Inverted Metallurgical Microscope with Infinity Optical System

iMet-R330 inverted metallurgical microscope adopted high quality infinity optical system, and equipped with bright and dark field long working distance, infinite plan achromatic objective objectives, multi-optical system designed to support both binocular tubes observation and digital camera devices observation.

iMet-R330 inverted microscope can be widely applied for studying the microstructure of metal; It can conduct observation and photography in bright field, dark field, polarized light, differential interference. But also simultaneously measured and analyzed when it was equipped with special software.

Standard Delivery:

Eyepiece	WF10X/22
	DE10X/20
Objectives (Equipped with bright & dark field objectives)	PL L5X/0.12 BD / WD:10mm
	PL L10X/0.25 BD / WD:10mm
	PL L20X/0.40 BD / WD:5mm
	PL L50X/0.70 BD / WD:1.3mm
	PL L100X/0.90 BD / WD:0.7mm
Eyepiece tube	Binocular, Inclination angle is 30deg
	Interpupillary 48mm-75mm
	Splitting ratio: Observation 80%,Photo 20%;
Focus system	Coaxial coarse/fine focus,with tension adjustable-minimum division
	Travel (From stage to focus plane):upward 1mm,
Nosepiece	Quintuple(Backward ball bearing inner locating)
Mechanical Stage	Travel Range: 40×40mm; Size: 226×178mm
Illuminator	12V/50W Halogen Lamp Center and Brightness adjustable
	Polarizer and analyzer
	DIC
Color Filter	Built-in Green, Blue, Yellow, Gray and ground glass

Image Analysis Software META VISION

Applications:

META VISION is an advanced metallurgical software, and suit a wide range of metallurgical applications with utmost metallurgical analysis & investigations. It is user friendly & very convenient to other equivalent metallurgical software.

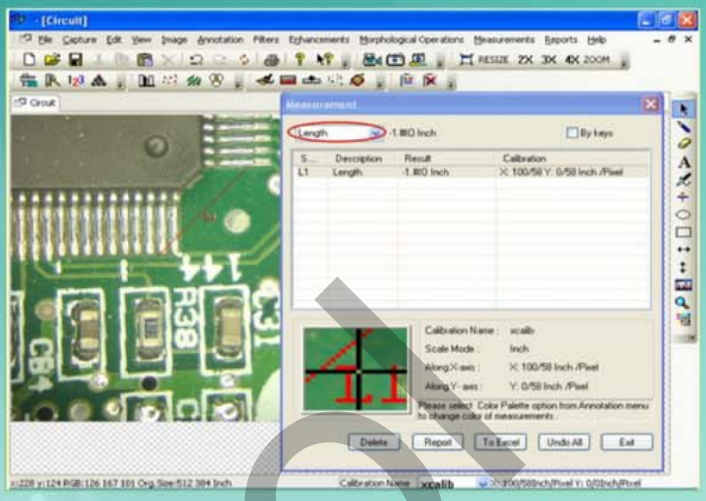


Image Analysis Software META VISION (433-101)

Functions:

(A) Image Editing & View;
(B) Morphometry Measurement;
(C) Image Processing;
(D) Routine Filters;
(E) Special Filters;
(F) Edge Detection.

Features:

META VISION is suitable for a wide range of Image Analysis functions and the prominent functions are described hereunder:

1. Calibration:

a) Special calibration, with Japanese test slide JIS (0.01mm);

b) Area by enclosed line controlled by four arrow keys available on keyboard arrows with zoomed Preview.

2. 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 and intensity.

3. Threshhold Practical Measurement:

Manual, auto bright and auto dark methods to identify Intensity range defined object to be measured. Various calculations & measurements available for selected particle are: dimensions, area, parameter feret, length, thread length, thread & fiber width,

4. Morphometery Measurements:

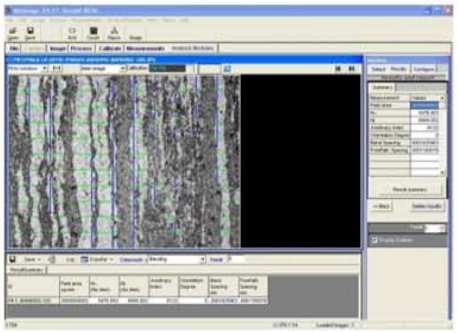
Line measurements for distance, length, width perimeter, angle, three point radius. Roundness, shape, orientation, elongination, equal circular diameter, equal sphere volume.

5. Locational Analysis:

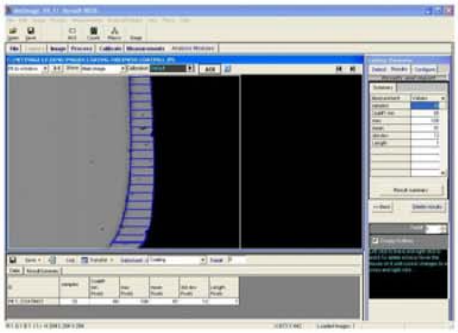
Centroid X, Centroid Y, Major X1, Major Y1, Minor X1, Minor Y1, Major X2, Major Y2, Minor X2, Minor Y2, Box X2, Box Y2 & Box Area.

6. Phase Analysis:

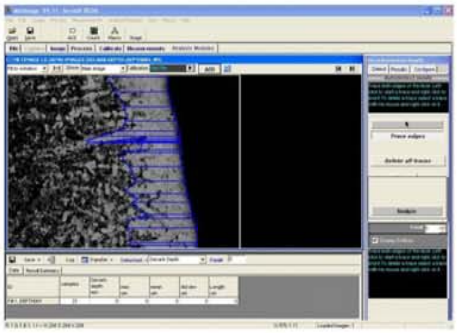
Measure area fraction & volume fractions. Identify multiple phases with Micro structure. Also delinate phase from the histogram as per ASTM standard E562 & E1245.SS.



Measure carbide banding levels according to ASTM E1268

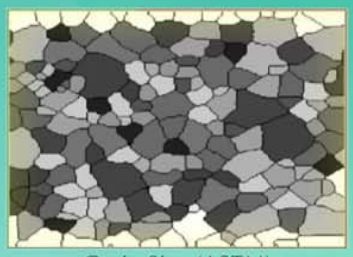


Measure cross sectional thickness according to ASTM B487

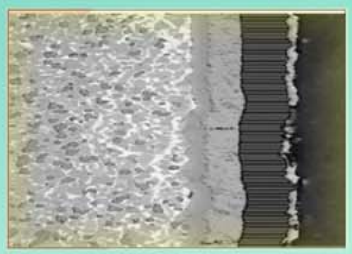


Measure Decarb Depth according to ASTM E 1077

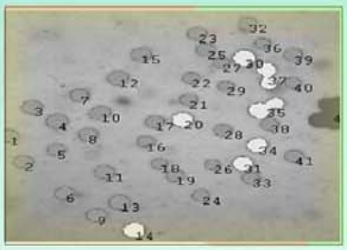
META VISION



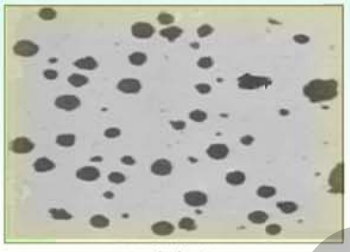
Grain Size (ASTM)



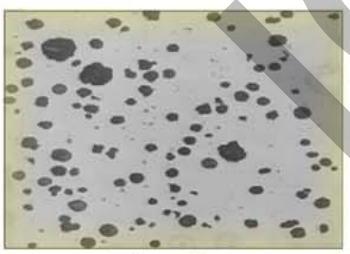
Coating Thickness



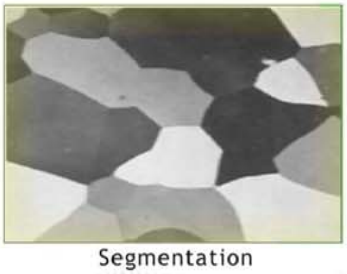
Counting



Nodularity



Porosity



Segmentation

7. Nodularity:

Measure Nodularity as per ASTM 247 standard. The Nodules & Flakes are separated on the basis of its shape and aspect ratio. The detail measurement of each micro structure is available for further analysis. The processed image displays non-Nodules in different color. The Nodules can be classify by its range on the basis of its size & shape.

8. Porosity:

They are recognized on the basis of its intensity as per ASTM B-276 standard. The measurement of each pores displayed.The processed image displays pores in Red Color.

9. CoatingThickness:

This application rapidly measures the thickness or width of a coating at multipl positions along a sample as per ASTM B487 Standards. Tabulated results available for min/max and mean of width Measured at various points of sample cross section.

10. Decarburisation:

Measured depth or width of decarburisation occurs as per ASTM 1077 standards.

11. Grain Size:

The module analysis Grain image and measure the Grain No & Grain size using ASTM E 112 method. The option for measurement available are: 1.Manual trace;2.Popular comparison method;3.Quick single grain measurement; 4.ALA method; 5.Interception method. Various filters to make use defined templates. Grain boundary repair mathematical function.

12. Non-Metallic Inclusion:

Measure inclusions and report ASTM E-45, E-1245 numbers, cumulative length width ratio.

13. Graphic Flakes:

Graphite Flakes length, Width distribution and Percentage as per ASTMA-247-67.

14.Report:

a) Direct printout with original image, processed image & Tabular results.

b) Export to MS EXCEL for further modifications.