# OpTest Equipment Inc.

OpTest Mottle Analyzer

OpTest Mottle Analyzer (OMA) revolutionizes the measurement of mottle! Using advanced wavelet algorithms, the OMA quickly quantifies print/coating non-uniformity over a range of mottle sizes from 0.5 mm to 16 mm. Comparisons with reference samples are performed automatically providing the user with a rapid determination of mottle intensity and size scale differences.

Whole

Size M1

Size M2

Size M4
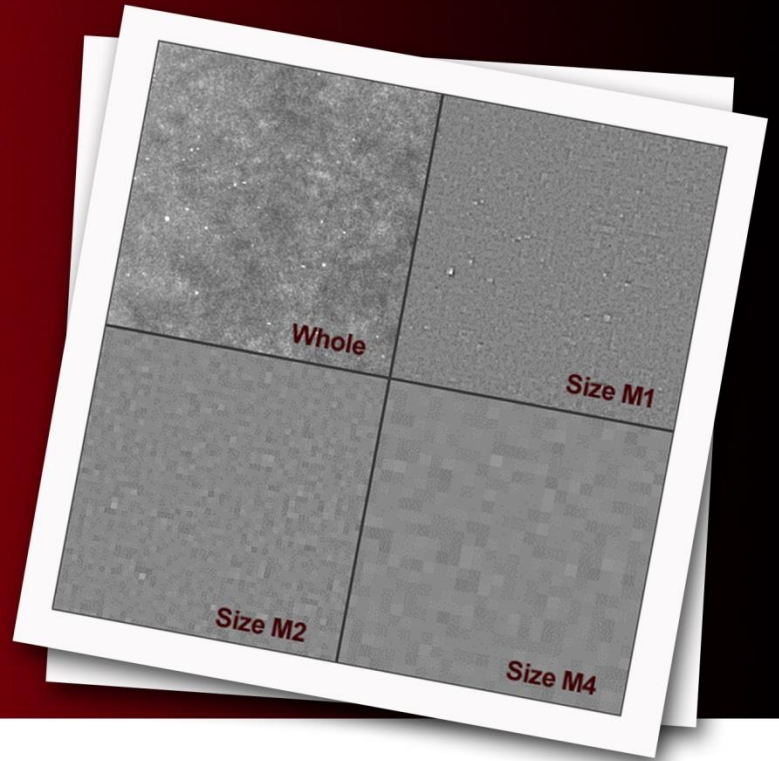
The OMA uses a wavelet-based technique that partitions print/coating mottle into its size components.

Print/coating mottle is typically determined by visual ranking. These procedures are time-consuming and expensive. They are also difficult to carry out beyond a small number of samples. The OpTest Mottle Analyzer, OMA, offers a fast, repeatable, objective instrumental determination of print/coating mottle that emulates human perception.

ADVANTAGES:

- *Comparison with user selected reference samples*
- *Windows™ based, bitmap storage and retrieval, Excel™ ready data and print-outs*
- *Faster, more precise and more objective compared to visual testing*
- *High correlation with visual assessment*
- *Factory calibrated & certified industrial scanner*

OpTest Mottle Analyzer

"The OpTest Mottle Analyzer, combined with the Paper PerFect Formation Analyzer, allows papermakers to optimize quality more efficiently, saving time and money!"

PRINCIPLES

A mathematical technique for frequential analysis, called 'wavelets', appeared in the 1980s and is now widely used. Researchers in signal processing have developed wavelet methods for several applications, such as filters for de-noising old musical records, compression of image or video data for file transmission and storage.

The OMA consists of standalone software and a high quality colour document scanner. The OMA measures solid print/coating areas up to 100 mm x 100 mm. It calculates the Print/Coating Mottle Intensities for 6 size ranges, or components, ranging from 0.5 to 16 mm.

| Component	M1	M2	M3	M4	M5	M6
Scale (mm)	0.5	1	2	4	8	16

Published reports have demonstrated excellent agreement between visual panel rankings and the OMA Indices. The OMA was found to be faster and more precise compared to visual ranking techniques. Therefore the OMA can advantageously replace these time consuming, subjective visual evaluation methods.
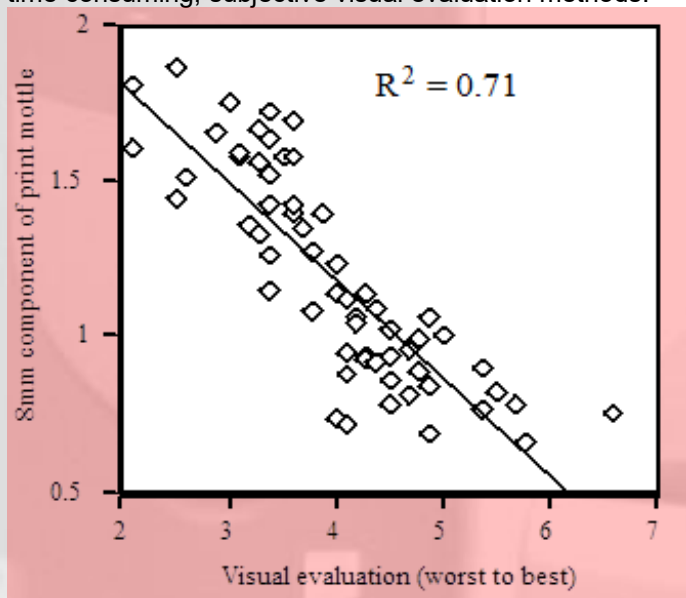
Significant correlation between the M5 OMA Mottle Intensity and a visual panel assessment (Bernie et al, Paper Physics Conf., Victoria, BC, Canada, Sept. 03)

ACKNOWLEDGEMENT

The wavelet algorithm was developed by Dr. Jean-Philippe Bernié of Ondimage Inc.
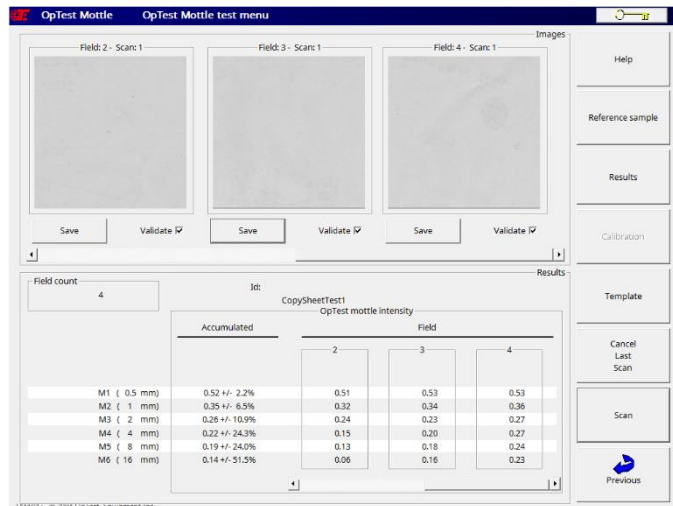
OpTest Mottle Analyzer Test Menu

OpTest Mottle Analyzer

SYSTEM REQUIREMENTS

- PC Workstation: operating with Windows™ 11 Pro or later and containing: at least 16 GB of RAM, two USB ports and Microsoft Excel™ (2016 or higher)

OPTIONS

- Certified computer with Excel™, Active X and turn-key ready.

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