TIR

Description

The **TIR** measurement system is the winner of the International print & innovation award 2015. It analyses the quality of the printing sleeve or cylinder by measuring the '3D landscape' of the surface. This information gives a thorough insight on the condition of the printing sleeve or the cylinder. With that, the TIR builds up a record of the exact condition of each printing sleeve or cylinder in stock. Subsequently the printing sleeves can be placed in the press with the right pre-settings.

Details

A high-quality laser takes the measurements with an accuracy of 5 microns. The accuracy of the TIR system allows monitoring the distance between the guiding rail and the full length of the axis. It calibrates any irregularities to ensure precision on micron level. A full report is generated to keep track of any irregularities. The operator can pre-set specific tolerances that define whether the sleeve is still usable.

The ability to check the exact condition of each sleeve is essential for high-speed production with minimum pressure settings on the press. Worn out or damaged sleeves are easily detected, which prevents bad quality sleeve related downtime in the printing presses. It also helps to create an inventory of sleeves that are fit for use. The operator can pre-set specific tolerances that define whether a sleeve is still usable or not. In the image portrayed here it's visible how the TIR System measures the 3D surface of the sleeve, in which the blue spots indicate bulges on the sleeve's surface and the red spots indicate the dents. Bulges, dents and other imperfections such as the loss of roundness of the sleeve can seriously harm the print quality. With the TIR, press down time due to worn out sleeves can be prevented.

Advantages

Reduction in press downtime due to worn out printing sleeves which end up in the flexographic printing press

Quick and easy usage

Rigid steel construction
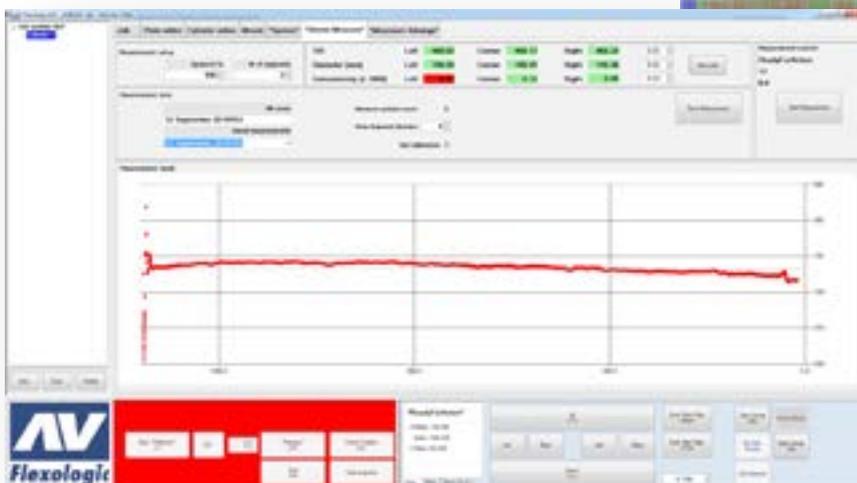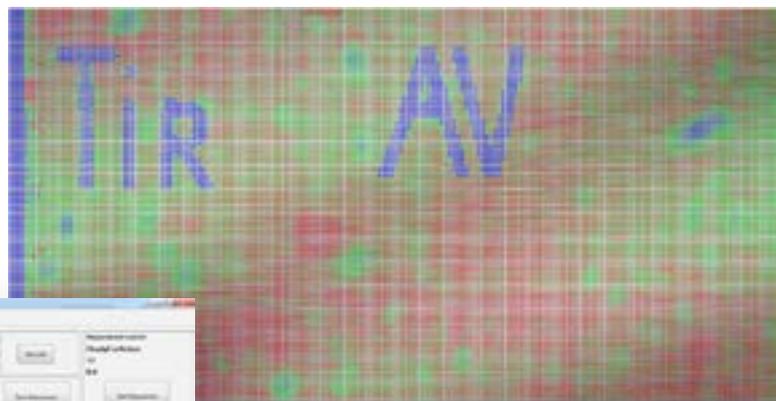
Prevent press downtime

Identify out-of-spec. sleeves

Allows better control over the printing process

Stores the measurement report

Options

Tape applicator for applying double-sided adhesive mounting tape

Cutting knife with an adjustable depth to prevent sleeve damage while cutting tape

TIR

TIR	Left	0.38	Center	0.38	Right	0.38	0.10
Diameter	Left	152.90	Center	152.90	Right	152.90	0.10
Concentricity (x 1000)	Left	0.00	Center	0.01	Right	0.01	0.10

Current Measurement   Sleeve History   Configuration

Summary Starting Date
01   February   2017

Summary Ending Date
01   August   2017

Summary Date Format
dd MM yyyy HH mm ss

Number of Displayed Measurements
5

Save History Settings

Maximum Deviation On TIR
1.00

Maximum Deviation On Diameter
2.00

Maximum Deviation On Concentricity
3.00

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The jury of the Flexotech International Print & Innovation Awards stated that:

"The TIR Sleeve Measurement system is tackling a new problem in the process and will no doubt help improve quality and reduce downtime to further enhance the competitiveness of our industry."

Analyzing and interpreting the data
The measured data is analyzed in both horizontal and vertical direction and gives:

- **An overall average**
- **A maximum and minimum**
- **Out-of-roundness**
- **Topography of the complete sleeve**

The actual measured data is added to the record of the sleeve. The operator can also print out a quality report of the topography of the sleeve.

This data can be analyzed so as to determine which are the lowest plate points of the print. Using this data will determine how to adjust the final pressure. It can also determine if the sleeve is still in optimal condition or needs to be scrapped.

The TIR System can provide a sleeve tracking system with an XML system where it is possible to enter all relevant data of each sleeve. The computer can be used to enter all data and manage the total sleeve inventory. One can define how often a measurement is needed for an approved sleeve. In case one fills in every 10 times the sleeve goes into the TIR / Taping system then it will appear when this sleeve is used after every 10 times that a recheck on the measurement is done.

Each sleeve will be given a unique number and an RFID tag is applied to the sleeve.