

Printing Technology & JK Paper Approach to Meet Modern Printing Requirements

Goel M.C. Harichandan A.K. Mohanty P.K. Mishra A.K. & Dakua S.K.

Abstract

Printing is an act of reproducing a design on a surface or transfer of image from one medium to another. The four basic methods of multiple reproduction or printing are:

1. Typographic / Letterpress / Relief printing (Printing area raised over non printing area)
2. Intaglio / Gravure printing (Printing area is below the non printing area).
3. Plano graphic / Lithography / Off set printing (Printing & non printing area are in the same plane)
4. Silk screen or Screen Printing (ink is squeezed through a stencil mounted on a screen to get the image)

All the above are called contact printing and Offset printing industry enjoys undisputed leadership with almost 45-47% share of printing, publishing and packaging production since last 2-3 decades, where as the gravure printing industry stands around 25-27% followed by letter press whose shares are in a down ward trend in last few decades. Screen printing has distinct advantages for short runs because of the simplicity of the equipment needed but for longer runs the advantages is soon lost as the other printing methods are much faster and more economical

Non-contact printing is the category where no contact is made with the substrate by a printing plate. In recent years, a substantial amount of research and development efforts have focused on imaging systems that produce paper copies through non contact systems which are far economical and user friendly with a manageable speed starting from photocopying to digital printing via inkjet printing & laser jet printing. Presently Digital printing is the most new arrival in the scenario with extra ordinary print results and reproducibility in comparison to other printing methods available. It requires certain tailor made features on the paper to give the desired results.

All these printing processes are paper specific. Normally non contact printing method is the source of instant, quick & in plant prints industries which are now threatening the use of traditional printing process (contact printing) but printing of news paper, magazines, and the other products requiring large quantity of consistent reproduction, the confidence shifts towards conventional printing i.e. contact printing. Presently offset is the best-appreciated printing technology adopted allover the world for such kind of job.

JK Paper being the leader in quality for Surface Sized Maplitho & Photo Copy Grade Papers for last few decades in India entered in to the coated paper market in 2004-05 and introduced coated papers ranging from 130 gsm to 300 gsm in both Matt and Gloss variety meant exclusively for Offset printing. Initially, JK Paper faced a few quality issues while printing at the jobbers end such as uneven surface patchiness, surface mottling and picking while printing. JK Paper along with technical experts in this filed has taken no of initiatives to improve the quality of Coated Paper to match the demand of modern printing machines. In addition to this, JK Paper has also taken few steps in order to cater to the digital printing paper market and have performed some modification in existing products to match the requirement.

The paper highlights various Printing Process, their advantage, disadvantages and various steps taken at JK Papers towards adopting, stabilizing & optimizing the coating process to make the coated paper suitable for printing as per the demand of modern printing era.