CLARA VISION

Digital Cameras

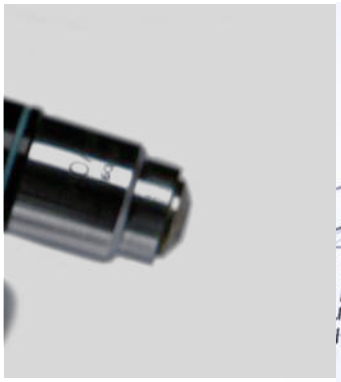
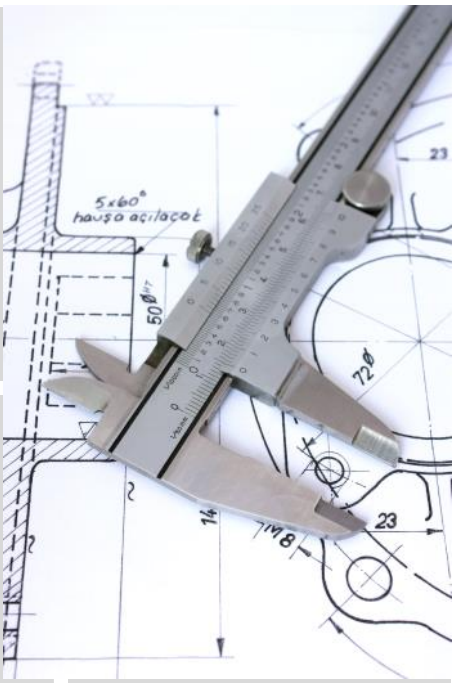
Image analysis software

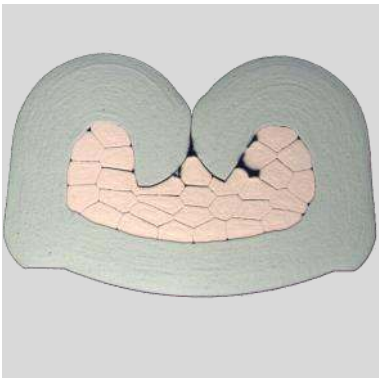
Software for grain size measurement

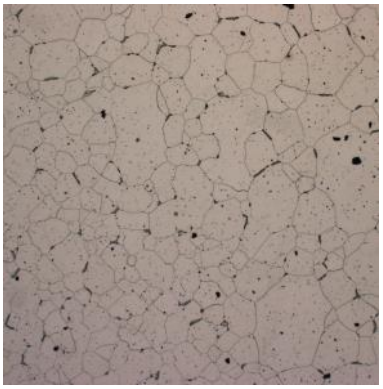
Software for cast iron analysis

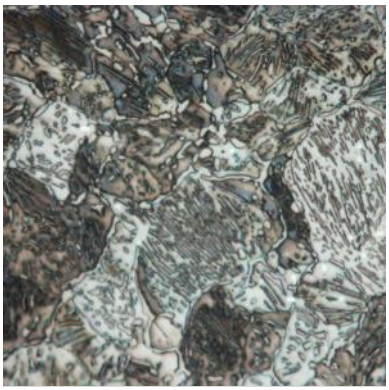
Software for cleanliness analysis

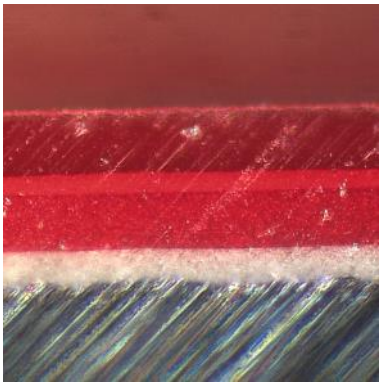
Imaging solutions for material analysis









Digital cameras

CMOS USB 3.0 cameras

Sony Sensors
High frame rate
High sensitivity
High color fidelity

CV3-2 Camera

Extra large sensor for a wider field of view

CMOS digital color camera with 2.3 Megapixels resolution (1936*1216), 40 frames/second, 1/1.2'' sensor, C Mount, USB 3.0 interface

CV 3-3 Camera

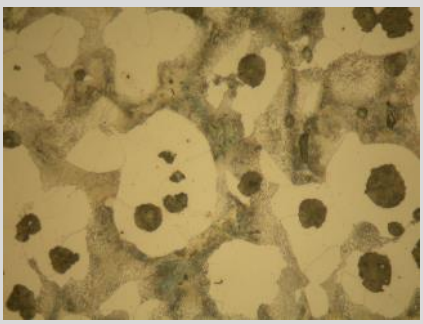
The excellent compromise between speed and resolution

CMOS digital color camera with 3 Megapixels resolution (2056*1536), 57 frames/second, 1/1.8'' sensor, C Mount, USB 3.0 interface

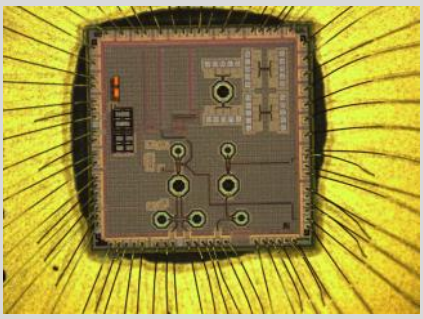
CV 3-5 Camera

Large sensor and 5 megapixels resolution

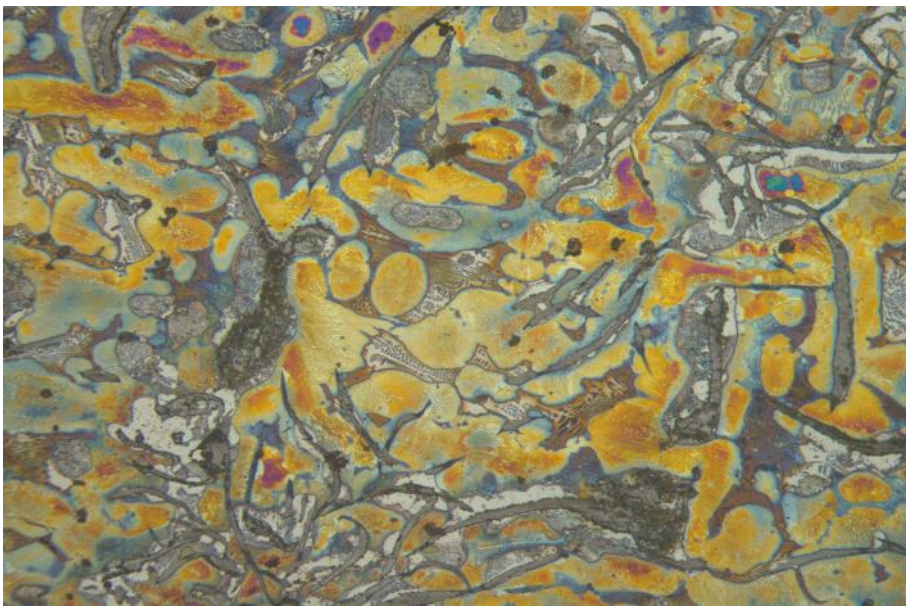
CMOS digital color camera with 5 Megapixels resolution (2456*2054), 36 frames/second, 2/3'' sensor, C Mount, USB 3.0 interface



Cast Iron

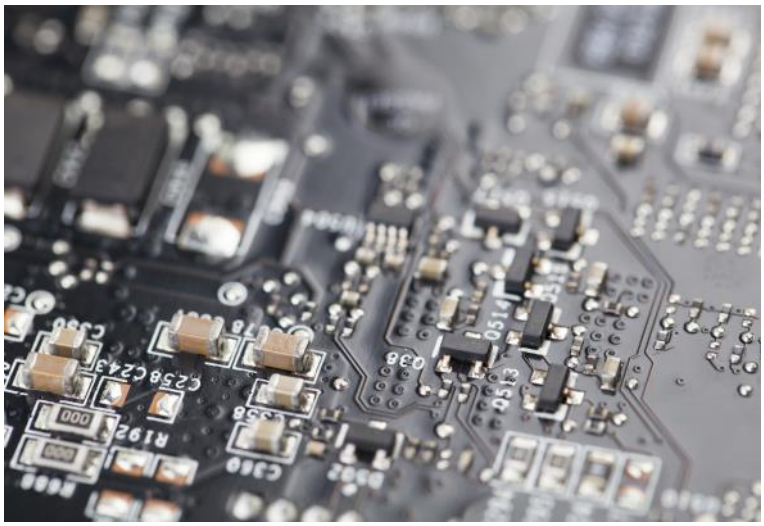


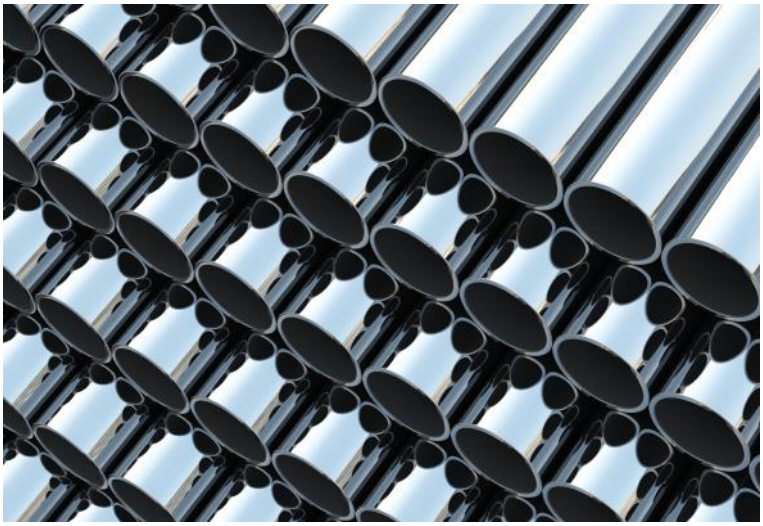
Electronic Industry

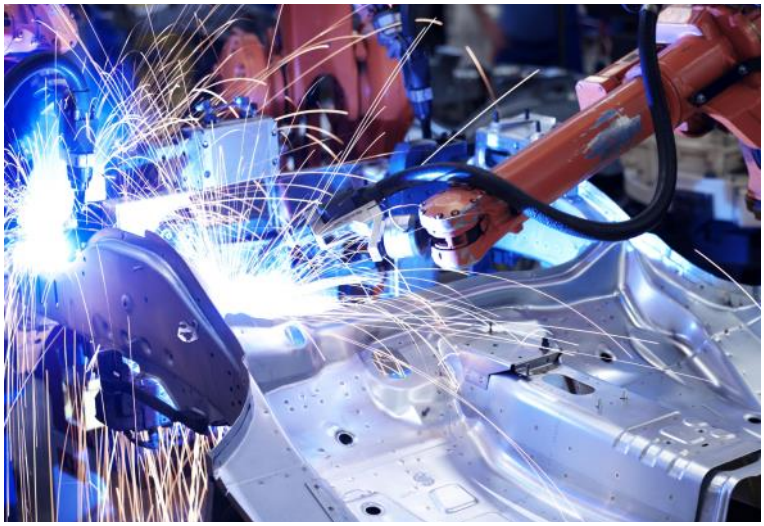


Cast Iron

PL FLUOTAR
GERMANY 506162
100x
PH 3







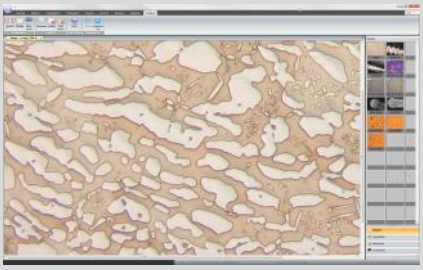
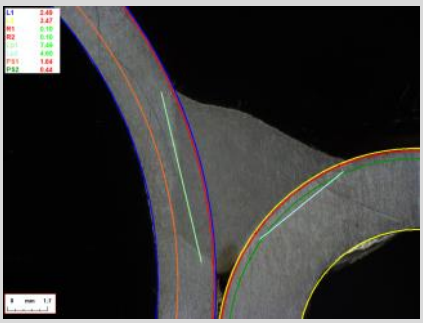
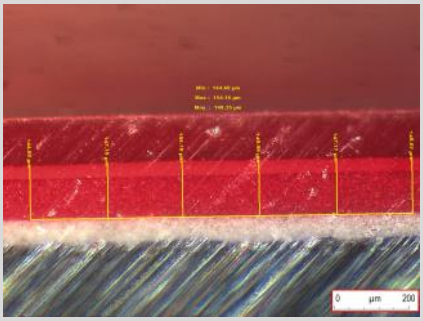


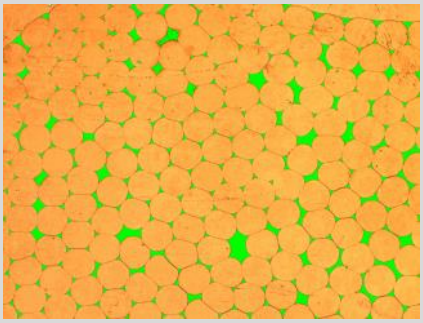
Image acquisition



Weld bead measurement



Layer thickness measurement



Void fraction measurement

Perfect Image Software

Imaging tools for material analysis

Friendly & interactive image acquisition

Perfect Image allows capture of high-resolution images from our digital cameras or from any Twain devices.

The user-friendly interface allows you to adjust many camera settings to ensure optimal image quality such as: auto exposure, auto white balance, gamma, saturation, hue, etc ....

User defined camera settings are recalled on a single mouse click.

Image labelling and Image enhancement

Annotation feature allows quick and easy documentation of your images (text, arrow, scale bar…). An additional set of tools allows you to adjust the levels of your images (color, brightness, contrast, saturation…).

Calibration

Perfect Image allows easy calibration of your optical devices.

After image acquisition, calibration information is automatically stored in the image file, ensuring complete traceability and minimizing the risk of errors.

Interactive measurements

Perfect Image includes a large range of measurements tools: Length, Area, Angle, Radius, Diameter…

For most common applications, some specific tools are also available:

- Layer thickness measurement
- Hardness measurement
- DAS measurement
- Objects counting ….

Perfect Image measurement tables are completely configurable so as to cater to any kind of request.

Phase analysis

Perfect Image offers a fast and flexible phase content analysis function. Phase detection is applicable to both black and white and colour images.

Phase content, Void fraction, Porosity rate…

The phase analysis tool is fully customizable to meet all your needs.

Image with infinite depth of focus

Image stitching

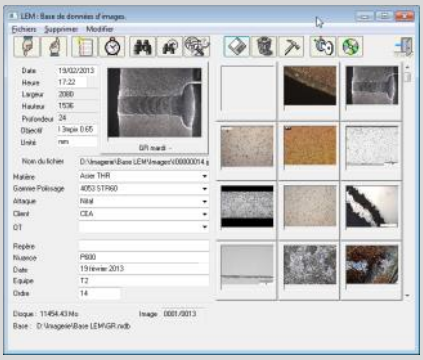


Image database

Perfect Image Software

Imaging tools for material analysis

Multifocus / Extended depth of field

Reconstruction of a sharp image from images acquired at various focus levels. Multifocus is an essential function that can correct the flatness defects on a microscope or a binocular.

After capturing a stack of images with a different focal point, the sharpest areas are extracted in a new perfectly sharp image.

Metaview / Image stitching

Create panoramic image from neighboring images. Images from the mosaic are captured with a manual movement X and/or Y (or by an automatic movement with the use of a motorized stage). These images are then used by the MetaView software for a semi-automatic reconstruction of high resolution panorama image.

Reports

Perfect Image is provided with a powerful and intuitive report generator. All generated results can be exported into customized templates.

Generated documents can be exported to the most common applications (Word, Excel).

Image database

Perfect Image software can be complemented with the optional LEM module (image database).

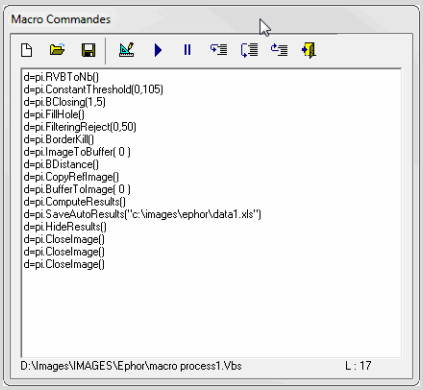
Images are saved through keywords defined by the operator.

Databases can be created locally or on a main server.

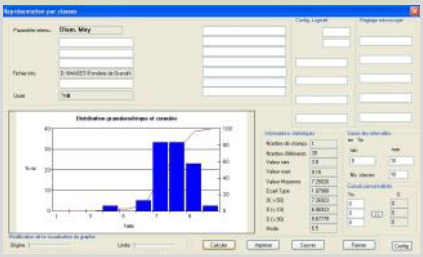
Inspection of electronic components

Powder analysis

Granulometry on industrial diamond



Creating macros



Statistical monitoring

Perfect Image Gold Software

Optional module for automated measurements

Fields of applications

Gold module is mainly dedicated to particles size analysis, phase analysis, porosity measurement, objects counting, etc…. in many different areas : Metallurgy, Pharmaceuticals, Quality control…

The provided tools with the gold module allow automation of repetitive tasks and the analysis of a large number of samples.

Tools and Automation

Gold module characterizes precisely and easily objects morphology. All steps of the objects analysis are available within the module, from sample characterization, automated sample analysis, results publishing and reporting.

Many filters based on objects shape and dimensions are implemented in the module. These are filters from mathematical morphology including : erosion, dilation, skeletons, watershed, feeling holes, border kill, cleaning, automatic object separation, … all these filters are customizable by the operator.

Gold module has a powerful macro commands editor that automates repetitive tasks. Macro commands are built in a step by step mode by recording the differents tasks to be chained. Macro commands are also designed to accept VbScript commands (VisualBasic programming language from Microsoft). Basic macro commands can call other macro commands.

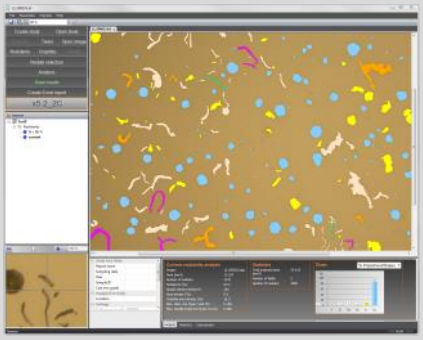
Reports and Statistics

All generated results can be exported to Excel, the operator has immediate access to all Excel features to create and edit complete reports.

Tire footprint analysis using image analysis

Cast Imager Software

Software for cast iron analysis



Cast Imager Software

Cast Iron analysis

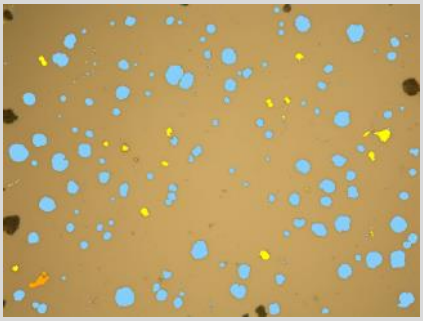
Cast Imager is a stand alone software dedicated to cast iron analysis in a production environment, where simplicity and speed of use are essentials.

Nodularity

With Cast Imager, graphite nodules are automatically dedected and analysed according to their shape and size. Artefacts can be automatically or manually removed.

Graphite nodules are analyzed according to ASTM A 247, EN ISO 945 and NF A04-197 standards.

Cast Imager continuously displays the number of detected nodules, total analysed area, nodule density and max. diameter.



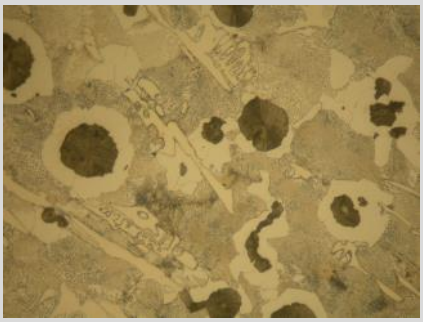
Graphite nodularity analysis

Ferrite/Perlite rates

Ferrite and Perlite rates are calculated taking into account the graphite's rate. This rate is manually filled or comes from the study of the sample before etching.

Analysis report / Results archiving

Creating an analysis report is done on a single mouse click through Excel. Results are saved by casting reference and are immediately usable by a process monitoring software.

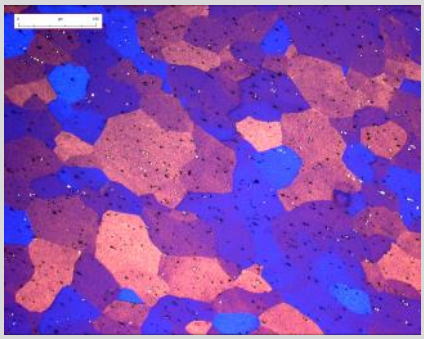


Ferrite rate analysis

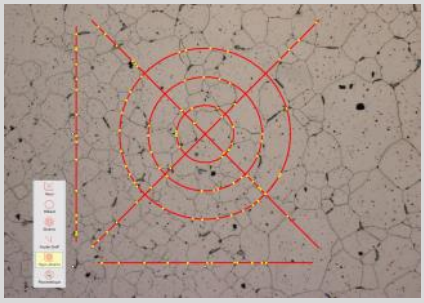
Cast Iron casting

Grani Software

Grain size measurement



Sample observed with polarized light



Intercept method

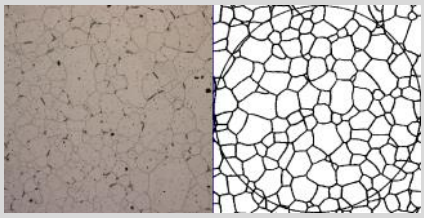
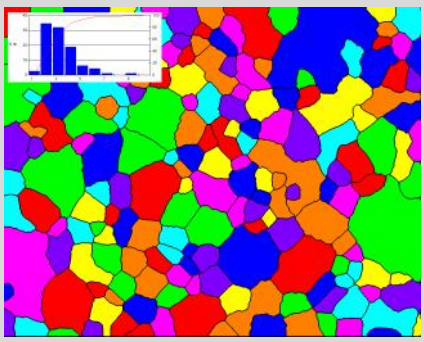


Image comparison method



Granulometry analysis

Grain size analysis

Grani is a stand alone software dedicated to grain size measurements according to ASTM E 112 and EN ISO 643 standards.

Simplicity and friendliness of use for quick and accurate measurement of your samples.

Intercept method

Intercept method allows reliable and reproducible measurements through 5 masks adjustable in size and position, complying with ASTM E 112 and EN ISO 643 standards.

Grain boundaries are automatically dedected and all manual adjustments are possible.

Image comparison method

Comparison to reference images allows a quick estimate of the grain size index on the live or frozen image. This method can be extended to any application requiring the use of other reference images.

Granulometry analysis

Highlighting and detection of grains boundaries by automatic thresholding. Grain size distribution according to the G index, statistical results (Min, Max, Average, ...).

Analysis report / Results archiving

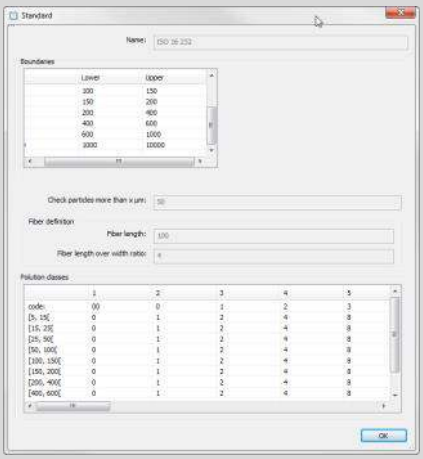
Creating an analysis report is done on a single mouse click through Excel. Results are saved by study reference and are immediately usable by a process monitoring software.

Lamination

Fiber on membrane surface

Motorized stage for optical microscope

Digitization on a flatbed scanner



System administration

Filtre Expert Imaging Station

Cleanliness analysis

Imaging station dedicated to cleanliness analysis

Filtre Expert is a solution dedicated to the analysis of residual particles on mechanical parts and in hydraulics fluids. The filtration membranes having served to recover the contaminant particles are analyzed to quantify the size and the number of polluants.

Filter digitization: Optical Microscope or Scanner

Digitization of the membrane by means of a high resolution professional scanner allows a quick and easy analysis. Detection limit of the particles is 50 µm.

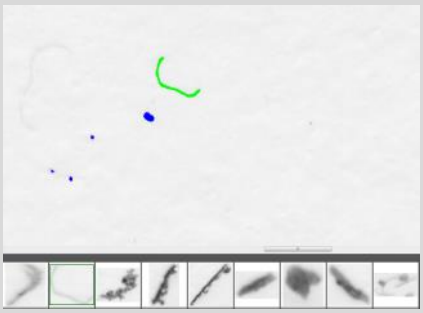
The use of an optical microscope coupled to a motorized scanning stage X, Y and Z can meet the most stringent standards. Detection limit of the particles is 5 µm.

System administration

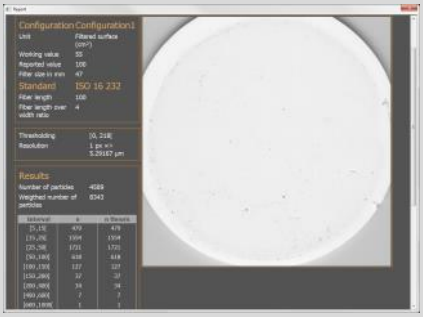
Filtre Expert software allows you to work according to various international standards: NF L 41-101, ISO 16232, ISO 4406…

The operator can also configure the counting classes and the pollution code to meet specific stantards: PSA D79 5452, Volvo STD 107-0002, ...

Membrane inspection on an optical microscope



Particles & Fibers detection



Report

Measure / Count / Classify

Filtre Expert is designed for instant getting started with a step by step measurement procedure.

Particles and fibers detection on the membrane is performed in a few seconds. Particles are measured by their greater length. Filter Expert automatically rebuilds objects crossing several fields.

While exploring the filter, particles and fibers are sorted according to the selected counting standard.

Images of the most distinctive particles and fibers of the membrane are automatically extracted for visual operator checking and reporting purposes.

Report

Creating an analysis report is done on a single mouse click through Excel.

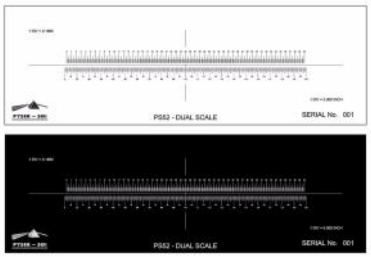
The results are saved by study reference and are immediately usable by a process monitoring software.

Weld bead measurement station

Macro-photography bench

High magnification zoom lens

Macro/Micro photography bench



Calibration slides

Microscope motorization

Our imaging solutions are sold through a worldwide network of specialized distributors.

Please contact us to locate the nearest distributor.

The biggest names in the industry rely on Clara Vision solutions

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91370 Verrières le Buisson - France

Phone : + 33 1 69 86 01 30

info@claravision.com

www.claravision.com