



CEPI-CTS Chairman

Dr Fulvio Savagnone, IPZS
Via Salaria 712,
I-00138 Roma, Italy
tel: + 39 06 8508 2817
f.savagnone@ipzs.it

Issue: 1

Editor: Jocco Dekker, WUR-FBR

Distributing Laboratories

BELGIUM: CELABOR SCRL
Zoning de Petit-Rechain
Avenue du Parc 38
B-4650 CHAINEUX
tel: +32 87 32 24 56
david.berck@celabor.be

FINLAND: Labtium Ltd
PO Box 57
FIN-02151 ESPOO
tel: +358 50 5630 598
minna.lehto@labtium.fi

FRANCE: CTP
BP 251
F-38044 GRENOBLE Cedex 9
tel: +33 4 76 15 40 37
fax: +33 4 76 15 40 16
sylvie.moreau-tabiche@webCTP.com

GERMANY: PTS
Pirnaer Strasse 37
D-01809 HEIDENAU
tel: +49 3529 55 16 11
i.pollex@ptspaper.de

HUNGARY: UWH-PRI
P.O. Box 1751
H-1215 BUDAPEST
tel: +36 1785 3373
pgere@fmk.nyme.hu

ITALY: INNOVHUB
Piazza Leonardo da Vinci 16
I-20133 MILANO
tel: +39 02 239 55 327
graziano.elegir@mi.camcom.it
Dr Graziano Elegir

SPAIN: ASPAPEL
Avda. de Baviera, 15 Bajo
28028 Madrid
tel: +34 915763003
mj.gutierrez@aspapel.es
María José Gutiérrez

SWEDEN: INNVENTIA AB
Box 5604
S-114 86 STOCKHOLM
tel: +46 8 676 7236
peter.hansen@innventia.com

THE NETHERLANDS: WUR-FBR
PO Box 17
NL-6700 AA WAGENINGEN
tel: +31 317 480237
jocco.dekker@wur.nl

UNITED KINGDOM: Smithers Pira,
Cleeve Road
UK - KT22 7RU LEATHERHEAD
tel: +44 1372 802 094
cberry@smithers.com

In this Issue:

- [Foreword from the CEPI-CTS Chairman](#)
- [What is CEPI-CTS](#)
- [How to use the A-results](#)
- [Note about burst strength testing with new L&W devices](#)
- [Introduction of new tests available from 2013](#)

Foreword

We are pleased to present the first issue of the CEPI Comparative Testing Service (CEPI-CTS) Newsletter. This publication, which will be issued at least once a year, aims at better explain its functioning to those that already avail themselves of its services, as well as at introducing the CEPI-CTS to those paper-testing laboratories that do not yet know of its existence.

It will announce the introduction of new tests, describe CEPI-CTS statistics and the use of its reports, provide instructions on test procedures and everything else you may deem necessary to improve the performance of your laboratory: do not hesitate to contact us if you would like any subject about testing to be treated.

Fulvio Savagnone, CEPI-CTS Chairman

What is CEPI-CTS

The Comparative Testing Service of CEPI (CEPI-CTS) is a proficiency testing and reference materials dissemination scheme for the Paper Industry that runs continuously since 1976.

It comprises a programme of more than 100 different tests and it is used by more than 400 paper testing laboratories in most European countries.

It is one of the many activities supported by CEPI and it is run by a Working Group whose members are nominated by the national Paper Associations and who are mostly research institutes. The Working Group is supervised by the CEPI Innovation Committee.

CEPI-CTS main features:

- Fully independent proficiency testing service
- Established for more than 35 years – Unrivalled expertise
- The only paper CTS to provide reference values with statistical limits for samples
- Clients include pulp and paper producers, customers and suppliers to the paper industry
- Supported by consultancy services for calibration and training for equipment operations

How to use the A-results

In the [A-summary reports](#) you find data summarising the results from the pre-test round. The [CEPI A Mean](#) or [A value](#) is the average of the valid mean values reported by the Qualified laboratories (QL). Statistical tests are used to validate the QL results to exclude both outliers and high standard deviations.

The [standard deviation within](#) is the average of the valid standard deviations reported by the QL's. This value represents the variation in the sample and natural variation in one measurement series. Your standard deviation should be at the same level.

The **standard deviation between or reproducibility** is calculated from the differences in the mean values reported by the QL's. This is an indication for the variation you get comparing results from different laboratories. This variation is caused by differences in equipment, operator, climate conditions etc. From this standard deviation the **warning limits and action limits** are calculated. In the case your mean is outside the action limits, the probability that this is a statistical error is only 1%. This means that it is 99% sure that another factor is causing the difference like wrong procedure, equipment failure, different climate conditions etc. When your result is outside the warning limits but within the action limits the probability that the error is due to statistics is 5%. So 95% chance that something is wrong with your test procedure or equipment. When your result is outside one of the limits compare your procedure with the standard and also check your equipment (calibration, slip, etc.) and climate conditions. At your local distributing laboratory you can order extra samples to do extra tests to check your equipment and procedure again.

Note about burst strength testing with new L&W devices

It has come to our attention that some laboratories with L&W burst instruments are reporting 'compensated' results. The compensated result is determined by the test instrument to exclude the pressure required to inflate the diaphragm. Please note that these results are not comparable with results obtained from instruments reporting uncompensated results. We therefore request that all burst tests are performed at the standard speed and that uncompensated results are reported.

New tests available starting from 2013

As CEPI-CTS we constantly aim to improve the availability of different kind of properties. Starting from 2013 reference samples will be available for:

- **Optical properties printed paper,**
- **Heliotest,**
- **Ink transfer,**
- **Finat adhesive tests (available from round 2013-2).**

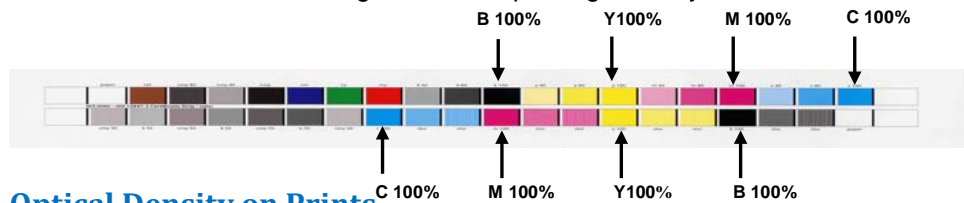
Please find an overview of the samples and levels in the table and a short explanation about these properties below. Contact your local distributing laboratory to order one of these new tests or for more information.

No	Property	Standard	Units	Indicative Levels:			
				1	2	3	4
9.5(a)	L* printed paper, Illuminant D50	ISO 13655	%	15.0±18.0	54.0±57.0	45.0±48.0	85.0±88.0
9.5(b)	a* printed paper, Illuminant D50	ISO 13655	%	0.2±0.5	-39.0±-34.0	72.0±74.0	-6.0±-4.0
9.5(c)	b* printed paper, Illuminant D50	ISO 13655	%	0.1±1.5	-50.0±-47.0	-5.0±-3.0	92.0±95.0
9.6	Optical density printed paper	ISO 5-4	%	1±2.5 (Black)	1±2 (Cyan)	1±2 (Magenta)	1±2 (Yellow)
9.7	Linearity of a densitometer	ISO 5-4	%	-0.01±0.03	0.3±0.4	0.5±1.5	1.0±2.5
9.8	Heliotest	IGT W41	mm	40±60	80±100		
9.11	Ink transfer	ISO 2834	g/m ²	0.9±1.1	1.4±1.6		
10.5(a)	Peel adhesion (180°) at 300mm per minute (20min)	FINAT 1, 20min	N/25 mm	0.3±0.8	8.0±10.0		
10.5(b)	Peel adhesion (180°) at 300mm per minute (24h)	FINAT 1, 24h	N/25 mm	0.7±1.7	9.0±11.0		
10.6	Low speed release force	FINAT 3	cN/50 mm	8.0±10.0	13.0±18.0		
10.7	'Loop tack' measurement	FINAT 9	N	3.0±4.0	10.0±14.0		

L*, A*, B* ON PRINTS - D50 ILLUMINANT - OBSERVER 2°

In the printing industry there is a strong demand for measurements of the paper and the print using the instrumentation of the printing industry. In the printing industry the use of D50 illuminant is common and needed for the colour management in the print shop. To verify the performance of the operator, the instrument and the calibration state of the instrument, a new test has been implemented based on ISO 13655, to measure the CIELAB colour L*a*b* at illuminant D50 with 0°/45° or 45°/0° instruments. The elements to be measured contain solid printed spots of the colours

Black, Cyan, Magenta and Yellow. 4 levels are considered on 2 printed strips. The elements are to be measured on black backing as usual in printing industry.



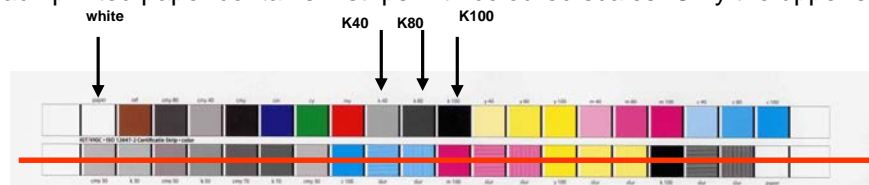
Optical Density on Prints

For a number of printability tests the evaluation has to be done using a Densitometer. This can be true (filter) densitometric or density from spectral measurement. The most common way to measure most of the elements is measuring with a densitometer according to ISO 5-4. To verify the performance of a densitometer a test is developed to measure a number of fields, solid and halftone with the correct filter setting of 4 considered levels on 2 printed strips.

Linearity of a Densitometer – Printed Papers

For a number of printability tests the evaluation has to be done using a Densitometer. This can be true (filter) densitometric or density from spectral measurement. The most common way to measure most of the elements is measuring with a densitometer according to ISO 5-4. To verify the linearity of a densitometer a test is developed to measure a number of fields, solid and halftone, with the correct filter setting of 4 considered levels on 2 printed strips.

Each printed paper contains 2 strips with coloured scales. Only the upper scales are considered.



Heliotest

Heliotest is a printability test to determine the smoothness of a paper for gravure applications. This test is used in many paper mills on different IGT testers: manual instruments like A1 or newer, electrical instruments like AC2, AIC2, AIC2-5, GST all of different age and configurations.

Ink transfer

For most of the printability tests there is a need for an even and well defined ink film on the paper. To proof that this can be made a test for homogeneity is developed. For this test ink films of 1,0 and 1,5 g/m² will have to be printed on two different papers with specific ink.

Users are requested to determine the amount of ink laid down on the paper, measure the density of each sample and is requested to return the samples to IGT for measurement of the homogeneity over the print.

Finat adhesive tests:

FTM 1 - Peel adhesion (180°) at 300 mm/min

The test method quantifies the permanence of adhesion of a self-adhesive pressure sensitive material. Peel adhesion is the force required to remove pressure sensitive material, which has been applied to a standard test plate under specified conditions after 20 min and 24 h from the plate at a specified angle (180°) and speed (300 mm/min). Two different levels are available.

FTM 3 - Low speed release force

The test method is used to determine the force required to separate the release backing from the pressure sensitive adhesive coated face material. Low speed release force is the force required to separate a pressure sensitive adhesive coated material from its backing or protective sheet at an angle of 180° and a speed of 300 mm/min. Two different levels are available.

FTM 9 - 'Loop tack' measurement

Loop tack test is a measurement to assess one of the most important properties of pressure sensitive materials, the tack as "initial grab" or "application tack".

The loop tack is the force required to separate a formed strip of an adhesive coated facing material strip (loop) from a shortly under defined conditions contacted glass plate with defined dimensions at a speed of 300 mm/min. Two different levels are available.