

Future-proof products and new solutions

HARDTOP Gießereitechnologie GmbH was established in September 1997 as an engineering company in Magdeburg, Germany, a location with a rich tradition of machinery manufacturing. The development of innovative wear-part solutions which are tailor-made for each application-specific case is reflected in the company profile.

Below: The laboratory was inaugurated in a traditional German wood-cutting ceremony on 14 September 2012. **Front left:** Irina Ißleib-Lubojanski, director. **Front centre:** Dr. Armin Ißleib, managing director and head of R&D. **Front right:** Master of Traditional Ceremony.

HARDTOP Gießereitechnologie GmbH's profile comprises cast wear parts for abrasive wear in a multitude of sectors as well as solutions in composite materials. The focus is on process technology related energy and cost-efficient optimisation of wear parts of cast iron and steel materials.

Through these longstanding developmental activities for specific wear-part solutions, the company has achieved high levels of competence both in national and international markets. The ever increasing market requirement for HARDTOP® bi-metallic parts led to the decision in 2006 to systematically increase production capacity.

This allows a broad spectrum of material combinations, a wide range of individual weights as well as highly-specialised heat-treatment technologies. The company can thus satisfy various customer requirements and specialities both at short notice and flexibly by way of various mould and casting technologies.

The basis for quality management at HARDTOP GmbH in research, development and foundry technology is the certification according to DIN EN ISO 9001:2008.

In order to live up to future market demands, to secure market share and to embrace new areas of business, a new kind of innovative services is planned by the company. Above all in the field of special materials and combined production processes, new market segments and areas of application are envisaged for HARDTOP GmbH. With this in mind, complex,





Far left: The new laboratory is equipped with an Oxford Instruments spectrometer.



Left: A new microscope in use in the laboratory.

specific technical investigations, analyses and calculations are necessary. As well as specialist and scientific knowledge enhancement among the company's personnel, this also requires an expansion of HARDTOP GmbH's laboratory facilities.

Through the construction of a modern laboratory HARDTOP GmbH will benefit from, among others, the following long-term enhancements:

- Development of new fields of business through the application of HARDTOP® bi-metal castings for new material combinations and special materials,
- Significant extension of competences in the fields of foundry, material and wear technology,
- Improved structure and quality evaluation of materials employed,
- Compact know-how transfer on a scientific basis,
- Further development of products to reinforce innovative capabilities,
- Development of technically-optimised process sequences when utilising special materials and combined production processes as well as securing both existing employment positions and creating new ones.
- Digital image processing to ascertain type, form, size and distribution of structural components,
- Assessment of fracture samples,
- Stationary/mobile hardness testing (macro hardness testing),
- Surface crack examination (colour penetration test, magnetic particle testing),
- CAD-supported component analysis,
- Spectral analysis.

The creation of services close to real production conditions in the new facilities on behalf of third parties is also envisaged. This encompasses:

- Laboratory investigations into material analysis,
- Investigations into improvement of material properties,
- Investigations into increasing component safety (component optimisation),
- Investigations into composites (composite materials).



Below: A range of HARDTOP® products.

The aim is to process performance requirements in the real world with substantiated analytical methods for technical materials and to offer third parties solutions in the form of ready-made products or samples.

In the new laboratory material investigations are primarily undertaken. For example:

- Structure analysis by means of reflective light and stereo microscopy, layer density and microstructure evaluation (qualitative / quantitative metallography),

