

Leica

MICROSYSTEMS
Germany

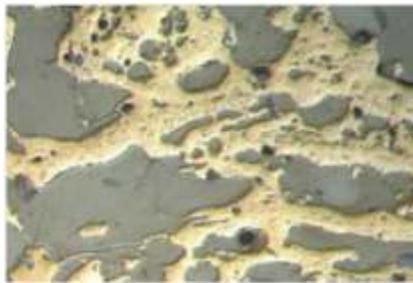
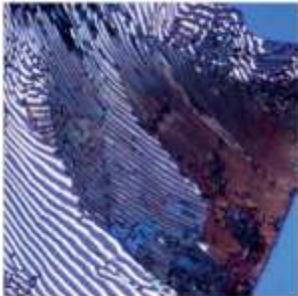
Authorised Channel Partner
(Maharashtra & Goa)



www.metatechind.com

World leaders in Microscopy

- Material Science
- Petrology
- Forensic
- Pharma
- Electronics
- Research
- Education

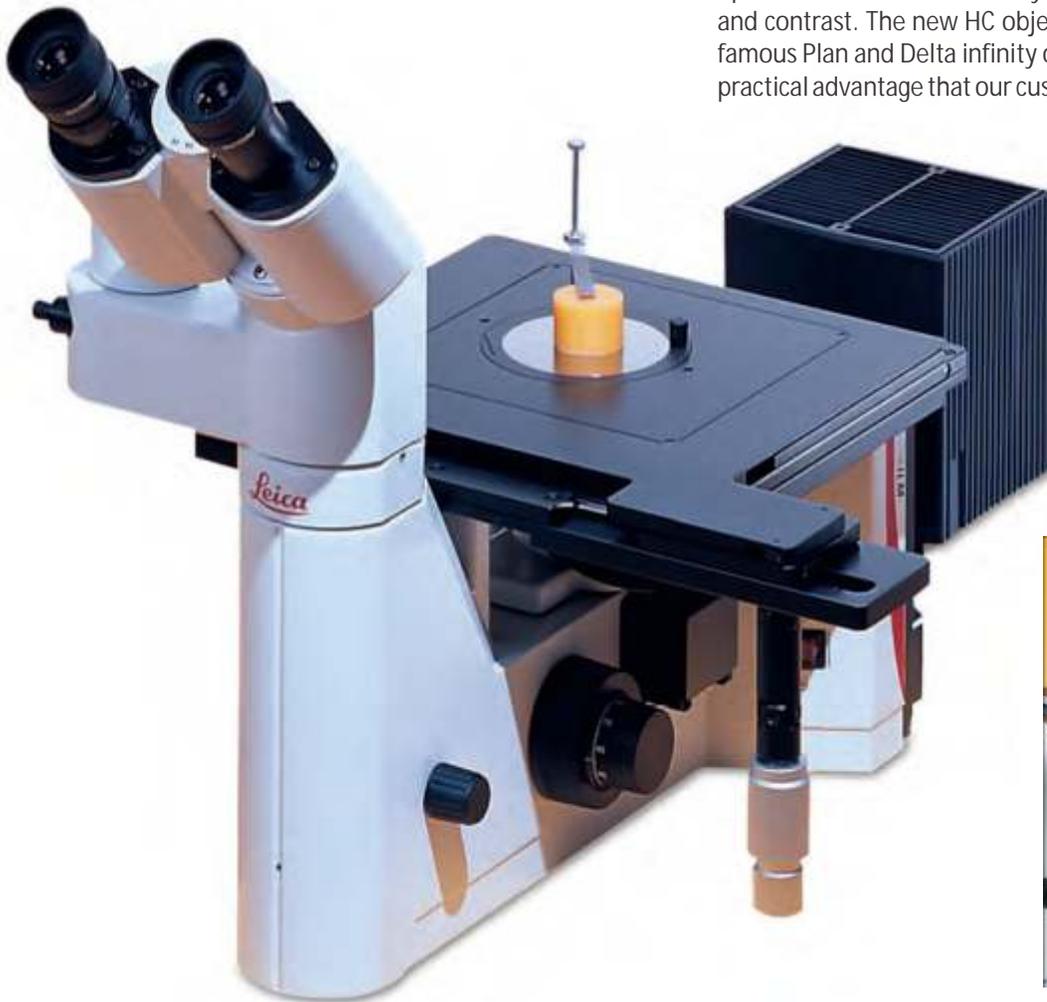


Leica DM ILM

Inverted Microscope for Material Control

Designed for incident light brightfield, polarization contrast and fluorescence

The Leica DM ILM is specially designed for all inspection and measurement tasks in metallography and material testing in general, for inspection of incoming materials, production control, checking sample preparation processes and also for metallographic training. Do you need a task-oriented and cost-effective microscope? If so, the Leica DM ILM is just what you're looking for. Besides being easy to use, it is highly efficient and versatile – although it accommodates samples of all sizes, it has a slender footprint. High performance optics from the Leica HC family of optics guarantee maximum image resolution and contrast. The new HC objective series is a further development of Leica's famous Plan and Delta infinity optics. The continuity of Leica infinity optics is a practical advantage that our customers soon come to appreciate.



Leica DMI3000 M

Inverted Microscope for Materials Science

Brightfield (BF)
Darkfield (DF)
Differential Interference Contrast (DIC)
Polarization Contrast (POL)
Fluorescence (Fluo)
Oblique Light (can be combined with BF or DIC)



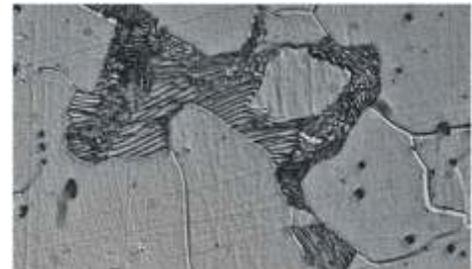
Leica DM750 M



Through sturdy design with LED illumination
Accurate analysis results through brilliant Leica HC optics
Identification of the finest details through oblique light
with LED segmented lighting.



Ferrite C35, hypoeutectoid pearlite. N Plan 100x, bright field.



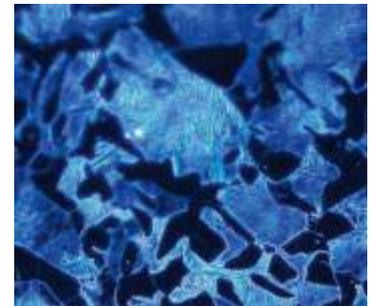
Ferrite C35, hypoeutectoid pearlite. N Plan 100x, Ferrite C35, hypoeutectoid pearlite. N Plan 100x, bright field. oblique illumination.

Leica DM1750 M

The new Leica DM1750 M microscope was developed for routine use, even in difficult ambient conditions, and for imaging large samples. Built sturdy and solid, the Leica DM1750 M has excellent optics from Leica Microsystems and, with regard to the size of your samples, gives you plenty of room to maneuver. You have the option of varying the power LED illumination angle and adjusting it to best view the sample.



Ferrite C60, hypoeutectoid pearlite,
N Plan 50 \times , Bright Field illumination



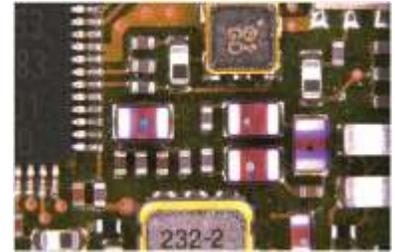
Ferrite C60, hypoeutectoid pearlite,
N Plan 50 \times , Dark Field illumination



Ferrite C60, hypoeutectoid pearlite,
N Plan 50 \times , Differential interference contrast

Leica E-Series Stereo Microscopes

Teaching and Learning Made Easy



A complete line for training specimen preparation techniques, workflows and experiments including digital documentation (Leica EZ4 HD) and measurements (Leica EZ4 with a choice of eyepieces). Leica's typical high image quality, color and detail fidelity Leica's typical mechanical precision for decades of maintenance-free functionality Precise zoom and focusing systems for the finest, most exact control. Dimmable power LED illumination system for incident and transmitted light. Unique Leica 3-way incident light technology

Leica M50, M60 and M80

A fresh face for the laboratory and production: the Leica routine stereo microscopes are creating a sensation, combining Leica's legendary optical quality, many smart ergonomic solutions and the extensive Leica accessories program.



- Modular product range: optimum adaptation of the microscope for the application
- Parfocally matched optical system: The sharpness remains constant when the magnification is changed
- Field number 23 for an even greater overview
- Easy integration into existing equipment thanks to a 76 mm standard interface

- ESD-dissipating design helps prevent damage caused by electrostatic discharge
- Focus column with integrated cable channel keeps the workplace uncluttered

The best illumination LED3000 series



Leica Cleanliness Expert

Particle Size Analysis

ISO 16232, VDA 19, and ISO 4406



Leica Cleanliness Expert is ideal for all applications involving particle classification and characterization on circular shaped substrates. The software typically supports users in the automotive, galvanic, and aviation sectors, as well as the pharmaceutical industry. It is particularly useful to conduct analyses when hydraulic fluids are concerned.

Number of particles -> overall degree of contamination

Particle size (length, breadth and height) -> damage potential of a single particle

Material of the particles (reflective or non-reflective, therefore metallic or plastic)

general damage potential of the particle load as well as damage potential of a single particle

Differentiation between particles and fibers -> damage potential of a single particle and source of contamination

Leica Cleanliness Expert offers flexible configuration and a number of local, national, and international standards such as ISO 16232, VDA 19, and ISO 4406 according to which the analysis can be performed.

User Defined Classes

By Length & Breadth

Length	Breadth
Limit (µm)	Particles
10	2000
30	200
50	100
100	50
200	20
500	10

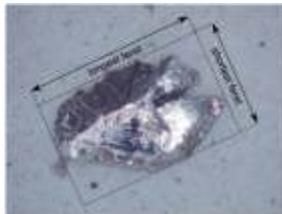
Add Delete

Use Contamination Number

Use Negative Cumulative

Full Volume (l):

Used Volume (l):



Leica Steel Expert



Using the automated image analysis functions of Leica Steel Expert 2.0, both single and multiple samples can be analyzed regardless of your Leica microscope model and degree of automation. Leica Steel Expert 2.0 also enables simultaneous comparison of results in accordance with various existing industry standards – including ASTM E45 A, D, and E, ISO 4967 A and B, DIN 50 602 (K and M methods), EN 10 247, as well as JIS G0555, GB/T 10 561 (in progress).
Leica Steel Expert 2.0 also classifies nitride or carbonitride inclusions, which can emerge from recycling and modern alloying elements such as titanium.



Leica Steel Expert 2.0										
EN 10247 Method M Worst Field Assessment Length										
Specimen 1										
Elongated α , γ , β type inclusion assessment M_1 , M_2										
Circular δ type inclusion assessment M_1 , M_2										
Row	α column 1 to 3		γ column 1 to 3		β column 7 to 11		δ column 6			
Number	L_{max} μm	No. of inclusions	total length μm	No. of inclusions	total length μm	No. of inclusions	total length μm	No. of inclusions	total diameter μm	d_{max} μm
1	0.5							1	0.5	0.5
2	11	1	11					1	11	11
3	22	2	44			1	22		22	22
4	44			3	88				44	44
5	88					2	176		88	88
6	176			1	176	1	176		176	176
7	352					1	352			
8	710									
9	512									
10	M_1	3		3		0		1		
11	M_2 or M_3 in profile		33		268		732		60.5	
12	Magnification: 10x 710 μm (1:1)				Total scanned area of		1.3123		mm ²	

Petrological microscopes

Leica DM4500 P LED for research and development

Leica DM2700 P for routine polarization applications

Leica DM750 P for university and other instructional use



DM 750 P



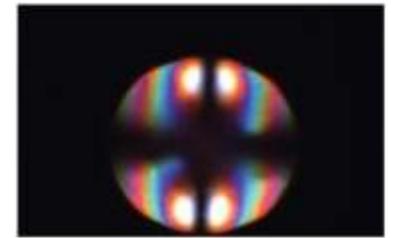
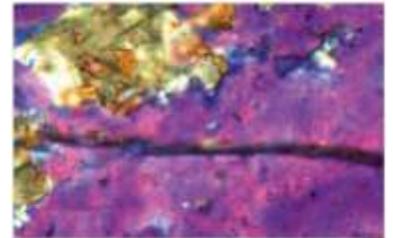
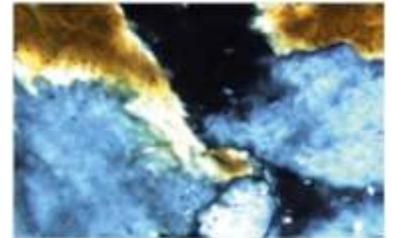
DM 2700 P

Petrological microscopes

Advantages that speak for themselves:

Ultra-bright LED illumination on all Leica polarization microscopes for constant colour temperature at all illumination intensity levels 4fold, 5fold or 6fold centerable nosepiece. Different conoscopic equipment that fits customer needs Comprehensive polarisation equipment to full fill special tasks Improved polarization contrast to obtain more information from a sample Easy operation for accurate sample evaluation in both orthoscopy and conoscopy Ergonomic design for user comfort Camera and software modules can be integrated for fast, easy, and reproducible documentation

DM 4500 P

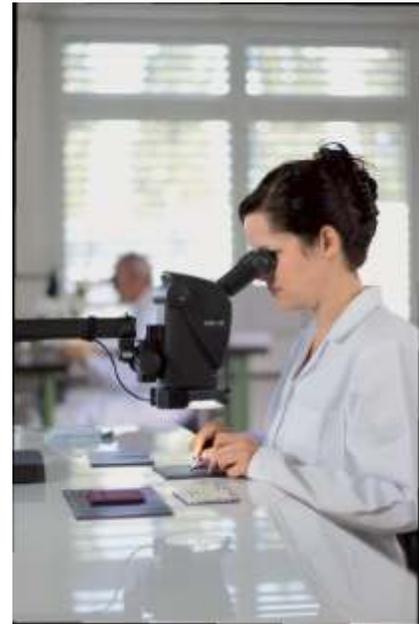


Leica A60 S / Leica A60 F

The stereo microscope system for high productivity in the electronics and medical device manufacturing industries



Large overview with a 46mm object field
Approximately 100 % greater depth of field makes resoldering work easy. Attachable diffuser for viewing reflective specimens without bothersome shiny spots
High degree of ESD protection helps safeguard your products.



Inspection of printed circuit boards



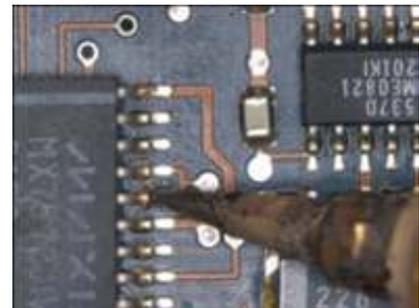
Good example of extreme miniaturization: state-of-the-art hearing aid



Time-critical production



In a stent, mechanical precision is a matter of life and death

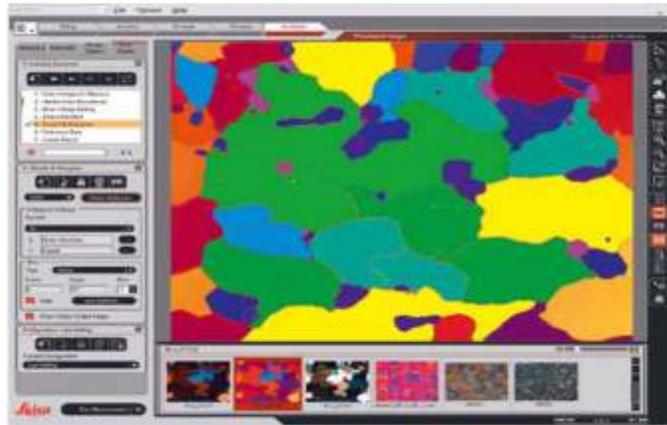
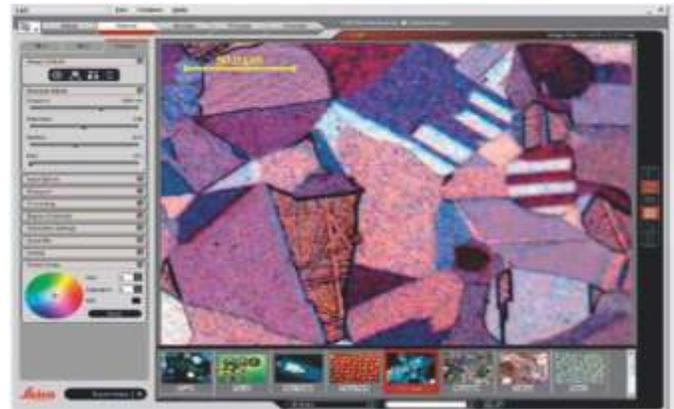


Resoldering chips

Leica Softwares

Leica Application Suite (LAS)

LAS is the universal software platform for microscopes and digital cameras from Leica Microsystems. In combination with Leica DFC cameras with FireWire connection, an optimally matched analysis and inspection system can be designed according to your requirements, for example, to perform grain size determination or for phase control. Expanding a documentation system for the analysis of inclusions in steel, for example, is as easy as adding a module

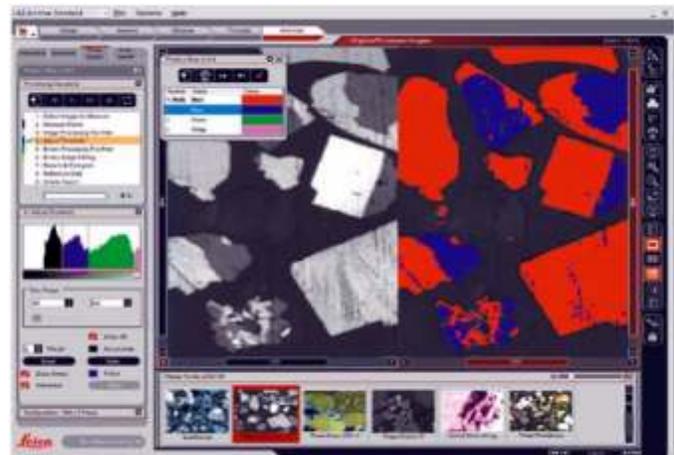


Leica Grain Expert

Grain boundary analysis is used for the determination and subsequent monitoring of material properties to draw conclusions about the properties of the end product. With the Leica Grain Expert software package integrated with LAS, you select a compatible method from an extensive range of different analysis techniques. Common industry standards are completely integrated with the software, through which a wide variety of relevant examinations can be carried out in compliance with standards.

Leica Phase Expert

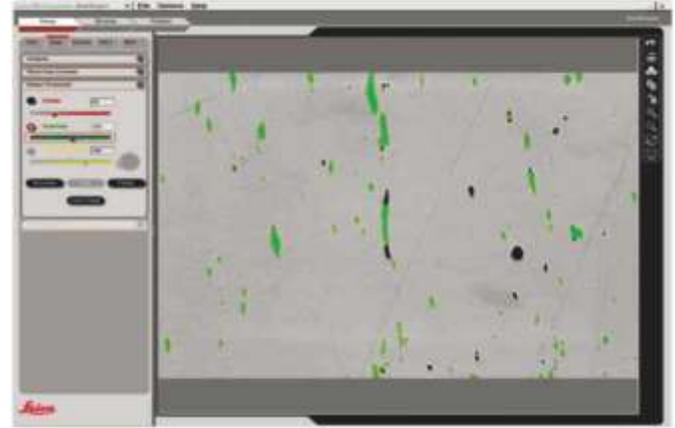
Phase analysis is a routine but advanced analysis task for materials and metallurgy labs. Time and efficiency play a big role when carrying it out. With Leica Phase Expert, you can perform automatic, objective, and reproducible measurements of multi-phased micro-structures using easily visible colors or contrasts. Different components can be analyzed in oil shale due to their reflectivity just as fast and easily as polarization colors can be analyzed in a stone microsection for modal analysis or bone tissue can be analyzed with dye.



Leica Softwares

Leica Steel Expert

The optional Leica Steel Expert LAS module offers a highly specialized application environment for the automatic inspection of inclusions in steel. When used with a materials inspection microscope and high-resolution Leica DFC digital camera, Leica Steel Expert forms a completely integrated system that provides objective results quickly. The results are available in all common worldwide steel purity standards. It enables the inspection of up to six different types of non-metallic inclusions in steel alloys: sulfides, spherical oxides, silicates, aluminum oxide, and heterogeneous inclusions can be verified, as well as stained TiN inclusions.



Leica Cast Iron Expert

Evaluates the high-quality images provided by the Leica microscopes. The LAS software combines the newest developments in automated microscopy, data processing, and digital image analysis.

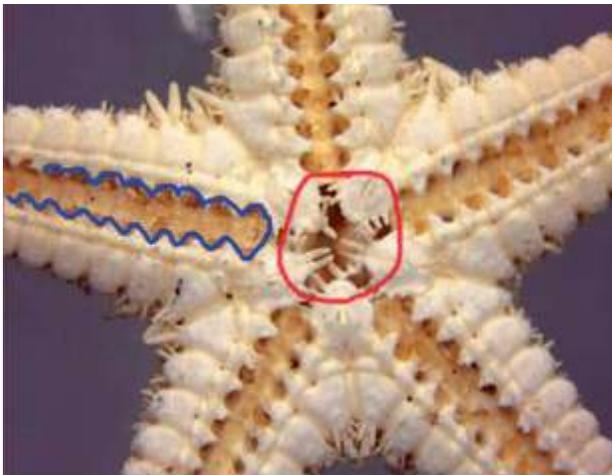
Go High Definition

MC 120 HD - MC 170 HD



camera offers an economical, integrated solution for viewing fast live images in High Definition (HD).

Fast, high-resolution (up to 1920×1080) live image on an HD display for sample manipulation, observing moving specimens, and viewing the finest details on large screens
Direct connection to an HD display
Capture images and movie clips on an SD card for easy portability of the system
Control the camera functions via two onboard buttons for easy access
Optional handheld remote for fine tuning the image, customizing camera settings, and viewing a gallery of images and movie clips from the SD Card for easy playback



Forensic Microscopes

Leica FS 4000 B

– Everything at the touch of a button



The Leica DM4000B complements perfectly the micro comparison bridge. Its fully automatic light management, integrated Variolux color module, selected optics pairs and reproducible illumination ensure you the greatest possible comparison reliability.

Contrast methods are available at the touch of a button, while the microscope parameters are automatically stored by the software. The results are thus reproducible at any time.

Leica DM4000–6000

Brilliant, Easy Imaging at the Speed of Light!

The New Generation of Leica Digital Microscopes



for Biomedical and Industrial Research.

Automated transmitted light axis

Excellent results with ease

Obtain reliable results faster with Leica's intelligent, automated transmitted light axis:

- motorized aperture and field diaphragm
- motorized shutter
- Constant Color Intensity Control (CCIC)

The microscope detects the objective and the contrast method, and then automatically sets the best values for aperture, field diaphragm, and light intensity.

Constant Color Intensity Control (CCIC)

Automated fluorescence axis

Brilliant fluorescence at the press of a button

Leica's fluorescence axis reveals brilliantly colored specimens at the press of a button.

- motorized fluorescence filter changer, field diaphragm and shutter.
- fluorescence intensity management (FIM)
- fast internal filter wheel (IFW)

Fluorescence Intensity Management



DM 100 & Leica DM 300

Affordable Innovation for the First-time Scientist



Leica DCM 8

Get the full picture for 3D surface metrology



Versatile and accurate – meeting your specific surface metrology needs

Optimal lateral resolution, slope solving and imaging with High Definition (HD) confocal microscopy

Optimal vertical resolution up to 0.1 nm with HD interferometry

Simple image capture with bright field and dark field microscopy

Four LEDs for RGB HD true-color imaging and wider application range

Three methods for measuring thick and thin films

The right configuration and objective for your sample

Authorised Channel Partner
(Maharashtra & Goa)



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