Print Simulation Tester PST

Model 58-76

What is a "relevant surface smoothness" test?

When printing in rotogravure, offset and flexography, print areas without sufficient contact will result in "missing dots" appearing as white areas or color changes. In contrast to air leak methods, the PST instrument offers detailed information across the entire test area. Furthermore, these test results are obtained at the relevant nip load and contact time, which is not possible with optical, non-contacting methods.

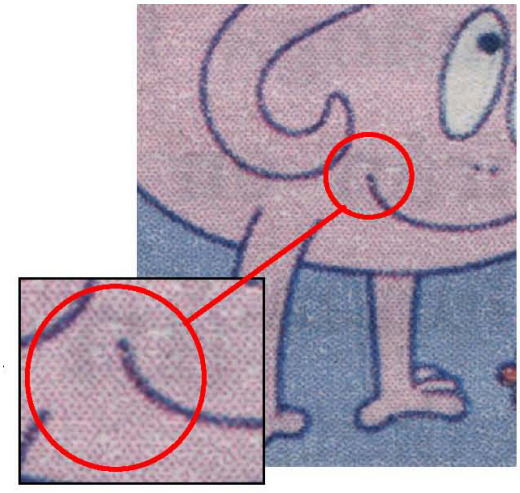
Until now established methods to determine the surface topography all fail to provide relevant data as current methods are not carried out under the conditions occurring inside a printing nip. The innovative PST instrument simulates a range of different press types, nip loads and web speeds and it eliminates the influence from a printing ink, as no ink is being used in this test.

FEATURES

- Simulates different press types for flexography, offset and rotogravure
- Determines "missing dots" without the use of an ink
- Measures the dynamic compression of a sheet at relevant nip conditions
- Offers detailed surface information
- Fast QC test that runs in a couple of seconds
- No operator training required

MODE OF OPERATION

The operator selects the relevant Nip Load and Nip Time parameters and puts a specimen into the instrument. The specimen is then automatically clamped and a sequence of images is captured to determine the dynamic compressibility of the specimen surface. The front of this leaflet shows an example of "missing dots" on a printed newsprint grade. The PST instrument determines these missing dots without the use of a printing ink. In the images below missing areas are indicated with different colours depending on their relative size. Missing area in this example is reduced to 1/3 rd during a compression of one second.



Dynamic Smoothness in real-time

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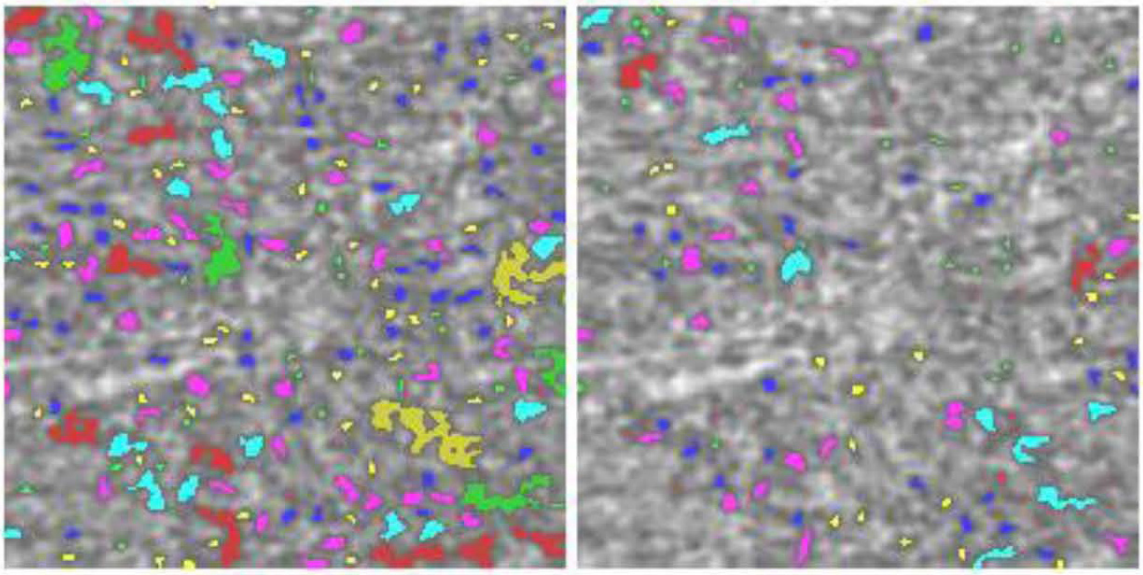

at 7.5MPa after 20 ms
13,3% contact area missing

at 7.5MPa after 1000 ms
4,8% contact area missing

Technical specifications	
Model	2610
Resolution (µm/pixel)	17
Frame rate (fps)	60
Nip Load	1- 10 MPa (10-100 kp/cm²)
Specimen size	min. 25 x 25 mm
Test cycle time	< 2 seconds
Field of View	100 mm² (9 x 11 mm)
Minimum Nip Time	one millisecond
Air supply	6 bar (90 psi)
Power supply	100-240 VAC, 200 W
Dimensions (HxWxD)	490 x 190 x 320 mm
Shipping Dimensions	58 x 46 x 48 cm (0.13 m³)
Weight (Net/Gross)	26 /35 kgs