DPM 300

Digital Pocket Microscope

The NEW DPM 300 Digital Pocket Microscope offers varying magnification up to 200x suitable for most quality inspection work. The microscope features integrated white LED illumination which can be turned on and off depending on the application. The DPM contains a high-resolution color camera which provides crisp, clear images. To capture an image simply press the silver button on the microscope. The microscope can be used for many applications, such as print quality, paper structure, coatings, textiles, plastics, etc. By using a special polarization filter, the DPM 300 is the right choice when working with high glare materials such as coatings, plastics and metals.

DPM 300 Digital Pocket Microscope Features:

- High resolution CMOS-camera offering clear images
- Very Portable and easy to use
- USB cable connection for data transfer
- Auto Gain function to adjust lightness differences
- 8 LED Illumination for crisp images
- Capture button to save an image
- Polarization Filter for a better view on high glare materials

DPM 300 Software Features:

- Database function to store images and test results
- DPM Standard Measurement: Region Tool, Distance Tool, Angle Tool, Circle Tool, Area Tool, Step Distance Tool
- Special software for coatings to analyze cross-cut, byko-cut (V-Cut), Buchholz-Indentation, Hardness- and Impact testing
- Automatic Image Analysis: Dots, Lines, Text, Barcodes, Shapes, Satellites, Voids, Graininess, Mottling, Missing Dots etc.
- Calibration function for the camera with calibration sheet

Ordering Information

Cat. No.	Description
9093	DPM 300 Digital Pocket Microscope

Comes complete with:
DPM 300 Instrument
DPM Software (1 License for 2 installations)
Metal Cup
Operating manual (digital on CD English)
Protective bag
Polarization Filter

Technical Specifications

	Resolution	Magnification	Power supply
	1280 x 1024 Pixel ($\approx$ 1.3 µm per pixel)	200x	USB Port (5 VDC)

Interface	USB 2.0 Cable 2 m
Dimensions	ø 32 mm x 114 mm
Weight	115 gr.

Typical Application

Print and Paper Industry

Dots & Satellites
The "Dot" function determines the number of dots, average area size (mm²) and their covered area (%) together with the corresponding data for detected satellites inside the defined region.

Lines
The "Line" function will automatically characterize the leading and trailing edges of the line with respect to the angle, blurriness, raggedness together with the width (mm) and contrast of the line according to the ISO 13660 specifications.

Shapes
The "Shape" function will automatically characterize the area (mm²), width (mm), height (mm) and perimeter (mm) of the selected object inside the defined region.

Voids
"Voids" are detected when a solid black area has white, unprinted spots in it. The voids must be within the size limits defined by the voids parameter. The DPM software will count the number of detected voids inside the selected area.

Mottling & Graininess
This function characterizes how evenly a uniform printed area appears to the human eye.
For "Graininess", the high frequency variations are characterized from sub-images (tiles) of different sizes from 0.042 mm (0.0018 mm²) up to 1.02 mm where the smaller tiles will divide the defined region into more sub-images (counts). The variation between the sub-images of a particular grid size (Grid) is then calculated as the standard deviation (S.D). Finally the different standard deviations are averaged into one single "Total" number.

The "Mottling" describes the low frequency pattern and here only a single grid size of 1.27 mm is used to calculate the variation. According to ISO 13660, the region must be at least 161 mm² (12.7 mm x 12.7 mm) in which case the DPM instrument must be installed on a stand to obtain 100 tiles for mottling.

Paint and Coating Industry

Destructive Film Thickness
The V-shaped cut from the byko-cut can be easily stored as an image with film thickness info in mm. The width from the cut is automatically recalculated to the film thickness of the coating if you select the right cut-Angle (45°, 26.5°, 5.8°).
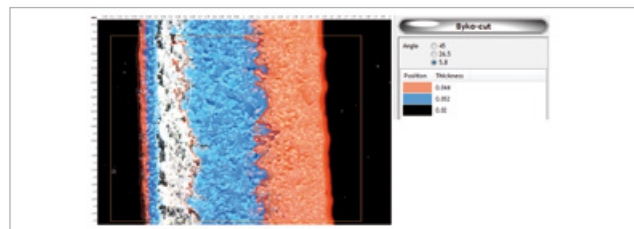

Adhesion Test
Evaluation of the adhesion of a coating. The DPM Paint Software view the cross-cut on the screen and evaluate the defects of the edges, lines, shapes and defects of the image according to DIN EN ISO 2409.
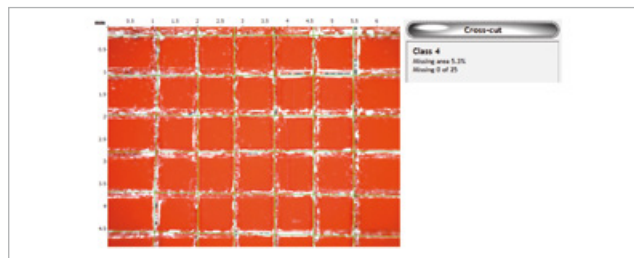
Buchholz Indentation
The indentation test as per Buchholz is a reliable test method for evaluation of indentation resistance of plastic deformable coatings. The indentation length is automatically measured from the software and can be converted with the "Buchholz Indentation Table".
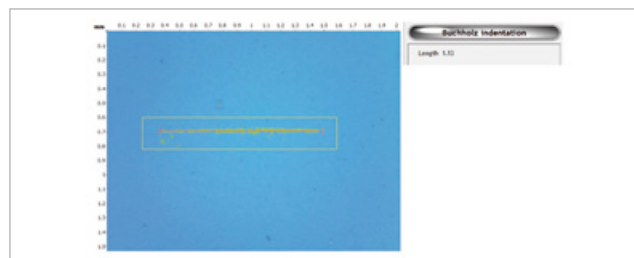
Elasticity and flexibility
The result of the impact or cupping test is automatically calculated in length and average of the rings by the paint software. The impact, cupping and mandrel bending test result can be saved as a digital image.