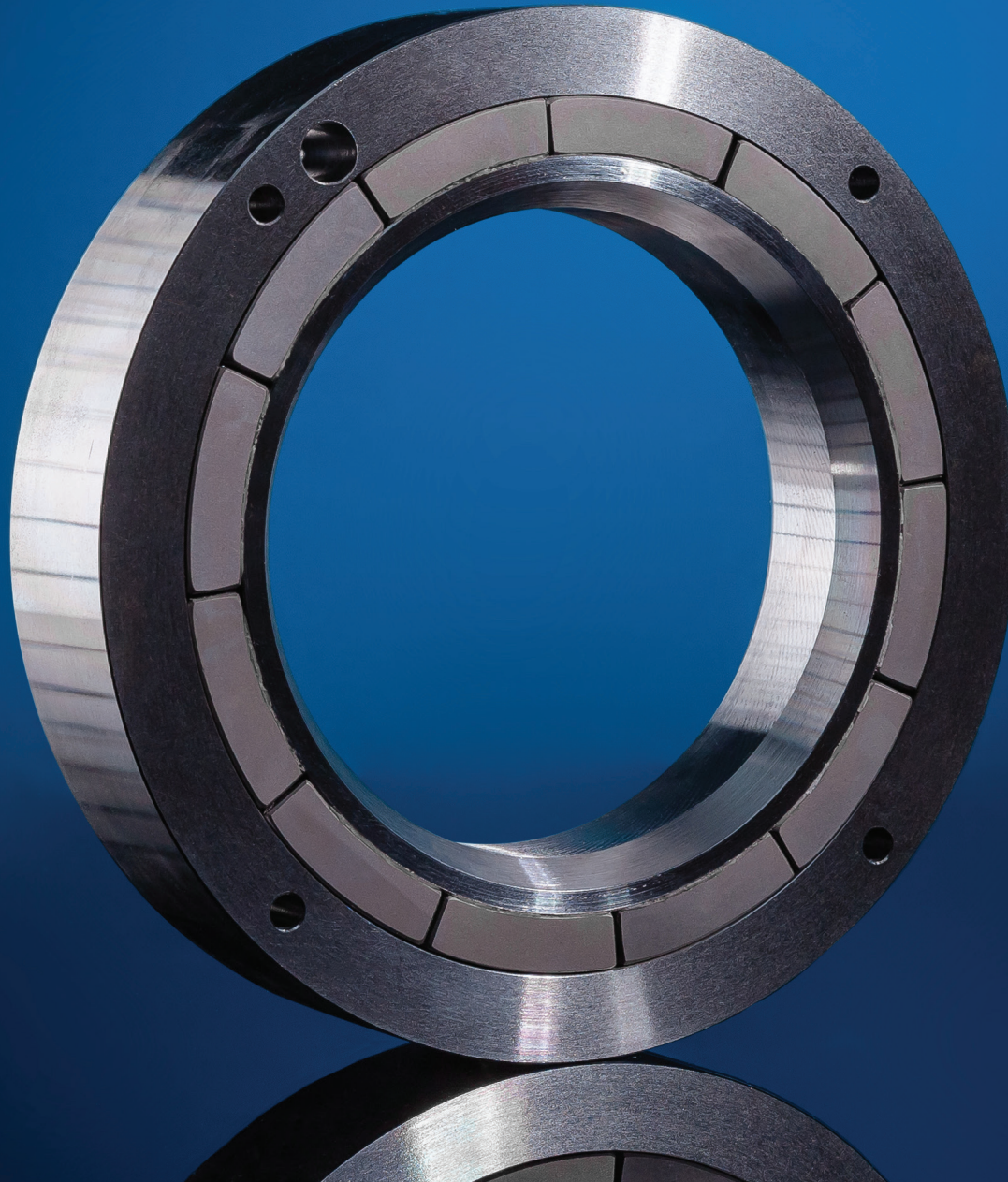




DEUTSCHE MAGNETWERKE GmbH



We manufacture magnets and magnetic systems which are customized to meet you individual needs.



# COMPANY

GMB Deutsche Magnetwerke GmbH

GMB is the only foundry in Germany and one of the few in Europe which manufactures custom-designed cast and finished AlNiCo magnets in a great variety of shapes and formats.

Manufacturing on the first production lines casting permanent Alnico magnets had already begun operations in the 1950s. Recently, the firm was integrated into Nickelhütte Aue GmbH, a company which was founded in 1635 in the Ore Mountains region of Germany, and which has been doing business under the name of „GMB Deutsche Magnetwerke GmbH“ since the merger.

Due to technological developments in the last few years, we are now able to supply all commercially available AlNiCo qualities, from serial production to prototype creation. Our core products include individual magnets, shaped magnets, and specialized custom-designed magnets, which we can completely manufacture ourselves using our existing equipment (cylinders, cuboids, rings, specialized forms) as well as magnets which can be manufactured without specialized tooling using our existing equipment to reshape the magnets to the required dimensions.

Our company, which is certified in accordance with DIN EN ISO 9001/2008 not only offers our customers production of individual magnets and sales of standard magnets, but also provides the service of special designs and custom engineering.

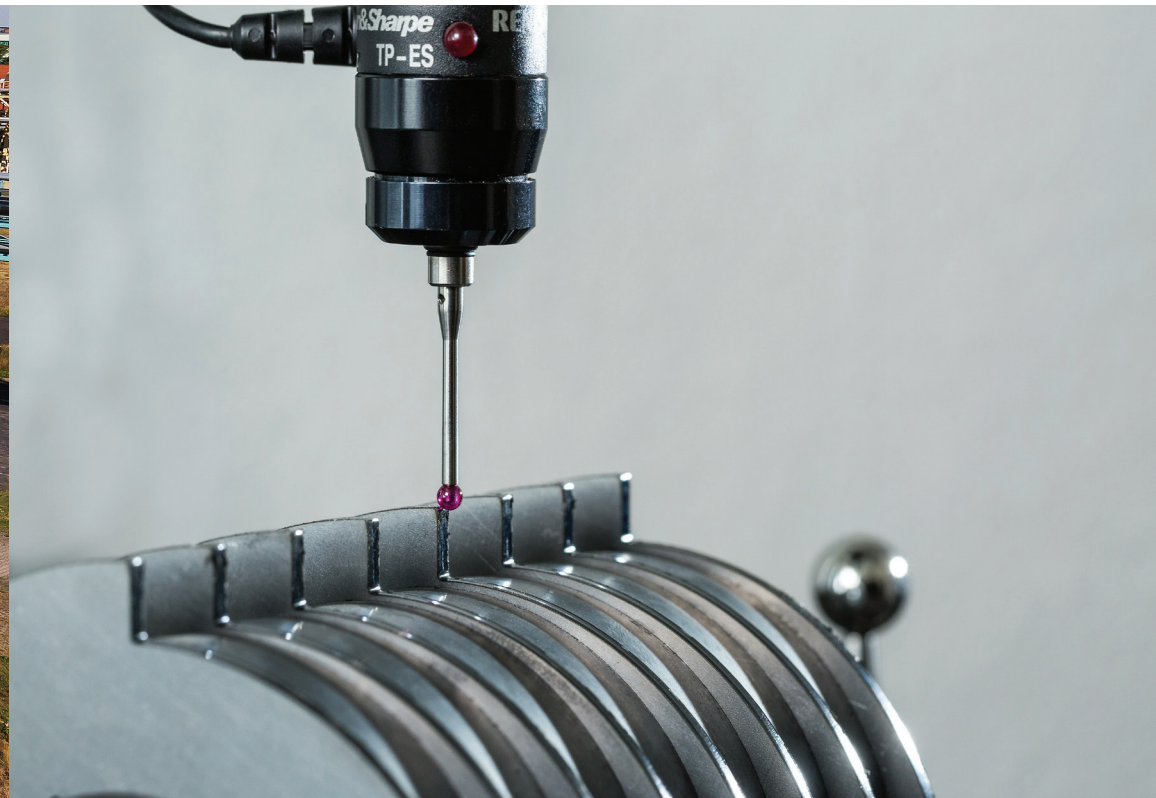
Calculating and manufacturing complete custom-designed magnets and measuring systems rounds off our product portfolio. Due to decades-long experience, GMB's strengths lie in consultation, design, simulation, as well as research and development.

Research and development represents a challenge for medium-sized firms.

In order to remain consistently on the cutting edge and to provide our customers with the most innovative solutions beyond standard product portfolios, we are working more and more intensively with scientific institutions.







Standard systems and specialized magnetic systems of  
our own manufacture

consultation, design, simulation, development, production of samples and mass production

# PERMANENT MAGNETS and MAGNETIC SYSTEMS

GMB Deutsche Magnetwerke GmbH

## **AlNiCo Permanent Magnets**

cast AlNiCo permanent magnets in the form of cylinders, rings, cuboids, and specialized geometrical forms using isotropic and anisotropic materials

## **Sintered permanent magnetic materials**

Neodymium-iron-boron (NdFeB), samarium-cobalt (SmCo), hard ferrite (HfE) and aluminium-nickel-cobalt (AlNiCo).

## **Plastic-bonded permanent magnets**

With injection, compression, extrusion or calendered shapes as well as semi-finished materials (plates, tapes, films) in addition to finished products with a variety of shaping possibilities.

## **Permanent magnetic systems**

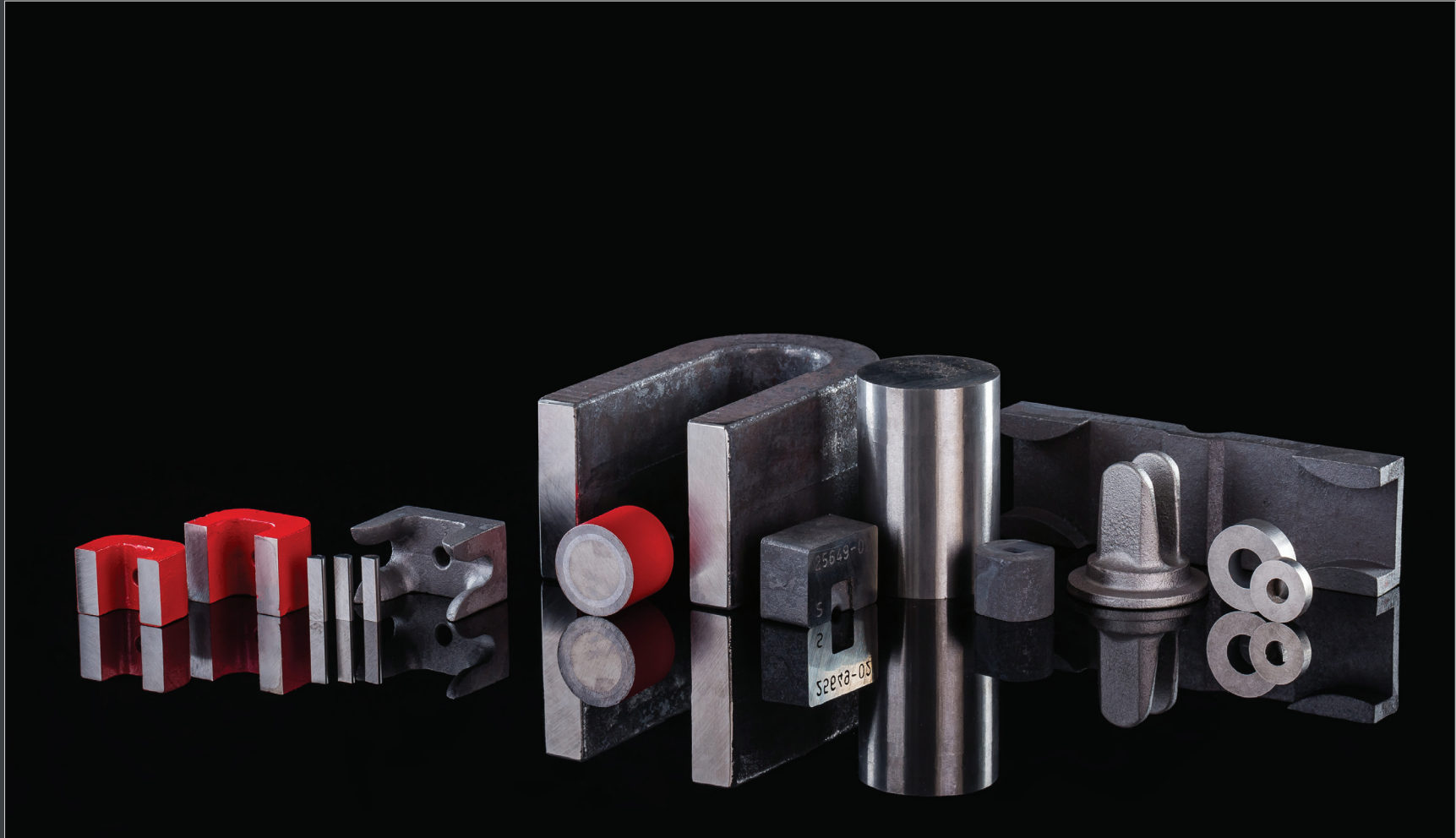
Manufacture of permanent magnetic systems which are composed of a combination of permanent magnetic materials, magnetically soft flux conducting components and non-magnetic components in addition to custom-designed specialized solutions as well as standard systems.



We manufacture magnetic systems using the following magnetic materials:

- NdFeB - neodymium iron boron
- SmCo - samarium cobalt
- AlNiCo - aluminium nickel cobalt
- HfE - hard ferrite





Using our experience to your advantage.  
We are your partner for the manufacture of custom-designed magnets and magnetic systems.



# MATERIALS

GMB Deutsche Magnetwerke GmbH

- Materials as per DIN 17410 and/or DIN IEC 60404-8-1
- Cylindrical magnets
- Cuboid magnets
- Ring-shaped magnets
- Shaped magnets
- Production of samples

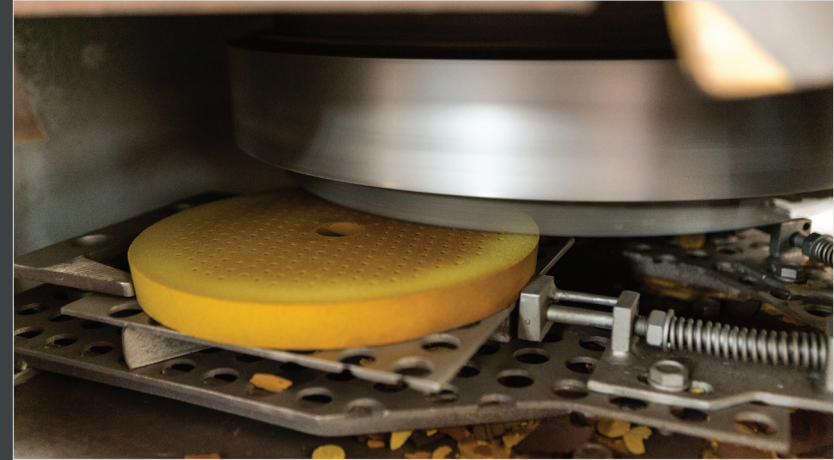
## Cast Magnetic Materials

- AlNiCo-Cast Magnets, isotropic and anisotropic
  - Low energy densities and low coercive field strengths
  - Very good temperature resistance up to 500°C, low temperature coefficient

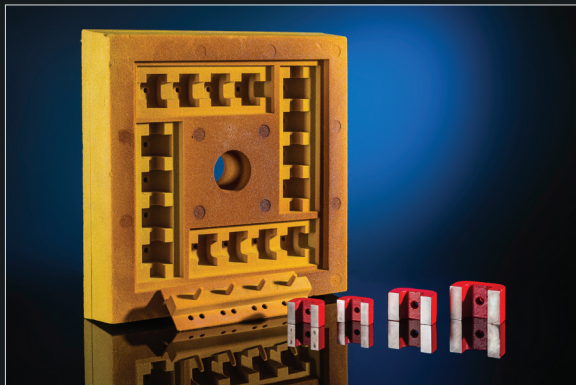
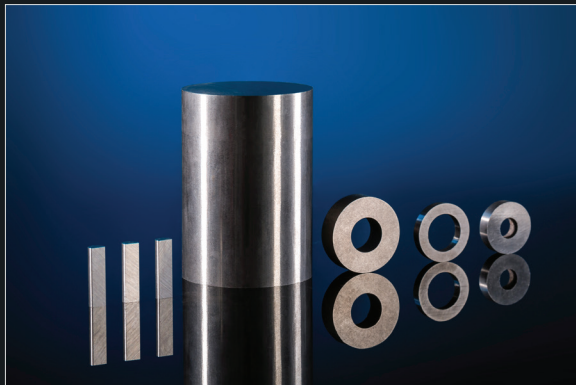
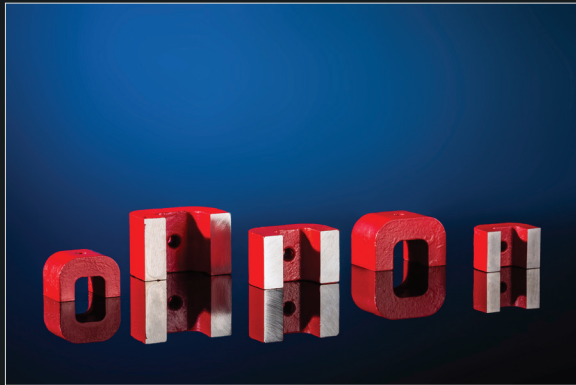
## Sintered and bonded magnetic materials

- Neodymium-Iron-Boron Magnets, sintered (NdFeB)
  - Highest energy densities and coercive field strengths
  - Low to moderate temperature resistance, high temperature coefficient
- Samarium-Cobalt Magnets, sintered ( $\text{SmCo}_5$  /  $\text{Sm}_2\text{Co}_{17}$ )
  - High energy densities and coercive field strengths
  - Good temperature resistance up to approx. 300°C, medium temperature coefficient
- Hard ferrite magnets, sintered (barium ferrite and strontium ferrite)
  - Low energy densities, but high coercive field strengths
  - moderate temperature resistance, high temperature coefficient
- Plastic-bonded magnets, die-cast or compressed, using all of the aforementioned materials
  - Manufacturing very flexible by means of die casting, extrusion, compression or calendering
  - Considerable magnetic properties depending on the basic magnetic material
  - To some extent flexible and easy to process, but low temperature resistance
- Magnetic sheets and tapes, calendered and extruded, predominantly with hard ferrite
- Various types of magnetization: axial, diametrical, unilateral, multi-polar and many others.

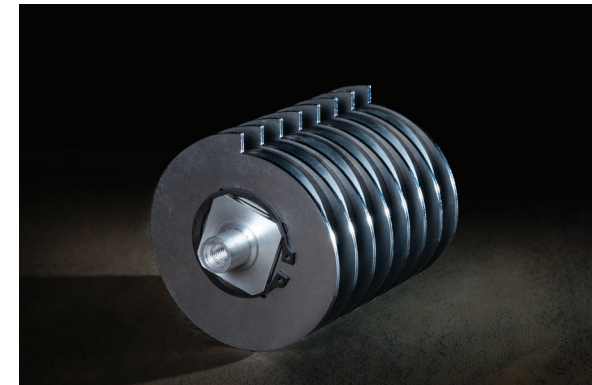




Only cast magnet manufacture in Germany  
Supply of all commercially available magnetic materials



- Flat gripper magnets
- Rod gripper magnets
- Magnetic filter rods
- Magnetic strips
- Magnetic separating and filtering systems
- Excavation magnets
- Load magnets
- Fanning magnets
- Overbelt magnetic separators
- Permanent magnetic couplings, and many others





# PRODUCTS- MAGNETS AND MAGNETIC SYSTEMS

GMB Deutsche Magnetwerke GmbH

We can help you to implement your ideas, whether this involves the selection of materials  
or manufacturing custom-designed magnets and magnetic systems according to your specifications.



# IMPRESSIONS

GMB Deutsche Magnetwerke GmbH

Foundry

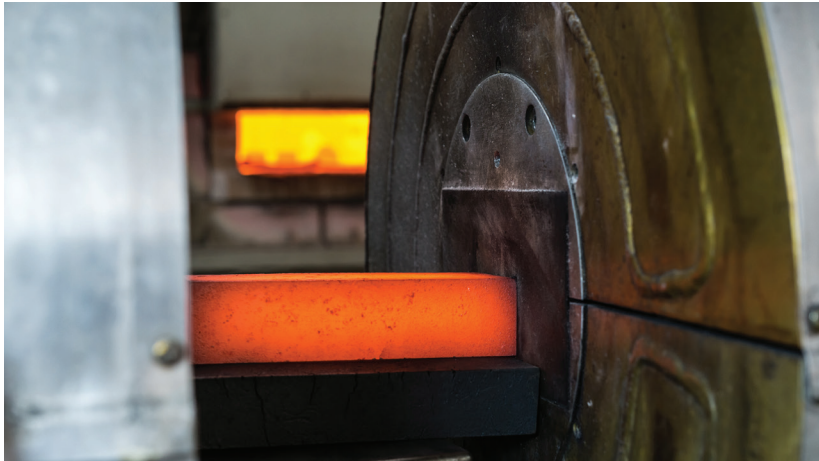


Moulding shop





## Thermomagnetic Treatment





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DEUTSCHE MAGNETWERKE GmbH

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