

a number of Swiss firms, differences in screen dot enlargement from 0% to 25% have been noticed. This means that a tone step which covers 50% of surface in the screen, can be displaced from 50% to 75% of surface coverage during the printing process. At first sight, these figures seem grotesque; however, they can be documented very carefully. Deviations in other countries are no doubt not less important.

Sometimes it cannot be avoided that the first measurement of screen dot enlargement in a firm produces quite a shock, followed by violent discussions between the printer in charge of the machine, the platemaker, pressman, technical management and the process engravers. However, such a shock treatment proves to be rather beneficial in most cases.

There are printshops which beforehand printed on coated paper with a screen dot enlargement of 20% (50% became 70%) and which considered that as normal. As a result of the introduction of the measuring strip, screen dot enlargement got reduced by half within a few weeks' time and quality improved of course accordingly.

However, there are also firms which are printing, or rather which have to print with almost no screen dot enlargement at all because, due to an inappropriate structure of the photolitho, they are forced to use extremely sharpened plates and to reduce inking to the extent that there is a flat under-inking.

Simple determination of screen dot enlargement

Each pair of fields consists of a coarse screen field and a fine screen field with the same percentage of surface coverage (e.g. 50%). This checking device allows screen dot enlargement during the printing process to be easily determined. For this purpose, each pair of fields is measured with an adequate reflection densitometer with a large aperture (e.g. Macbeth RD-100 R, Macbeth RD-505; Macbeth RD-514, Gretag D1). The difference between the densities gives a direct characteristic value for the screen dot enlargement: