

Press release

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SCHWING Technologies: Partial heat treatment of rolls, extruder screws and broaching tools

Fast and cost-effective fluidized bed technology ensures tool quality

Rolls, extruder screws and broaching tools: they are all characterized by a wide variety of stress ranges with very specific mechanical properties. In order to set the desired individual characteristics, the corresponding areas must be tempered separately. For example, the tool surfaces used for power transmission are exposed to greater torsional forces and highly dynamic stresses, so require special toughness. Due to intense wear, other work areas require more strength. A sophisticated technology is required to achieve the correct precise properties in a targeted, safe and environmentally friendly manner. "This is exactly what our fluidized bed systems offer," explains heat treatment expert Andreas Guderjahn from SCHWING Technologies. "High temperature uniformity is their particular advantage. In addition, they offer the best heat transfer properties and are characterized by particularly homogeneous heat distribution." Rolls, extruder screws and broaching tools can easily be immersed in the fluidized bed with the tool end or shank to be tempered. SCHWING systems ensure consistent quality. Further advantages for customers are the short process times and the flexible loading options. In contrast to the induction process, for example, in which individual inductors must be used, parts of different shapes and dimensions can be processed in one single fluidized bed. SCHWING systems guarantee the highest temperature accuracy across the workpiece and reproducibility of each individual process.

Partial heat treatment of rolls

SSC Werkstofftechnik GmbH, based in Lüdenscheid, benefits from this. The company has been working with fluidized bed systems from SCHWING for several years. Dirk Pritschke is Managing Director of SSC and particularly appreciates the fact that he can partially temper his customers' rolls at the desired temperature within a very short time. "It is important for us that the quality

is right and that we as a service provider can work quickly and precisely and react flexibly," emphasizes Pritschke. "This is why we are convinced by SCHWING's fluidized bed technology". The systems are indirectly heated by electric heaters and can be used over a wide temperature range, from room temperature to 1050 degrees Celsius. Fine-grained aluminum oxide is fluidized with compressed air or other gas in a process chamber resulting in a fluidized bed that is not only highly thermally conductive, but also has a special heat capacity due to its mass. "The rolls can easily be immersed in the fluidized bed. We can then treat them very precisely at the desired temperature. The process can be carried out quickly and the results can be reproduced at any time," says Pritschke. Further advantages are the energy efficiency and environmental friendliness of the space-saving systems. In addition, they are safer than salt baths and do not pose any health risks.

Further information on heat treatment in a fluidized bed from SCHWING: <https://www.heat-treatment.com/de.html>



Photo: Andreas Guderjahn, Expert for Heat Treatment at SCHWING Technologies

Photo credit: SCHWING Technologies

Download: https://drive.google.com/file/d/1Rju5UE-aesdeNDQ2INuS_ymYdHV_63v2/view?usp=sharing



Photo: Dirk Pritschke, Managing Director at SSC Werkstofftechnik GmbH

Photo credit: SSC Werkstofftechnik GmbH

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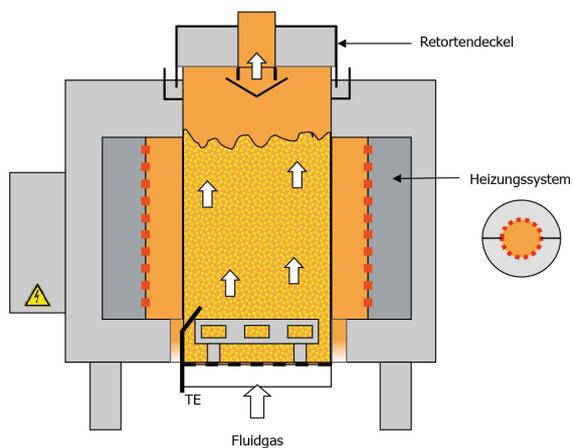


Photo: Functional principle of SCHWING fluidized bed technology

Photo credit: SCHWING Technologies

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Photo: Roll made of material 1.2379 before tempering. Partial heat treatment in the SCHWING fluidized bed at SSC Werkstofftechnik GmbH

Photo credit: SSC Werkstofftechnik GmbH

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Photo: View into a SCHWING fluidized bed ready for operation at 800 degrees Celsius at SSC Werkstofftechnik GmbH

Photo credit: SSC Werkstofftechnik GmbH

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Photo: Roll immediately after partial tempering: Heat treatment in a SCHWING fluidized bed at SSC Werkstofftechnik GmbH

Photo credit: SSC Werkstofftechnik GmbH

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SCHWING Technologies

SCHWING Technologies GmbH has been on the market for 50 years and is the global technology leader for high-temperature systems for thermal cleaning, thermo-chemical material finishing and heat treatment of metal parts and tools in the manufacturing industry. The owner-managed company designs, manufactures and operates its systems at its headquarters in Neukirchen-Vluyn on the Lower Rhine. Its Managing directors are company founder Ewald Schwing, his son Thomas Schwing and Alfred Schillert. Founded in 1969, the company celebrates its 50th anniversary in 2019, and opened a new sales company in the USA this year: SCHWING Technologies North America Inc.

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