

INNOVATION

StressEasy

 **sentenso**
Smart Peening Solutions



Software-Supported Residual Stress Determination

Uncomplicated, automated and fast determination of various residual stress states with the help of the software extension StressEasy

Advanced manufacturing processes often require a fast and automated acquisition of residual stress states beyond the simple single measurement. In complex stress states, several measurements have to be calculated into an overall result. Critical component surfaces must often be analysed as a whole with their stress distribution clearly displayed. Recurring measurements require batch processing of individual measurement tasks that are easy to set up. In production lines, on the other hand, an automated limit check is required.

With StressEasy, sentenso Smart Peening Solutions provides an advanced software solution for the extremely fast X-ray stress analyser μ -X360s. With StressEasy, the above-mentioned diverse measuring tasks for the determination of residual stress states can be parameterised in a user-friendly way, easily programmed and automatically processed by means of a six-axis robot.

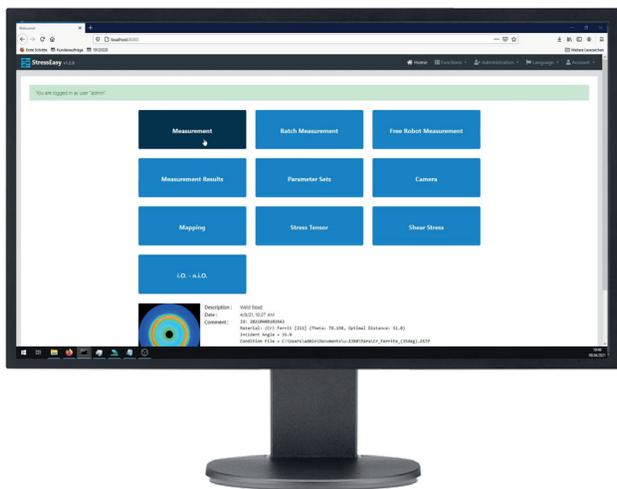


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Setup and Functions

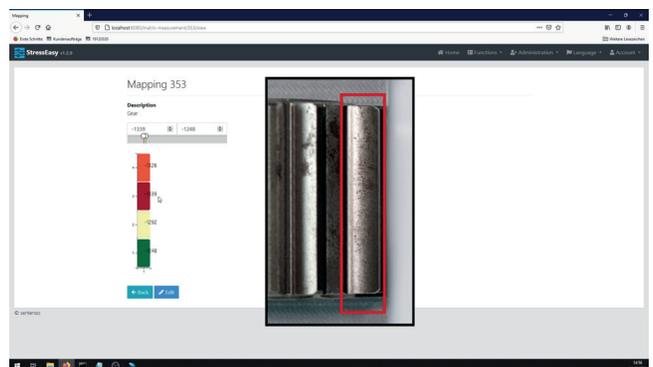
The field-proven software extension for the X-ray stress analyser μ -X360s opens up far-reaching possibilities of measurement automation for the user. While the standard software only controls individual measurements and manages their results, StressEasy can do much more. The software extension enables the parameterisation and combination of individual measurements into an overall picture. Operation takes place in the browser and can also be parameterised via remote access.



In combination with the mobile, compact and fast X-ray stress analyser μ -X360s, StressEasy develops its full potential when used with a six-axis robot for the automated movement of the sensor unit from measurement to measurement. For this purpose, numerous measurement tasks are available, which can be parameterised via StressEasy. Results are clearly listed and can be filtered and searched. In addition, the software supports the user with graphical representations of the Debye-Scherrer ring and residual stress mappings.

Automation of the following measuring tasks:

- Complete stress tensor
- Non-planar stress conditions
- Residual stress mappings
- Batch measurements
- ok / not ok measurements
- Oscillation (linear, circular, psi angle)



StressEasy allows for the rapid processing of a large number of automated measurement tasks for the residual stress and retained austenite analysis. The measuring system and evaluation software can be demonstrated with customer-specific samples in the sentenso laboratory or live in a video conference.

