

MEMBRANE-BASED COUNTING OF PARTICULATE

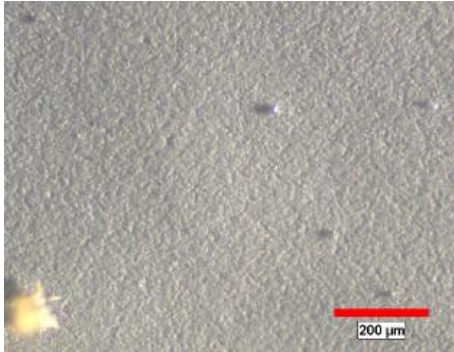


Figure 1: Original image at 100X (1.27 µm/pixels).

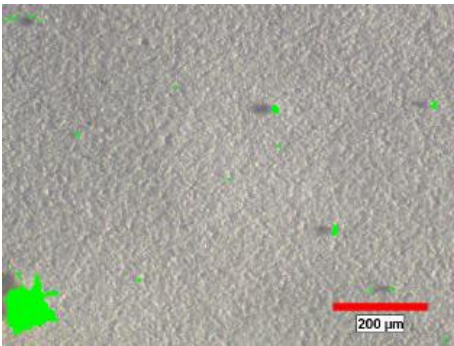


Figure 2: Outline view of final detected particulates as measured.

Sample Description

A circular membrane, fixed on a slide, is submitted for analysis.

Purpose of Analysis

Demonstrate the ability of the Clemex Vision image analysis system can automatically discriminate and measure the particulates deposited on the membrane.

Procedure

Detecting all types of particulates on the membrane necessitates several binarization steps. Dark, white, yellow and red or any other possible color has to be detected. Gray filters are also applied to allow binarization of more difficult objects. All binarized features are cleaned from artifacts then grouped together. Finally, particulates that are smaller than 25 microns are eliminated from the bitplane to be measured (Green).

Equipment

Image Analysis System:	Clemex Vision PE
Microscope:	Nikon Optiphot-2
Camera:	Sony DXC-950P
Illumination Type:	Reflected light + Oblique light (10°)
Magnification:	100 X
Stage Controller:	Clemex St-2000

Results

Oblique illumination is used in this analysis. The light is projected on the surface at a certain angle to reveal features with higher contrast compared to normal brightfield illumination.

Length measurement is performed on the particulates greater than 25 microns only. A Guard Frame is used to avoid measuring only a part of those features that are sectioned by the field of view. Results were cumulated for automated statistics and graph generation. Final results can be printed directly from Clemex Vision. Raw data can be exported in Excel format.

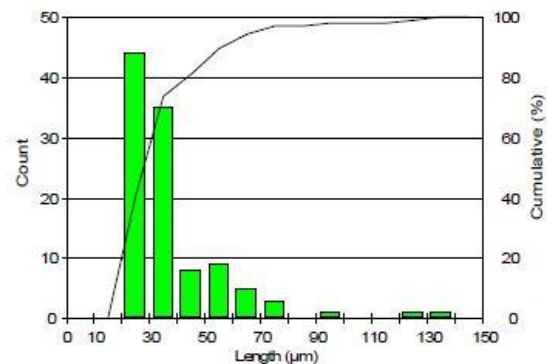


Figure 3: Length distribution of particulates greater than 25 µm.