Cepi-CTS Procedure

PRELIMINARY ROUND

PTS / qualified laboratories
- shipping of test samples to qualified laboratories
- measurement of parameters
- return of the results to PTS

PTS
- evaluation of results
- definition of warning and action limits
- preparation of a preliminary evaluation
- shipping of test samples to customer laboratories

MAIN ROUND

Customer laboratory
- measurement of parameters

Customer laboratory
- return of customer results to PTS

PTS
- evaluation of customer results
- dispatch of the overall and single evaluation of the test parameters to the customer laboratory

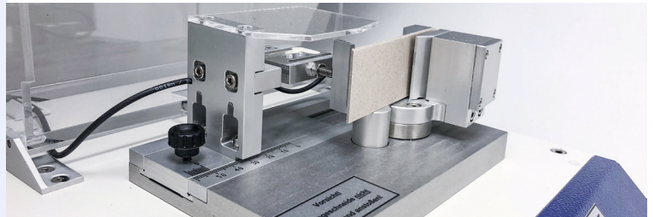
Customer laboratory
- company-internal evaluation of the comparative test

Your advantages

- assurance of correct and comparable test results
- approved documentation for internal and external quality assurance, validation of measurement results
- detection of changes in the process flow as well as defects in the testing device
- improvement and standardization of operational procedures during the testing process
- development of a high and constant testing performance standard
- classification and evaluation of measurements in comparison to other companies/institutions
- information on further development of test methods and devices
- employee training and education
- competent representation towards customers, certification bodies and during customer audits

Procedure and evaluation

- the comparative testing takes place twice a year
- sample sets of up to 4 different measuring ranges (levels) per test property available
- special formats for paper testing lines
- after completion of the comparative test you will receive an overall and individual evaluation of the test parameters
- our additional offer for you is the comparison and evaluation of your laboratory results with the values determined in the preliminary round by the qualified laboratories



Cepi-CTS

For more than 25 years PTS has functioned in the Cepi working group as a coordinating laboratory, distributing laboratory and qualified laboratory for comparative testing samples in the fields of paper, board, cardboard, corrugated board and tissue.

More than 400 satisfied customers from pulp production, paper production, board production, corrugated board production, tissue production, printing industry, chemical industry as well as converting and research already use the spectrum of more than 75 test parameters.

Further information and registration:

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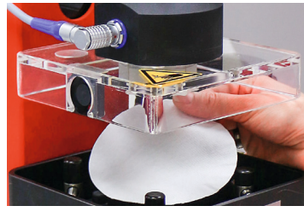
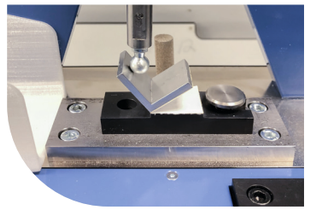
PTS

FIBRE based solutions

more than 100 test parameters





Cepi Comparative Testing Service

Accepted measurement validation for certified companies and facilities in paper production and converting

www.ptspaper.com

Test parameters

Basic properties

- Thickness
- Grammage
- Relative Humidity
- Moisture

Strength properties

- Tensile strength / Tensile strain at break (1924-2)
- Tensile strength / Tensile strain / TEA / Tensile stiffness (1924-3)
- Tensile strength after immersion in water
- Tearing resistance (Elmendorf)
- Tear growth (Brecht-Imset)
- Compressive strength (short span test)
- Puncture resistance
- Scott internal bond strength
- Folding endurance (Schopper)
- Folding endurance (Köhler-Molin)
- Bursting strength paper
- Bursting strength board

Stiffness properties

- Bending stiffness resonance method
- Bending resistance – 2-point-stiffness (7.5° 15°; 50 mm)
- Bending stiffness static – 2-point-stiffness (5°; 50 mm)
- Bending resistance – 2-point-stiffness (15°; 10 mm)
- TSI / TSO – Tensile stiffness index / Orientation angle

Recyclability Test

- Course reject, Fine reject, Evaporation residue

Do not leave your quality to chance!

Chemical properties

- Kappa number
- pH of aqueous extracts
- Alkali reserve
- Residue (ash) at 525°C / 900 °C

Optical properties

- RX, RY, RZ – Illuminat C
- RX, RY, RZ – Illuminant D65
- ISO Brightness, Illuminant C
- Brightness, Illuminant D65
- Opacity, Illuminant C
- CIE Whiteness, Illuminant D65
- L*, a*, b*, Illuminant C
- L*, a*, b*, Illuminant D65
- L*, a*, b* col. paper, Illuminant C
- L*, a*, b* col. paper, Illuminant D65
- L*, a*, b*, Illuminant D50, 45/0, M0/M1
- Gloss 75°

Structural properties

- Air permeance Bekk
- Air permeance Bendtsen
- Air permeance Gurley

Fibre tests

- Fibre length / Fibre width
- Drainability Schopper-Riegler
- Drainability Canadian Standard freeness

Tissue properties

- Single-sheet thickness
- Bulking thickness
- Tensile strength after immersion in water
- Residual water absorption capacity / time
- ISO Brightness, Illum C
- Tensile strength / Strain at break
- Softness
- Grammage
- Disintegration

Surface properties

- Smoothness Bekk
- Roughness Bendtsen
- Roughness Parker Print-surf
- Coefficient of friction static / dynamic
- Coefficient of friction, inclined plane
- Contact angle
- Water absorption Cobb 60s (paper)
- Water absorption Cobb 600s (board)
- Grease Resistance (KIT-Test)

Printability properties

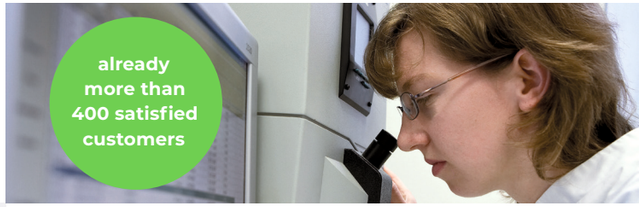
- Resistance to picking IGT
- Print penetration IGT
- Dennison Wax

Label tests

- FINAT FTM 1 Peel adhesion (180°)
- FINAT FTM 2 Peel adhesion (90°)
- FINAT FTM 3 Low speed release force (180°)
- FINAT FTM 9 ‘Loop’ tack measurement

Corrugated board tests

- Thickness
- Ring Crush Test (RCT)
- Flat Crush resistance (FCT)
- Flat Crush resistance after lab fluting (CMT)
- Edgewise Crush Resistance (ECT)
- Bursting strength
- Water absorption Cobb 1800s



The Cepi-CTS helps you

- to optimize product quality
- to optimize operational procedures in the laboratory
- with inspection of measuring and testing equipment

and supports you in

- quality planning
- quality assurance
- quality control
- quality improvement

The testing procedures are based on current international standards.