

Ways of influencing dot gain on the press

As the specimens shown on page 19 make clear, it is particularly important to maintain the target values for dot gain. However, every printing unit produces a given amount of dot gain owing to the particular conditions prevailing (inking of solids, paper, type of ink, type of blanket...). If this dot gain is far removed from the target value, it may be possible to achieve a movement in the right direction through manipulation of the ink-film thickness (solid tone density). For this reason it is important to bring dot gain into the vicinity of the target values as soon as the job is in preparation, by choosing the appropriate materials and by appropriate adjustment of the machine itself.

In this connection it may be advantageous to know about the possible ways of influencing dot gain and the effects which can be achieved. The bar graph below shows the influencing factors for the middle tone in the order of their importance.

At the top are the flow properties of the ink, which may be very different from one manufacture to another. Naturally they are also influenced by temperature, water content and also by additives. The next most important influence comes from the choice of blanket and the closely connected setting of pressure between plate and blanket cylinders. Lesser, but not to be neglected as effective factors are the type of paper, the type of plate and the printing machine. Where platemaking is standardised, the influence of the plate is small.

In practical cases, therefore, dot gain can be influenced only by a suitable choice of ink and blanket and the setting of pressure between the cylinders. In proofing, it is also meaningful to modify the nature of the ink through the use of thinners.

