Waving

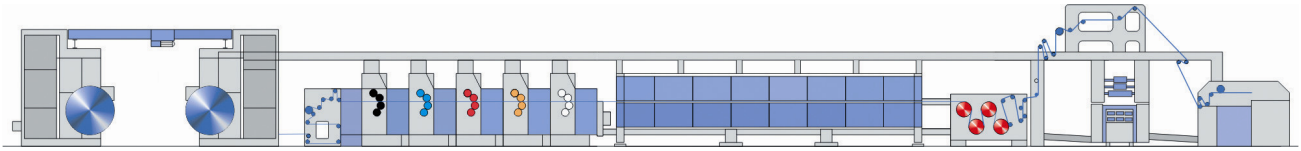
Description

Waving is a printing defect associated with the evaporation of the paper moisture during the drying of the printing ink in heatset offset printing. The coverage of the printing ink affects the evaporation speed, whereby less water is evaporated from the printed than from the unprinted areas. Local moisture variations combined with the web tension cause variations in the web tension profile, shrinkage and consequently waving. Once the printing ink is dried, the waves stay in the paper. Waving is usually more disturbing for high gloss papers.

When studying waving, a constant print density trial is conducted. Variables affecting the waving tendency are for example drying, web tension (unwind, drying oven) and fountain solution feed. The effect of drying on waving can be studied by adjusting the oven according to the temperature and speed of the air flow, or according to the web temperature.

The amount of paper needed for the trial depends on what parameters to be studied. For a constant print density trial some 2000 meters per trial point are needed.

Waving is measured from the printed product with the Wiva-analyzer, first directly after printing and then after one day of conditioning the sample. With the Wiva-analyzer it is possible to separate between waving in the machine and cross direction, and how the ratio between these change as a function of time.



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Heatset web offset

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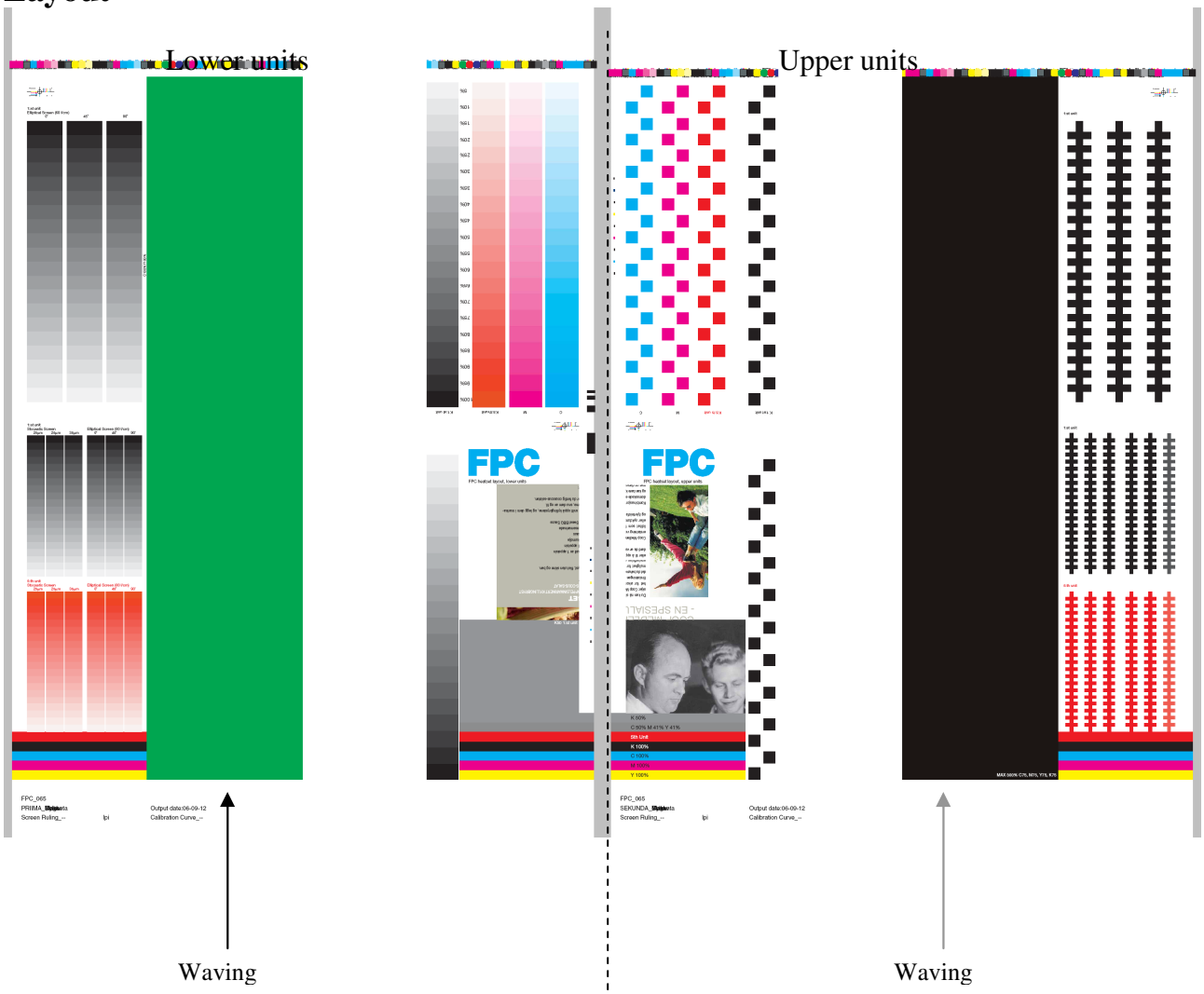
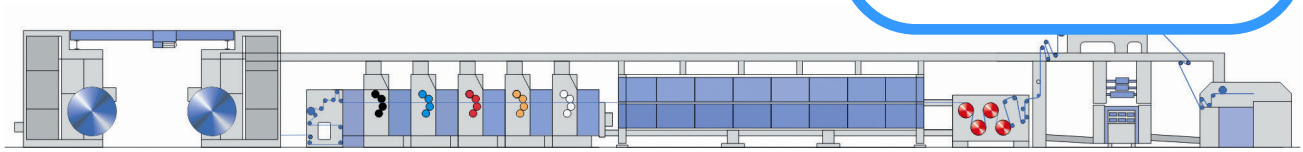
Layout



Amount of paper needed:
2000 m/trial point
Measurements:
- waving with the Wiva-analyzer:
  - MD and CD
  - directly after printing and after one day of conditioning



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