StructureExpert Weld

Reliable Welding Control – Every Time

- Save time
- Ensure accuracy
- Achieve maximum weld bead control
The simple way to precise weld bead inspection, measurement and control

Welding quality control is an important part of a production process. You need to ensure each inspection is accurate and meets your quality standards. But weld bead inspection can be tedious, time-consuming and costly – especially if you spend a lot of time manually calibrating and adjusting equipment and software that are not specifically designed for welding control.
Now you can ensure maximum weld bead quality with StructureExpert Weld. StructureExpert Weld is the only stand-alone dedicated imaging tool that gives you a simple way to ensure precise and cost-efficient weld bead inspection, measurement and reporting – all in one solution.

Unique design and features enable you to ensure accuracy, efficiency and control of after-weld quality assurance processes.

Save time
StructureExpert Weld is designed for easy, precise placement of your prepared sample. The unique inverted optical system ensures that the sample surface always has the same distance to the camera, making continuous height adjustments and calibrations unnecessary. Simply place your sample on the glass surface and the built-in digital camera and an autofocus zoom lens will give you maximum flexibility in selecting a perfect field of view for all measurements. And with just one click you have the information you need for your check.
Reports
For single as well as multiple weld bead measurements a report can be created.

Statistics
StructureExpert Weld includes a software module for the qualitative monitoring of weld beads and parts and statistical tools are provided to ensure a complete tracking of the welding process.

Minimize mistakes and errors
StructureExpert Weld helps to minimize mistakes and errors due to manual adjustment. The built-in digital camera and software-controlled magnification adjustment make it easy to find the best field of view. The calibration is loaded automatically with the set magnification – ensuring maximum accuracy and reproducibility. The dedicated internal LED ring light provides bright, uniform illumination for crisp, high image contrast and precise measurements.

Manage welding control processes efficiently
StructureExpert Weld helps you boost welding quality. Dedicated weld control software with specific measurement tools ensure that weld bead measurement and analysis processes are performed accurately. Through easy-to-customize report templates and data tracking possibilities you can both speed up your processes and ensure full traceability of them.
Specifications

StructureExpert Weld-5
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 80 to 4.5 mm (3.1" to 0.2"), equivalent to 2.5x - 50x magnification. Includes 5 glass windows (CLSET001), 2 protection covers, calibration plate (CLCAL001) and necessary cables. Additional software modules (CLOUT002, CLOUT003, CLDAT002) are ordered separately. UKAS certificate (CLUKA001) for calibration plate and Plastic covers (CLSET002) are optional. PC and monitor are required, but not included.

StructureExpert Weld-11
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 8.27 to 0.68 mm (0.33" to 0.03"), equivalent to 20x - 240x magnification. Includes 5 glass windows (CLSET001), 2 protection covers, calibration plate (CLCAL003) and necessary cables. Additional software modules (CLOUT002, CLOUT003, CLDAT002) are ordered separately. UKAS certificate (CLUKA002) for calibration plate and Plastic covers (CLSET002) are optional. PC and monitor are required, but not included.

Accessories

Glass Window
Glass windows for StructureExpert Weld, 5 pcs. CLSET001

Glass Window, hardened
Hardened glass windows for StructureExpert Weld, 5 pcs. CLWEL003

Process Tracking Module
Software module for process tracking of measurement evolution over a specific time period. CLOUT002

Data View Module
Software module for extended display of old measurement data and for edition of old measurement results. CLDAT002

Min & Max Action Limit Module
Software module for definition of additional min./max. action limits (in addition to the standard min./max. acceptance criteria limits.) Includes additional report templates. CLOUT003

Report Generator Module
Software module for creation and editing of Excel report templates. CLREP002

Plastic Covers
Plastic covers for prevention of water and dirt entering the camera chamber. With mounting bracket. 100 pcs. CLSET002

Calibration Plate
Calibration plate for calibration of StructureExpert Weld-5 measurement software. 50 mm. Including accredited certificate CLUKA001 CLCAL001 CLUKA001C

Calibration Plate
Calibration plate for calibration of StructureExpert Weld-11 measurement software. 50 mm. Including accredited certificate CLUKA002 CLCAL003 CLUKA003C

UKAS Certificate for Calibration Plate
Accredited certificate (UKAS) for calibration plate CLCAL001. 10 points calibration. Can only be ordered in combination with CLWEL019. CLUKA001

UKAS Certificate for Calibration Plate
Accredited certificate (UKAS) for calibration plate CLCAL003. 10 points calibration. Can only be ordered in combination with CLSYS011. CLUKA002

Coaxial illumination for StructureExpert Weld-11
Illumination system for improved structural analysis. For StructureExpert Weld-11 CLWE0020

General Data

StructureExpert Weld-5
H x W x D: 35 x 24.5 x 22 cm (13.8 x 9.6 x 8.7")
4 Kg / 9 lbs

StructureExpert Weld-11
H x W x D: 42.5 x 24.8 x 22 cm (16.7 x 9.8 x 8.7")
6 Kg / 13 lbs

Power supply
1 x 110-220 V / 50-60 Hz

PC recommendations
Windows XP Pro SP3 / Windows Vista / Windows 7 / Windows 8 / Windows 10, 32 & 64 bits
2 Ghz Processor / 2 GB RAM /
1280x1024 graphic card (min.)
Excel 2003 Pro Edition or higher
Min. 2 x USB 2.0 ports (camera + dongle)
19" LCD monitor

Struers' equipment is in conformity with the provisions of the applicable International Directives and their appurtenant Standards. (Please contact your local supplier for details)

Struers' products are subject to constant product development. Therefore, we reserve the right to introduce changes in our products without notice.

Measurement
Measurements are easily performed according to individual standards and acceptance criterias. Red or green colours quickly indicate whether you are in or outside tolerances.
Ensuring Certainty

With offices and affiliates in 24 countries and a presence in more than 50 countries worldwide, Struers is the world’s leading materialographic solution supplier. We are dedicated to enabling our customers to ensure certainty in all aspects of materialographic preparation and testing as well as material hardness testing - wherever they are in the world. Struers offers a complete range of equipment, consumables, service and training programmes – all supported by the most comprehensive knowledge base, global applications support and a certified global service set-up.

Learn more
Contact a Struers sales representative today or visit www.struers.com