

EFFECT OF EMULSIFICATION IN OFFSET PRINTING - REVIEW OF LAB TESTS AND PRESS TRIALS

PANDURANG B. DAPHALAPURKAR AND MADHURA P. MAHAJAN

Abstract

Although offset printing process relies on the interaction of ink, paper and water to produce an acceptable job, there are times when this interaction can cause major quality problems. This is particularly true in multicolour printing. Offset printing depends on a delicate balance between ink, water and paper surface. If the interaction of materials on press is too slow, problems such as tinting or feedback, scumming, stripping, piling or lack of transference of ink to the press and down the roller train. We carried out a project where we tried to analyse the behavior of ink and water keeping focused on good emulsification and problems arising due to poor emulsification. Three conditions were decided to evaluate the results of emulsification during printing. Condition [1]: Optimum ink and water (8 % Alcohol + 2% Fount Concentrate), Condition [2]: Increase only ink by 20%, Condition [3]: Increase Fountain Solution by 20 % along with 20% increase in ink. We used the following densitometry tools such as Density, Dot Gain, Trapping, Contrast to analyse the performances of these 3 conditions. The paper used for press trials is Indian Art Gloss 130 gsm (grammes per square metres).

Keywords: Emulsification, Ink Rheology, Dot gain, Fountain solution