

**ADVANCED MATERIALS – THE KEY TO PROGRESS**

VACUUMSCHMELZE is a global company with more than 4000 employees and production locations as well as sales offices in more than 40 countries. As one of the leading companies VACUUMSCHMELZE develops, produces and markets magnetic materials and products derived of them.

**HIGH PERFORMANCE MATERIALS**

All our materials are manufactured in our own vacuum furnaces or rapid solidification casting equipments.

- Soft magnetic NiFe or CoFe materials
- Amorphous and nano-crystalline rapidly solidified alloys
- Magnetic, semi-hard formable materials
- Alloys with special physical characteristics
- Brazing alloy foils of rapidly solidified materials

These materials are the basis for a wide variety of products. We supply alloys in the form of tapes, strips, round rods or wires. Many are also available as lamination packages, stamped and bent parts as well as magnetic shielings.

**TAPE WOUND CORES AND CUT CORES**

Highest permeabilities and flux densities as well as minimal losses of our materials allow the design of advanced magnetic cores. Many of these are based on the latest generation of soft magnetic materials, the nanocrystalline alloy VITROPERM®



**INDUCTIVE COMPONENTS**

Our knowledge of cost effective design and quality manufacturing, our own material base and our experience with international markets lead to innovative components of extreme reliability.

- Current sensors with a minimal offset and the lowest possible temperature drift, e.g. for variable frequency drives or for photovoltaic inverters
- Compact power transformers with high efficiency in the several 10th of kilowatt range based on our nano-crystalline cores, e.g. for welding, traction or renewable energy applications
- Reliable and safe trigger transformers for power semiconductors
- EMC components with nano-crystalline cores are smaller and more efficient
- Precision current transformers with amorphous and nano-crystalline cores for long-term stable electronic energy metering
- Differential current transformers for highly sensitive residual current circuit breakers.

**RARE-EARTH PERMANENT MAGNETS**

As a leading supplier of permanent magnets we use our experience in application and development to offer the best in product quality.

- Specific process engineering combined with alloy competence
- Reliable performance at the highest standards also in mass production quantities
- Processes for optimised corrosion resistance developed by VAC
- VACODYM® Nd-Fe-B rare earth magnets rank among the most powerful magnets in the world. Nowadays electrical heavy-duty machines are operated with VAC magnets far into the MW power range; for instance as propulsion systems in ships or as generators in wind turbines. Besides permanent magnets we also manufacture complete magnet systems of every required size and complexity for a wide variety of applications.

