

Simplified measurement based on the theory of marginal areas

As a first step, the Brunner System establishes whether a screen dot enlargement is characterized by equal marginal areas or not. The term 'equal marginal areas' imply distortions of exactly the same width at every single dot. As a consequence, outline distortions have to be measured at one screen step only instead of the entire grey wedge. As regards the remaining screen steps, distortions may be read from simple charts, if such intermediate values are of interest at all. This method is enormously time-saving. Within the range of tone values, it is no longer necessary to draw D-log E-curves, diagrams, transfer curves etc. for the practical requirements of quality control.

Coordination is achieved by a simple number per operating step, that is to say the percentage of screen dot enlargement at 50%. The final value for all tone displacements - from original screening through all working phases up to final production run - can be expressed by a simple number which has been obtained by adding or subtracting index figures for the various influencing components. (Example given in Table 3).

Table 3

Negative halftone film by contact	- 2%
Positive halftone film by contact	+ 4%
Cutting of negatives	- 3%
Printing Plate	- 3%
Production run	+ 9%
Final value	+ 5% screen dot enlargement as opposed to original screening

For measuring purposes, it is recommended to use screen steps showing maximum distortions, that is to say the 50% screen step. That's why the Brunner System particularly emphasizes the importance of this 50% step. As a rule, the rather few 25% and 70% elements do not have to be measured