



The number of crimp is an essential parameter of staple fiber for its subsequent processing performance. Nowadays it is counted manually fiber by fiber. If one considers that across the tow there are hundreds of thousands of single fibers and that the variation of the number of crimp over the width of the tow can easily be more than 300 % - it becomes obvious that such a manual method never can come even close to a reliable judgement of the real crimp numbers and their actual variation over the tow.

CIS 300 determines the main (average) crimp number and analyzes the complex crimp distribution over the entire width and length of the tow. The micro crimp and the long crimp are analyzed specifically. That allows an immediate feedback and a perfect, representative control of the entire crimp variation in your staple fiber tow.

100 % of the production history is recorded and can easily be recalled from the professional data base.

That means in case of claims you can provide much more determined investigations in terms of crimp variations.

With **CIS 300** you will save money by reacting immediately to changes usually shown in the crimp process and by being able to define accurately which bales have been affected by unacceptably crimped fibers instead of downgrading large production lots.

CIS 300 analyzes crimp variations for their number, variation over the tow and their nature. That signifies immense savings by downgrading only the very few and 100%-identified bales affected by minor crimp quality. It is your tool to define the origin of the crimp variations and to take immediately the corresponding measures. A much better and continuous quality from your customer's point of view is your benefit resulting in high quality image and no claims caused by crimp variations.

Scope:

On-line crimp inspection of the passing tow directly in the production; analyzing the average crimp count (base crimp), crimp distribution, micro crimp, long crimp and edge crimp. It displays the crimp variations in down and cross tow directions.

The CIS 300 concept allows to fully control an entire fiber production plant with different lines using

- either the corresponding number of optical sensors per line or
- cameras traversing the tow (suitable for larger tows) which are connected to only one central control unit.

Method:

The tow is illuminated by stroboscopic infra-red light. Infra-red sensitive cameras monitor the passing tow between dryer and cutting machine.

Results:

Data are displayed and analyzed by means of a powerful data base tool enabling also customized reports.

Camera application option:

- On a simple fixed frame - more cameras will monitor the tow simultaneously
- On a traversing unit - moving one camera periodically from one side of the tow to the other
- On a simple frame for off-line laboratory measurements

Crimp count rate:

Up to 30 measurements/min, fully parallel for each sensor

Distance to fiber tow:

Approx. 120 mm from sensor to tow surface

Maximum tow velocity:

10 m/sec

Scan width:

Approx. 125 mm per sensor
The specific image area is 2.5 x 3.2 cm

Accuracy:

Better than 1 % of full scale

Measuring Range:

4 to 30 counts / cm
(10 to optional 75 counts/inch)

Data presentation:

Easy data accessibility and customized reports.
Direct data presentation on device front-end.

Evaluation Unit:

PC with crimp evaluation software with powerful data base

Line infrastructure:

I/O interfaces for external Start/Stop/Pause/Alarm relays for each fiber line

Note:

CIS 300 is also available as laboratory system (CIS 300 LAB)

Dimensions:

Sensor head:

Length: 120 mm
Width: 240 mm
Depth: 350 mm
Weight: approx. 10 kg

Control cabinet:

Length: 400 mm
Width: 500 mm
Depth: 210 mm
Weight: approx. 140 kg

Power supply:

Line infrastructure:
230 / 115 VAC \pm 10 %, 50 / 60 Hz, 600 W

Options:

- Remote display of crimp count
- Ethernet connection to host-computer
- OPC UA interface

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Technical data and pictures are subject to change!