



# Leica Steel Expert

Analysis Software for the Advanced  
Automatic Steel Inclusion Rating

*Leica*  
MICROSYSTEMS



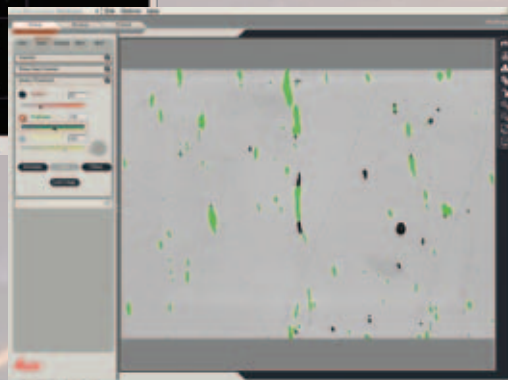
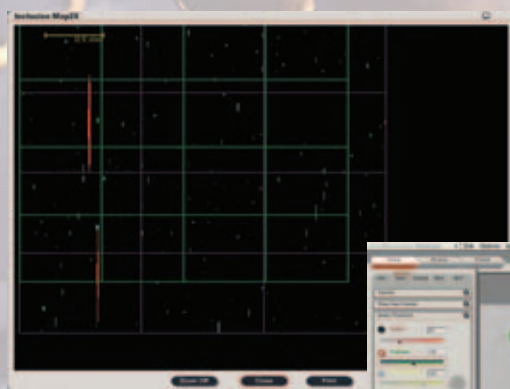
# Automated for Simplicity, Speed and Accuracy

## Automatic Steel Inclusion Rating

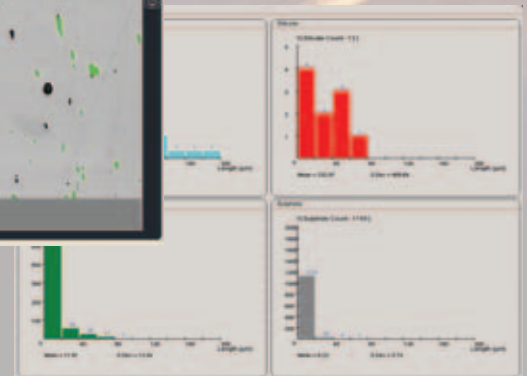
The Leica automated upright or inverted light microscopes enable polished steel samples to be easily inspected with bright field illumination. When combined with Leica Steel Expert, fields of arbitrary size on either single or multiple samples, which are mounted on the motorised scanning stage, can be automatically scanned and measured. The predicted focus option ensures that the sample or samples remain at the correct focal point during each automated measurement. Furthermore, Leica Steel Expert provides a unique display mode allowing the user to monitor the measurement and check that the different inclusion types are being correctly identified.

Non-metallic inclusions are detected and classified by grey value (differentiation between sulfide and oxide inclusions) and by size, shape and arrangement (differentiation between globular, silicate and aluminate inclusion types). Depending on the amount and size of these different inclusions, a rating is generated for steel that defines its quality in relation to international standards. The results can be stored and printed. To check the validity of results, particularly of the worst fields or largest inclusions (which have the most influence on the final grading), these fields can be reviewed in live image mode and artefacts can be removed.

The workstation for steel inclusion rating can be individually combined from different system components. For the high-end segment, Leica Steel Expert can be used together with the fully automated compound microscope Leica DM6000 M and the inverted light microscope Leica DMI5000 M.



50	K0	
0	3.05	
0	5.05	
0	20.30	
0	16.00	
	Sum Sulfide	3.05
	Sum Oxide K	41.35
	Sum K Value	51.00



# System Specification Options

We are able to offer system options to fit your specific requirements in terms of sample throughput, automation and budget

## Hardware

- Leica DM6000 M upright compound microscope with incident optics, 5×, 10× and 20× lenses, brightfield illumination, optional darkfield with 4×4 Merzhaeuser scanning stage and stage control board
- Or Leica DMI5000 M inverted compound microscope with incident optics, 5×, 10× and 20× lenses, brightfield illumination, optional darkfield, with scanning stage and motorised focus and a stage control board
- Leica DFC280 digital camera
- Leica Application Suite (LAS) with Leica Steel Expert application software
- 0.63× or 0.70× C-mount adapter
- Calibration slide for length calibration

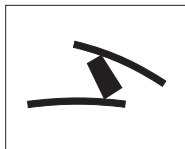
## Software

The software can be used in two modes with differing authorisation levels in relation to the special requirements in Quality Assurance:

- Super user – Authority to define measurement parameters and inclusion types to be measured, limit values for chart field grading, as well as all the functions included in Standard user
- Standard user – Authority to change the samples, input measurement specific data, set up the image, focus, start the measurement, store and print data, check validity of results with worst field and worst inclusion finder option.

For further information, please contact your local Leica representative:

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