for common plastic materials produced by injection moulding. The prototypes can be colored according to the client's wishes.

### It has properties such as:

- chemical resistance
- heat resistance
- solvent resistance
- UV stability
- self-extinguishment
- dimensional stability



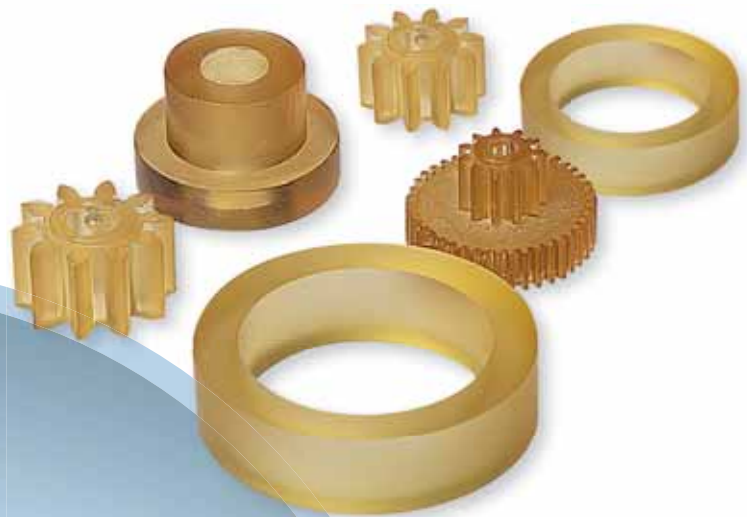
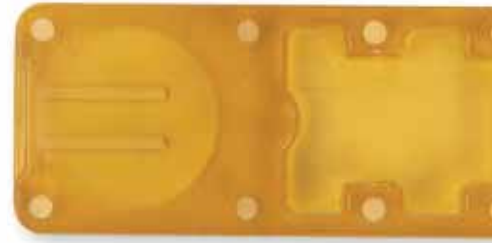


## FLEXIBLE POLYURETHANE PROTOTYPES AND PRODUCTS

These polyurethanes completely replace traditional flexible materials such as rubber. They're produced in various hardness according to the Shore A scale.

### Their main advantages are:

- chemical resistance
- heat resistance
- solvent resistance
- UV stability
- self-extinguishment
- dimensional stability
- option of combining with other parts



## 3D PRINTING

This is the most efficient method of prototype production. Using the 3D printing technology, we can produce models with complex shapes, or print out entire assemblies.

**For 3D printing, we use most available materials which have the following properties:**

- strength and toughness
- impact resistance
- chemical resistance
- surface impermeability
- flexibility even at low temperatures
- harmlessness to health
- option of piecemeal and small-series production for a reasonable price

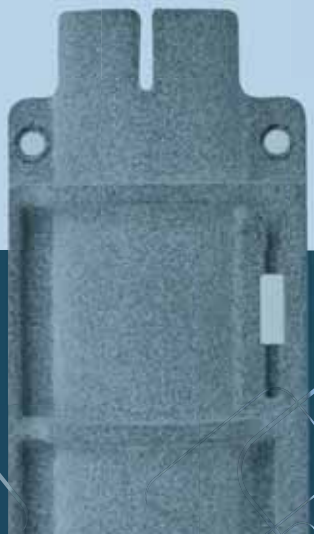


## YOUR PROJECTS IN THE HANDS OF EXPERTS

Our Design Department draws from its many years of experience. We offer custom solutions using the latest software. We specialize in the vacuum metallization of parts for automotive lights and reengineering.

**Our Design Department offers:**

- product modelling and development in 3D
- conversion of 2D documentation into 3D
- design works according to the customer's requirements
- preparation of documents for laser, water jet and plasma cutting
- design of whole assemblies



## WAX MODELS

Our many years of experience gives us strong background for the production of wax models of the highest quality. We produce wax models for the foundry method of precision casting into shell molds.

### We also produce the most complex castings, such as:

- differential housings
- car transmission and cooler parts
- engine components
- parts for the aerospace industry

### We can guarantee that:

- the high costs of producing the initial parts can be avoided
- we'll produce the model according to the client's requirements, in all sizes
- the ordered model will be of high quality

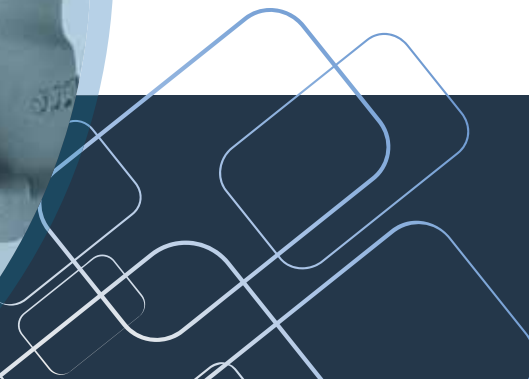




## CUSTOM METAL CASTING PRODUCTION

We produce metal castings from a wide spectrum of metals such as aluminum alloys, steels and non-ferrous metals.

The castings are produced by the precision casting method with the use our wax models.







## LAMINATED PARTS

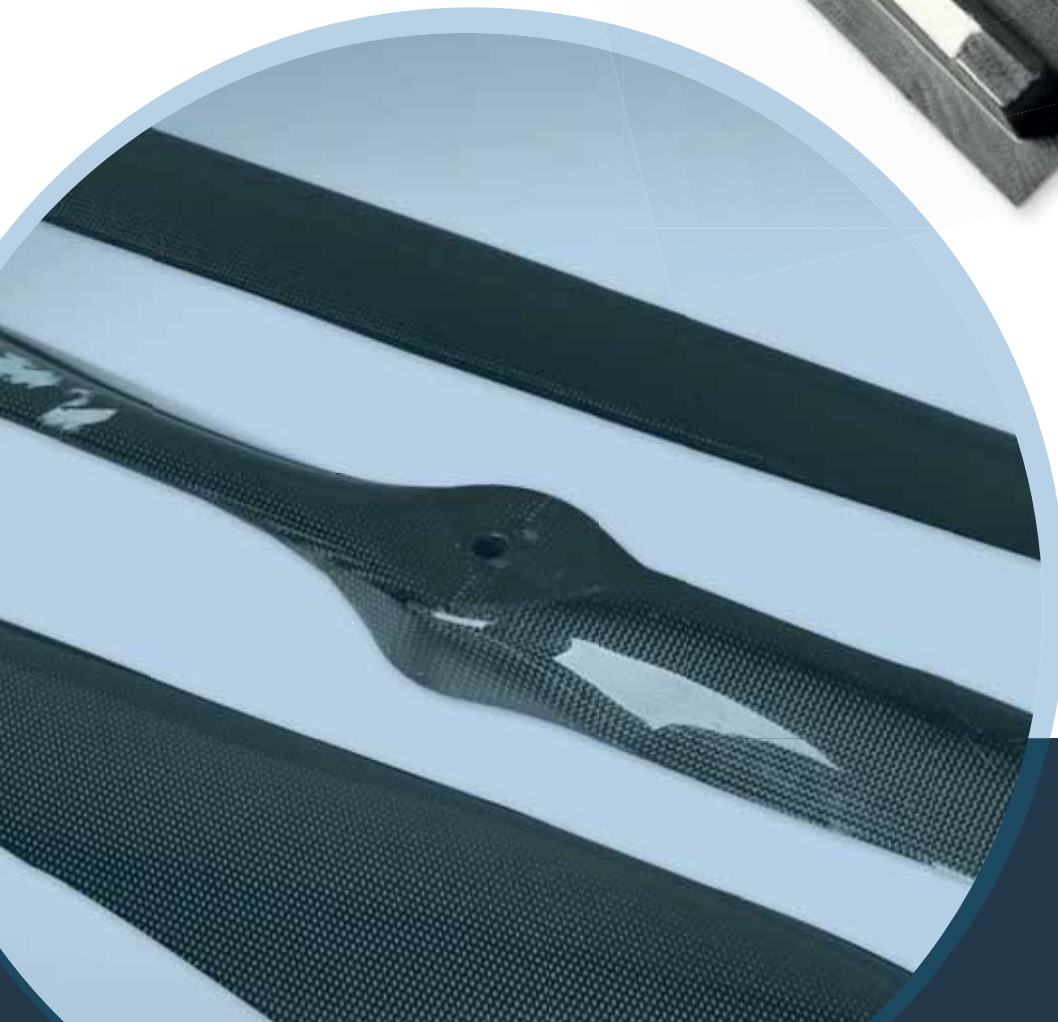
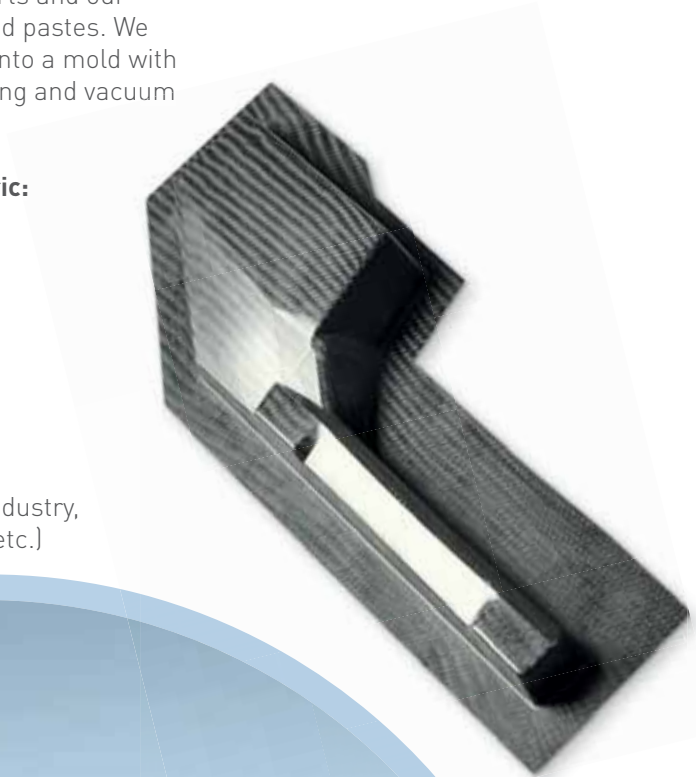
For the production of laminated parts and our own molds, we use epoxy resins and pastes. We choose from methods of pressing into a mold with impregnated fabric, vacuum pressing and vacuum injection.

### We use the following types of fabric:

- carbon
- glass
- aramid
- hybrid

### The advantages of laminate are:

- dimensional stability
- high strength
- chemical resistance
- wide range of uses (concrete industry, power generation, automotive etc.)







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*i* HM MODEL, s.r.o. entered in the Commercial Register maintained by the Regional Court in Brno, section C, insert no. 50601 registered office Bučovice, Ždánská 1142, Post Code 685 01

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