

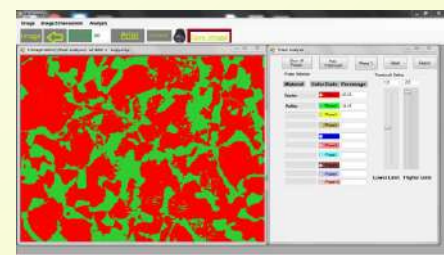


METNATION
TECHNOLOGIES

www.metnationindia.com

**Metallography
Equipments &
Softwares**

- **Sample Preparation Machines**
Cut-Off Machine | Mounting Press | Disc Polishing Machine
- **Microscope**
- **Metallography Image Analyzer**
- **Hardness Tester & Software**
- **Weld Analysis Software**
- **Metallography Consumables**



Abrasive Cutoff Machine



Motor	10 HP, Three Phase, 430 V.
Coolant Pump	0.5 HP, Three Phase.
Control Panel	On/Off switch, Illumination On/Off switch, Emergency Stop switch, Door open Indicator, Overload Protection, and Separate MCB.
	3 phase light indicator for to check proper voltage.
Cutting capacity	Up to 85 mm solid bar.
Job Clamping	Sturdy vice to clamp a job.
Voice Opening	Maximum vice opening 110 mm
Cutting action	Cutting wheel will cut the job at desire location manually.
Coolant Tank	30Ltrs capacity recirculation coolant tank having filtering tray at the top side.
	Tank mounted on caster wheel, so it can easily move outside.
Mounting Stand	Aesthetic stand having different storage compartments to store the consumables and spares.
Input Supply	Three Phase, 420 V.

Hot Mounting Press

Metallography sample mounting press aesthetically designed with heavy, sturdy & compact table top model.

Features:

- Fully automatic, Totally Enclosed Body.
- Mould Interchangeable facility.
- Mould cylinder made with harden alloy steel.
- Corrosion Resistant coating.
- Cycle completion Indication (buzzer).
- Temperature and Pressure Adjustment Facility.
- Water cooling facility.



	Pneumatic / Hydraulic
Heater	1000 watt.
Thermocouple	PT-100.
Mould Cylinder	25.4 MM
Control Panel	Digital Temp Controller Ram UP/Down Selector switch. Pressure indicator. Pressure setting knob. Process start Button Buzzer Indicator. Process start Button. Input Supply 230V AC

Motor:	0.5 /1 HP Combined
Polishing Disc :	1/2 Nos.
Disc Diameter :	200 mm
RPM display :	Digital
Power Transmission :	By V Belt and Pulley
Speed :	Speed 100 to 1400 RPM Variable.
Safety :	Motor, electrical DC Drive and circuit fully close.
Water Connection :	Inlet and outlet Connection, Flexible water pipe , Arrangement with flow Control for Job polishing.
Input Supply :	230 V AC, 50 Hz.

Polishing Machine

MetPolisher II



MNTHT - M1000



Micro - hardness Tester

Hardness Measuring Range:	5-3000 Hv.
Test Force:	10, 25, 50, 100, 200, 300, 500, 1000 Gm.
Magnifications Of The Measuring System:	400X, 100
Min. Measuring Unit:	0.025 mm
Micrometer:	25mm on X and Y
Auto Measurement of hardness through software,	no need of manual draw of length.
Power Supply:	230 V Single Phase

Metallurgical Microscope



Inverted

HAWK 1

Microscope for education industries, material science & metallurgical lab ,QA/QC lab.

Trinocular

Eyeiece : WF10X/18mm

Plan Achromatic Objectives :

"5X,10X, 20X, 40X,80X,100X

Stage Mechanical: 185mmX140mm;

Stroke : 75mmX50mm ;

Focus System :

Coaxial coarse/fine focus system.

Illumination System :

halogen and brightness enable control.



Upright

HAWK U



Stereo Zoom

Macroview SZM

Microscope for macro analysis such as surface defect, weld structure fractography, forging etc.

Trinocular

Eyeiece : WF10X/20mm

Binocular head, 45° inclined, 360° rotatable.

Zoom objective 0.7X-4.5X.

Working distance 100mm.

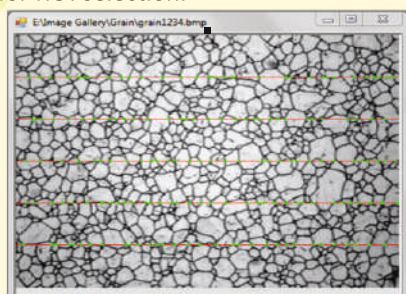
Illumination: halogen,LED Ring light.

Metallurgical Image Analyzer

Application developed by Metnation Technologies. All modules as per international standards. Batch run facility for process no. of fields (Images) at the same time for increasing confidence level of result. Image stitch facility for visualizing and processing large object at one view. Focus staking (Image Blending) feature for Visualizing micro structure of uneven surface. Customized report design support available.

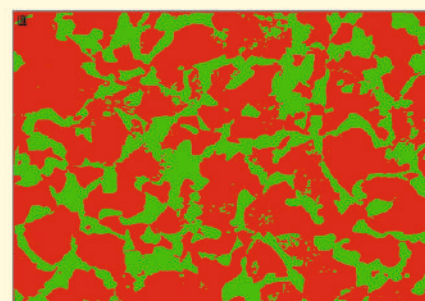
Grain Size Analysis

- Based on international standard ASTM E 112, E 1181, E 1382 and E 930.
- Intercept Method with Automatic and manual mode.
- Provision for measure intercepts length and ASTM Grain No. for individual grains.
- Provision for test line selection and orientation.
- Facility for ROI selection.



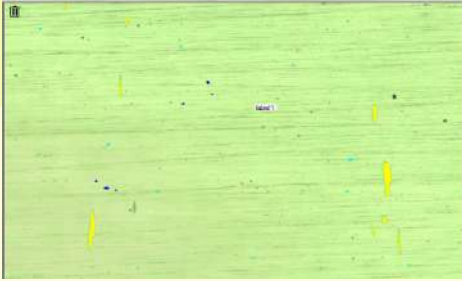
Phase area Percentage

- Based on international standard E562.
- Auto thresholding.
- Color coding for independent phases.
- Facility for ROI selection.



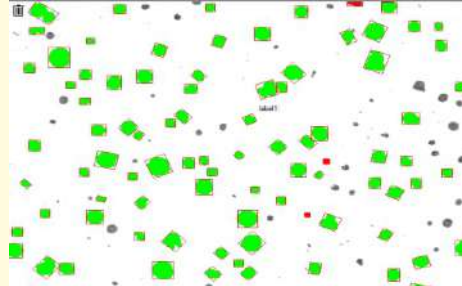
Non-matallic Inclusion Rating

- Separation and rating as per ASTM E 45, E1122, E1245, E2283, DIN 50602, JIS 0555.
- DIN – K3 and K4 method.
- Color coding for each type of Inclusion.
- Provision for separation of inclusions and rating them independently.
- Batch runs facility for process no. of field (images).



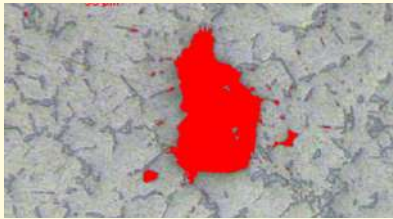
Nodularity & Graphite Flake Analysis.

- Nodular Cast Iron as per ASTM E 2567-11.
- Nodularity percentage, size & type classification.
- Size classification as per standard ASTM A 247.
- Phase Analysis percentage of Graphite, pearlite, ferrite.
- Graphite flake type & size classification.



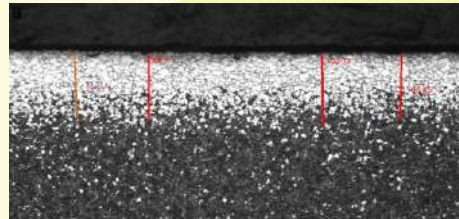
Other Module

- Porosity Measurements.
- SDAS Measurements.
- Particle size and classification.
- Banding Measurement.
- Coating thikness Measurement.



Multipurpose Module

- Area measurement.
- Irregular shape measurement.
- Rectangle measurements.
- Arc, radius, perimeter measurement.
- Length measurement.
- Angle measurement.



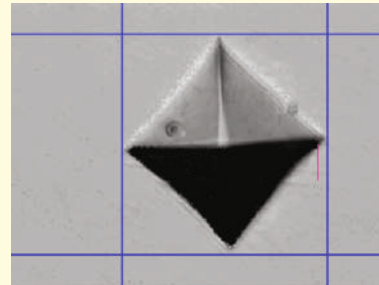
Weld Analysis

- Specially developed application for weld penetration depth, leg length Heat affected zone and other parameter analysis.
- Leg length, root penetration.
- Angle measurement etc.
- Color coding for each measurement.
- Feature for print reading on image.



Hardness Measurement Software.

- Automatic measurement hardness value.
- Hardness conversion tool.
- Effective case depth calculation.
- Graphical presentation Hardness Value.
- Single and graph report generation.



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