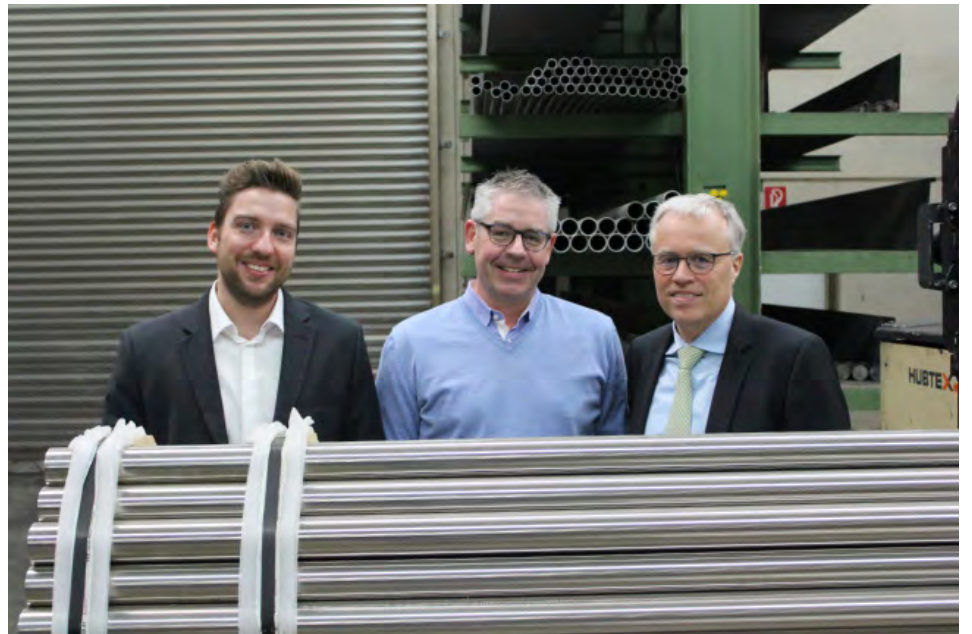


Hempel Special Metals GmbH: Scrubber

News from the old world: For the past 25 years scrubber technology, also known as exhaust gas cleaning, has been used in coal-fired power plants around the world. By 2020, the technology is going to be extremely important when it comes to vessels and ships worldwide, but especially in North America, and Hempel Special Metals GmbH has made this one of its main focuses. The company has also maintained its distribution of the stainless steel grade, 'Alloy 24' (1.4565), which has come back to life and is being used in projects from seawater desalination, and power plants and chemical plant construction, proving to be a true jack-of-all-trades.

Stainless Steel World Americas had the opportunity to speak to Ingo Stiebe, General Manager, and Markus Sokolowski, Sales Manager and Team Manager Export, about Hempel Special Metal's new focus on scrubber technology, as well as the background of the Alloy 24 trend. They showed what distinguishes Hempel Special Metals from other competitors and why the company from the North Rhine-Westphalian town of Oberhausen is increasingly becoming the focus of attention for North America Customers.

By Catarina Muia



Pleasure of success (from left to right): Markus Sokolowski (Sales Manager and Team Manager Export), Ingo Stiebe (General Manager Hempel Special Metals GmbH), and André Hempel (Managing Director Hempel Special Metals Group)

The material miracle

The city of Oberhausen is regarded as the "cradle of the Ruhrindustrie" and is located in the western part of Germany with a population of more than 200,000 and commissioned the first Eisenhütte in the Ruhr area, the largest metropolitan area (approximately 5,000,000 people) in the country. But this is not enough: in recent times, Oberhausen has once again emerged as the cradle of a new development that could be of similar industrial importance. In the rooms of Hempel Special Metals GmbH a material trend has come to the forefront, which has now also crossed over to the Atlantic. The stainless steel grade Alloy 24, also known as material miracle, has already achieved international triumph. Therefore, Stiebe and Sokolowski of Hempel Special Metals GmbH are hardly surprised by the successful return of the austenitic stainless steel. It was always clear to them that the material veteran Alloy 24, also known as stainless steel grade 1.4565, should by no means be put on the shelf.

Jack-of-all-trades

Hempel Special Metals is a stockholder and distributor for bars, rods, tubes, pipes plates, sheets, flanges, and fittings in special stainless steel, nickel alloys titanium, and zirconium in six service centers, and seven destinations worldwide. The stocks of the company are located in Germany, Switzerland, Poland, Hong Kong, and the United Kingdom and since 2016, Hempel Firmus Metals Ltd. Stiebe is the branch manager of the German office of the "Hempel Special Metals" group. It is likely that no one has ever seen the recent triumph of Alloy 24 closer than the general manager because Hempel Special Metals is the only sales specialist who has the material in stock.

The comeback began with the targeted demand from the customer side: "For a plating project, one of our customers explicitly wanted the stainless steel Alloy 24, because he was very satisfied with it earlier," Stiebe says.

Further inquiries about the material came from the chemical equipment industry, which also led to corresponding deliveries, "An American Company also searched for the material and saw that we have it in stock," tells Stiebe. The customers were amazed and delighted that Alloy 24 was again so easily and quickly available.

Material renaissance

For Sokolowski, the return of Alloy 24 was also obvious, "As a good alternative to the Alloy 31 we recommend to our customers that our exclusive Alloy 24 may be a good alternative. This grade has a better corrosion resistance as well as a better weldability," the sales manager and team leader export explains. "Combined with a more favourable price than for the Alloy 31, it is a good deal for a lot of customers." The high strength of the material promotes, among other things, the production of very thin walls, which in turn can save weight on the end product, Stiebe calls another advantage, which is of crucial importance for many customers.

"Alloy 24 is not only exceptionally resistant to pitting and crevice corrosion," Sokolowski adds. One of its biggest strengths is its broad range of applications. "This extends from flue gas desulfurization to seawater desalination, which is a major sector in California, for example," Stiebe says. "Since the 1980s, Alloy 24 has been a component of countless seawater desalination plants, which still work without problems." The material is found in heat exchangers as well as in submarines, and is found in the oil and gas industry as well as in the chemical, and the pulp and paper industry.

Assisting with a new focus

As scrubber technology is becoming an important technique for tanks and vessels, Hempel is continuing to distribute Alloy 24 for the manufacturing of scrubber technology, which is a well-known technique to clean sulfurous, gaseous combustion products.

"By 2020, ships will have to install a scrubber if they want to continue entering ports," Stiebe explains. (Figure 1). Due to an international regulation, all ships must have proven exhaust gas cleaning on board from 2020. This regulation also applies to the east coast of the USA including Florida and California. No vessel (cruiser, container ship, tanker...) is allowed to enter a port if no scrubber is installed. Exceptions are if the vessels has LNG or uses normal diesel fuel. Since the scrubbers have to be resistant to sulfur-containing exhaust gases and chloride-containing flushing media, an appropriate choice of materials must be made.

The lower part of the scrubber sees the most aggressive corrosive attack because the pH value is lowest, and the concentration of chlorides and sulfides is highest. Therefore, Alloy 59 (2.4605) or C 276 (2.4819) is best for this area. In the middle area, the pH value increases, however the concentration of chlorides remains constant. In this area, Alloy 24 (1.4565) should be used. An alternative could be Alloy 31 (1.4562). Finally, the upper area of the scrubber sees the least-corrosive environment, and therefore, the 6 Mo (1.4529) or the 904L (1.4539) can be used.

The attached piping material and additional tanks can then be designed according to the medium.

Exceptionally resistant

Besides Alloy 24 Hempel Special Metals distributes a wide variety of different products.

"We mainly stock coil, sheet, plate, and bar material," Sokolowski says. "For some grades as Alloy 59, UNS N06059, and Alloy 926, AL6XN, UNS N08926 we have the full spectrum for projects which also includes tubes, pipes, and fittings. Our materials are at least certified with 3.1 certificate including ASTM standards and including the Pressure Equipment Directive (PED)."

Alloy 602CA and Alloy 59 are the company's biggest selling grades in North America. "The availability is limited there, so we are happy that we can supply it to many customers in the North American market with short delivery times," Stiebe explains.

Rising demand

Due to the increasing demand, Hempel Special Metals Alloy 24 was included in the program in 2016 year. The exclusive

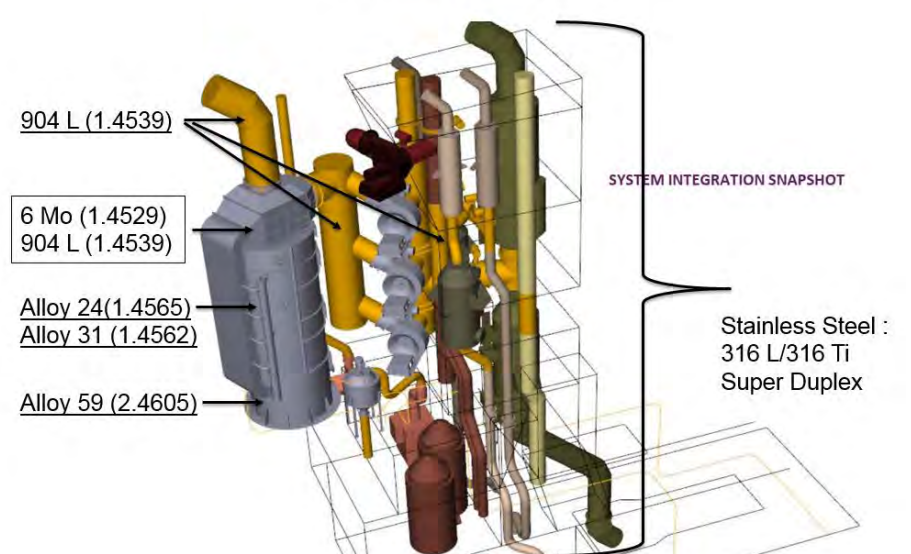


Overflowing with stock: The Oberhausen site offers almost 2,000 square meters of hall space.



Worldwide reduction of vessel emissions.

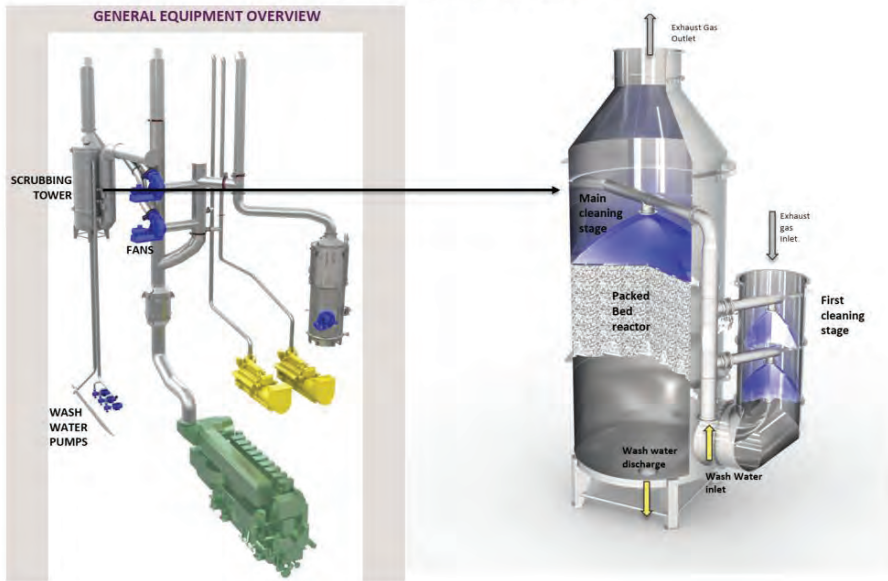
Material concept sketch



Material concept principle sketch.

technology – A new way to battle vessel corrosion

Technical overview of a Scrubber / Washer



Technical overview of a scrubber/washer.

trading partnership with a steel mill made it possible. "Not only for Alloy 24 has the sales partnership played a central role," Sokolowski says. Another example is the austenitic stainless special steel Alloy 926. "In this case, a preferred trading partnership with a European mill allows us to serve the market accordingly."

Working together in partnerships is very important for Hempel Special Metals. Stiebe stresses, "For our respective material concepts we seek targeted partnerships with corresponding plants." The partnerships with the suppliers do not end with the award of contracts, Stiebe says, "You win or lose a joint project. If we win a project, we do not go looking for the cheapest plant, but remain faithful to our partners. With regard to the quality of the materials we are ultimately 'just' as good as our suppliers."

Exclusive trading partnership

What applies to suppliers, of course also applies for customers. "We do not see the customers as clients but as partners," Sokolowski explained. Therefore, it is only logical that Stiebe and Sokolowski always talk about "Partner Supply Management" instead of "Supply Chain Management."

This passionate approach helped Hempel Special Metals grow into one of the largest stockholders in Europe for titanium, nickel alloys, stainless steels, duplex steels, and other special materials. "We are always in the niche area, we were never interested

in mass production," Stiebe says. "We are not a dealer of tons, we act in kilograms."

Joint search for solutions

The company's philosophy is similarly clear and translates as: "one face to the customer." Sokolowski explains, "The customer gets our complete range of products. Our task is the sourcing in the market and the purchasing from the relevant supply chain." Thus, the company satisfies the amended claims of the customer. "Today, our customers want to have not only the sheet metal, but they want to have the tube, fittings, flanges—the entire package. We faced this demand with complete success," Stiebe reveals.

Just the fact that the customer gets everything from one source makes Hempel Special Metals an important resource for the American market. "We offer our customers in North America the full service package," says Sokolowski. "Starting from cutting a plate to the full service package of plates, bars, tubes, and fittings for a large project."

One face to the customer

A further aspect is the international positioning of the company: In addition to the already mentioned five service centers in various countries, there is the strip service center Hempel Firmus Metals Ltd. and an agent in the Czech Republic. "Our international sales department in Germany is the first contact for customers around the world. From here we mainly serve the North and South American, Scandinavian, and Australian markets," Stiebe says. Currently there is no sales office or representative in North America. "But we are working closely with our customers from our office in Germany," Sokolowski adds.

Another plus is the unusually fast delivery times, which are also possible due to the well-working partnerships with the suppliers. "On the basis of agreements with our partner plants we can shorten our delivery times up to 50%," Stiebe says with a smile. "We can ship the products door-to-door for our customer. If desired the goods can be delivered to a harbor or airport or collected from our warehouse in Oberhausen, Germany."

Strength in the service sector

Undoubtedly, the strength of Hempel Special Metals lies in the service sector. Also, its extensive experience helps the company, "We are one of the biggest and oldest stockholder and service centers in Europe, therefore we are well known for our products and services in Europe and across the globe," Stiebe says. "Regular customer contact and visits is a must to

keep our customers up to date about our new products and services."

The company's products are sourced in the European Union, mainly in Germany and Austria. "All of our suppliers are audited and have the state-of-the-art approvals to fulfill all customer needs," Sokolowski stresses. "All our products are produced according to our special specification with all test circumstances for most applications of our customers. Tailor-made productions according to customers' specifications and testing procedures are possible within a short delivery time."

Since 2018 Hempel Special Metals Oberhausen also has the possibility to produce fittings by itself. With mechanical processing, special fittings (Tee's, elbows, reducers, etc.) can be produced in small quantities." The main advantage here resides in the individual solution for the customer and the speed of production," says Ingo Stiebe.

Highest quality awareness

No question: Hempel Special Metals is a company that remains successful in volatile times. Thanks to its highest quality consciousness, its active service mentality and its willingness to break new ground. "Since 2016 we are an exclusive European stockholder for Alloy 24, 1.4565, UNS S34565, and since 2017 we are starting projects for scrubber installations on maritime vessels," Stiebe states. "We also have succeeded to be the market leader with Alloy 59 within a very short time."



True splendor: Ingo Stiebe presents a big screw with nut used for flange connections.

And what are the company goals for 2019 and beyond? "We are working on the development of new markets, for example North America. We are also establishing ourselves in the maritime and aerospace sectors," Stiebe concludes.



Markus Sokolowski: "We are working closely with our customers from our office in Germany."

▶ Hempel Special Metals

Founding year	1972
Destinations	Hempel Special Metals in Germany, Switzerland, UK, Italy, Poland, and China
Orientation	International sales specialist for high-performance materials
Core business	Commodity trading, semi-finished products distribution, and metal processing
Products	Inter alia special stainless steels as Alloy 24, Alloy 926, AL6XN and nickel alloys as Alloy 31, Alloy 800H Alloy 600, Alloy 601 and Alloy 602CA
Markets	Apparatus construction, chemicals and pharmaceuticals, power generation, mechanical engineering, On and Offshore, furnace, and tunnel contractions, etc.
Employees	More than 120; 25 in Oberhausen
Turnover	about 70 million Euros (just under US\$75 million)
Website	www.hempel-metals.com