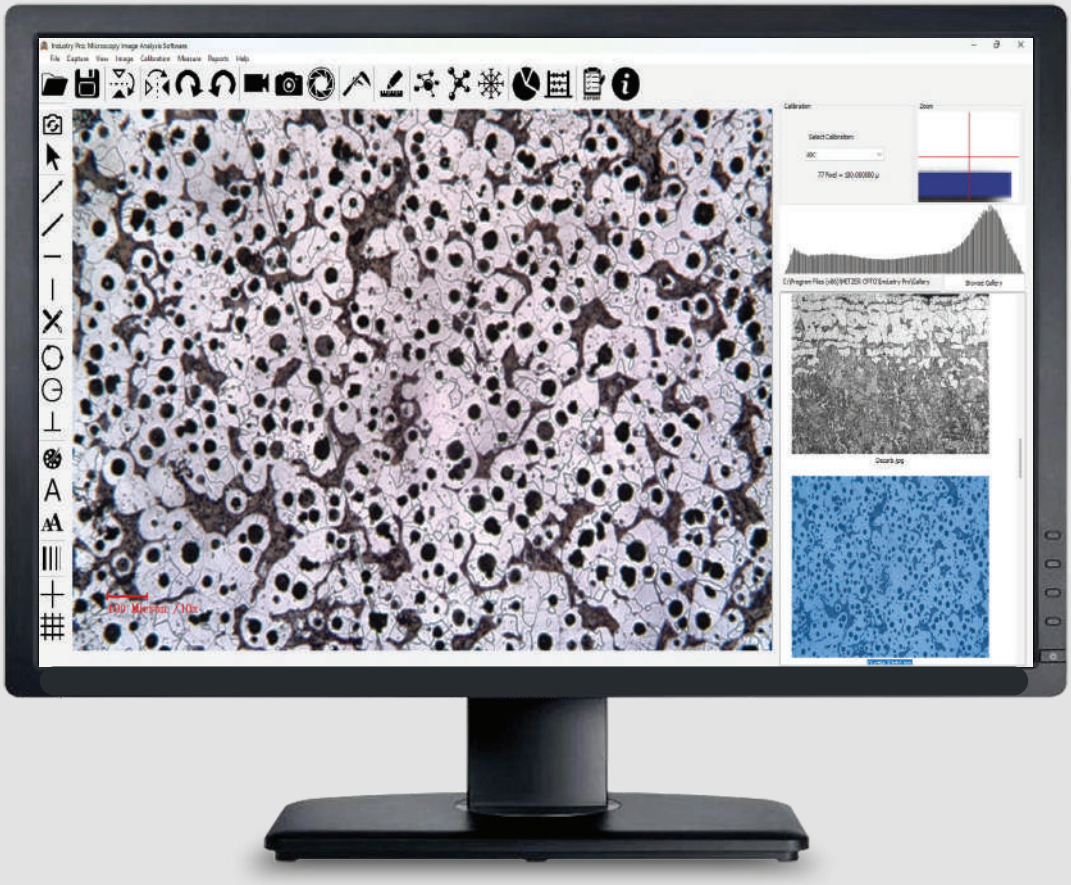
METZER – M
HIGH-TECH OPTICAL INSTRUMENTS

INDUSTRY- PRO
SOFTWARE



AVAILABLE MODULES

- Linear Measurements (Measurements)
- Decarburization (Decarb)
- Total Decarb Method
- Trace Method
- Coating Thickness
- Nodule Analysis
- Flake Analysis
- Porosity Analysis
- Count & Classification
- Particle Size (Manual Method)
- Phase Analysis (Segmentation)
- Grain Analysis
- Heyns Lineal Intercept Method
- Abrams Three Circle Method
- Heyns Abram Intercept Method
- Random Line Method
- Comparison Method
- Cementite (Iron Carbide)
- Inclusion Analysis
- Rusting
- Spheroidization

LINEAR MEASUREMENTS (MEASUREMENTS) THERE ARE 14 DIFFERENT LINEAR TOOLS

- Line
- Freehand
- Parallel Line
- Intersection Point
- Perpendicular
- 2 Line Angle
- 3 Point Angle
- Circle from centre
- 3 Point Circle
- Len Circle Centre
- 2 Circle Distance
- Concentric Circle
- Freehand Area
- Rectangle

Coating Thickness (ASTM-B487)

- User defined configurations with filter conditions
- Image enhancement functions
- Automatically identifies coating boundary
- Gives MIN/ MAX/ AVG/ STD DEV of results
- Supports multiple samples

Nodule Analysis (ASTM-247-67/ISO-945-1)

- Using ASTM standard 247-67 and ISO-945-1
- User can define configurations with different filter conditions
- Gives Nodularity by count, Nodularity by area and Nodule size
- Group results using Nodule size 1 to 8

Flake Analysis (ASTM-247-67/ISO-945-1)

- User defined configurations with filter conditions
- Detects and group Flakes by type A, B, C, D and E
- Detects and group Flakes by size (1 to 8)
- User can manually set Flake types/correction

Porosity Analysis (ASTM-B276)

- User can define configurations with different filter conditions
- User can manually select or unselect a feature
- User can in between switch to Live Video to further analyze a feature by focus adjustment and can select or unselect
- feature in processed image
- User can group the selected features intodifferent buckets based on length or area

Count & Classification

- User defined configurations with filter conditions
- Image enhancement functions for particle detection
- Analyse and detects particles based on defined configuration/filter
- Analyse particles for length and area
- Can group particles identified into different buckets (user defined) by length, area, width etc

Particle Size (Manual Method)

- Analyze and detects particles/features inan image
- User can define configurations withdifferent filter conditions
- Analyze features/particles for length, area,circularity
- Can group features into different bucketsbased on length and area

Phase Analysis (Segmentation)

- As per standard ASTM E562
- User can define different configurations fordifferent measuring conditions and analysis
- Can detect Nodules in the image
- Can split phases which has same color range
- Supports manual point count method forphase analysis

Grain Analysis (ASTM-E112/E1382-91)

- Follows ASTM E112, E1382-91, E 1181, and E 930
- Automatically creates grain boundarystructure
- Supports Planimetric method
- Supports Heyns Linear Intercept method
- Supports Hillard/Abrams circle intercept method
- User can manually draw grains if structureis not properly visible
- User can add or remove grain boundaryformed
- User can create Custom Grain analysis programs using different image analysis functions that suites different types of grain image

Cementite (Iron Carbide) (ASTM-E1268)

- Using ASTM standard E1268
- Can find Carbide percentage

Inclusion Analysis (ASTM-E1245/E45)

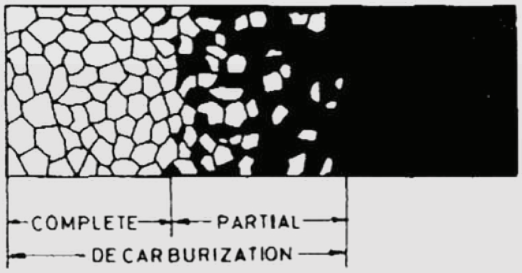
- Using ASTM standard E1245 & E45
- Groups results as per type A, B, C, D andfurther classification as THIN and THICK
- Image functions
- Image rotation
- Gray scale
- Image flipping (horizontal or vertical)
- Histograms
- Invert
- Brightness correction

Decarburization (Decarb) (ASTM -E1077)

- Total Decarb Method

Decarburization

It is the loss of carbon from the surface layers of steel at high temperatures under oxidizing conditions. Decarburization may be complete or partial

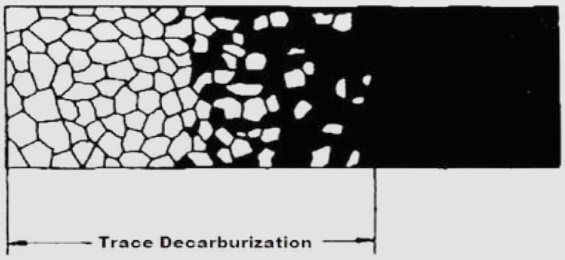


PARTIAL AND COMPLETE DECARBURIZATION

- Trace Method

Decarburization

It is the loss of carbon from the surface layers of steel at high temperatures under oxidizing conditions.



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