IGT LintView Tester

Time saving test methods

Linting of uncoated paper types can lead to problems during printing or processing of paper. For the paper industry it is also important to be able to test the paper for any tendency to loose fibres during the production process. With the LintView Tester, IGT Testing Systems has a fast, simple and accurate system to detect lint.

The linting of uncoated paper types is caused by the release of fibres or fibre bundles from the surface of the paper. This form of linting must not be confused with problems involving paper dust or with the picking of the coating from coated paper types. Dust is not part of the paper and is released easily, shedding of these dust particles during printing does not damage the paper, but does cause printing problems. Pick of the coating on coated paper types also causes problems, but considerably more force is needed for pick to occur than for linting, such as happens with high tack inks.

Fast, simple and accurate

There are various test methods for determining and measuring linting. These tests are often time consuming, which makes them expensive, or they do not always deliver the information required. Moreover, tests take place at a late stage in the process, namely when the paper is already on the printing press – often months after the paper is manufactured. It is important for paper manufacturers to be able to test the paper quickly, easily and accurately during production, on the front and rear and across the width of the paper machine. It must also be possible to analyse the measured data quickly so that the tendency to lint can be identified and suppressed. With the LintView Tester, this is now possible.

The LintView Tester is used in the following industries

- News papers
- Calendered papers
- Coated papers and cardboard

User convenience

- Results within 8 seconds
- CD-profiles
- Comparable results

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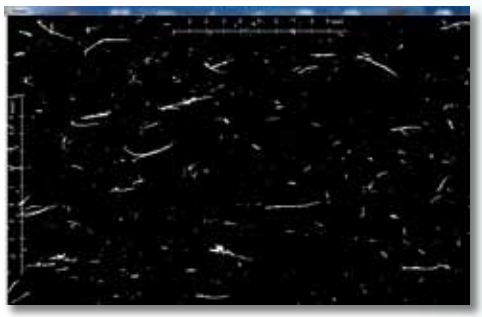
Easy to operate

Entire width paper web in view

The test is done by with the aid of certified, calibrated tape on samples from the width of the web. The tape is rolled under constant pressure against the paper sample and then pulled off again. This means there is no ink, solvent or whatever needed to remove any loose fibres from the paper's surface. The LintView tests are not sensitive to change in viscosity under the influence of temperature. The particles stuck to the tape are analysed in the LintView tester by a camera, after which the tendency to linting can be expressed as a number within just minutes. The simplicity and speed of the test also makes it possible to take samples across the full width of the paper machine to definine a cross directional, CD profile. This CD profile can be used to produce paper that is as even as possible across the entire width of the paper machine.

Testing during the production process

The LintView Tester is compact and takes less than one metre of space on the workbench. The system is simple to operate via the PC, does not require maintenance and is easy to calibrate. The samples are fed into the system automatically and the measurements are done, the analysis is then shown on the display within a few seconds. With the measurements of the LintView tester – preferably performed conditioned in the paper mill – the paper manufacturer is able to correlate the relationship between the tendency to linting and the different stadia in the production process, such as the dosing of water and chemicals, the quality of the felt or the drying temperature.



LintView Tester in practice

The LintView tester is suitable for various uncoated paper types, such as newsprint, calendered paper and some types of tissue and cardboard. The system is in use with various paper manufacturers around the world and is also used by digital printing equipment manufacturers for toner adhesion test.

Automatically saving images

The images the camera takes can be stored automatically. All pictures can be reviewed later. The images can also be reviewed during a test. Tools are available for measuring the length, thickness and the surface area of a particle in the image. These measurements are automatically stored.

The LintView results

The collected particles are classified per surface area. The user can select the lower and upper limit per group. The classification can therefore easily be adjusted to the way in which the pulp is obtained.

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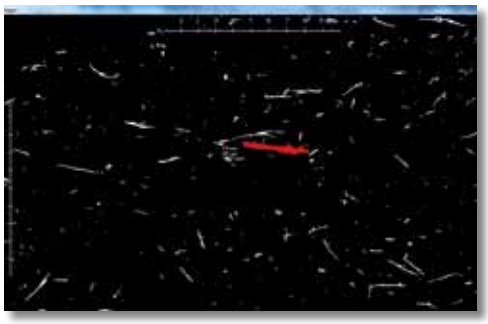
Flexible settings



The LintViewIndex calculation

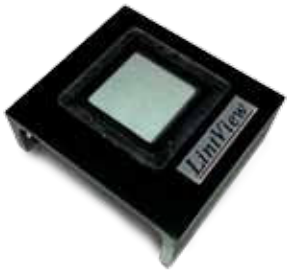
The higher the LintViewIndex, the more particles the tape has taken off the paper surface. Per classification group a weighting factor can be assigned, with which the contribution per group can be set. Within each group the total amount of particles is measured. The LintViewIndex is calculated from the results of the individual classes.

Shives en vessels

LintView looks at particles. Within the software certain special particles can be recognised, for example shives, which are shavings or splinters, or vessels. The LintView software then records, in a separate group, whether a particle meets previously set minimum and maximum values for six different measures and properties of the particles. These particles are automatically coloured in the image. Based on this image the particle can be found on the tape and via microscopic examination the origin of the particle can be determined.

Measuring modes

Depending on the LintView use, different measuring modes can be selected. This way the operator can investigate various groups, for example coating particles, vessels or just fibres longer than a certain length.



Reference slide

To be able to check the LintView for correct operation a reference slide is supplied. In a specific mode this reference slide must always give a fixed value. While producing this slide the image is captured, and with this the camera can be checked for possible faults. The settings of the verification measurement mode guarantee that the slide is always measured under the same conditions.

Remote support

Once the LintView tester is installed, the user can give permission to remote control the device if the computer is connected to the internet. If this is not possible then an automatically generated text file can be used. In this file the parameters and all set values of the LintView test mode are written. By sending this file to IGT, remote support is available.

Various kinds of tape

IGT produces various types of tape, each with its own adhesive strength. All rolls of tape are classified into categories.

Round Robin test

Often it is necessary to be able to align different LintView testers with each other. By defining a common measurement mode, organisations can compare LintView indexes with each other. To make the exchange of these data possible, naturally the other circumstances need to be equal too, such as the same kind of tape and the same kind of substrate carrier. IGT also supplies paper samples so that they can do a Round Robin test. For further information please contact the IGT dealer or agent in your country, or the IGT Head Office.

IGT

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Technical data

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- Dimensions (HxWxD): 720 x 800 x 600 mm³
- Weight: 35 kg
- Electrical ratings: 110/230V 50/60 Hz

Substrate carriers

- 515.000.001 standard
- 515.000.002 for tissue and papers with high linting resistance

Minimal computer system requirements

- Operating system: Windows 7, 8, XP Vista or 2000 PRO (32 or 64 bits)
- RAM 2 GB
- Communication ports: (3) minimal USB 2.0 whereby minimally 1 port can deliver power for the camera 5V, 500 mA
- 32 or 64 bits desktop computer
- Option: Microsoft Excel or any other program for processing and analysis the recorded measurement results

Agent

IGT Testing Systems

Research, development and production of testing equipment for the printing and allied industries

IGT Testing Systems
P.O. Box 22022
1302 CA Almere
The Netherlands
Phone : +31 20 409 9300
Fax : +31 20 409 9339
E-mail : info@igt.nl
Internet : www.igt.nl

IGT Testing Systems, Inc.
Arlington Center
543 West Golf Road
Arlington Heights IL 60005
USA
Phone : +1 847 952 2448
Fax : +1 847 952 2449
E-mail : usa@igt.nl

IGT Testing Systems Pte. Ltd.
Print Media Hub
61 Tai Seng Ave #05-14
Singapore 534167
Phone : +65 6481 8993
Fax : +65 6481 9685
E-mail : singapore@igt.nl
Internet : www.igt.com.sg

IGT Testing Systems KK
1229-1, Mawatashi
Sakura-shi
Chiba-ken 285-0804
Japan
Phone : +81 (0)43 308 7302
Fax : +81 (0)43 308 7304
E-mail : japan@igt.nl