

Penetration Dynamics Analyzer **emtec PDA.C 02**

Module **MST** Standard

Special Tester for the determination of converting process-relevant surface parameters of paper and board via the assessment of the wetting & absorption of liquids



Simple, efficient and accurate surface testing of paper and board:

- Surface sizing / hydrophoby
- Surface porosity
- Coating quality / binder filming
- Surface starch content

Prediction of converting properties:

- Printability
- Glueability
- Coatability
- Dusting tendency
- Impregnating of decor paper

Test and process liquids of low viscosity:

- Water
- Water+IPA-Mixture
- Fountain solution
- Impregnating resins

Main user:

- Paper / board producers
- Paper / board converters
- Chemical suppliers
- Machine manufacturers

→ Prediction of converting problems, which are not detectable with standard testing devices.

Features

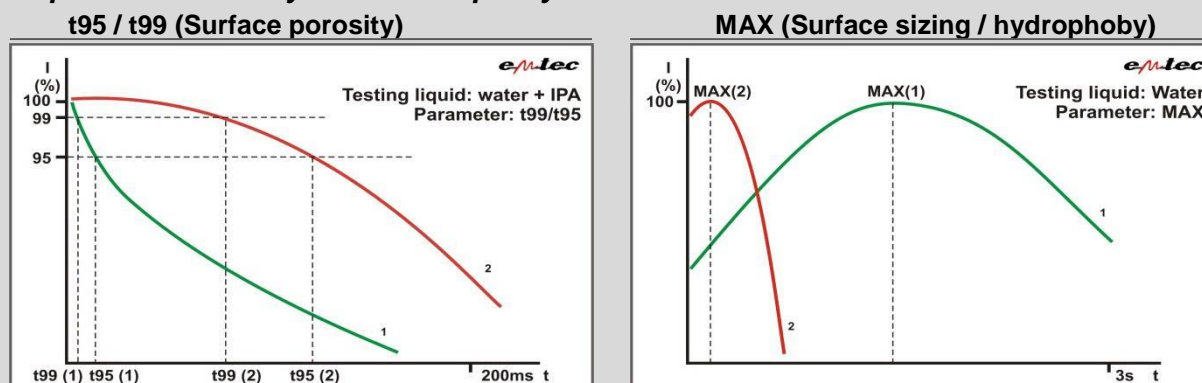
For an optimal runnability during the finishing or converting process of paper/board, certain specifications of the products are required to achieve an optimal result. Usually, these specifications are based on standard measurement methods (e.g. Cobb test, Bendtsen / Gurley porosimeter). Although these standard specifications are often met, converting problems often still occur. This is due to the fact that standard measuring devices frequently do not characterize the significant converting relevant paper parameters.

In order to predict converting problems reliably, one should know what to measure. Problems in the converting process can be due to non-optimal surface porosity (e.g. caused by too much or too less starch application in the size press or fiber quality/refining) or/and non-optimal surface sizing (e.g. caused by too much or too less hydrophobic agent in the size press).

The **PDA.C 02 Penetration Dynamics Analyzer – Module Standard** and appropriate testing liquids enable to characterize both, **surface porosity** and **surface sizing/hydrophoby**. The contact of the testing liquid with the sample surface is measured in the relevant time for the converting process, i.e. measurement is possible in the very first milliseconds (surface porosity) or seconds (surface sizing / hydrophoby).

By means of the analysis of relevant parameters, quality issues can be predicted and, thereby, immense **savings of material, man power, time, and money** can be realized. Complaints are avoided and the converting process stabilized, leading to a quick “return on investment”.

Example: Automatically calculated quality values



Application area

Quality testing for internal- and surface-sized, uncoated respectively coated paper and board (grammages up to 600 g/m²)

Measuring results

Surface pore structure (t95 resp. t99)

Surface sizing (MAX)

Advantages

- **Modular system**
- **Easy handling**
- **High-performance, very user-friendly PC software with automatic computation of application-specific parameters**
- **Especially suitable for quality control directly in production plants and for use by application engineers of chemical suppliers for employment at customer, as well as for troubleshooting**
- **For R&D / product development**

Technical data

Sample dimension: 75x50 mm

Measuring frequencies: 1 MHz, 2 MHz selectable

First measured value: approx. 10 ms after liquid contact

Measurement intervals: approx. 1 ms

Data structure: ASCII file

Dimensions: BasicDevice420x160x320mm, MCU110x160x240mm (HxWxD)

Weight: approx. 16 kg

Supply voltage: 115-230 VAC, 50-60 Hz