CAP 100

LENZING INSTRUMENTS

WICK AND WEIGH TEST

The fluid handling of nonwoven and woven materials for hygienic and other applications involving fluids has a major impact on the functionality of the end product. A detailed analysis of the capillary properties of the material gives essential feedback for purposes of product- and process optimisation.

One of the methods for determining the capillary rise of liquids in nonwoven and woven materials is the so called wicking test. With Lenzing Instruments **CAP 100**, the common wicking test is given a new dimension: No time consuming waiting for repeated observations of measurement readings, no operator influenced measurement results. Instead, **CAP 100** offers a fully automatic determination of both capillary rise and fluid absorption over time. transfer, optimized handling and a sophisticated evaluation software including an expert system.

A high resolution area camera in combination with the corresponding illumination modules monitors the capillary rise over time. Simultaneously, a high precision load cell registers the amount of absorbed test liquid.

The software generates vital parameters such as the estimated maximum capillary rise, wicking speed, capillary volumetric absorption and the Washburn constant. It also allows for the results of the capillary rise in the vertical direction to be interpreted to describe also horizontal wicking.

CAP 100 offers efficient and accurate testing of the capillary properties for both product development and quality control purposes.

Developed in cooperation with DITF institute of textile and fiber resarch in Denkendorf, Germany

The Testing Company

qualityaustria SYSTEM CERTIFIED ISO 9001:2015 No.00894/0 06/19

TEXTILE TESTING

CAP 100

WICK AND WEIGH TEST

Scope:
Device for automatic and reproducible determination and characterisation of the capillary rise properties of nonwoven and woven materials.

Method:
A sample of defined width and length is clamped and lowered into a container filled with test liquid. As soon as the sample has entered the liquid, the height of the progressing liquid front of the capillary rise is automatically registered by means of a high resolution area camera in combination with LED illumination modules. A load cell monitors the amount of absorbed liquid over time. The recorded measurement values are automatically communicated to the software algorithm, which identifies the parameters for the capillary rise kinetics of the tested material.

Results:
The image processing system gives information about the maximum, minimum, average and median height of the capillary rise over time. Time based weighing data for liquid absorption control is generated by the load cell. Out of the generated measurement values, the software algorithm calculates specific parameters of the capillary rise kinetics such as the estimated maximum capillary rise, the Washburn constant, wicking speed and capillary volumetric absorption.

Sample width:
30 mm

Sample thickness:
Up to 3 mm
(Customization on request)

Detectable capillary rise:
250 mm

Standardized testing:
EDANA 10.3-99
ISO 9073-6

Image processing system:
Camera:
Area camera with GigE interface
Resolution: 1936 x 1216 pixels

Illumination module:
LED illumination

Weighing system:
High precision load cell
Weighing capacity: 220 g / 520 g
Accuracy: ± 0,1 mg / ± 1 mg
Reproducibility: ± 0,1 mg / ± 1 mg

Available versions:

- *Basic version:*
  Image processing system for capillary rise measurements One sample position Manual sample lowering and liquid refilling
- *Automatic version:*
  Image processing system for capillary rise measurements One sample position Automatic sample lowering and liquid refilling
- *Advanced version:*
  Image processing system and weighing system for measurements of capillary rise and weight of absorbed fluid One sample position
- *Industrial version:*
  Image processing system and weighing system for measurements of capillary rise and weight of absorbed fluid Three sample positions for simultaneous testing

Technical data and pictures are subject to change!

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