

LAS X GRAIN EXPERT SOFTWARE: Structural analysis of steel and other materials

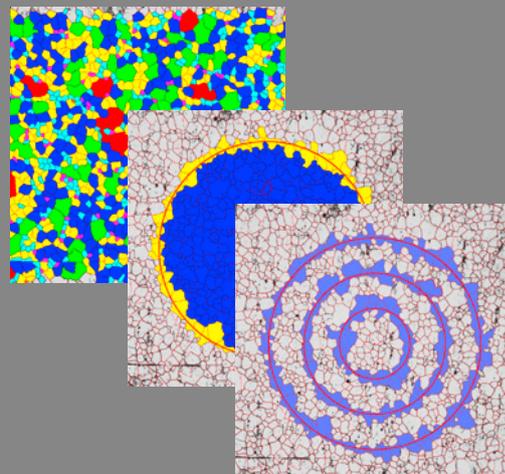
Superior accuracy and reproducibility in grain analysis

LAS X Grain Expert provides an environment to rapidly execute structural analysis of steel and other materials.

The Leica software has a quick and easy-to-learn workflow that guides users through the individual analysis steps. A multitude of structures and sample preparation types can be studied using highly accurate edge detection algorithms.

This software module also includes traditional stereological methods, such as Heyn lineal intercepts, Jeffries planimetric, or the Abrams 3-Circle procedure. These patterns are applied completely automatically, resulting in the direct calculation of the grain size.

Where traditional stereological methods suffer from their 1-dimensional approach to approximate grain size, LAS X Grain Expert applies specific 2-dimensional algorithms to directly measure the grain area. This exceptional approach results in superior accuracy compared to traditional and non-digital methods.



International standards covered:

- > ASTM E112
- > ASTM E930 (within E112)
- > ASTM E1382 (within E112)
- > DIN/EN/ISO 643
- > GOST 5639
- > JIS G0551

References

- > Sign up for the free on-demand webinar
"Analyze grain size on microstructures the way you need"
<http://www.leica-microsystems.com/science-lab/free-webinar-on-demand-analyze-grain-size-on-microstructures-the-way-you-need/>

Superior accuracy and reproducibility in grain analysis



Sample Preparation

Selection of samples according to a standardized sampling process. Preparation of clean and even surfaces using abrasives and diamond paste.



Etching

Chemical or physical visualization of grain boundaries by material specific grain boundary etchants or ion milling.



Visualization / Acquisition

Applying optical contrast methods and microscopic imaging techniques to acquire digital images of the grain structure.



Digital Grain Size Analysis

Analyze grain size by using automatically applied traditional stereological methods or superior digital approaches. Analysis can be conducted according to various international standards.



Reporting

Beyond grain size analysis for Quality Control, a wide variety of other parameters can be analyzed. Create customized, Excel-based report templates to also tailor analyses for advanced research purposes.

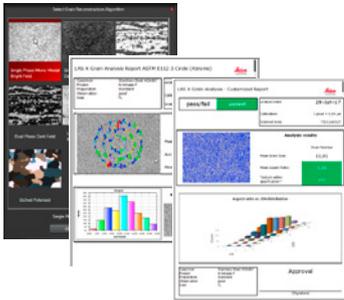


Delivery of Quality Products



Your benefits: Easy-to-use workflow & customizable reports

The workflow of LAS X Grain Expert software is easy to learn. Start by simply selecting an example image which best resembles the specimen and the correct analysis algorithm will be applied. All faint grain boundaries can be improved by applying binary modifications. Even with imperfect etching, the quality of your analyses will not be reduced. Customize the Excel-based report templates for your quality control or R&D purposes.



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