

PRESS RELEASE

An eye for detail – Accredited test laboratory of Würth Industrie Service relies on state-of-the-art technology with scanning electron microscope

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Bad Mergentheim/Main-Tauber-Kreis. Würth Industrie Service GmbH & Co. KG gives highest priority to quality and safety. Specialised in connection technology, the test laboratory of the C-Parts partner is accredited for more than 50 test methods conforming to DIN EN ISO/IEC 17025 and serves as an official and independent test station for ensuring maximum product and process quality along the entire value chain. With an area of 800 square metres, it is equipped with latest test devices, which, together with qualified employees and end-to-end quality management, offer optimum conditions for reliable test results. With the new scanning electron microscope (SEM), the experts at Würth Industrie Service are now able to analyse components even more closely. For more than 20 years, Würth Industrie Service has been investing in state-of-the-art technologies for the highest level of quality.

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The C-Parts partner is currently demonstrating in the accredited test laboratory how innovation can give a leading edge: The new scanning electron microscope can be used to map broken and heavily stressed components at nano level. It is possible to detect smallest anomalies within the surface quality and the specific structure of the fracture, such as rest lines, allowing detailed statements on the origin of the fracture or the cause of the fault. For example, the qualified specialists can determine whether the component was loaded dynamically, whether there is an application or material defect and what is the type of fracture (brittle or ductile fracture). The chemical composition of the sample can now also be determined in the smallest room using a special detector (energy dispersive X-ray spectroscopy or EDX).

For the analysis, the sample is placed in a high or low vacuum depending on the material, to avoid potential interactions with atoms and molecules in the air. The sample is irradiated with a finely aggregated electron beam, resulting in secondary electrons. These are captured, reinforced electronically and then represented graphically. This makes it possible to achieve nanoscale resolutions. In addition, the SEM has an extremely high depth of sharpness compared to a light microscope, which makes it possible to optimally test larger parts under the given conditions.

As a result, the customers of Würth Industrie Service benefit from maximum commitment to quality – and this also applies to non-Würth parts. While such tests were previously carried out externally, customers now benefit from a wide range of testing services as well as from a bundled process of the accredited test laboratory at Bad Mergentheim – according to the motto “all from one single source”.

Accredited professionalism – Accredited test laboratory

It is the combination of comprehensive expertise, high-quality equipment and a wide range of services that sets the test laboratory of Würth Industrie Service apart as a testing service provider, even in the field of in-house quality assurance. The 20 specialists clearly focus on fastening technology. Among the highlights of the laboratory are the world’s largest friction testing machine for fastening technology for testing screws up to the size M80, a salt spray chamber for corrosion testing and a measuring room for measuring complex geometric tolerances with the latest 3D multi-sensor technology. Recently, SEM has also become one of the sought-after testing devices in the laboratory. “We also test fast response times with modern testing devices – just what our customers want.” says Jürgen Bauer, Head of Laboratory at Würth Industrie Service. “As an accredited testing service provider, we always keep an eye on the needs of our customers. This is why it is all the more important to improve and implement quality measures consistently.”, says Mr. Bauer. Würth Industrie Service has been investing in state-of-the-art technologies for more than 20 years for the highest level of quality. “Within Würth Industrie Service, we inspect fasteners for incoming goods, initial sample testing, application consulting and complaint management.”, adds Mr. Bauer. Würth Industrie Service in Bad Mergentheim also receives inquiries from all over the world, confirming the extensive expertise in quality control, application consulting and product development. To ensure expertise, the company trains and upskills its employees – across all areas of the company. For 10 years now, material inspectors (m/f/d) have also been trained in the accredited test laboratory to meet the professional requirements and to be the experts of tomorrow.

Photo material



Captions:

Photo: Scanning electron microscope.jpg

Caption: With the new scanning electron microscope, the experts at Würth Industrie Service are now able to analyse components at nano level.

Photo source: Pia Schmitt, Würth Industrie Service GmbH & Co. KG

Brief profile of Würth Industrie Service GmbH & Co. KG

Within the Würth Group, Würth Industrie Service GmbH & Co. KG is responsible for the supply of the industrial sector. Since its foundation in 1999, Würth Industrie Service is located at the Industriepark Würth in Bad Mergentheim, Germany with over 1.700 employees.

As a complete C-Parts provider, the company offers its customers a specialised product range of over 1,100,000 items: from screws, connection and fastening technology, tools to chemical-technical products and occupational safety. In addition to the extensive standard range, the strength of the company lies in its customer-specific, logistical and dispositive supply and service concepts as well as in special parts. Under the service brand "CPS® - C-Product Service", the company offers modular solutions, which are customised as per customer-specific requirements. Thereby, the consumption-based and demand-based systems significantly rationalise the processes for purchase, logistics and quality assurance and enable the procurement of small parts in a cost-optimised manner. Logistic and dispositive services such as shelving systems with scanners or a just-in-time supply using Kanban bin systems contribute significantly to increasing the productivity.