

Dewinter

image analysis software

MATERIAL PLUS

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**MICROSCOPIC IMAGE ANALYSIS
& MICROMEASUREMENT software**

Dewinter

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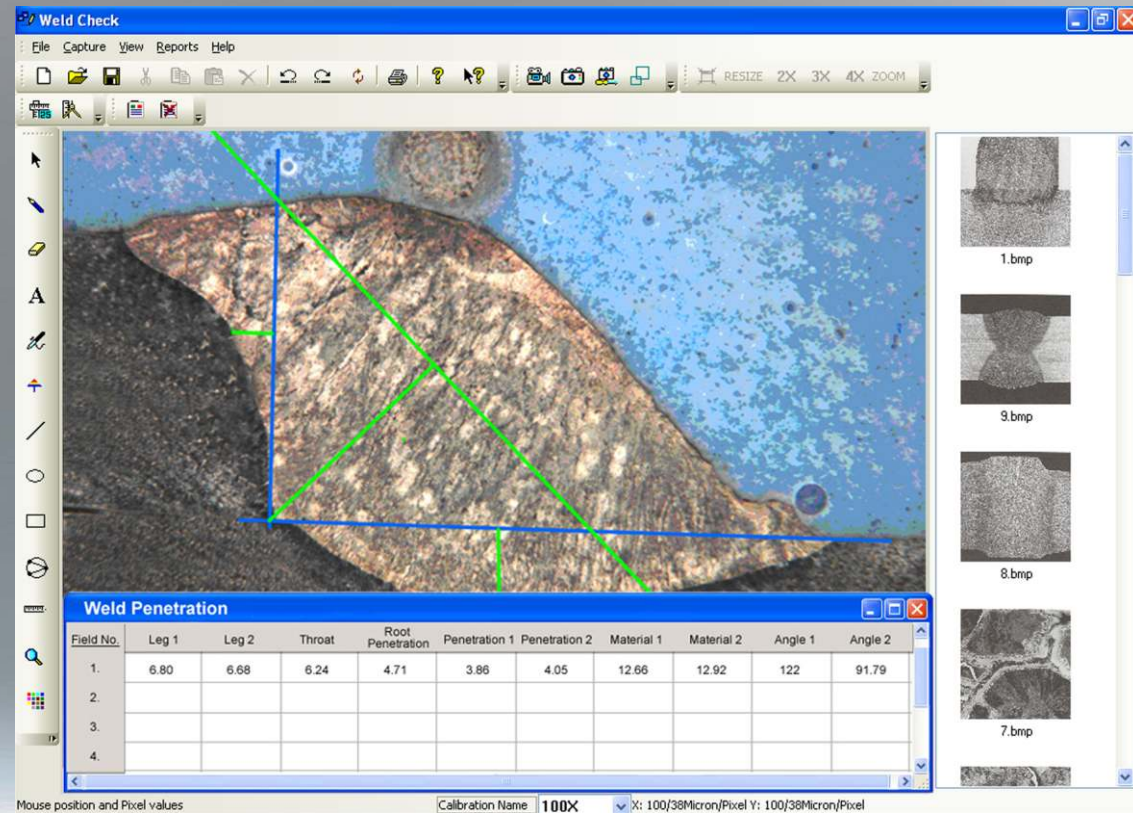
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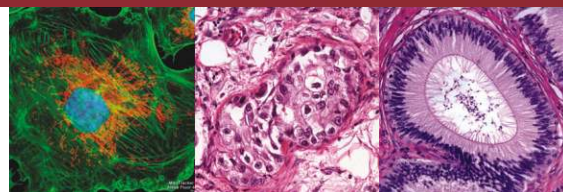
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Weld Check

Weld Penetration Analysis Software



Specifications

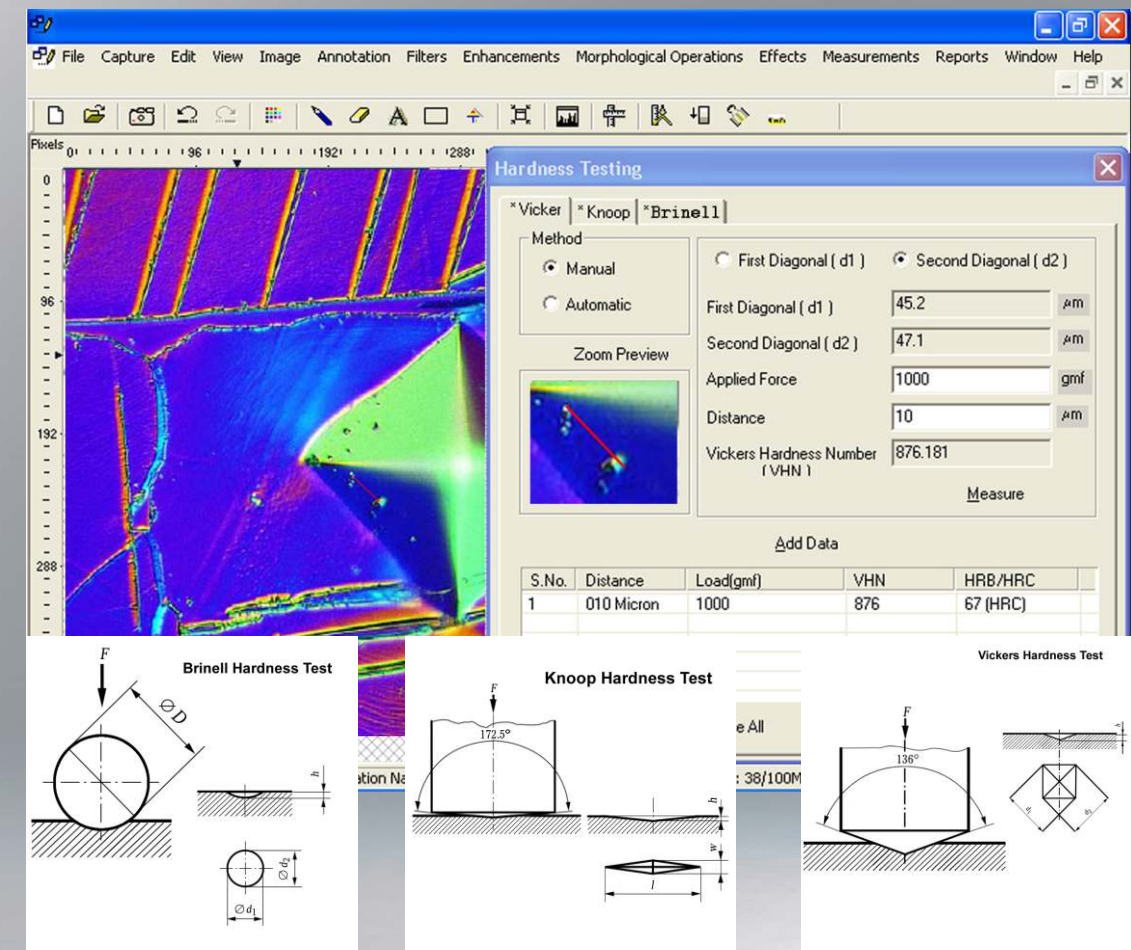
Weld Check software is a powerful easy-to-use tool that enhances your ability to quickly and efficiently handle your most critical welding measurement and documentation software needs. Your workflow and productivity are greatly improved. Weld Check has been designed with your welding cross-section measurement needs in mind. Weld Check's measurement module allows you to quickly measure items such as your fillet welds, throat, leg lengths and penetration.

Use Weld Check Measurement Tolerance indicator to improve performance by having the software automatically tell you if a measurement is out of the tolerance range.

The following report concerns the analysis of a fillet weld, a weld of approximately triangular cross section joining two surfaces at approximately right angles to each other. Important measurements made by the distance from the root if the fillet to the center of the face (or throat), the distance from the root of the joint to the junction between the exposed surface of the weld and the base metal (or leg), the angles and the root penetration. Measurements that could have been done with the same ease or similar sample are among others : depth of HAZ (heat affected zone), area of HAZ, joint penetration, phase counting, etc.

The measurement remain unaffected if the image is zoomed for better accuracy. The magnifier tool is also available which can be switched on any part of image. The tool zooms only the region surrounding the cursor allowing to increase the drawing precision while still seeing the whole sample.

Image analysis system can measure a sequence of specific characteristics or welded parts. The system brings the good tool with the good color when it's the time for the operator to use it.



Hardness Pro

Hardness Analysis Software

Specifications

Microhardness testing applied in areas including metallography, precision mechanics, electroplating, material testing and material science. In order to determine microhardness, different shaped indents are pressed into flat material samples with a defined force. Three methods available are :

Brinell Hardness

In Brinell hardness test, an indentation hardness test in which a hardmetal ball is forced into the surface of a test piece, mean diameter of the indentation is left on the surface after removal of the test force is measured.

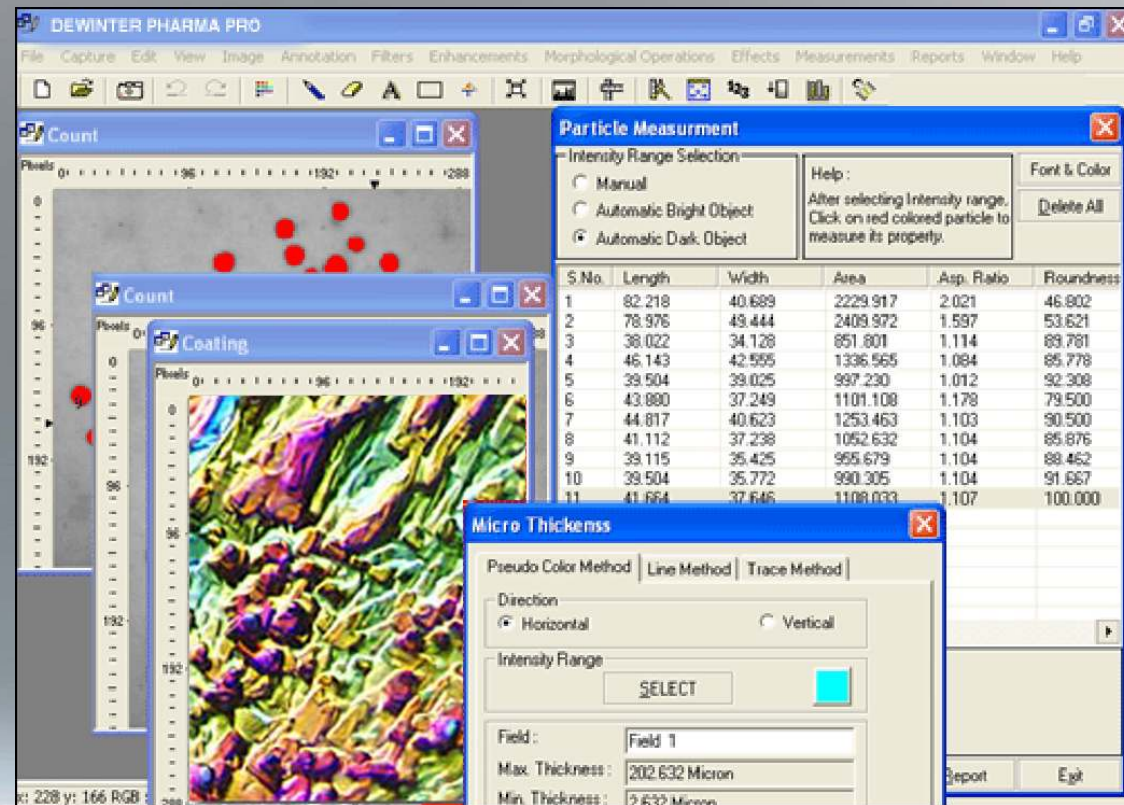
The Brinell hardness HBW is obtained by software.

Vickers Hardness

The Vickers hardness test, measure length of the diagonals of indentation left in the surface in which a Square-based diamond pyramid, having an angle of 136 degree between the opposite faces at the vertex, is forced. The Vickers hardness is obtained by dividing the test force by the area of the sloping faces of the indentation. The Vickers hardness HV is displayed by software.

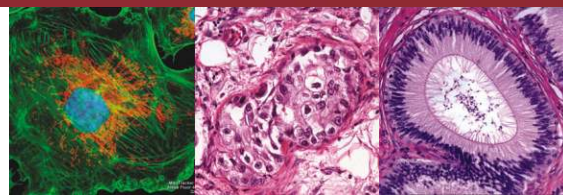
Knoop Hardness

The Knoop hardness test is an indentation hardness test in which a rhombic-based diamond pyramid, having an included longitudinal edge angle of 172.5 degree and an included transverse edge angle of 130 degree, is forced into the surface of a test piece. The length of the long diagonal of the indentation left in the surface after removal of the test force. The Knoop hardness HK is calculated by software.



Pharma Pro

Particle Size Image Analysis Software

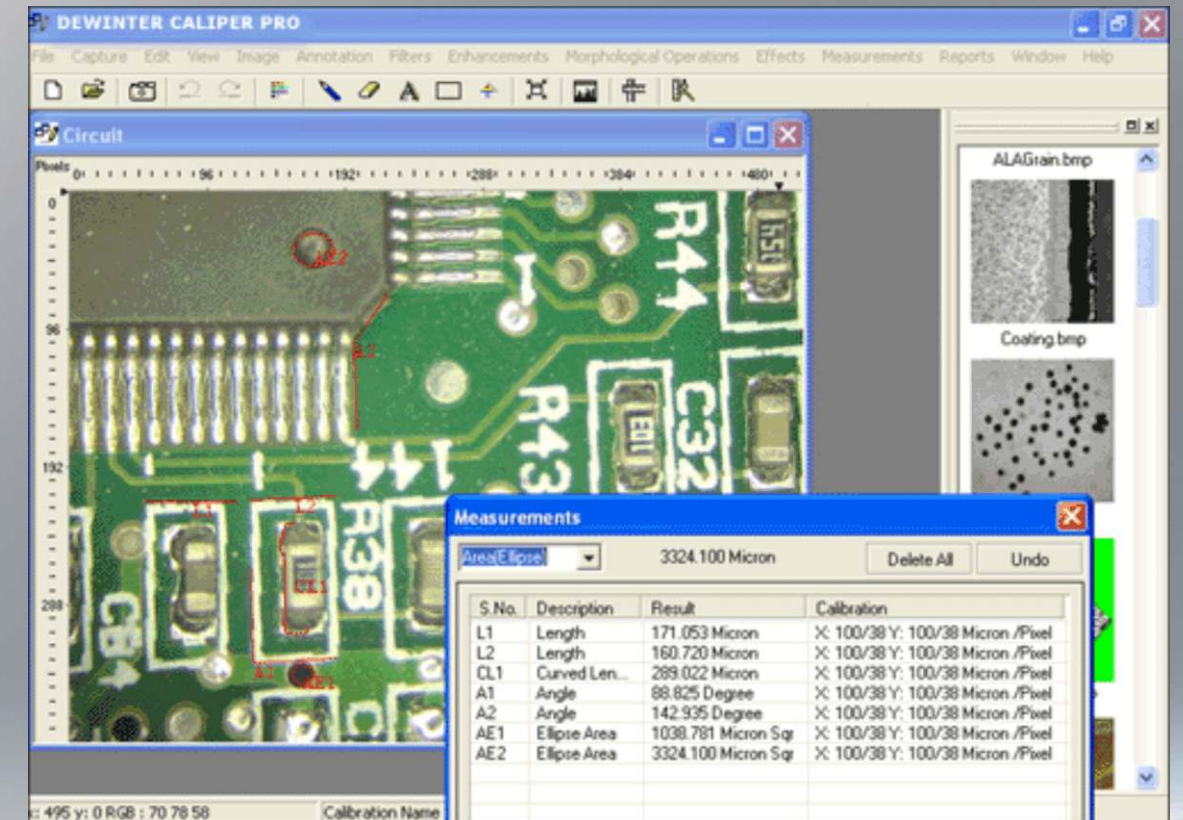


Specifications

The use of microscopic image analysis system is the most reliable technique to characterize particle shape and to characterize a particle size and volume distribution. Tradition method, such as laser diffraction, although efficient, gives limited information on particle shape. The particle size, distribution and shape of the particles can effect bulk properties, product performance, process ability, stability and appearance of the end product in Pharma industry.

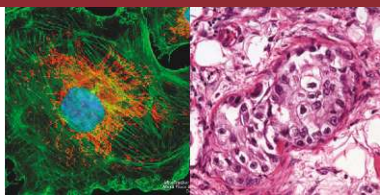
The software is useful to measure and analyse the particle size, particle shape, particle count, foreign particle detection, particle structure, homogeneity, surface coatings thickness. For spherical particles (which are rarely encountered in pharmaceutical powders) the diameters are sufficient to describe the particle size. For non-spherical particles, feret's diameter, Particle orientation, Particle shape, elongation, convexity, circularity, circle equivalent diameter are measured.

This software is also useful to study the polarizing effects which study the cross section through pharmaceutical tablets by preparing thin-sections on slide with UV curing adhesive for final polishing. The cross section reveal the spatial distribution of components in the tablets so that any post compression change (e.g. polymorph conversions or change in the hydration state of components can be investigated).



Caliper Pro

Micro Measurements Software



Specifications

This software is powerful for acquiring, organizing, storing, retrieving and editing any image. It handles different image formats BMP, TIFF, IMG, IMF, GIF, PCX, JPEG, PIC. It support many cameras, frame grabbers and other USB-1, USB-2 & Twain input devices.

Cut, Copy and Paste, Selected copy by free hand AOL controlled by four arrow keys available on keyboard or mouse with zoom preview. Floodfill or spray with selected color at selected portion. Drawing tool curve, line, square and circle, with node control and provision to change color and thickness of the line. Write text in any color or font. Pointer to place on an object in four directions with provision to change its color and thickness. Eraser works only on lines, arrows or on any drawing tool. (Not on original image), Useful to merge different focuses of same image.

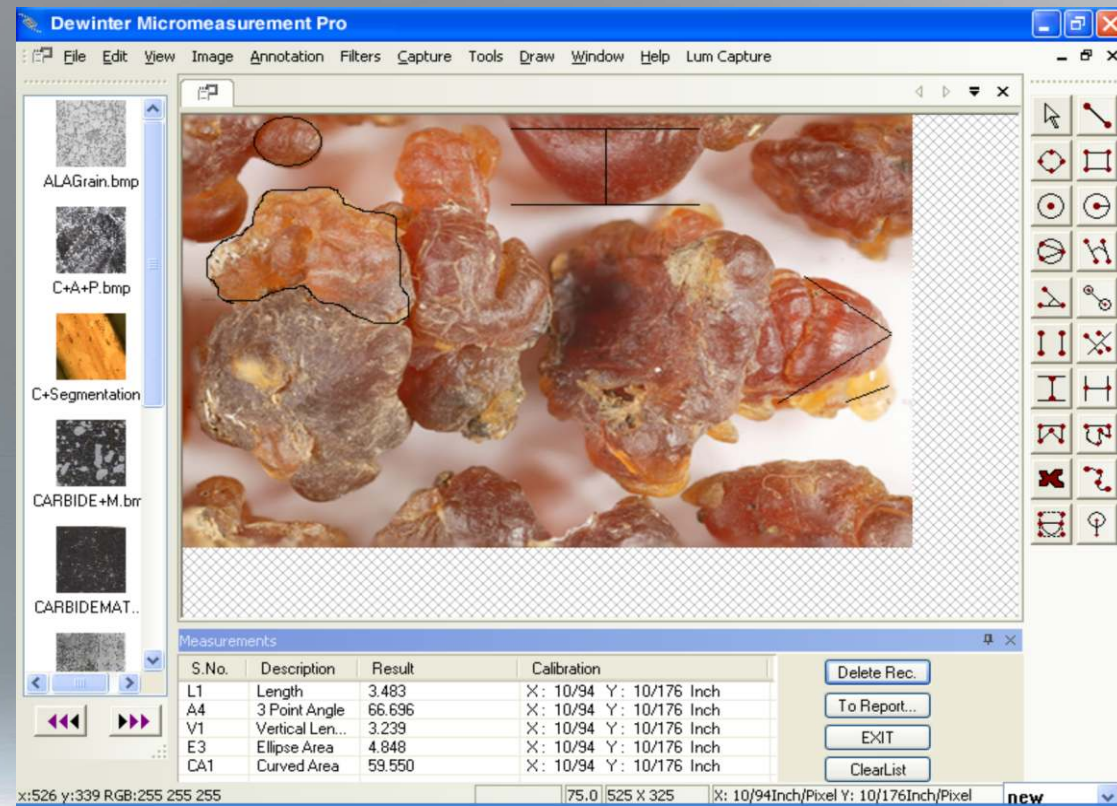
(a) Sportial Calibration (b) Line Measurements for Distance, Length, Width, Perimeter, Angle Three point Radius. (c) Area by enclosed line controlled by four arrow keys available on the keyboard arrow with zoomed preview. The Line measurement is not effected on zoomed images

Reporting has three options :

Direct Print out with Original image & Tabular Results.

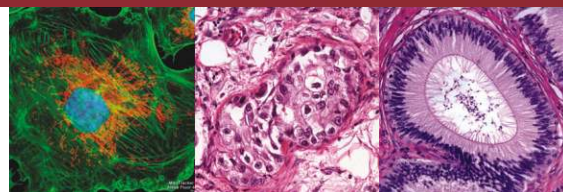
Export to MS Office

Excel for further modification.



Micro Measurement

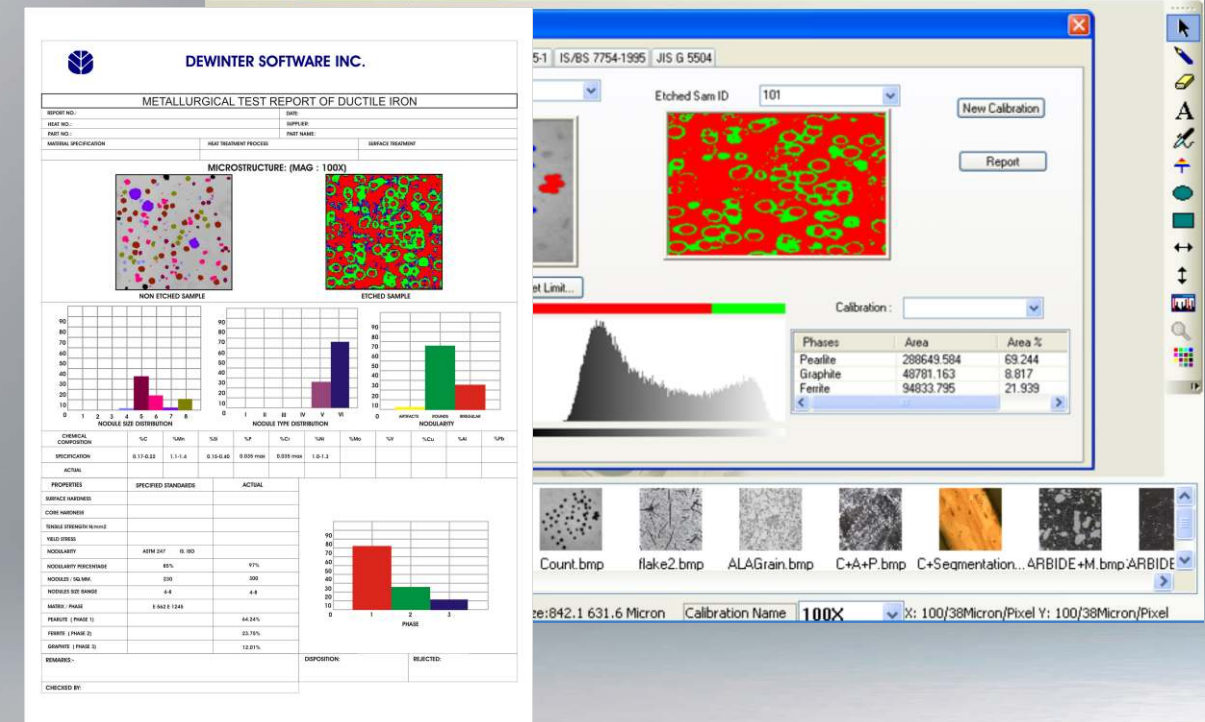
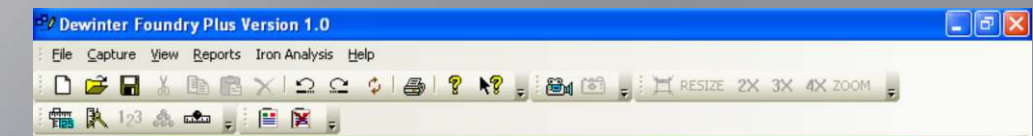
Image Analysis & Live Measurements Software



Specifications

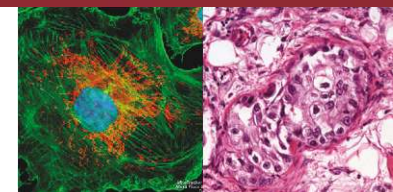
The software provides real time full Screen Display. It also does real time live measurements due to which large number of samples can be handled.

The new capture wizard developed under the technical guidance of lead tool, USA support Microsoft formats available for cameras and frame Grabbers, Most of the input devices with USB 1, USB 2, IEEE, TWAIN can be easily used. The on-Line measurements & calculation available are length, width, perimeter, three point radius, Angle between two lines. Three point Angle, Length of a chord, and Distance between circle and point, curved area, area by polygon, Area by circle, area by rectangle, Distance between centers of two circles, Distance between two parallel lines etc. The various other measurements & calculations available on captured images are, Ferrite length Min/ Max Radius, Thread width, Shape, Orientation, Elongation, Equal circular Diameter, Equal, Sphere Volume Box Area, centroid X & Y, Major & Minor X1, X2, Y1, Y2, Centroid X & Y, Major & Miner X1, X2, Y1, Y2. Report Direct printout is available with original image and tabulated results. It can also be exported to MS Excel.



Foundry Plus

Cast Iron Analysis Software



Specifications

The Software is totally Automatic and provides complete analysis of microstructure of Cast Iron.

Choice to get analysis report in ASTM 247-67, ISO 945-1, ISI - 945-1, DIN EN 945, JIS G 5504 standards.

Nodules touching boundaries are excluded in analysis.

Artifacts less than 10 Micron are not excluded in analysis.

Nodules are separated from Non-Nodules on predefined Spheroidicity.

The Nodules form (Designated by Roman no. I to VI) & Size (Designated Arabic no. 1 to 8) is reported.

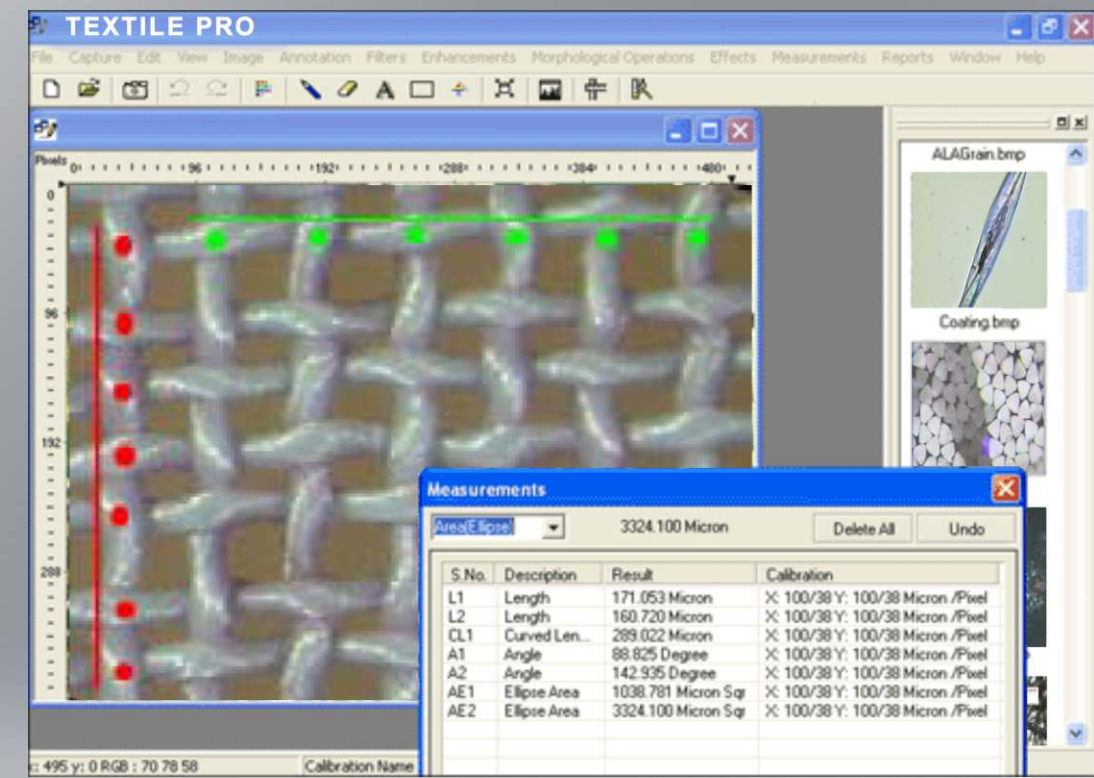
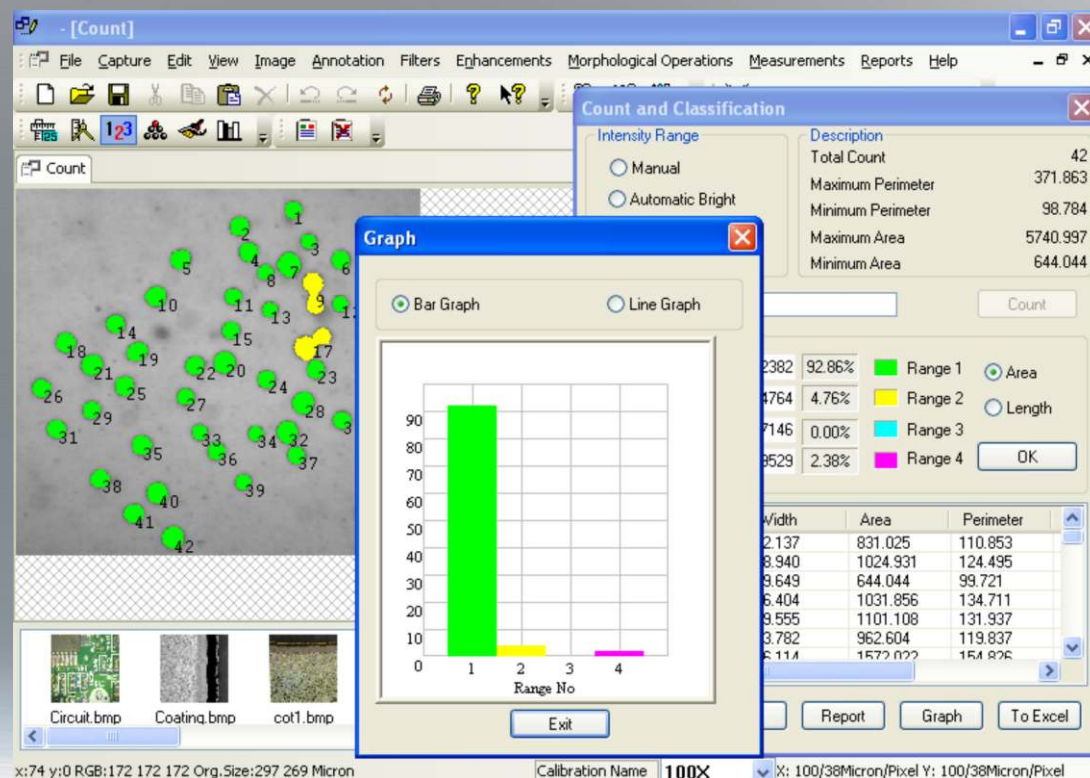
The Flakes occurring in Cast Iron in the form I, reported on the basis of type of distribution (designated by capital letter A to E on the basis of orientation) and size (designated by Arabic no. 1 to 8).

The percentage of PEARLITE is calculated by excluding the GRAPHITE area.

The Matrix of PEARLITE, FERRITE, GRAPHITE & CARBIDE are reported in etched sample.

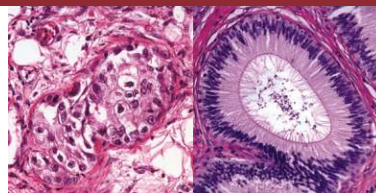
Report is generated with specific International standard chosen by user.

F% is reported in JIS method.



Biowizard

Image Processing & Micromasurement Software



Specifications

BIOWIZARD is a new generation image analysis software meant for scientist to do analysis in the simplest way. This is a single screen window based system. The system is flexible, independent to adopt any capture card, camera and Microscopes. The software can handle monochrome (8 bits) and color (24 bits) images. Multiple images of any size can be opened and displayed on the screen for analysis or comparison. The software support most common formats BMP, JPEG, TIFF, PNG, and GIF & PSD. The full screen real time image can be observed and captured on the same platform. Since system is made in window environment, graphs and charts displayed on the monitor can be quickly transferred into other window-based program like MS Word, MS Excel or any other commercial window based software for the use in reports and presentation.

Measurements

(a) Spatial Calibration (b) Line Measurements for Distance, Length, Width, Perimeter, Angle, Three point Radius. (c) Area by enclosed line controlled by four arrow keys available on the keyboard arrow with zoomed preview. The Line measurement is not effected on zoomed images.

Count & Classification

Identification of objects in an image, count them, obtain several features measurements. Objects identification by user or automatically. User defined classification on basis of size or intensity.

Particle Size

Manual, Auto bright and dark methods to identify intensity range defined object to be measured. Various calculation & measurements available for selected Particle are: Dimensions, Area, Perimeter, Ferrite Length, Min/ Max Radius, Thread (Length, Width), Fiber (Length, Width).

Morphometry

Roundness, shape, Orientation, Elongation, Equal Circular Diameter, Equal Sphere Volume.

Locational

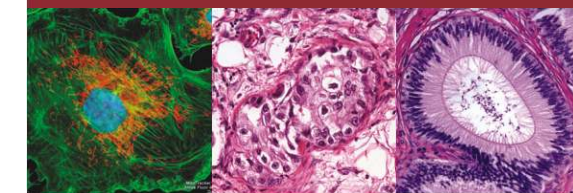
Centroid X, Centroid Y, Major X1, MajorY1, Minor X1, MinorY1, Major X2, MajorY, Major X2, MinorY2, Box X1, X2, Box Y, Y2 & Box Area. Measure area fraction & Volume fraction.

Report

(a) Three Options: Direct Print out with Original image & Tabular Results.
(b) Export to MS Office (c) Excel for further modification.

Textile Pro

Textile Analysis Software



Specifications

This new program with our polarizing microscope is very useful for quality control or textile testing laboratories for the analysis, micro-measurement of fiber, yarn, threads, textile Material, non-woven fabrics etc.

The real full screen display of image, acquisition, annotations, enhancements with hundred of filters, measurements, statistical processing of measured data are few of the capability of Textile Pro.

Photographs of all Fibers view are pre loaded in the software to identify fibers without prior knowledge in the same. The library can be created & retrieved within the same programme.

Few of common usage of Textile Pro are:

Micro analysis of yarns and fiber sections.

Measurements of length, surfaces, perimeters, angles, distance between two points or lines or objects.

Fast and easy way the fineness analysis of single fiber.

Check the purchased material can be identify the type of fiber, comparing it with the fiber pictures stored in the Data bank with the longitudinal and the sectional views.

Check and measure the quality and shape of Lycra or synthetic Multifilament single threads.

Analyse the compactness of non-woven Fabrics.

Analyse the Yarn structure and detect possible defects.

Detect, identify and measure possible impurities contained in textile materials.

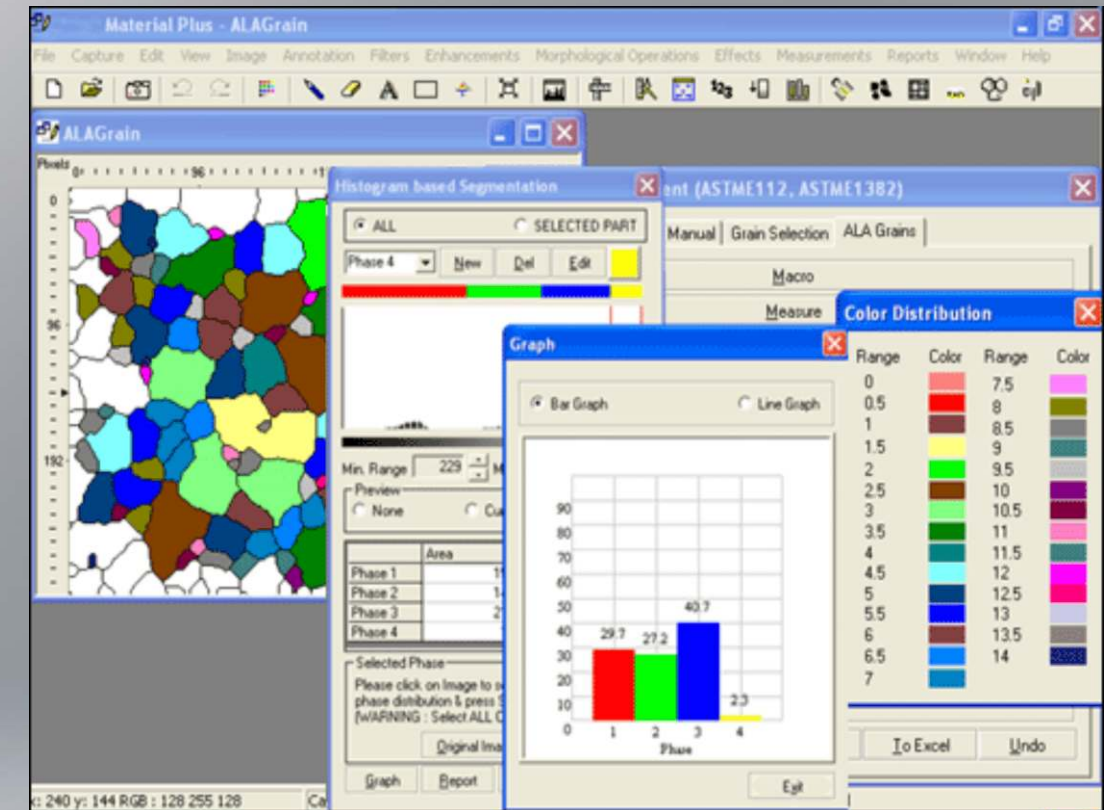
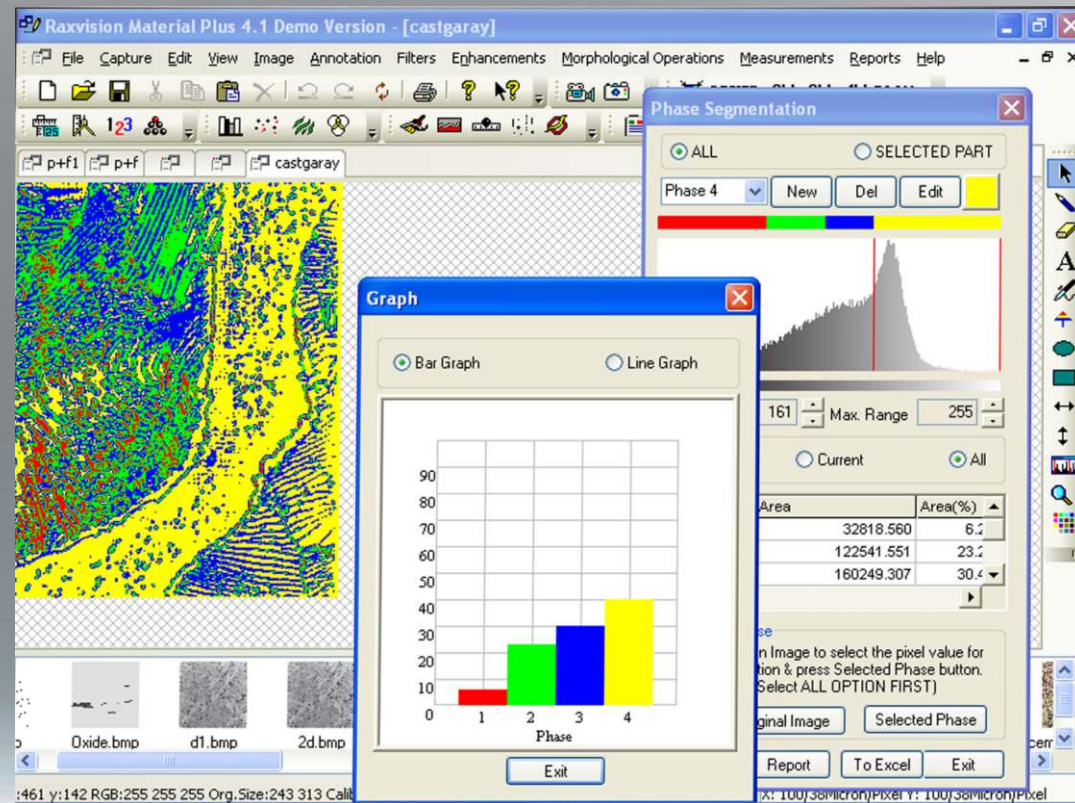
Analyse the compactness of non-woven fabrics.

Measure section surfaces and perimeters.

Analyse mechanical parts like needle points spinnerets etc.

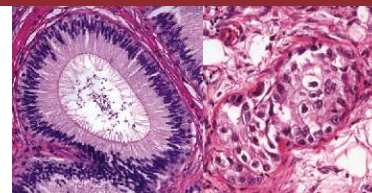
Macro analysis of a yarn section.

Reduce the fabric warp and weft density to a cm or inch.



Material Plus

METALLURGICAL MICROSTRUCTURE ANALYSIS SOFTWARE



Specifications

Material Plus is a comprehensive micrographic solution for metallographic studies. The available software modules conform to all equivalent national and international standards. The available wizards are:

Grain Size

ASTM E-112, E-930, E-1181, ISO 643-03, JIS G 0551-05 BS 490 DIN 643-03, IS-4748-88, SIS 111101 GOST 5639-82. Determine ferritic and austenitic Grain Size in Steel. The available methods are: 1. Automatic & Semi automatic Lineal Heyn Intercept method. 2. Jeffries Planimetric Method. 3. Automatic and Semiautomatic Snyder and Graff Open Scale Intercept Method. 4. Comparison Method. 5. ALA Grain Size. 6. Selected Grain Size 7. Manual Count etc.

Lamellar Graphite

Lamellar Graphite module is simple and straight forward. You need only to describe the sample and taken the image of the sample rest is supported by powerful and complex image analysis algorithms. This module evaluate and quantity in a fully automatic and consistent way FORM (Designated by Roman no I to VI), size (Designated by Arabic no 1 to 8) & type A to E. The Graphite is determined at a magnification of 100 and recommended area size is 80mm. Results and images may be displayed and stored in either the industry standards Microsoft access database, where search facility can quickly find the results of a particular analysis using unique information such as customer, specimen type, data, operator etc.

Phase Segmentation

Segmentation module in a sample measures the volume percentage of phases in a fully automatic way and is associated to a knew constitute of the specimen. Since a phase is detected and its area is estimated on the basis of its intensity/grayscale, an option for delineating phases from the histogram is also provided. Multiple phases are identified by colored overlays and can be simultaneously displayed for the same field of view. The area percentage data for each phase are displayed in class table. You can process and measures the unlimited number of images and all statistical data (area) will be accumulated in the class table.

Case Depth

ASTM ISO 2639-02, BS-6479-84, IS-6416-88 JIS G0557 DIN 50790. The test determine the depth of hardened surface under low magnification by measuring the distance from the surface to the point shaving a different coloration towards core.

Porosity ASTM 247

Pores in casting are estimated and reported on the basis of intensity. The percentage is calculated.

Non-Metallic Inclusion

ASTM E-1245 E ASTM E45-97, ISO 4163-82, DIN 50602. The wizard determine contents of Non-metallic. Inclusion in rolled or forged steel products. According to ASTM, expression of results are in Group A, B, C, D along with segmentation of thick/thin and its severity level.

Spheroidal Graphite

Spheroidal Graphite (Nodules) in cast iron are analysed by identifying the appropriate industry standards. The software determines proportion of graphite of non-round shape, for instance vermicular graphite. Nodules for (designated by Arabic no 1 to 8) is reported along with calculated Nodules/sqmm. Artifact can be recognized and ignored. Following graphite measurement and classification, the software presents the result in both graphical and statistical formats. The full morphological analysis raw data is also displayed. Results and images may be displayed and stored in either the industry standard Microsoft access database format, or in an integrated database along with unique information such as customer, specimen type, data, operator etc.

Decarburization

ASTM E1077, ISO 3887, JIS-0557-98 BS-6617-1, IS-7754 DIN 50192. Decarburization module intended to measure decarburized depth of steel due to heating at elevated temperatures during hot working or by detecting changes in the microstructure, hardness or carbon content at the surface. The decarburized depth is taken as the depth where a uniform microstructure, hardness or carbon content of the base material is observed. The microscope image analysis system is accurate for-as hot rolled, as forged, as annealed, and as normalized sample. The software performs interactive measurement of complete, partial or total decarburization conforming to industry standards.

Coating Thickness

The test method covers measurement of the local thickness of metal and oxide coatings by microscopical examination of cross sections.