grapho metronic

Measurement Performance

Correlation of measurement readings

Density variations between densitometers made by various manufacturers are due to technical factors, particularly the different filters used. On devices made by the same manufacturer, there are normally only slight differences in readings, but the differences between different manufacturers can be considerable. Densitometers made by different manufacturers can produce different readings, even when correctly set. This also includes spectral photometers.

Our recommendation is simple: use a color pattern to identify the readings and always state the device used along with the readings. Different devices produce different readings.grapho metronic uses narrow-band interference filters. Unlike the gelatin filters which used to be used (Wratten broadband filters), glass filters have an almost unlimited service life. Reproducibility is also significantly improved in the manufacture of glass filters.

Polarization filters are also used in the measuring system. These suppress surface gloss. This eliminates the gloss of wet or painted paper. The polarization filters also achieve greater linearity between the thickness of the coat and the measured density, which means a change in the coat thickness always produces an equal change in density.

The sophisticated measuring technology guarantees high reproducibility. High density means good resolution. grapho metronic measuring systems have a very low variation between each other.

A main cause for the limits of colorimetry is the proportion of optical brighteners in the proof and production papers.

For inline measurement the following applies: the colour difference from the colour point determined in freshly printed state increases during drying depending on the process variables ink, optical path and printing substrate.

Correlation of measurement readings through:

- regular maintenance and careful handling of the device
- set measurement conditions
- uncertainty of measurement into account: drying process, acceptability factors

Parameters that affect the values:

- Geometry, design, construction and materials
- Instrument resolution
- Stability ("Drift")
- Environmental conditions
- Calibration and acceptability factors