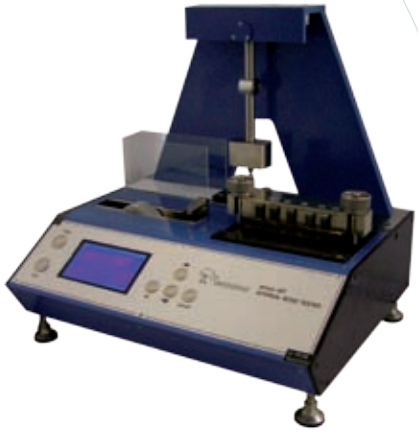
Internal bond tester

The new internal bond tester realizes the dynamic measuring principle to determine the internal bond strength of paper, board and compound materials. The significant influences of sample preparation and climatic conditions were considered in the construction.

The examination of the internal resistance or bond strength of papers and compound materials in the processing and printing processes is only relevant for evaluation with a dynamic measuring system.



Construction and function

The construction and function are in accordance with TAPPI method T569 pm-00. The sample is fixed by double sided tape between the sample holder and the aluminium angle. The measuring area is 25,4 mm x 25,4 mm (1" x 1"). The sample with tape is prepared by adjustable pressure and press time.

In the test procedure is the sample holder pneumatic clamped and the pendulum magnetic released. At the pitching moment of the pendulum on the angle is the sample splitted at the complete area. The spent energy of the pendulum correlates with the internal bond strength (Internal Bond) of the sample.

By change of the pendulum weight, the energy of the pendulum can be adapted to the resistance of the samples.

There are two methods to measure:

• Potential Energy – traditional method

The deflection of the pendulum after moving the angle is measured. The difference of the deflection of the pendulum after moving the angle with the sample to the maximum deflection of the pendulum (zero measurement) is the measurement of the spent energy.

• Kinetic energy – dynamic method

The changing of the pendulum speed before and after moving the angle is measured. From the difference is determined the spent energy

Features

• Microprocessor controls

• Statistic function (AVG - average value, DEV - standard deviation)

• Output of measuring data and parameters via RS 232 (optional)

• Selective indication of measurements in: J/m2, ft-lb/sq.in. or mJ/sq.in.

• Measuring of the spent energy according two methods:

  - Measurement of the maximum pendulum deflexion (potential energy)

  - Measurement of variance of pendulum speed (kinetic energy)

• Processor controlled pressure and pressing time

• Monitoring of the climatic conditions

• Multilingual menu guided

• User specific measuring ranges from 0.25J to 1.5J

• Self calibrating

Technical Data

Measuring range

3 ranges – 525 J/m²/ 1050 J/m²/ 2100 J/m²

(pendulum from 0,25 J to bis 1,5 J energy)

Measuring accuracy

± 2% of the measurement

Sample dimension

25,4 mm * 25,4 mm (1,0" * 1,0")

Number of samples

5 pieces

Pressure

to 705 kPa (at 6 bar compressed air, 0,1 bar steps)

Pressure time

1-60 seconds (1 sec. steps)

Power supply

230 V AC ± 10%, 50 Hz

110 V AC ± 10%, 60 Hz

Compressed air

6 bar, filtered, oil free

Physical specifications

Dimensions

500 mm x 400 mm x 520 mm (L x H x W)

Weight

approx. 35 kg

Standards

TAPPI method T569 pm-00