Gudrun Billowie, for HARDTOP Gießereitechnologie GmbH

25 YEARS OF HARDTOP

Wherever stone, salt or coal are crushed into pieces, castings from HARDTOP Gießereitechnologie are often involved. The company, based in Magdeburg, Germany, has now been successfully asserting itself on the world market for 25 years and experienced its most successful year ever in 2022. The secret? High quality and the ability to adapt.

Above: HARDTOP Founder Prof-Dr. Armin Ißleib.

HARDTOP Gießereitechnologie GmbH was founded in Magdeburg, Germany, in 1997 by Prof.-Dr. Armin Ißleib. Its customers have long been found all over the world; the HARDTOP foundries in Poland and China, as well as a long-standing partner foundry in Turkey, are working at full speed.

A glance at the figures for 2022 show that sales have skyrocketed. The Covid-19 pandemic, the war in Ukraine, fragile supply chains and the energy crisis have changed the market. "Many customers are now ordering for the warehouse again," observes managing director Irina Ißleib-Lubojanski. The coal industry is also reporting great demand again. There is also a trend back towards ordering locally. In this situation, the values that HARDTOP represents are particularly in demand with customers: Instead of producing faster and cheaper, quality and reliability count.

Right: Hammers for clinker crushing.

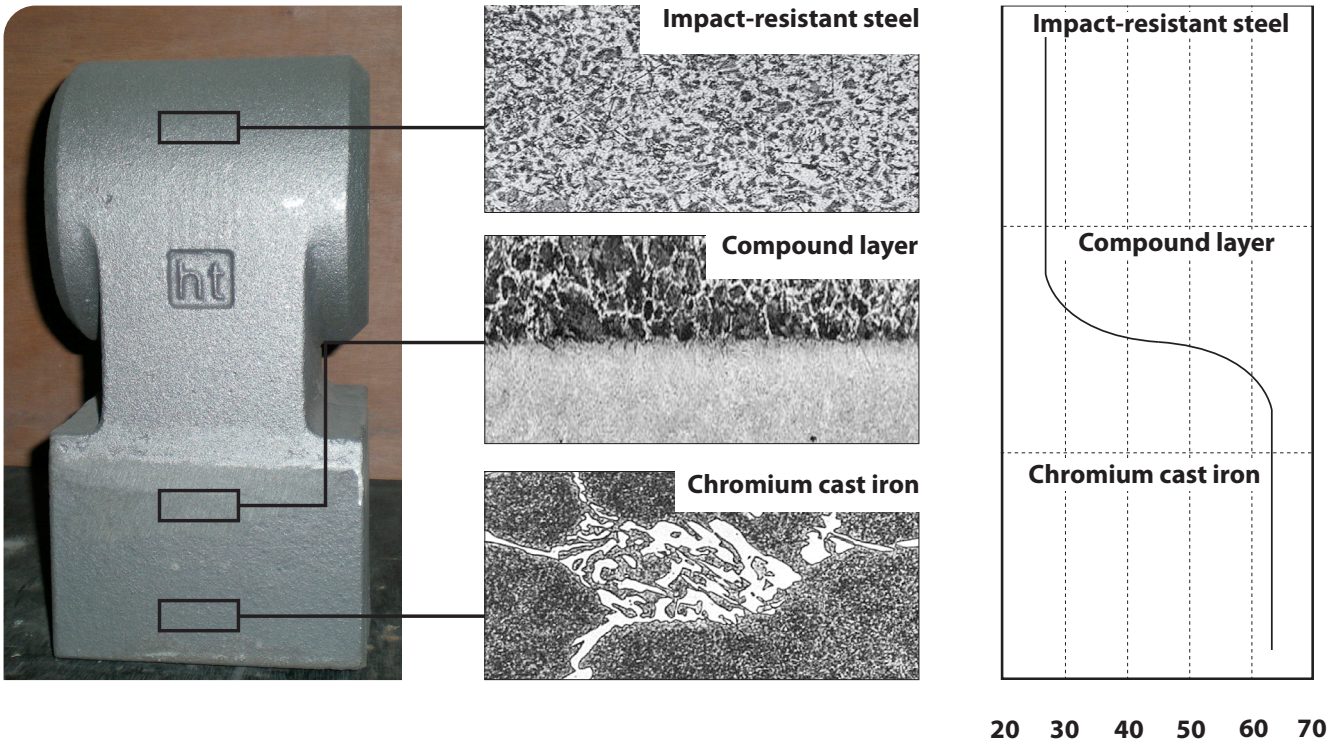
Back to the start

Quality and reliability counted for the two managing directors from the outset, although the course of HARDTOP has changed. After the first three years, they dared to radically change course, went from being scientists to doers and, finally, set the course for success.

When Armin Ißleib, Professor of Foundry Technology, and Dipl.-Ing. Irina Ißleib-Lubojanski founded the company a quarter of a century ago, they devoted themselves with great enthusiasm to the development of a contact medium that enables the connection of two iron-based metals. Together with eight other scientists, they created a process with which different materials could be combined without the liquid metals mixing during pouring.

The name of the company is derived from this principle: HARDTOP. Armin Ißleib likes to explain this using a simple hammer as an example: “If a hammer were only made of a hard material, it would break after just a few strikes. If a hammer were made of just a tough material, it wouldn't break, but the head would 'flow away.' However, if the hammer is made of two different materials, i.e. a hard head and a tough, ductile shaft, it achieves the necessary hardness at the head and at the same time has the necessary flexibility at the shaft.” The result is a HARDTOP bi-metallic casting.

Initially, the founders wanted to sell the technology of joining different metals to foundries, but companies wanted a finished product. After three years, HARDTOP changed paradigms. It had to put its knowledge into a product.



Above: HARDTOP's bi-metallic casting principle.

From then on, the researchers guarded their knowledge like a treasure and they keep their technology secret to this day. Instead, Armin Ißleib started the so-called 'elephant tour,' looked up potential customers all over Germany, drove to quarries, to glass recycling companies and mining companies, wherever HARDTOP bimetal castings could bring advantages to customers. At the same time, the company increasingly published in specialist journals. But the market remained sceptical. Clients wanted to look at a workpiece, hold it in their hands and they kept asking the same questions: How much longer does the workpiece last than conventional products? Is it cheaper?

HARDTOP urgently needed prototypes for reference. During this phase, the Polish Foundry Institute became aware of the Magdeburg company and offered to produce samples in its test foundry in Kraków. HARDTOP's founders finally had a product in their hands.

Moving into cement

It didn't take long for the samples to convince several customers in the cement industry. Others also became aware of HARDTOP, including a well-known German construction machinery manufacturer. Among other things, it produces waste compactors that weigh tons, and at the time it was looking for a solution to being able to weld longer-lasting caps onto its rollers. Two opposing properties were therefore required: these caps had to be wear-resistant and weldable. Armin Ißleib went straight to Poland and had the required number of caps cast. Thus, at the beginning of the new millennium, the great hour of HARDTOP technology had come.

From then on, more and more companies equipped their crushers with HARDTOP bi-metallic castings and the HARDTOP logo was emblazoned on more and more machine parts around the world. The main beneficiaries are the cement industry, energy technology, construction machinery and mining. Every customer request has been and will be fulfilled.

For more efficiency, the strategic alignment came into focus. In 2003, an employee was hired for sales. He established and maintained contact with

Below: Production of bi-metallic castings.

Above: Prof. Dr. Armin Ißleib training new staff in China in 2008.

German plant manufacturers and operators. More and more customers ordered castings from HARDTOP, but the number of international customers was low. Armin Ißleib therefore began to increasingly visit international companies and trade fairs.

An Indian trading company was the first international sales partner. Others then followed. Armin Ißleib maintained contacts, jetted through the world, and was in the car or in the air almost more often than at home. At the same time, he commissioned a thorough market analysis and wanted to know which countries had the main industries for cement, coal and mining. China, India and the USA clearly emerged as the main markets. From then on, HARDTOP focused primarily on these countries.

As its market grew, the company grew. HARDTOP hired more employees and had more and more cast in the small foundry belonging to the Polish Foundry Institute. This soon reached the limits of its capacity. Armin Ißleib and Irina Ißleib-Lubojanski realised "We have to take production into our own hands." Together with two Polish partners, they founded their own foundry in Poland in 2006 and equipped it with the necessary equipment to work there with 25 employees to be able to produce 450t/yr of bi-metallic casting. Well, that was the original plan! In the meantime, significant investments have been made and 2000t/yr of castings can be produced. The number of employees has increased to over 70.

Below: Irina Ißleib-Lubojanski and Prof. Dr. Armin Ißleib at HARDTOP's 20th Anniversary celebrations in 2017.

China advanced to become the largest market for HARDTOP products and, in 2007, the offer to build a foundry near Shanghai followed. An offer that was most opportune for Armin Ißleib. Delivery to China had increasingly proved to be too expensive and complicated, with import duties and transport costs adding up more and more. Production within China seemed logical.

In China, Armin Ißleib identified a brand new, undeveloped industrial development area. Only roads and electricity were available but there was plenty of room to develop new projects. HARDTOP invested, built a foundry and used Chinese equipment to ensure on-site service. Armin Ißleib and Irina Ißleib-Lubojanski personally trained the new foundry employees in China.

HARDTOP has since given up this first Chinese foundry near Shanghai, but has built two new ones near Beijing, which are run as joint ventures. In addition, they continue to maintain the close partnership with the Turkish foundry.

Every foundry is different

Every foundry has its own special characteristics. With each order, a new decision is made as to the location at which the castings are to be manufactured. Roughly speaking, the following applies: Chinese foundries produce for the Chinese market. The larger cast parts are produced in smaller quantities in the Turkish partner foundry. Larger quantities of smaller castings are produced in Poland. Demand is high and a new production shop will soon be built in Poland, so that the annual production capacity will increase from 2000t/yr to 3000t/yr.

Armin Ißleib and Irina Ißleib-Lubojanski also rely on consistency when it comes to employees. In total, the HARDTOP Group now employs around 140 people at its locations worldwide. "We want our employees to stay with the company for a long time." This is relevant for the company's success, as it is the only way that the long training periods pay off. "They are necessary because the tasks are very complex."

Where next?

25 years of HARDTOP. Where does one look now? "The market dictates where to go and we will keep the ship on course from Magdeburg," says Irina Ißleib-Lubojanski. The entrepreneurs trust in their experience and their expert knowledge. "We not only know how cast parts are manufactured, we also know which materials are suitable in specific cases." Tailor-made solutions are as much a part of the company philosophy as close customer contacts. It should stay that way. Armin Ißleib and Irina Ißleib-Lubojanski are thinking far into the future: "We already have the next generation in mind."