Foundry Soft
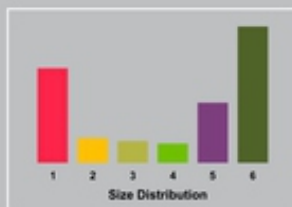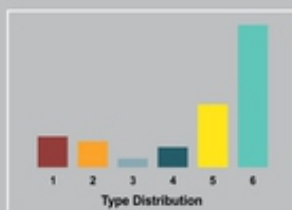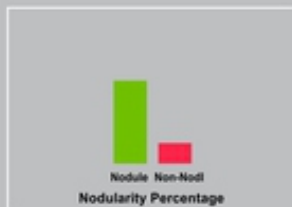
## Foundry Soft
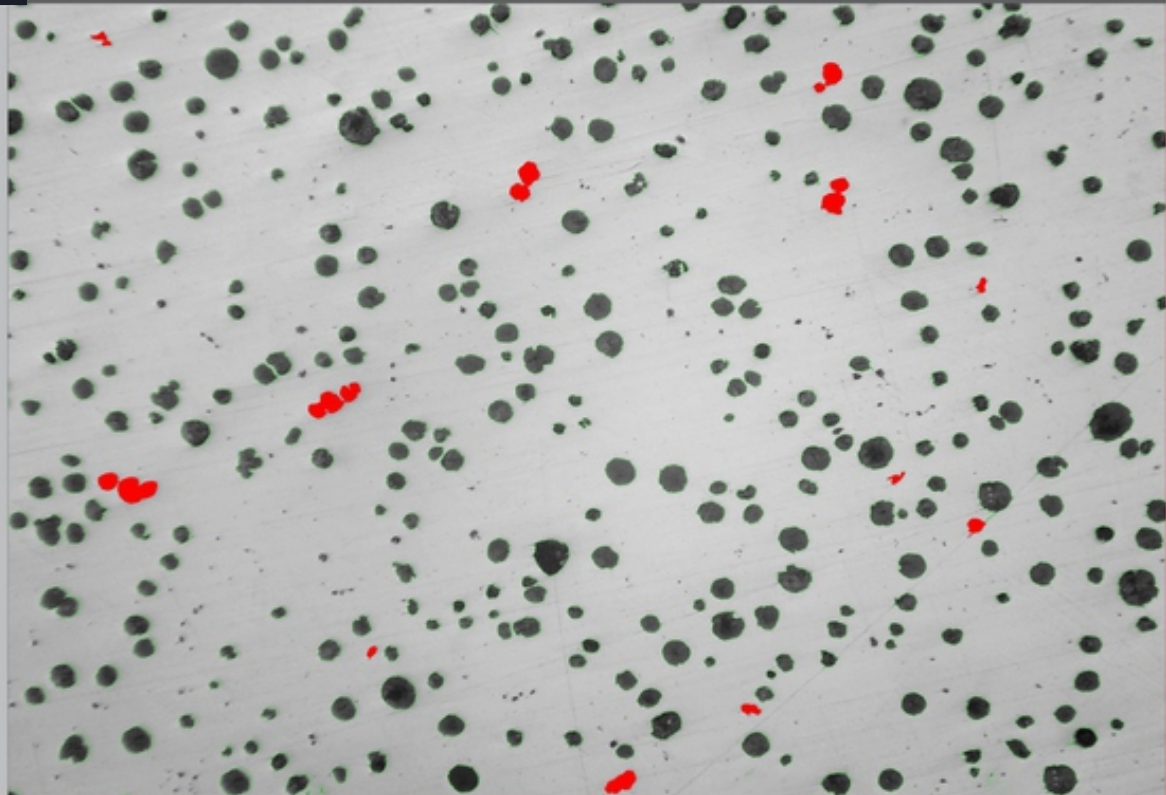
Cast Iron Microstructure analysis Software - Foundry Soft

Introduction of Foundry Soft

A software based on a touchscreen concept, Foundry Soft is the most comprehensive solution for cast iron industries. The software is used to estimate nodules, flake size and the class and number from 1 to 8 as per ASTM, JIS and ISO standards. Furthermore, the software includes various templates for reporting.

- Option to get analysis report based on ASTM 247-67 or ISO 945_1 standards.
- Nodules touching boundaries are excluded in analysis.
- Artefacts less than 10 microns are excluded in analysis.
- Nodules are separated from non-nodules on predefined spheroidicity.
- The nodules/flakes form (designated by roman numbers I to VI) and size (designated by Arabic numbers 1 to 8) are reported.

- The flake occurring in cast iron in the form I, are reported on the basis of type of distribution (designated by capital letters A to E) and on the basis of orientation.
- The percentage of pearlite is calculated by excluding the graphite area.
- The matrix of pearlite, ferrite, graphite and carbide are reported in etched sample.
- Report is generated with specific international standards chosen by the user.
- F% is reported in JIS method.

Image Editing

- Cut, Copy, and Paste.
- Selected copy by free hand AOL controlled by four arrow keys available on keyboard or mouse with zoom preview.
- Crop, duplicate, restore
- Resize
- Compression
- Conversion to another format such as BMP, JPG, TIF, PNG, GIF & PSD
- Flood fill or spray with selected color at selected portion.
- Grid creation; 5X5, 10X10 & 100X100 grids (or cells).
- Drawing tool curve, line, square, and circle with node control and provision to change color & thickness of the line.
- Write text in any color or font.
- Pointer to place on an object in either of four directions with provision to change its color & thickness.
- Eraser works only on line, arrow or on any drawing tool.(not on original image)
- Camera Lucida
- Montage feature to merge stored image together. Useful to Merge different focuses of same image.
- Image stitching.
- Highlighter.
- Pixel by Pixel Correction by key board.
- Multiple image folder with Search facility.
- Filter application on selected area.

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Edge Detection

- Laplacing, Sobel, Krisch, Prewitt Gradient, Shift & Difference, Combine, Contrast Base, Quick, Range and Variance.

Morphometry

- Skeletonizing, Pruning, SKIZ, Histogram Equalization, Histogram Smoothing, Histogram Peak, Histogram Valley, Segmentation by Over/Under and Quantized, Contoring, Dilation / Erosion on Binary, Gray & colored Images, Opening/ Closing on Gray & Binary Images, Special Opening/Closing, Split/Combine of RGB, YUV, YIQ, XYZ, & HSL, Changing any Image to 1, 4, 8 & 24 bits, Medial Axis.
- Transformation, Halftone.
- Image Addition, Image Average, Image Subtraction, Image Multiplication.
- Roundness, Shape, Orientation, Elongation, Equal Circular Diameter, Equal Sphere Volume.

Cast Iron Analysis

- The dedicated module determines flake size from 1 to 8 as per ASTM, JIS, and BIS & ISO standards. The type distribution percentage A, B, C, D, E is calculated interactive tools.
- Flakes per square mm is also calculated simultaneously.
- Percentage of pearlite, ferrite, graphite and carbide is calculated from Etched sample automatically with predefined values.

View

- Zoom in/out
- Zoomed preview
- Rotation at 90, 180,270 or custom
- Image flipping; horizontal or vertical axis
- Intensity histogram.
- Image Information
- Redo/Undo on all operations.

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Image Processing

- Background subtraction and contrast enhancement of color or grayscale images.
- Arithmetic image functions (Boolean Math; Add, AND, OR, XOR, DIFF, MIN, MAX, +, -, /, *, And Simple).

Routine Filters

- Invert, Brightness, Contrast, Hue, Saturation, Blur, Noise Remove, Emboss, Engrave, Gamma R, Gamma G, Gamma B, Yellow, Magenta, Cyan, Mosaic, Smooth, Desaturation, Pseudo Color, Colorize, Oilify, Despeckle, Posturize.

Special Filters & Karnels

- High Boost, High Spatial, Low Pass Spatial, Ranking (Max, Med, Min), Point detection, Line detection, Homogeneity.

Locational

- Centroid X, Centroid Y, Major X1, Major Y1, Minor X1, Minor Y1, Major X2, Major Y, Major X2, Minor Y2, Box X1, Box X2, Box Y, Box Y2 & Box Area.

SG Iron Analysis

- The module automatically analyzed & calculate Nodulins/Non Nodulins percentage. Determine its class and number from 1 to 8 as per ASTM, JIS, BIS & ISO standard s, Nodules per square mm is also on Etched sample it reported.
- Determine percentage of pearlite, graphite, ferrite and carbide.

Report

- Three options: Direct printout with original image processed Image & Tabular results.
- Export to MS Office or Excel for further modification.

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