

# Tips & Tricks

## Printing with Uncoated Paper

In times when gloss and glamour on calendered or coated paper dominates, print products made from uncoated paper offer a special experience: They caress eyes and skin with their soft, individual surfaces. Their unique effect unfolds through its high volume and weight, as well as high opacity. The perfect processing requires particular expertise during prepress and production, however.

### Choice of print screens

Uncoated papers with a high percentage of hemp, cotton or rags are generally not suitable for fine details or high-resolution screens. This fact should be taken into consideration during the design phase of print products. To be on the safe side, many paper manufacturers therefore recommend a middle screen with 137 lpi (54 l/cm) and a maximum screen ruling of 150 lpi (60 l/cm). The reason: Dot gain rises with increasing screen ruling. Furthermore, the open fiber structure of uncoated papers promotes the blending of inks. In comparison to coated papers, this produces a higher dot gain. This can reach up to 30 percent in the case of heavy uncoated papers (beginning at 100 gsm) printed in four-color, using a 150 lpi line screen, for example. As a general rule, the more ink is needed for an image's motif, the more the motif becomes blurrier in the three quarter tones and shadows. Accordingly, not all motifs are suitable for printing on uncoated papers, namely those with very fine details or large inked surfaces. Because of the heterogeneous structure of the paper, printing surfaces on top of one another, particularly with larger surfaces, can produce a cloudy effect. Using special colors like Pantone spot colors can solve this problem, however.

### Prepress

The above-mentioned particularities affect the film or plate imaging. Because the dot gain varies according to paper and ink, it is recommended to make the necessary tonal value corrections during image processing, rather than through the correction curve in the imaging software. Particularly with difficult motifs and high demands for quality, a press proof is indispensable. Businesses which employ film imaging should use hard-working film materials which don't build a quadrangle around the screen dot and which can be imaged with high resolution.



*A special experience: high quality printing on uncoated paper.*

### Press

During printing, compressible blankets with hard packing have proven of value. For uncoated papers, experts recommend a higher contact pressure than with coated papers, in order to get a better modulation in printing images. In addition, alcohol or other dampening additives should not be used. For printing with oxidative drying inks, it is ideal to use uncoated papers with a pH value of around 5.5, since acidic papers lengthen drying times. In the case of uncoated papers, the latter can amount to four times that of a production print with coated papers. For this reason, the following guidelines apply: Don't stack print sheets too high in order to avoid deposits from darker motifs or larger ink surfaces on the next page. In addition, because of the usual dust accumulation, the machine as well as inking units and blankets should be cleaned regularly.

### Practical solutions

Heidelberger Druckmaschinen AG offers a multitude of solutions to meet the challenge of uncoated papers. For example, it offers a suction brush inserted before the first printing unit frees the paper from lint to the greatest extent possible. Highly automated suction heads transport even high volume and heavy uncoated papers safely through the press. Here the CP2000 Center helps out, allowing, for example, guidelines for air control to be set. Also contributing to perfect color reproduction are: the Prinect Prepress Interface, Print Color Management for constant control and optimization of print characteristics; Prinect Image Control for surveillance of color in the entire print image as well as special inking and dampening units for increased thickness of the ink coating. In addition, other systems such as UV or infrared drying systems and many more ensure excellent results – also – and especially – in the case of uncoated papers. ■