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Printing Press

Looking to the printing processes we find different press systems, such as rotogravure printing, letterpress printing and offset printing, i. e. sheet-fed offset printing and web offset printing. Most magazines such as Time Magazine, Stern, Bunte, Spiegel as well as advertising magazines are printed on web offset presses.

High-quality, coated and uncoated paper is used for magazines. Uncoated paper qualities are usually used for printing paperback books.

Basis weight, smoothness, gloss, and moisture content of paper are the most important characteristics for obtaining optimum quality of the printed product.

In the printing process it is important to maintain an even moisture profile across the sheet. In case of uneven moisture profiles after printing some areas become overdried, resulting in wrinkles in the drying process.

The printing industries therefore have the following quality requirements for paper:

- Constant and even moisture profile across the sheet
- Moisture content of 45 - 55 % rel. moisture
- Flat paper sheet
- High gloss and smoothness for max. printing qualities

The printing industry has to take into account these requirements, but the use of very fast running web offset presses presents a number of problems which manifest themselves in printed products in the form of increasingly broken folds, wrinkled and uneven sheets.

With higher temperature in the drying process the offset printing machine runs much faster, but at the same time the moisture content in the paper drops to 2% rel. This low moisture content is the cause of the described problems after printing, i. e. wrinkled and uneven sheets, breaking of the fold.

To eliminate these problems it is necessary to remoisture the printed products, dried down to a rel. moisture content of 2% up to 40 - 50% rel. humidity