

EFFECT OF PAPER GLOSS ON SOLID INK DENSITY PRINTED WITH DIGITAL PRINTING PROCESS

Aman Bhardwaj¹, Krishan Kumar²

¹Scholar, M.Tech. Printing Technology, GJUS&T, Hisar.

²Assistant Professor, Department of Printing Technology G.J.U.S&T, Hissar

Abstract: Digital printing process is the established printing process and now a days it is growing with lightening fast speed. Printing paper or Substrate on which anything is printed is a most important thing for any of the printing process. When we talk about the quality or we can say print quality there is lot of characteristics which are considered and checked for a good print like solid ink density, print gloss, paper gloss, brightness, contrast etc. Solid ink density is also a very important characteristics in print quality. In this research we find out the effect of paper gloss on solid ink density.

Keywords: Digital printing, Coated paper, Met-pet sheet, Print quality, Gloss, Ink density

I. INTRODUCTION

Printing industries are increasingly adopting digital technologies to complement or replace analog ones. The terms digital and analog (or analogue) designate both types of signals for representing data and methods of print reproduction. Analog signals and computers rely on discontinuous patterned transmissions of discrete amounts of electricity of light to communicate data. Digital printing requires minimal press set-up and has multicolour registration built-in to its system. This eliminates many of the front-end time consuming processes and permits quick response and just-in time print delivery. Digital processes can vary every print "on-the-fly" i.e. while production printing, providing variable data, personalisation, and customisation. Most digital printing technologies are non-contact printing which permits printing of substrates without touching or disturbing them. This eliminates image distortion encountered in some analog processes such as screen printing. It also does not require as aggressive substrate hold down methods which can distort or damage some substrates such as fabrics. Solid ink density is also a very important properties for print quality.

II. RESEARCH OBJECTIVES

Objective of this research is to find out the Solid ink density of different Gloss paper.

RESEARCH METHODOLOGY

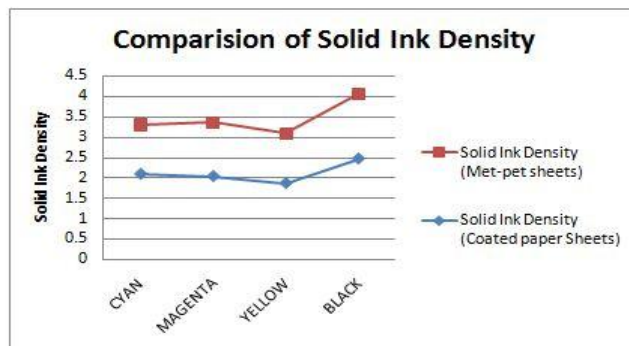
We take 10 sheets of met-pet printed with digital printing process and 10 Coated paper sheets of 220 GSM printing with same process. As we know met-pet sheets are very glossy as compare to the Coated paper sheets. After the printing, we measure the readings of all of the 20 sheets printed with dry toner based digital printing process. With the help of spectrophotometer solid ink density is measured.

Data Collection and Analysis

Solid Ink Density

Solid ink density of 10 met-pet sheets and 10 coated sheets printed with dry toner based digital printing process.

Sr. No.	Solid Ink Density (Met-pet sheets)				Solid Ink Density (Coated paper sheets)			
	C	M	Y	K	C	M	Y	K
1	1.99	1.98	1.8	2.45	1.22	1.35	1.24	1.61
2	2.12	2.07	1.9	2.61	1.24	1.36	1.24	1.60
3	2.15	2.08	1.88	2.6	1.22	1.34	1.23	1.59
4	2.03	1.99	1.9	2	1.24	1.35	1.22	1.60
5	2.06	2.02	1.86	2.57	1.23	1.34	1.25	1.61
6	2.14	2.09	1.9	2.61	1.22	1.34	1.24	1.59
7	2.12	2.01	1.86	2.35	1.23	1.36	1.22	1.60
8	1.98	1.99	1.85	2.47	1.22	1.35	1.24	1.61
9	2.11	2.01	1.8	2.41	1.23	1.34	1.23	1.59
10	2.14	2.06	1.86	2.55	1.24	1.36	1.22	1.60



III. RESULT AND CONCLUSION

After analysis of the table and graph of the Solid ink density we found that the average Solid ink density of the cyan on met pet sheets is 2.084 and the average Solid ink density of the cyan on coated paper sheet is 1.22, the average Solid ink density of the Magenta on met pet sheets is 2.03 and the average Solid ink density of the Magenta on coated paper sheet is 1.34, the average Solid ink density of the Yellow on met pet sheets is 1.86 and the average Solid ink density of the yellow on coated paper sheet is 1.23, and the average Solid ink density of the black on met pet sheets is 2.46 and the average Solid ink density of the black on coated paper sheet is 1.60. From the above result we conclude that the solid ink density of the Met-Pet Sheets is higher than the Coated paper sheets while printed with digital printing process.

REFERENCES

- [1] <http://www.pdsinternational.com/>
- [2] https://en.wikipedia.org/wiki/Coated_paper
(retrieved on 27-5-2016)
- [3] <http://www.imaging.org/ist/resources/tutorials/inkjet.cfm>
- [4] http://www.cbe.buffalo.edu/people/full_time/e_furlanires_Inkjet.php
- [5] https://en.wikipedia.org/wiki/Inkjet_printing
(retrieved on 15-6-2016)
- [6] https://en.wikipedia.org/wiki/Laser_printing
(retrieved on 15-6-2016)
- [7] <http://www.printindustry.com/newsletters/newsletter-78.aspx>