**Press information**

 **StrikoWestofen GmbH**, Hohe Straße 14, **51643 Gummersbach,** Germany

Reprint free of charge. Please send a copy and any inquiries to: **dako pr**, Manforter Straße 133, 51373 Leverkusen, Germany Tel.: +49 (0) 2 14 / 20 69 10

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StrikoWestofen (Gummersbach)

**Putting product carriers centre-stage**

Innovative product carrier concepts can save light metal foundries millions by massively reducing alignment work and energy costs, while increasing throughput and process reliability.

**Furnace builders often see product carriers as a necessary evil which is why the savings that can be achieved by using optimized carrier concepts are often underestimated. In contrast to conceived wisdom, StrikoWestofen (Gummersbach) pursues a holistic, process-oriented heat treatment approach in which the interplay of furnace system, quenching unit and product carrier is fine-tuned meticulously. This minimizes rejects and energy consumption while at the same time increasing processing capacity. “This unique approach really makes a difference for our customers and has a substantial impact on their bottom line,” explains Rudi Riedel, manager of StrikoWestofen.**

Heat treatment is a complex multi-layered process in the manufacture of light metal castings and forgings. Its importance has increased in the past few years, particularly in the automotive industry. Today, heat treatment is applied not only to heavily stressed components such as engine parts or wheel rims, but also to safety-critical structural components found in body and chassis. Heat treatment aims to optimize material properties such as ductility, hardness and tensile strength, as well as eliminating residual stresses. The process is carried out in three stages: solution annealing, quenching and ageing. Throughout all three stages the treated parts are mounted on product carriers.

This is why product carriers are considered to be the starting point for the development of a heat treatment system at StrikoWestofen. Looking at the system holistically, they are at the very heart of any heat treatment process. “That’s why our team has completely redesigned the product carrier, built countless prototypes and carried out a large number of tests. The outcome is very promising,” Riedel says. The resulting modern product carriers are designed to realize considerable savings compared to conventional models. These savings result from reduced alignment work, increased throughput, improved process reliability and a remarkably low energy consumption.

**Reduced alignment work**

Heat treatment releases residual stresses which often lead to distortion of components. In order to match the tolerances specified by the end customer, any distortions must be reduced through manual or mechanical alignment work. The cost arising from this alignment work can be considerable. But it can be reduced by using optimized product carriers: the special design of the frame mountings ensures an even transfer of the heat to the component and its uniform cooling using water, air or a mixture of air and water. Simulation, meticulous measuring and sophisticated heat treatment tests help to ensure consistent quality and precise design of the product carriers. “The additional effort is worthwhile as the reduction of costly alignment work alone can save our customers millions,” Riedel explains.

**Repeatable processes and increased plant capacity**

Packing density and therefore throughput of the heat treatment system can be increased through fewer profiles and fixtures, which are also tailored to the component they are supporting. Modern additive manufacturing processes and precision measuring of each individual product carrier prior to delivery guarantee repeatability and stability of the heat treatment process. Instead of heavy frame profiles, StrikoWestofen relies on weight-reduced frames for its product carriers. This means less mass overall needs to be heated up and cooled down again, thus saving energy as well as dramatically reducing solution annealing and quenching times. Finally, the carriers are made from stainless steel instead of normal steel, preventing corrosion and surface rust and thereby increasing durability.

**A reliable partner worldwide**

StrikoWestofen supplies heat treatment systems and product carriers to customers worldwide. Well-known car manufacturers and leading automotive suppliers in Europe, North America and Asia have purchased heat treatment solutions from StrikoWestofen in the past year. Customers are guaranteed reliable service and spare parts support around the clock. As part of the Norican Group, StrikoWestofen can rely on the industry’s largest service network globally. This helps to ensure high uptimes and maximum performance of the heat treatment systems at all times.

Rudi Riedel concludes: “Product carriers are an often underestimated but essential component of the heat treatment process. Innovative developments in this field make an important contribution to the reduction of the costs per casting and help our customers to maintain their competitive advantage in dynamic global markets”.

For more information on product carriers and heat treatment systems visit **www.strikowestofen.com or call +49 (0)2261-70910.**

**Captions**

**[17-05 Product carrier]**

*Holistic approach: for StrikoWestofen (Gummersbach), product carriers are the centrepiece of any heat treatment process.*

Image: StrikoWestofen.

**[17-05 Energy savings]**

*Less mass: weight-reduced frames allow shortened heating up and cooling down times. This saves energy and costs in comparison to conventional product carriers.*

Diagram: StrikoWestofen.

**[17-05 Reduced alignment work]**

*Optimized product carrier concepts reduce alignment work. This allows customers to save millions in comparison to conventional product carriers.*

Diagram: StrikoWestofen.

**[17-05 Weight comparison]**

*StrikoWestofen (Gummersbach) was able to reduce the weight of product carrier mountings from 4 kg to ca. 2.5 kg. This unlocks substantial annual energy savings.*

Image: StrikoWestofen.

If you have any inquiries please contact:

StrikoWestofen Group

Katharina Seidler

Tel.: +49 (0)22 61 – 70 91 108

Fax: +49 (0)22 61 – 70 91 51 08

Mail: katharina.seidller@noricangroup.com

dako pr corporate communications

Sina Thiemicke

Tel.: +49 (0)2 14 – 20 69 1-0

Fax: +49 (0)2 14 – 20 69 1-50

Mail: s.thiemicke@dako-pr.de