

One of the most common tasks in metallographic image analysis is the quantitative analysis of micrographic images in order to determine grain size. This **dhs Image Data Base** extension module was primarily developed to support real-life workflows and is a very easy-to-use tool for your daily laboratory work.

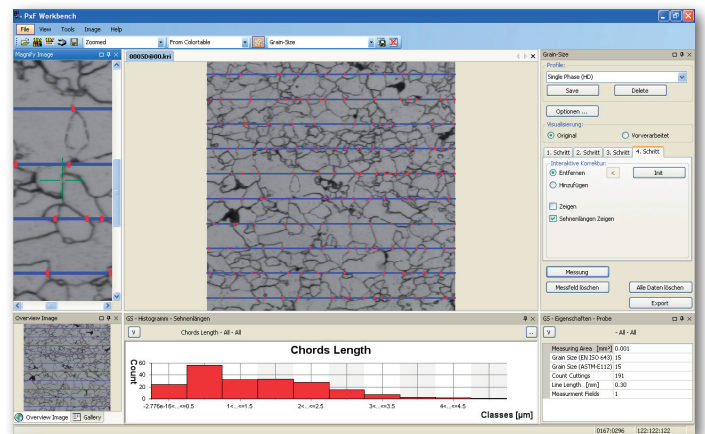
Clearly structured operating steps guide the user through each individual phase of the pre-processing and subsequent analysis of images. The software can be configured in many different ways to suit a wide variety of image material. Interactive correction modes even allow you to work with difficult specimens. All parameters can be stored in so-called „profiles“, so you can access as many analysis versions as you want with a click of the mouse and each analysis is reproducible. When it ships, the module is already preconfigured with commonly required settings, e.g. for single-phase or multi-phase materials and colour etching!

After the usual preparation of samples and micrographic image capture, the micrograph is then calibrated and saved. The software now analyses the image content fully automatically and detects grain boundaries using greyscale characterisation and the so-called „watershed algorithm“.

To obtain meaningful results, you can analyse several micrographs (or even several sections of a specimen) in a row. The results are collected and shown in a configurable results list – e.g. including grain size numbers as per DIN EN ISO or ASTM, measuring area, number of sections, line length and much more. Chord length is charted in a diagram and automatically classified by size.

The **dhs Grain Size** module provides you with the following features:

- Freely configurable software interface
- Grain size characterisation in single-phase ferrite and/or dual-phase ferrite/pearlite structures as per DIN EN ISO 643 and ASTM-E 112
- Comprehensive algorithms for image pre-processing
- Analysis using the so-called „Line Intercept Method“



- Also suitable for determining grain size in any other structures
- Determination of grain size numbers in accordance with the relevant standards, as well as the number of grains per unit area and average grain size
- Analysis of disrupted structures in the interactive correction mode
- Transfer of images, histograms and measured values to the **dhs Image Data Base**
- Multi-level „undo“ function
- Digital zoom, overview display and gallery function
- Storage of so-called „profiles“ (parameter settings for fast access and activation in day-to-day use)

### InfoBox

- *Analysis of micrographic images using the so-called „Line Intercept Method“*
- *Automatic grain size detection in accordance with the standards DIN EN ISO 643 and ASTM-E112*
- *Automated analysis results in just four steps*
- *Includes histogram and detailed transfer of measured values to the **dhs Image Data Base***
- *Integrated image pre-processing and interactive correction options*

