

Influence of high temperatures on the inks of the sheet-fed litho offset printing inks that cold-set

Prof. Nasr Mostafa Mohamed

**Professor of Printing Systems, Department of Printing, Publishing and Packaging -
Faculty of Applied Arts - Helwan University.**

Assist. Prof. Dr. Magdy Ezzat Abd El-Qader

**Assistant Professor, Department of Printing, Publishing and Packaging - Faculty of
Applied Arts - Helwan University.**

Researcher. Mohamed Shabaan Zaki

Head of the printing department at the General Authority for Amiri Printing Affairs.

mshaban3003@gmail.com

Abstract:

A change or difference in the degree of typographical color during the operation is a common problem in many printing presses. It negatively affects on print quality. Achieving the stability of the color score of the print from the first sheet to the last sheet of the one typographical process. It is one of the basics of obtaining printing quality and an important demand among many customers.

During and the production process and after it's. the parts of the machine are usually very hot. and higher than the recommended temperature value. It has low relative humidity. which leads to serious consequences for printing quality and stability of productive process. The workers are also suffering from exposure to these negative conditions in the working environment due to the lack of control over the temperature of the printing hall and machines.

This research aims to know the effect of high ink temperature on the color density of the print, and its impact on the Rheology properties of ink, especially viscosity and tack.

One of the most important research results are low ink viscosity and tack value whenever temperature increases. We found that magenta ink is the most affected by temperature change compared with other operational inks.

According to these results, one of the research recommendations was to maintain ink temperature during operational operations.

Key words:

Temperature , The Rheology properties of ink , Viscosity, Tack.