LIGHT OPTICAL MICROSCOPY

Light Optical Microscopy is the original microscopy and still very important. Magnifications range from 1X to 2000X (oil immersion). Light optical microscopes include:

1. Stereo Light Optical Microscope (SLOM) for low magnification imaging of smooth or rough surfaces. Both reflected and transmitted illumination is available.
2. Polarizing Light Microscopy (PLM) for mineral identification.
3. Research Light Optical Microscope (LOM) for transmitted and reflected illumination with Bright Field (BF), Darkfield (DF), Differential Interference Contrast (DIC), Phase Contrast, Fluorescence (FLOM) Imaging and Polarized Light Illumination.
4. Metallurgical Microscope for reflected BF and DF on polished samples of steel, refractory, paper or plastic.

Imaging modes commonly used are:

1. Roughness
2. Phase Contrast
3. Brightfield and Darkfield
4. Polarization
5. Fluorescence
6. 3D imaging

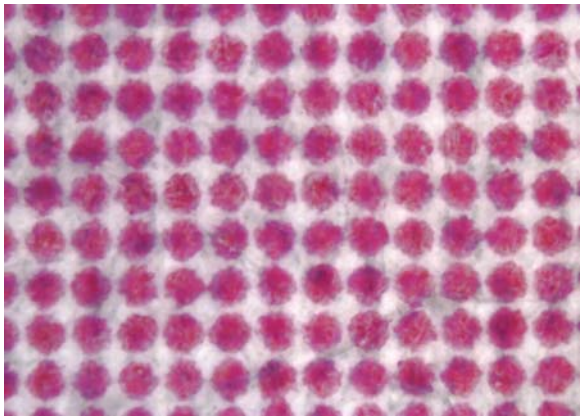
The uses of the LOM are many and varied. Image analysis is used to quantify images.

1. Paper Coating Uniformity
2. Ink Penetration
3. Optical Brighter Additive (OBA) distribution
4. Fiber, fines and vessel element Identification
5. Z-Direction Starch Distribution
6. Grain Size
7. Print Quality

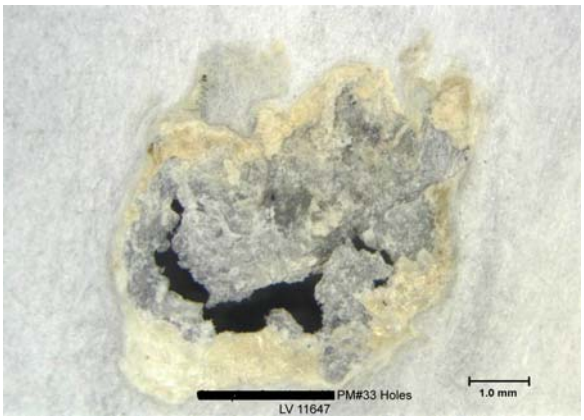
Turnaround time varies with the number of samples submitted and other priority samples in the queue.

Sample size is 1 cm square minimum. Larger samples are cut to size, if necessary.

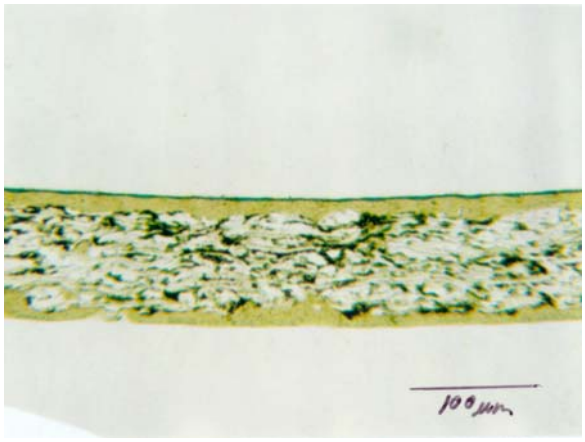
Examples Images:



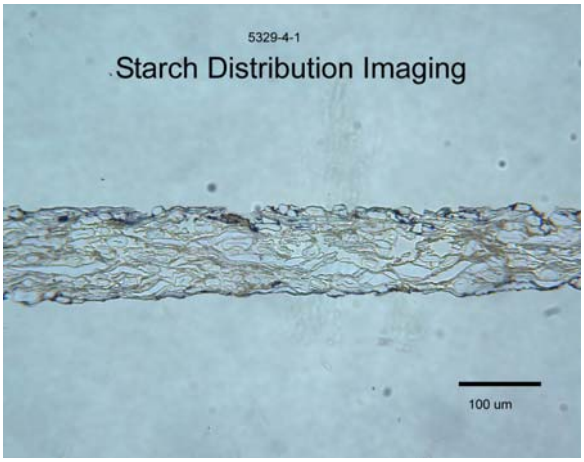
Print Dot Gain



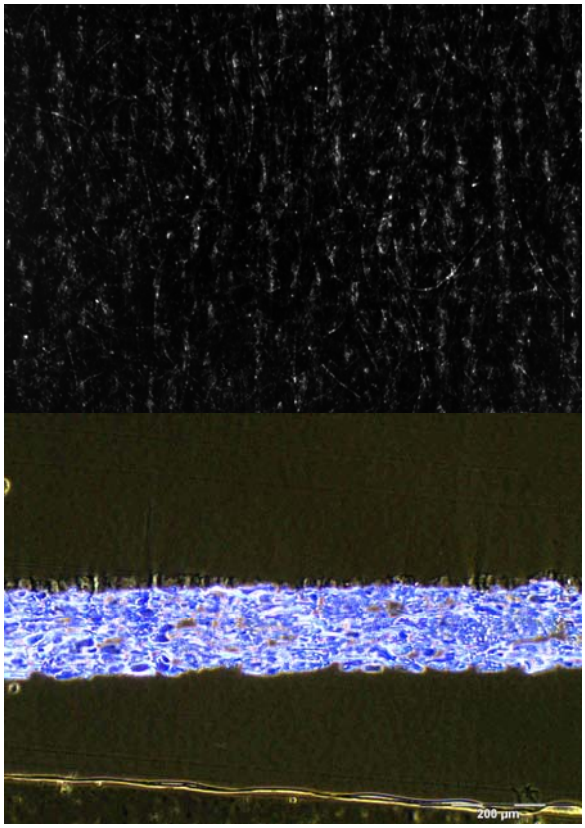
Paper Hole



Ink Penetration



Starch Distribution



SLOM Pinhole LOM with Phase Contrast

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