

Heatset method

Smearing on machine

Apart from heatset papers, smearing on machine can be studied at FPC also for News grades by using the HSWO-machine for coldset printing.

Description

Smearing is typically a more common problem in sheet fed offset than in heatset offset. Smearing typically occurs also in different postpress stages, where the printed samples are in contact with each other. Under the influence of pressure and rubbing, ink is transferred from printed areas of one sheet to unprinted areas of the next. In the heatset offset process smearing can be caused by either poorly dried printing ink or with silk and matt papers by the so called “sandpaper-effect”, caused by the surface roughness of the paper.

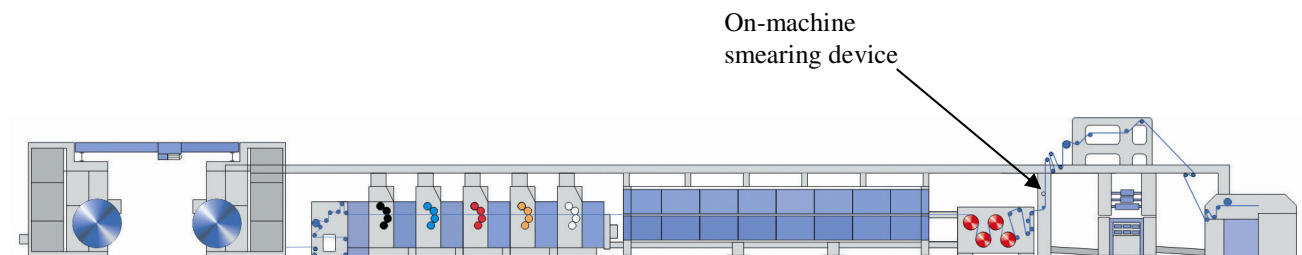
When studying smearing, a constant print density trial is conducted. Variables affecting the smearing are for example drying and the amount and type of silicone.

The smearing tendency is evaluated during the printing trial with the help of the device developed at FPC.



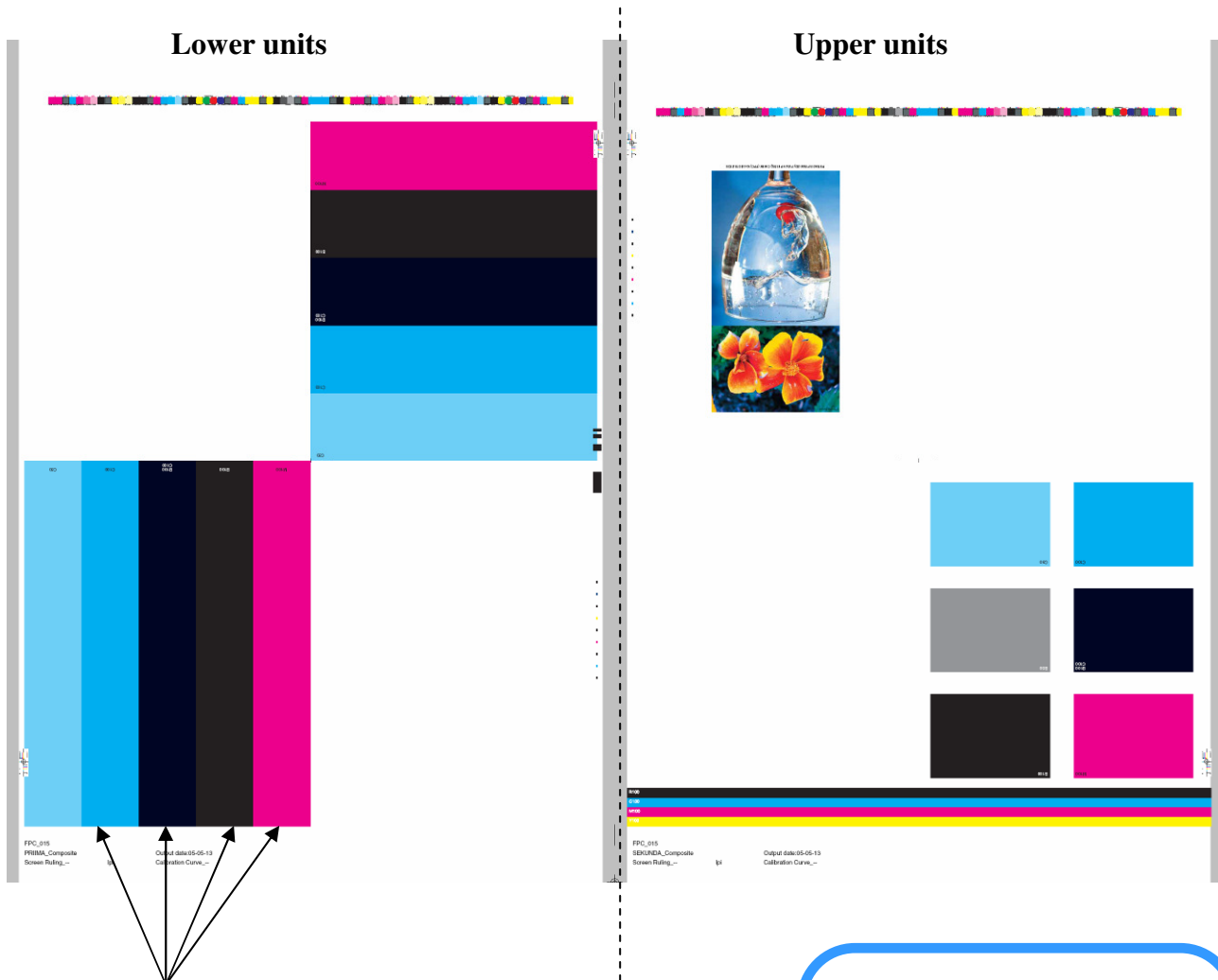
An unprinted sample of the paper to be studied is placed on the roller. The roller is then pressed against the printed paper web after the siliconizing unit and before folding. Variables in the process are the compression load of the roller and the contact time. Smearing is then evaluated from the paper on the roller with the use of a spectrophotometer, measuring either print density or ΔE .

For the constant print density trial some 2000 meters per trial point are required.



Heatset method

Layout



Smearing

Amount of paper needed:
2000 m/trial point
Measurements:
- smearing online:
 ▪ print density or ΔE
 measured from paper
 on opposing roll

