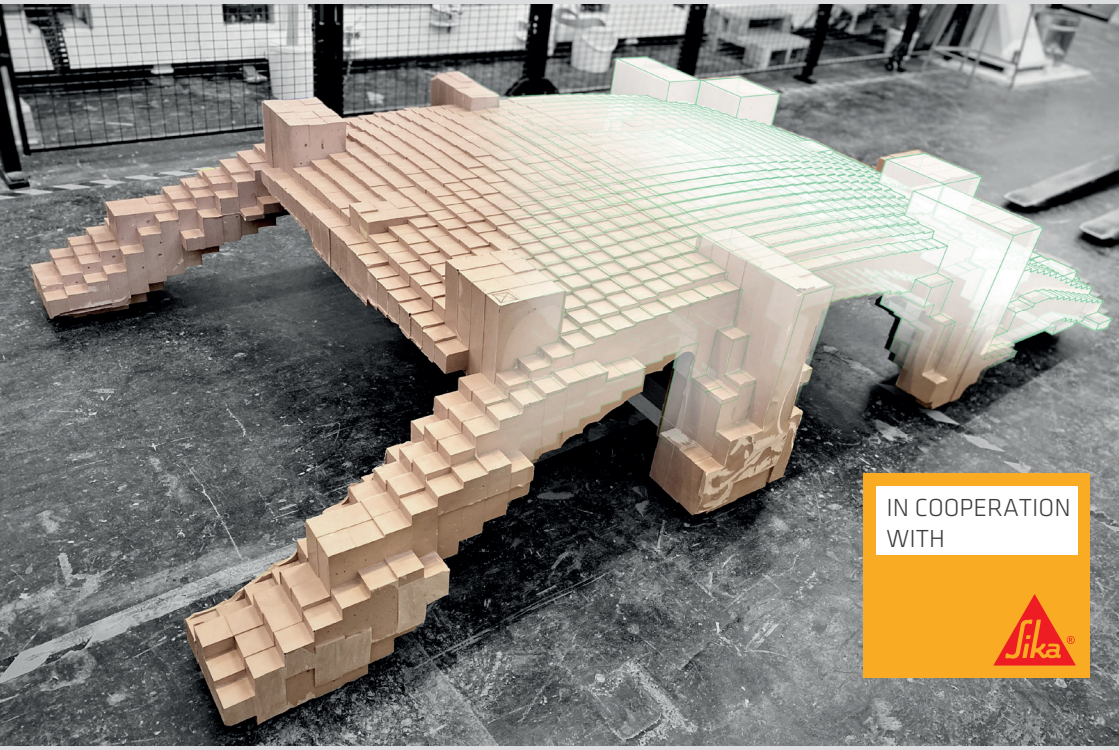
custom
shaped
blocks

CUBES

REVOLUTIONARY TECHNOLOGY FOR

MOULDING, TOOLING AND CUBING



Casted close contour blocks
made of PU up to 3m x 2m x 1,5m

(from 100 ltr. to max. 2,000 ltr. representable)

www.cubes-gmbh.com

ABOUT CUBES

Who we are

CUBES revolutionizes model and mould making. Our **completely new digitally controlled production process** helps you to save up to 40 % of your production costs while ensuring the **highest quality of material.**

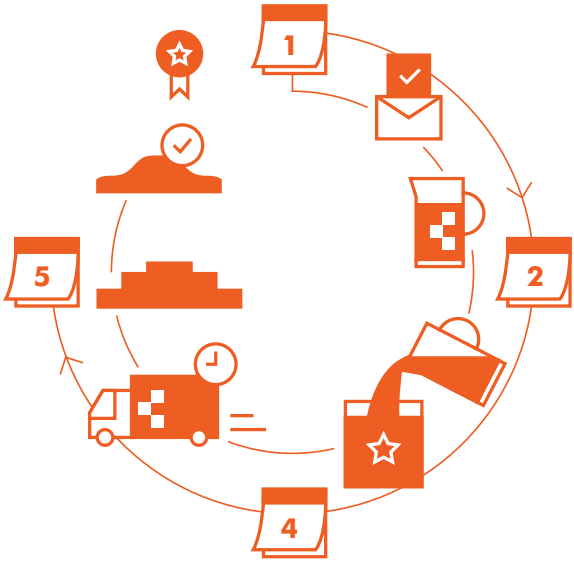
What we do

We use a specially developed material to produce close contour blocks for model and mould making whose contours are approximated by a grid. **Ordering** is simple and intuitive via our website. Depending on the customer requirements, plates are also produced with individual dimensions.

CUBES

FACTS & ADVANTAGES

From the file upload to the final product. In just 5 days!



Gogreen
sustainable process with minimal waste. No auxiliaries such as polystyrene moulding

High quality
from one piece - no plate gluing, high optical and mechanical quality

Time saving
approx. 5 days delivery

high-quality
material properties

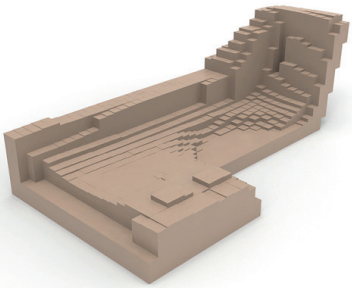
WE OFFER

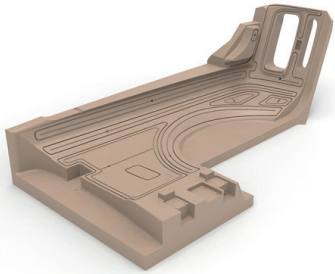
Technology
CUBES is a **brand new, patented technology** for the production of near-net shape casting models, which reduces production costs by up to 40% and at the same time guarantees the highest material quality.
Models made with CUBES technology require no preparation and little post-processing.

Material
Proven **SikaBiresin® PU** products are used for the CUBES process. Cubes thus has a variety of PU model casting resins that cover a wide range of applications with densities from 0,80 to 1,60 g/cm³.

CUBES Technology
135 % material incl. allowance, approximated, cast raw block

Final Product
100 % material, milled holding fixture





custom shaped blocks

Advantages

Fast delivery
approx. 5 days delivery time (within DE and AT)

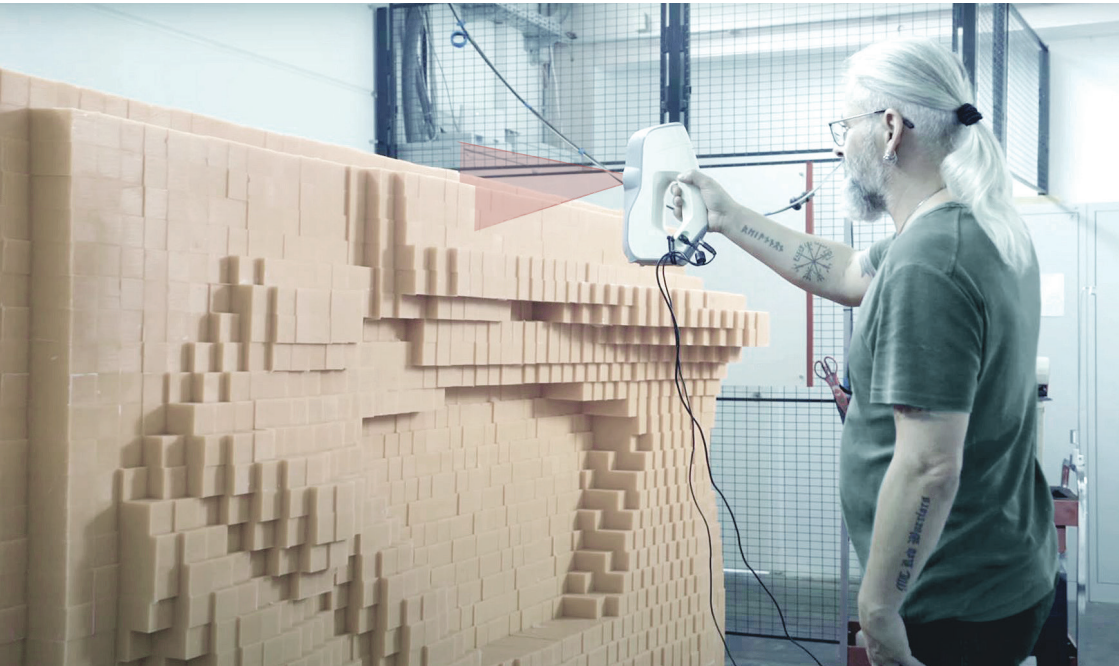
Material savings
up to 40%
(to conventional methods)

Suitable for autoclaves
up to 55°C / 7bar
(at density 1,6 g/cm³)

no panel bonding necessary

almost tension-free through subsequent heat treatment

individual mechanical properties



ORDERING PROCESS

1  Upload your 3D-model as a step file.

2  Choose your preferred offset.

3  Automatic calculation of the raw block geometry.

4  Choose your individual material and get your offer.

5  Choose your shipping method.

6  Download your CUBES model as a CAD file for the CAM pogramming.

7  Your order will be confirmed via email.

Order online at www.cubes-gmbh.com

MATERIAL DATA SHEET

CUBES-block casting with SikaBiresin® PU products

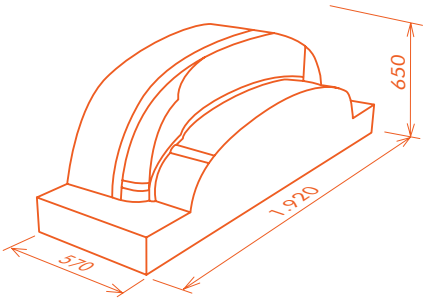
Tried and tested **SikaBiresin® PU** is cast in the globally unique and patented production process of CUBES GmbH for the manufacture of shape-matched raw blocks and guarantees the highest component quality possible.

- density 0.80 - 1.60 g/cm³
- component sizes (3 x 2 x 1.5m) from 100 ltr. to max. 2,000 ltr. can be realised
- excellent price-performance ratio
- simple, low-dust processing
- high surface quality
- high abrasion resistance and impact strength
- low thermal expansion
- good compressive and edge strengths
- additional matching **SikaBiresin® PU** repair solutions such as adhesives and fillers

COMPARISON OF COSTS

Sample 1 – Front Spoiler

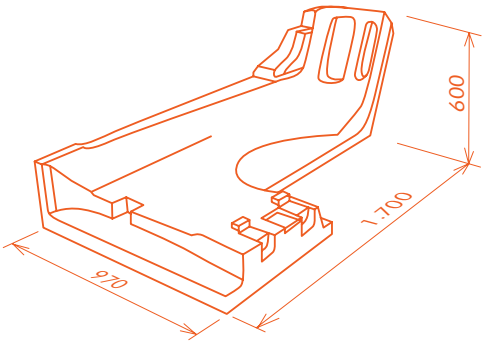
Mastermodel 459,9 l



Work Steps & Material	**Plate Technol-ogy**	**Styrofoam Cast**	**CUBES**	**Comment**
CAD preparation, order-ing	0,2 h	1 h	0,2 h	
Raw material, casting	5.362,50€	7.747,50€	4.328€	15 pieces of plates
Create adhesive sketches	2 h			
Gluing of plates	6 h			2 employees – about 3 h
Adhesive material	150€			
CNC programming	4 h	4 h	4 h	
CNC milling	30 h	25 h	25 h	better raw block contour
Surface finishing	3 h			Pores – adhesive gap
Residual material disposal	2 h	2 h	1 h	185€/t, working time
Total (cost accounting)	9.234,90€	10.541,50€	7.046,40€	
	131 %	150 %	100 %	

Sample 2 – Fender

Holding Fixture 202,4 l

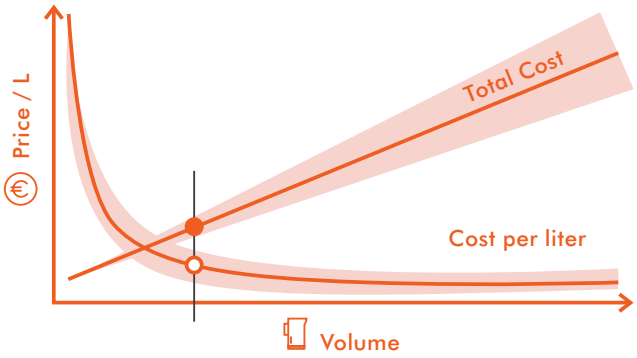


Work Steps & Material	**Plate Technol-ogy**	**Styrofoam Cast**	**CUBES**	**Comment**
CAD preparation, order-ing	0,2 h	1 h	0,2 h	
Raw material, casting	3.217,50€	4.630€	2.865,54€	9 pieces of plates
Create adhesive sketches	3 h			
Gluing of plates	8 h			2 employees – about 4 h
Adhesive material	150€			
CNC programming	8 h	8 h	8 h	
CNC milling	40 h	35 h	35 h	better raw block contour
Surface finishing	3 h			Pores – adhesive gap
Residual material disposal	2 h	2 h	1 h	185€/ t, working time
Total (cost accounting)	8.425,90€	8.592€	6.751,94€	
	125 %	127 %	100 %	

PRICING

Transparent Pricing
The setup costs are included in every single cast, thus leading to a lower price for higher volumes. Until 100 liters a rapid decline in price per liter occurs. Afterwards, this curve flattens out until it reaches a minimum. Additionally the price is changing depending on the material density, which is illustrated as a colored price cloud in the figure below. This figure can be used to determine the price of a certain model or block.

Price per volume depending on material properties



- cost per liter
- total cost

Calculate price per volume on www.cubes-gmbh.com

QUALITY

Quality assurance is central for us and also for you as a customer. That is why **we check the chemical, mechanical and thermal properties** of each individual component. We will send you the detailed **test report** with the moulded part you have ordered.

Mechanical quality assurance
We use a DMA (dynamic mechanical analysis) for mechanical quality assurance. By measuring the storage modulus G ‘, we can conclude that the mechanical product parameters are being adhered to.

Chemical properties and thermal stability
With the help of DSC measurements (Differential Scanning Calorimetry), we carefully examine every component.

Contour inspection (3D)
With a 3D hand scanner, we create an image of each molded part as a point cloud. With this comparison you will not only see the maximum deviation of our cast from the calculated model, you can even see where any deviations can be expected.

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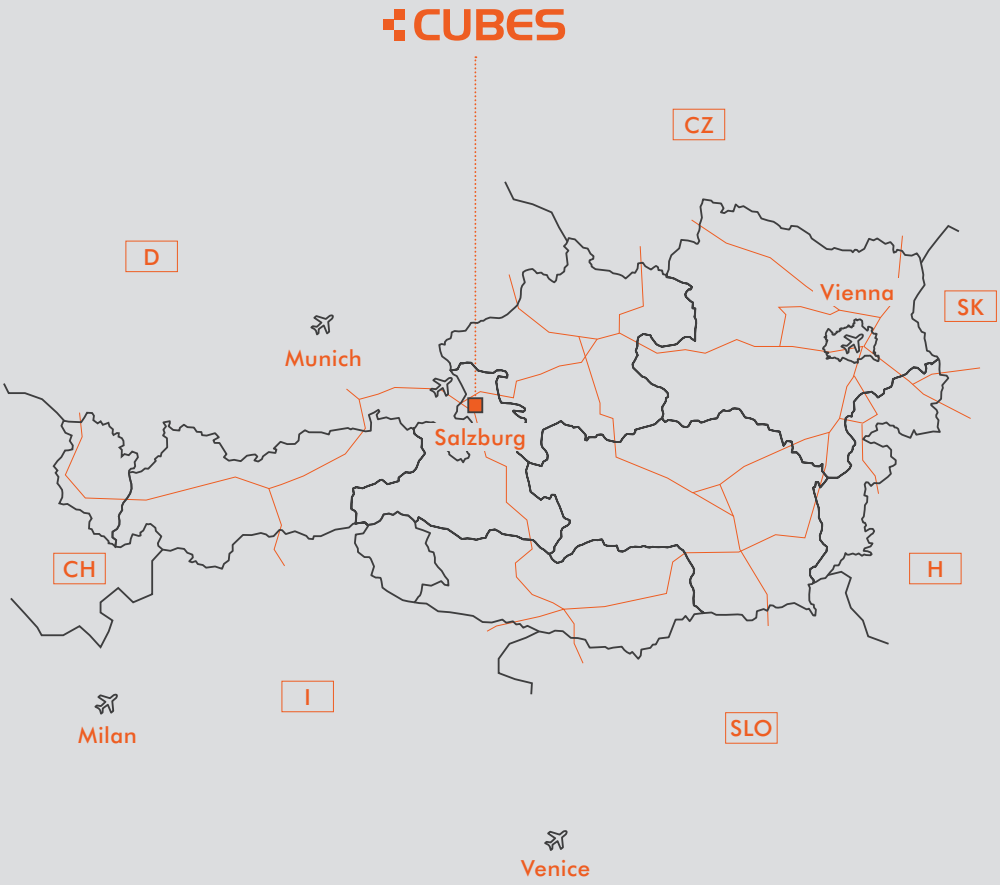

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