Ceramic Technology is our Passion

Pressure Casting Moulds Made of SAMA-Por

Pressure Casting
**Pressure Casting Moulds made of SAMA-por**

**Engineering and Production**

**Complete Solutions for Pressure Casting Mould Design and Production**

In-house development, design and production of case moulds and pressure casting moulds.

### Development and Design

- Testing of casting slip on industrial plants.*
- Prototyping and support during development of an article shape, suitable for pressure casting.
- Design with up-to-date 3D CAD / CAM software systems.
- Consideration of the client specific parameters such as shrinkage and firing conditions.

### Test Pressure Casting Mould and Sampling *

- Production of a test pressure casting mould by CNC milling of a SAMA-por resin block.
- Pressure casting of sample articles with client’s pressure casting slip, biscuit firing on testing plant at SAMA and glast firing at the client’s plant under realistic conditions.
- Evaluation of the sample articles and — if necessary — adaptation of the test pressure casting mould.

### Case Moulds

- Production of the case mould from Aluminium or epoxy resin according to the shape of the approved test pressure casting mould.
- Machining of the Aluminium mould parts on high precision CNC controlled milling machines.

### Pressure Casting Moulds and De-moulding Suckers

- Casting and machining of the pressure casting moulds by experts in pressure casting technology.
- Production of individual de-moulding suckers for manual de-moulding and for de-moulding systems for automated de-moulding of the articles.

*) Testing of the client’s slip and moulds at the SAMA Centre for Development, Innovation, Testing and Training
Pressure Casting Moulds made of Sama-Por

Production Technology

The latest 5-axes CNC milling centres / NC-turning machines ensure an effective and precise mould production.

Machining of mould components and case moulds with complex contours and reliefs using up-to-date milling machines.
Pressure casting moulds made of SAMA-por

Composition and functional principle

- Case mould made of epoxy resin
  Mould male part and female part of a salad bowl.

- Case mould made of Aluminium
  Mould male part and female part of an oval platter.

- Pressure casting mould
  Mould male part and female part of an oval platter.

- Demoulding sucker
  for manual article de-moulding of a casserole for lasagne.
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Composition and functional principle

Closed pressure casting mould, consisting of female and male part

Mould male part  Mould female part

Draining channels for
- water (back-flushing of the mould)
- compressed air (article release)
- vacuum (back-suction of the process water)

Application of the slip pressure and filtering of the water via the open pore structure, resulting in the solid pressure cast article.

Connection for the slip feed and pressure application.
PRESSURE CASTING MOULDS MADE OF SAMA-por

PROJECT SAMPLES

PRESSURE CASTING MOULD AND DE-MOULDING SUCKER, ADAPTED TO ARTICLE SHAPE, PRESSURE CASTING PLANT AND ARTICLE DE-MOULDING

Multiple-partite moulds. Divided pressure casting moulds with separate article release. Pressure casting moulds for hollow-ware and special solutions.

Hollow-ware articles: Ceramic bottles.

Hollow-ware articles: Tap handles. Due to several divided multiple moulds and two mould levels production of 16 articles in one casting cycle.
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**Project samples**

Hollow-ware articles: Ceramic hand mould article with automatic de-moulding device.

Pressure casting of undercut cups with handle.

Flatware: Robot de-moulding with de-moulding sucker system with finishing and deposit on to a transport system.
FOR A LONG-TERMED AND SUCCESSFUL CO-OPERATION

Long lasting customer-oriented after-sales service.

ASSISTANCE IN CASE OF PROBLEMS

+ Troubleshooting, assistance, technical information regarding the supplied mould.
+ Assistance for setting all parameters for an optimized functioning of slip, mould and machine.

COMPETENT SUPPORT ON SITE

+ Training of the client’s personnel.
+ Maintenance and overhauling of the supplied equipment for maximum performance and product quality.

SUPPLY OF SAMA-por AND ADDITIONAL EQUIPMENT

+ "SAMA-por" / VK 85 – the original, introduced by Netzsch Keramische Verfahrenstechnik, refined by SAMA for use at the client’s mould workshop.
+ Supply of all additional equipment for production of moulds at the client’s workshop.

TRANSFER OF KNOW-HOW

+ Transfer of Know-how to the client’s personnel for the production of pressure casting moulds made of SAMA-por in the client’s workshop.
+ Training at the SAMA Centre for development, innovation, testing and training.
PRESSURE CASTING MOULDS MADE OF SAMA-por

ADVANTAGES

COMPLETE SOLUTIONS FOR PRESSURE CASTING TECHNOLOGY

• Pressure casting plants, also for special applications and for Technical Ceramics.
• Pressure casting moulds and case moulds.
• “SAMA-por” for production of pressure casting moulds.

DURING DEVELOPMENT

+ Check and analysis of the client’s slip regarding suitability for pressure casting.
+ Support during development of the pressure cast articles.
+ Quality and proper order processing due to experience and up-to-date production technology.

DURING PRODUCTION

+ Supply of existing and new pressure casting moulds in constant high quality.
+ Retrofit of automated systems for article de-moulding, finishing and article transport.

*) At the SAMA Centre for Development, Innovation, Testing and Training
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