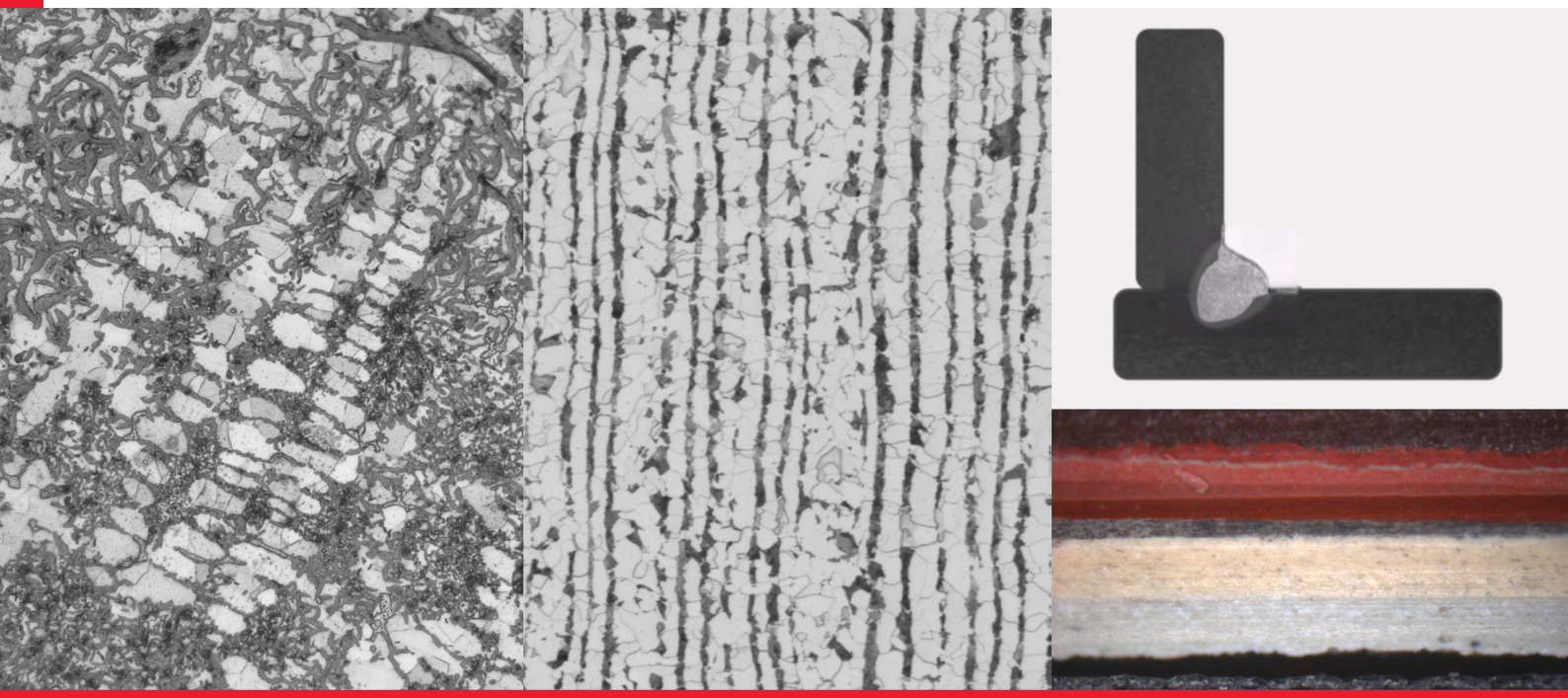
From Eye to Insight

Leica
MICROSYSTEMS



LAS X METALLOGRAPHY TOOLBOX

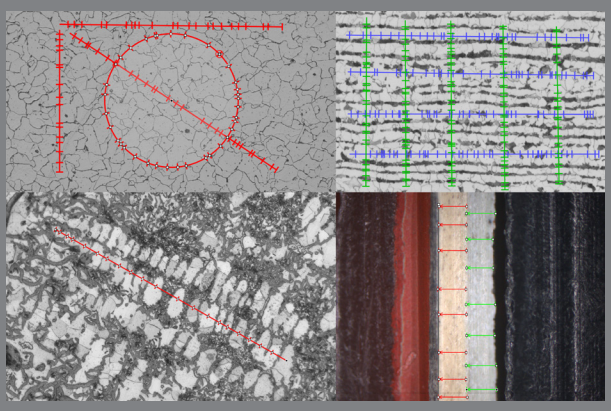
Flexible-to-use tools for stereology-based structural analysis

The Metallography Toolbox add-on enhances the capabilities of the LAS X 2D Measurement software, making it a versatile tool for stereological analysis of metallographic/metallurgical samples.

It simplifies the manual tasks involved when deriving calibration parameters from measurements, such as baseline lengths, lineal intercepts, point counting, segments of circles, or multi-layer coating thickness.

Assigning individual classes to measurements, as well as comparative analysis of the related parameters, are made possible. Thus, component or phase specific results can be generated.

By taking advantage of the flexibility to customize the Excel-based report templates, the LAS X Metallography Toolbox software can be turned into a dedicated tool for a wide variety of applications in metallography and materials sciences. It also enables the experienced user to analyze samples according to various international standards.



Some example cases of analysis:

- Grain Size using Heyn or Abrams Methods
- Multi-Layer Thickness
- Dendrite Arm Spacing
- Banding

Microstructure analysis by manual intercept and intersect methods

Sample Preparation
Selection of samples according to a standardized sampling process. Preparation of clean and even surfaces using abrasives or thin sections using microtomes.

Etching
Chemical, electrochemical, or physical etching methods which reveal different specific phases and components of a material, such as carbon-rich and carbon-depleted areas.

Visualization / Image Acquisition
Applying optical contrast methods and microscopic imaging techniques to acquire digital images of the sample's microstructure.

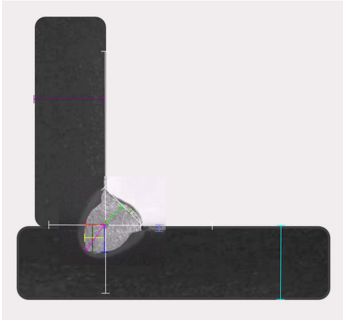
Digital Stereological Analysis
The stereological tools provided by the LAS X Metallography Toolbox add-on enables the experienced user to manually analyze the materials microstructure. Various approaches, like the planimetric or intercept ones based upon the Jeffries, Heyn and Abrams methods, can be utilized.

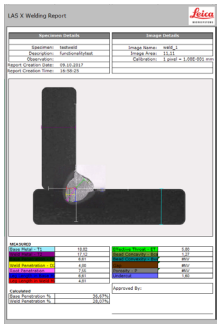
Reporting
To go beyond the limitations of traditional stereological approaches, individual sample and feature measurements are also available. Create customized, Excel-based report templates to tailor analyses for advanced research purposes as well.

Delivery of quality products
Stay confident about your product quality. Ensure delivery of high quality products to your customers.

Your benefit: Customize report templates to your specific analysis needs

The LAS X Metallography Toolbox add-on provides the basic stereological tools in a flexible environment that allows for customized, case-specific analysis.
It allows the skilled user to: overcome limitations of traditional stereological approaches and methods by combining tools; define individual sample or feature classes; achieve individual sample and class measurement; and report results using customizeable Excel-based result templates.





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