

## Matching Proofs with Production Run

When the print buyer has approved the proof presented to him, he should be able to expect that the production run will be just the same. However, a satisfactory matching of the results of two printing runs can in principle be achieved only when certain minimum requirements have been fulfilled. These include essential agreement on the following characteristics:

- Tonal value transfer (marked by the print reproduction curve or the dot gain),
- Visual appearance of the paper surface (gloss, colour)
- Appearance of solids

Essentially, standardisation means no more than providing commonly accepted specifications on these points, and the means for their control.

The specimen pictures at right demonstrate the importance of tonal value transfer for visual matching. At the top are two offset-printed proofs at 60 lines/cm printed with very different tonal value transfer stage. The given dot gain was measured in the 40% middle-tone patch of the PMS print control strip. Proof A shows substantially less dot gain than Proof B, which comes from a different repro company, while Proof B corresponds more closely to the conditions usually found during a production run.

During the production run, repros A and B are positioned in accordance with the layout, e.g. one after the other in the printing direction, as the two lower pictures 'Print 1' and 'Print 2' show.

The effect of dot gain usually coming up in production printing is comparable to that shown in the pictures on the lower left hand side where repro A appears much too dark, notably in the skin tones, while repro B is, on the whole, correctly reproduced. During the production run at lower right, the objective was to keep the dot gain to the level of proof A. In this case there are hardly any differences with repro A but repro B now turns out to be too light. Even more striking differences occur when individual process colours show strongly diverging dot gains on the proof, an occurrence which leads to colour cast problems in production.

The specimens demonstrate the following facts:

- Pictures proofed in different places cannot be printed together without problems unless the same target values for dot gain have been maintained.
- Printing with little dot gain is not necessarily better than printing with greater dot gain. It is more a matter of keeping to the given target values.

For commercial offset printing on coated stock, the following target values for dot gain are recommended:

	<i>Positive working plate</i>	<i>Negative working plate</i>
In the 40% patch:	18%	26%
In the 80% patch:	11%	14%

With uncoated and matt papers, the applicable values are 3% higher in the middle tone and 2% higher in the 80% patch.