

119 tonnes on the road to Germany's northwest

- Valuable energy source: another Grenzebach sectional cooler for petroleum coke production completed
- Cooler to replace predecessor at a northwest German refinery
- Grenzebach provided continued support and assistance to the purchaser, from project planning through to commissioning on site

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BAD HERSFELD, STRASSFURT/Germany. Grenzebach BSH, located in Bad Hersfeld, has delivered another sectional cooler for producing petroleum coke (also known as petcoke), a valuable fuel used in electric power stations and cement kilns, to a refinery in northwest Germany. The drum left the factory on an oversize load truck in September. The sectional cooler is to replace its predecessor, which had been running continuously for nine years. Among the items included in the Grenzebach BSH scope of supply for this job were the project planning, installation, and on-site commissioning of the drum.

High throughput and optimum cooling performance

"We have sized the sectional cooler precisely to match the refinery's current requirements and today's demands for sustainable energy generation. Our customer appreciates, in particular, the optimum cooling performance and the high availability of the system," explains Michael Meyer, Director Process Technology at Grenzebach BSH. Moreover, the drum does not need additional dust removal systems, which keeps capital costs low. "Apart from the superior cooling performance, that is another plus factor in the customer's view," adds Meyer. The new sectional cooler was completed and delivered within just seven months.

Essential in thermal process technology

In thermal process technology applications, products are heated to more than 1,000°C in kilns or calciners. To reduce the product temperatures, so-called sectional coolers are installed downstream from the kilns. Essentially, these are indirect heat exchangers designed as rotary drums. The drums weigh several hundred tonnes and often exceed 20 meters in length. Grenzebach sectional coolers stand out for their higher cooling capacity than other systems, which is reflected in the drum size.

The sectional cooler delivered recently operates at throughput rates of up to 25 tonnes of calcined petcoke per hour. The product is cooled down from 1,250 C to a maximum of 85 C in an indirect, parallel-flow process using cooling water supplied at 370 cubic meters per hour and a maximum temperature of 49 C. During the cooling process, the water temperature increases up to 75°C by the time it leaves the cooler.

Petroleum coke: a highly stable, solid fuel

Cooled petroleum coke is a highly stable, solid fuel used worldwide in electricity generation and production processes. It is a rock-like residue from the oil refining

process and consists of a complex mix of, mostly elemental, carbon and inorganic and organic compounds. Petcoke supplies valuable energy; some 80 percent is used as fuel for electric power stations and cement kilns. The remaining 20 percent goes into the production of anodes, which in turn are used to produce aluminum or recycle scrap steel. As a stable bulk solid, petcoke is ideally suited for transportation by ocean freight, inland waterways, railroad, and truck haulage.

Application-oriented process expertise and many years of know-how

With more than 300 sectional coolers supplied for processing various products and more than 270 employees, Grenzebach BSH stands for many years of experience and process technology know-how. The Grenzebach specialists use their in-house software solutions, which have proven their worth in numerous large-scale projects worldwide. In addition, the Grenzebach GBSH team is constantly thinking ahead to improve solutions and make processes even more energy efficient and sustainable for its customers.



The 119-tonne sectional cooler was sent on its way to a northwest German refinery in September.

Source: Grenzebach

About process technology at Grenzebach

Grenzebach is one of the worldwide leading specialists for process technology, machines and special solutions. With a wide range of mechanical and thermal process technology, Grenzebach is laying the foundation for an efficient processing of bulk materials and powders of all kinds in widespread industries. The company covers vast steps of the process, from crushing, compacting, and classifying to calcining, cooling, and drying fine-grained bulk materials. The company also uses its process engineering expertise to promote topics of the future, such as the recycling of raw materials.

About Grenzebach BSH

Grenzebach BSH, a leading process and equipment technology company, supports customers from the building materials and process technology industries with customized production plants and solutions. The company also develops new, future-oriented solutions, such as phosphorus or Steen-Fos recycling. The company can build on a solid foundation: Grenzebach's technologies and services at the Bad Hersfeld site are based on 130 years of experience in efficiently processing raw materials, which dates back to the long-established Schilde AG and Babcock BSH. About 270 employees are working daily to develop processes and plants that will meet today's and tomorrow's requirements regarding digitalization and automation. Sustainability and partnership are essential values in this regard. The philosophy of being a partner in the customers' journey reflects a forward-looking understanding of customer care that includes product development and service. With additional locations in three time zones, Grenzebach BSH is always at its customers' side as a reliable full-service partner.

About Grenzebach

Grenzebach is a leading automation solution provider for the global glass, building materials and intralogistics markets. In addition, the company develops new application areas, such as various recycling processes, friction stir welding, the automation of industrial additive manufacturing or digital networking. Grenzebach ranks among the international technology leaders in its markets. The global manufacturing footprint, with production sites in Germany, Romania, the US and China, as well as additional worldwide locations, ensures on-site customer support. More than 3,000 systems installed in more than 55 countries stand for quality and reliability. Since the company opened its doors over 60 years ago, it has been owned by the founding family. With an export ratio of more than 90 percent, Grenzebach is a global player.

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<https://www.linkedin.com/company/grenzebach-group>

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