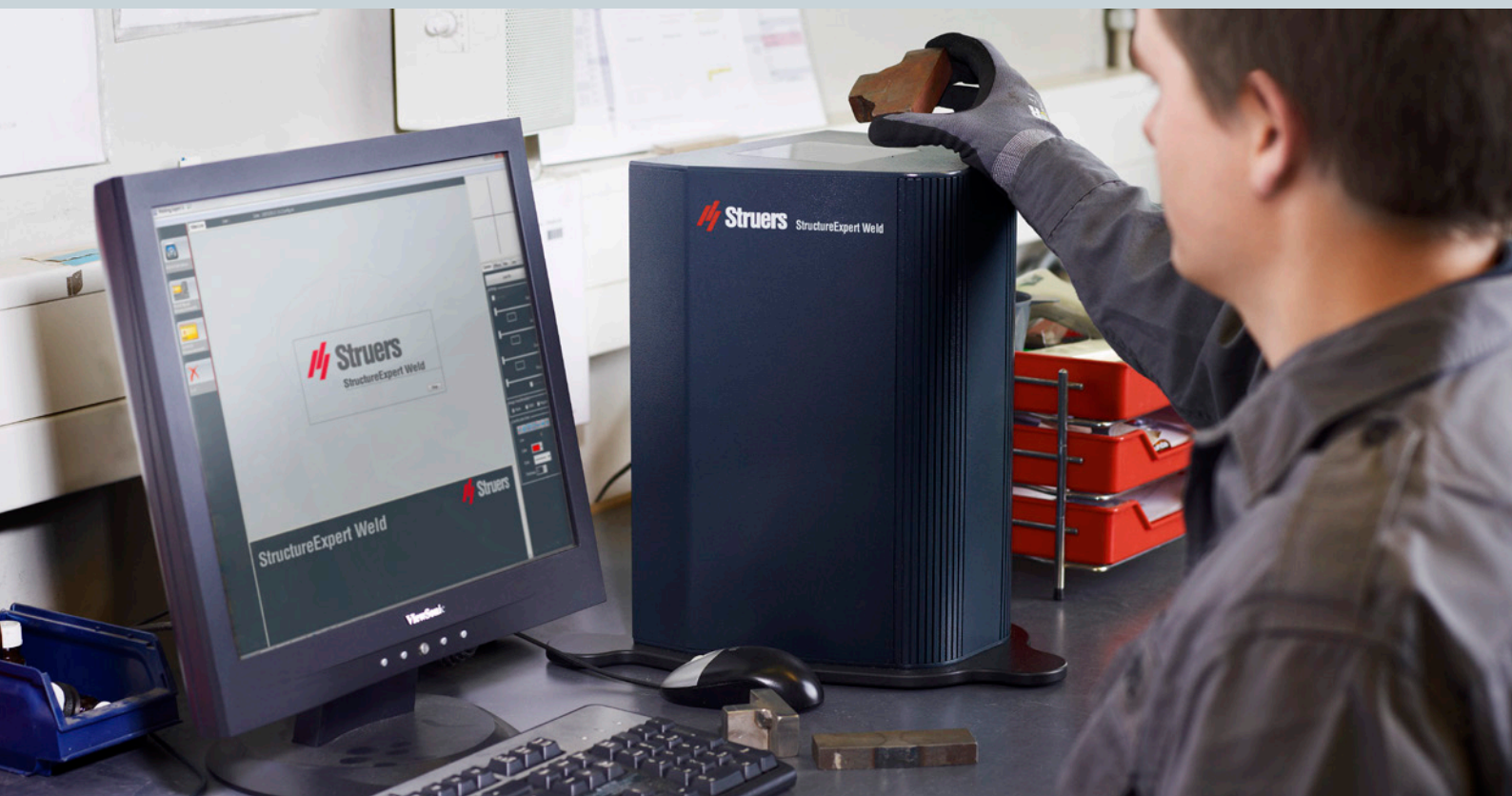


Struers StructureExpert Weld equipment

PERFECTLY CHECKED WELDS

Secure, reliable welding control
every time





PRECISE WELD BEAD INSPECTIONS

The quality control of welds is an important part of a production process. Each inspection needs to be accurate and meet the right quality standard. Weld bead inspections can be tedious, time-consuming and costly, with manual calibrations and equipment adjustments.

With Struers StructureExpert Weld you save time, achieve a high degree of accuracy and maintain control over your weld beads.



Minimize mistakes and errors

StructureExpert Weld helps minimize mistakes and errors caused by manual adjustments. The built-in digital camera and software-controlled magnification adjustment make it easy to find the best field of view. The calibration is automatically loaded with the set magnification – ensuring maximum accuracy and reproducibility.

The new internal light system consists of 4 ramps of LED. These can be controlled simultaneously or individually to achieve a higher contrast, which provides precise measurements.

Manage welding control processes efficiently

StructureExpert Weld helps you boost welding quality. Dedicated weld inspection software with specific measurement tools ensures that weld bead measurement and analysis processes are performed accurately.

Through easy-to-customize report templates and data tracking possibilities, you can speed up processes, as well as ensure they are fully traceable.

“Verification is a vital part of quality control. As materialographic specialists, we know how to help our customers set up their equipment correctly, so that they obtain accurate results.”

- Roman Gerund,
Struers Application Specialist, Germany





WE UNDERSTAND YOUR NEEDS

Save time

StructureExpert Weld is designed to enable an easy, precise placement of the prepared sample. The unique, inverted optical system ensures the sample surface is always the same distance to the camera, rendering continuous height adjustments and calibrations unnecessary. One click provides the information required to perform the necessary checks.

Ensure accuracy

The built-in digital camera and software-controlled magnification adjustment mean it is fast and easy to locate the best view, thereby ensuring accuracy. The calibration is automatically loaded with the set magnification – ensuring maximum accuracy and reproducibility. The new internal light system consisting of 4 ramps of LED provides bright, uniform illumination for crisp, high image contrast and precise measurements.

Maximum weld bead control

StructureExpert Weld helps boost welding quality. Dedicated weld control software with specific measurement tools ensures that weld bead measurement and analysis processes are performed accurately. Through easy-to-customize report templates and data tracking possibilities, you can speed up processes, as well as ensure they are fully traceable.

Automatic calibration

To minimize the impact of human errors, the system has an automatic built-in calibration.



STRUCTUREEXPERT WELD SOLUTIONS

Efficient, accurate weld bead control results

StructureExpert Weld is the only dedicated stand-alone imaging system designed for efficient and accurate weld bead control. The unique, inverted optical system, automatic illumination, auto-focus and built-in calibration help eliminate time-consuming manual processes and measurement errors.

Now, the weld inspection processes can be improved, thus saving time, money, and resources.

StructureExpert Weld-6

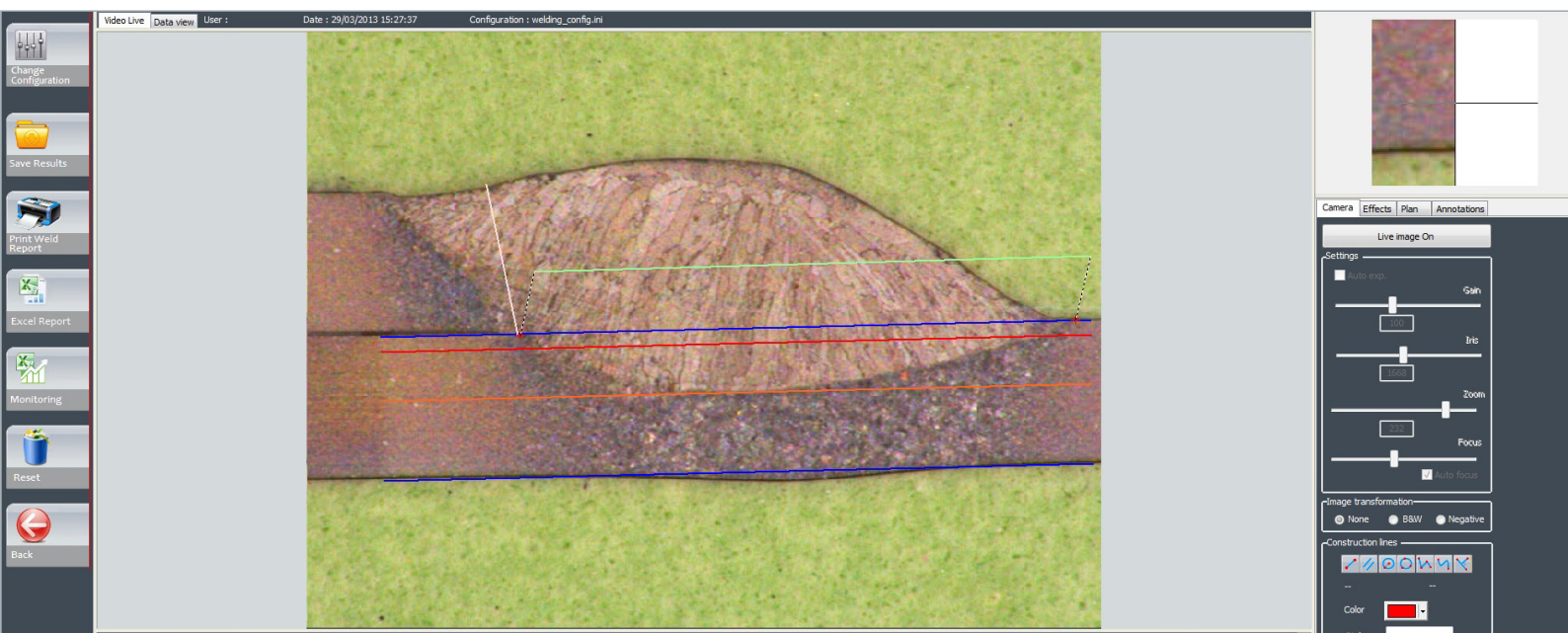
Optimal repeatability and easy operation.
Dedicated imaging system for weld bead measurement.
Consists of compact housing, LED lighting system, Full HD 1080P digital camera with motorized zoom, and dedicated software for measurement and reporting.

- Field of view from ~ 82 to 1.8 mm (~ 3.2" to ~ 0.07")
- Equivalent to ~ 2.5x - ~ 120x optical magnification

StructureExpert Weld-11

Optimal repeatability and easy operation.
Dedicated imaging system for weld bead measurement.
Consists of compact housing, LED lighting system, digital camera with motorized zoom and dedicated software for measurement and reporting.

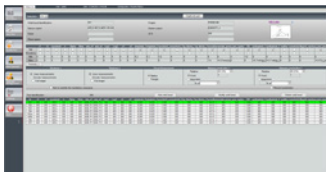
- Field of view from ~ 9.3 to ~ 0.8 mm (~ 0.36" to ~ 0.03")
- Equivalent to ~ 20x - ~ 240x magnification





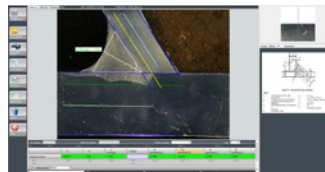
UNIQUE BENEFITS

Metrology System Administration



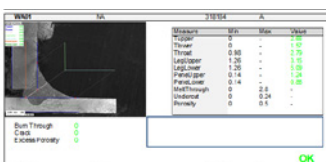
A complete description of the welding part and the weld bead acceptance criteria are registered and password-protected. All parameters are automatically loaded and processed during measurements achieved by operators.

Software



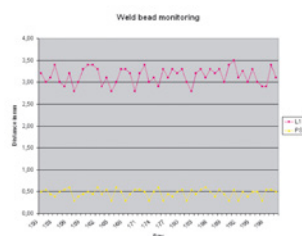
StructureExpert Weld allows measurement of samples ranging from 82 mm to 0.8 mm with accuracy down to 0.6 μm . Red or green colors indicate the tolerances. Measurement results are automatically saved to Excel.

Reports



A report can be created automatically for both single and multiple weld bead measurements. The optional Report generator module allows customized Excel report templates to be created and edited.

Statistics



As an option, StructureExpert Weld can include a software module for the qualitative monitoring of weld beads and parts, and statistical tools are provided to ensure complete tracking of the welding process.



ACCESSORIES TO ENSURE ACCURACY

Struers provides all the accessories you will need in order to test weld bead controls. The accessories ensure better test performance with a high degree of accuracy, and provide easier usage and documentary proof for audits.

Glass windows

Available as a hardened glass window or as an 85 mm sapphire window mounted into a 100 mm*100 mm mounting bracket that eliminates the likelihood of scratches.

For improved contrast, an optional hood can be supplied to prevent scattered light.

Calibration plates

To ensure accurate measurements, all StructureExpert Weld systems are equipped with a calibration plate. The calibration plate can also be used at any given time to verify the accuracy of the measurements.

If needed for documentation, we are also able to supply calibration plates with a UKAS-certified certificate.

Certificates for calibration plates

All certificates are accredited certificates (UKAS) and offer 10 points calibration. As an option, UKAS accredited certificates are available and offer 10 points calibration.

The certificates are certified in accordance with the requirements of national and international standards and regulations.

As an option, UKAS accredited certificates are available and offer 10 points calibration.

Software modules

To ensure the best possible documentation and performance, the StructureExpert Weld is supported by different software modules. The software modules are:

- Process Tracking for process tracking.
- Data View software for an extended display of old measurement data and for editing old measurement results.
- Q-DAS allows the import of DXF files into SEW software.
- DXF to display complex drawings on SEW images.

For further information, please request Technical Specification SEW6.

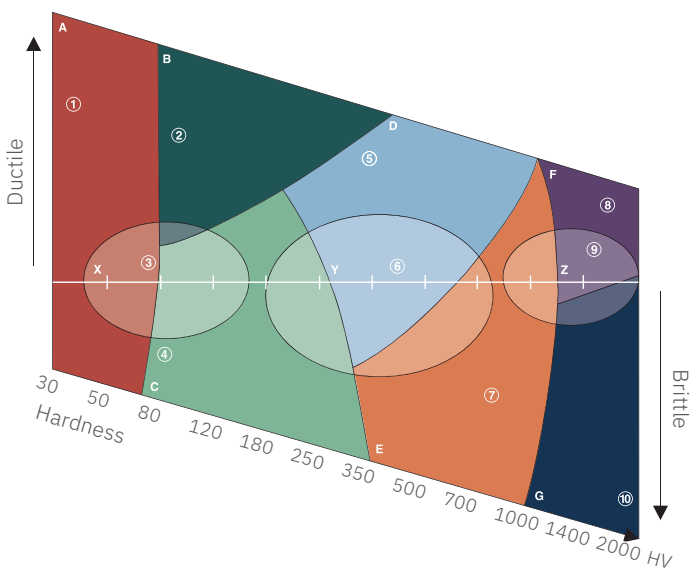


A METHOD FOR ANY MATERIAL

Optimize your process – minimize your waste

Are you looking for perfect results from your true structure? Or perhaps a few artifacts are acceptable, as long as they do not disturb your analysis? Whatever your preparation goal, we will help you optimize your grinding and polishing process – without over-processing. This means increasing the quality of your specimen up to your goal by eliminating artifacts such as deformation, edge rounding, scratches or pull-outs, while minimizing process waste with fewer, shorter steps.

Find the optimal process for your material based on its hardness and ductility



Find the hardness of your material on the X-axis, then move up or down the Y-axis, depending on its ductility. Learn more and see optimized methods for your material at [Struers.com](https://www.struers.com)

Take a systematic approach for accurate, reproducible results

Trial and error is neither accurate nor efficient as an approach. Based on extensive academic training and hands-on experience, our materialographic experts have developed optimized methods for any material. Simply tell us your preparation goal and we will customize our standard method to your equipment, requirements and operator capabilities, whether your focus is on quality, safety, speed or efficiency.

A systematic approach is key to achieving accurate, repeatable results and makes troubleshooting easier. Struers also helps you minimize random errors and maximize your reproducibility. Our high-quality consumables deliver the same performance every time and help absorb sensitivity to changes in conditions. We also provide training in methods and techniques, with courses both on site and online.



Siemens reduced its titanium preparation time by more than

 **80%**

“One of our colleagues, who has worked with titanium for several years in large companies, told us that these were the best samples he had ever seen.”

– Mikael Bergren, Laboratory Technician, Siemens Industrial Turbomachinery

CHOOSE A PARTNER, NOT JUST A SUPPLIER

Maximize your uptime with consumables on delivery

Reduce your risk and keep inventory costs down with our robust global supply chain. For fast, reliable delivery, we have distribution centers across the U.S., Japan, China, Germany and Denmark.

Our ISO 9001-certified LEAN production and strict quality control ensure all consumables perform as promised and contribute to a safer workplace. You can also minimize your environmental impact thanks to our ISO 14001 certification for environmental management and commitment to low-carbon shipping.

Get total support – whatever, whenever

Verification is just one part of the story. Our materialographic experts can help you optimize your end-to-end process through Value Stream Mapping. There are also Struers consumables and equipment for any stage in the process. These are designed to work together so you get the most out of your investment.

In fact, we are here to help you with every aspect of materialography. Whether you need to boost your skills with on-site and online training or maximize your uptime with service and support, we offer a complete solution for ensuring certainty.





**98% of consumables
are shipped within**

48 hrs



Ensuring certainty

Materialographic preparation and testing demands consistent, reproducible results. These come not only from your laboratory process, operators and equipment, but from your supply chain and your partner. As a Struers customer you benefit from high quality design and engineering of equipment and consumables, but just as much from our unique knowledge base, robust global supply chain, and expert service and applications support – where and when you need it. We call all this ensuring certainty.

Struers remains dedicated to making the world a better place through the pursuit of deep scientific insights and ground-breaking technology. Today, we're your trusted partner in a fast-changing world, sharing our expertise and practical experience on a global scale. This gives you innovative solutions that help you face the future with confidence. We continue to lead the way in materialographic products and services, and to shape future developments towards a better society.

www.struers.com