Dot gain is a natural characteristic of the litho printing process, not a fault. As the image on the film separation gets transferred to and developed on a plate, covered with ink, transferred onto a rubber blanket and finally deposited onto the paper, the dots that make up the halftone image grow in size. The overall change in size is known as "dot gain" and is expressed as a percentage. For example, if a 50% dot grows to 69%, we say that the dot gain is 19%.

The most critical parts of a colour reproduction are usually the mid-tones. The human eye is practised at detecting slight variation in the colour of skin and other natural materials, and these colours are represented in reproduction by a combination of yellow, magenta, and cyan dots. Imbalance between these colours or excessive or uncontrolled dot gain will change the appearance of the mid-tones more than any other factor. Therefore, if we control the dot gain, we eliminate the main cause of variation in the visual quality of the final product.

Control strips

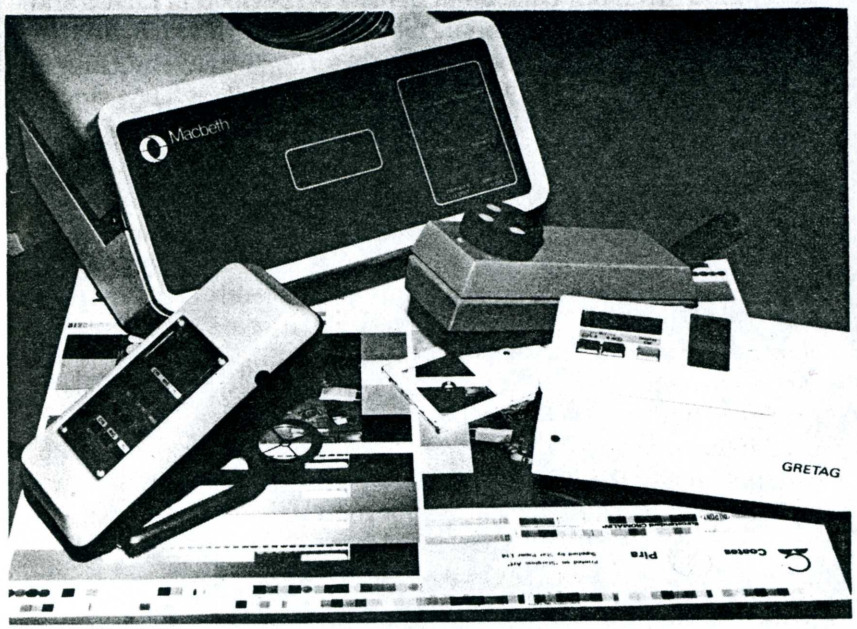
Control strips, sometimes known as control bars or wedges, are special devices to monitor faults and changes in the printing process. They are produced under rigorously controlled conditions, and they can only be used if they are originals. They are mainly used to monitor proofmaking and production presswork but some of the elements can be used to monitor platemaking.

To control the presswork you expose an original control strip onto the plate along with the made up film separations. Ideally, the strip should go across the entire width of the sheet. If this is not possible, another sensible position should be chosen. It is better to include a control strip in an inferior position than not to include one at all. The Specification in this kit depends on the use of control strips. If you are not already using strips you need to choose one. We suggest you use those made by either Brunner, FOGRA or Gretag. Leaflets describing each of these are in the literature pack.

Control strips are evaluated either by eye (mainly for platemaking control) or by using a densitometer (for proofing and production printing).

Densitometers, unfortunately, are not standardised, and so different models will give different readings of the same area. This kit provides a solution to this problem by introducing ISDUs – Industry Standard Density Units. If you have a modern, popular instrument, then everything you need to relate ISDUs to readings on your densitometer is already in this kit. For other instruments, a simple calibration measurement is required.

The densitometer, in conjunction with control strips, provides the means of measuring dot gain, and also solid density. Once measured, these variables can be controlled.



Recommended densitometers.