

PILING AND LINTING

Piling

One definition of piling is a build-up of ink (or ink components) and paper linters, generally on the blanket. This is a major concern for web printers because of the waste generated each time that the blankets must be cleaned. As these materials build and the blanket thickness increases in local areas, print quality will deteriorate. You will generally see this build-up in the non-image area of the blanket, and it tends to be worse at the trailing edge of solids.

When piling becomes thicker, the trailing edge of the image will begin to lift off the blanket and stop printing. Piling is a very good indicator of fountain solution, ink, and paper compatibility. On good stock, the blankets may only require cleaning every 200,000 impressions. The image does not usually pile, because fresh ink is constantly being transferred from plate to blanket to paper. This constant transfer tends to prevent any significant accumulation of foreign material on the blanket.

There are several contributing factors that influence the rate of piling:

- 1) The amount of water being carried on the plate/blanket. Running too dry generally increases the rate of piling.
- 2) The "speed" of the inks. Inks formulated with faster oils may tend to dry out and pile rapidly.
- 3) The lubricating ability of the fountain solution.
- 4) The type of plate used (smooth grain plates usually pile less).
- 5) Paper surface-loose fiber may be pulled off and added to the accumulated ink resin.

Linting

Linting is caused by stock with loose surface fibers or by excessive tack of the ink or blanket. Paper fibers are pulled off the sheet and then build-up on the blanket. "Release Agents" are often included in fountain solutions or alcohol substitutes to decrease the "tackiness" of the blanket surface and reduce the tendency to pull the fibers off the sheet. Typical non-piling additives are made from glycols that will tend to keep the blanket moist.

Some printers will run paper that has loose surface fibers through a dummy unit before laying down the first color. Some of the loose surface fibers will be pulled off and stick on the dummy blanket reducing linting in subsequent units.

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