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COMPARATIVE ANALYSIS OF PRINT GLOSS OF METALIZED SHEETS PRINTED WITH SHEET FED OFFSET PRINTING PROCESS AND DRY TONER BASED DIGITAL PRINTING PROCESS

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ABSTRACT

Printing metalized sheets with offset printing process requires it to be primer coated prior to the printing. This is complex, time consuming and incorporates some additional cost. Thus, it has not been known in view of the prior art to utilize digital printing methods to create sharp, high quality, complex, multi-color, foil-effect designs foil-covered surfaces at relatively high speed and low cost. it was observed that the sheets printed with Dry toner based Digital printing process have comparatively higher gloss in case of non primer coated sheets.

INTRODUCTION

Current packaging and labelling often relies on the use of foil paper and foil sheet upon which trademarks and other information is printed. The greater is the brightness of the package or label, the greater the attention getting quality of the product. The brighter the foil paper or foil sheet used for packaging or labelling, the more attention it attracts to the product and the purchase possibilities become enhanced. Aluminium coated foil paper and foil sheet are extensively used because of brightness and attractiveness, and as well because colour may be applied over the metalized dress to make a brilliant display. The metalized paper is also used to wrap cigarettes in packs, because such a wrapping is retentive to moisture, and prevents the cigarettes from drying out, as well as protecting them from insect infestation. Foil paper and foil sheet are produced by laminating strips or sheets of aluminium 0.00035' thick by the use of an adhesive to bond the metal foil to the paper strip or sheet.[1]

The present study relates to a method for creating printed images on foil-covered surfaces. The method is particularly useful in the manufacture of high-quality printed matter such as sports figure cards or makeup and perfume packaging. However, it also is applicable to other printed matter, such as playing cards, greeting cards, tags, signs and badges[2]. Before printing metalized/ met-pet sheet they are primer coated then after primer coat they are printed as or like other printing substrate. Primer coat provide the surface with adhesion/absorption property so that the ink applied on the surface sticks to it which otherwise would not have been possible. The primer coat incorporates some additional cost in the printing process. The primer coat is nothing but a almost transparent layer on the metallic surface. So it somewhat reduces the actual reflectance of the surface hence reduces the overall gloss of the surface.

In our study primer coated metalized sheets were printed with Sheet fed offset printing process and also with dry toner based Digital printing process separately and metalized sheets without primer coat were printed with dry toner based Digitalprintingprocessonly.

Print gloss was analyzed for comparison of print properties between sheets fed offset process and dry toner digital printing process on metalized sheet.

Analysis of sheet fed offset printed metalized sheet with primer coated sheets printed with dry toner based digital printing process.

When print gloss of offset printing process and primer coated sheets with dry toner based digital printing process was compared it was observed that the sheet printed with sheet fed offset printing process have comparatively higher gloss ranging between the 130% to 150%. Whereas the print gloss of sheet (primer coated) printed with dry toner digital printing process showed a print gloss of 108% to 118%.
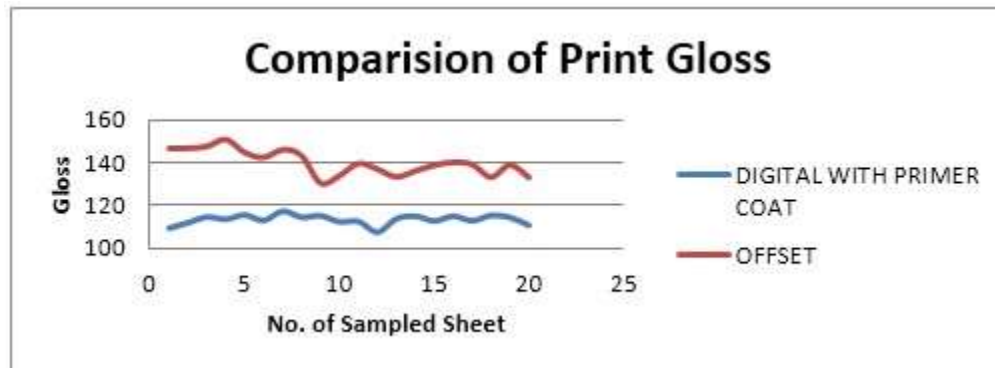
Analysis of sheet fed offset printed metalized sheet with without primer coated sheets printed with dry toner based digital printing process.
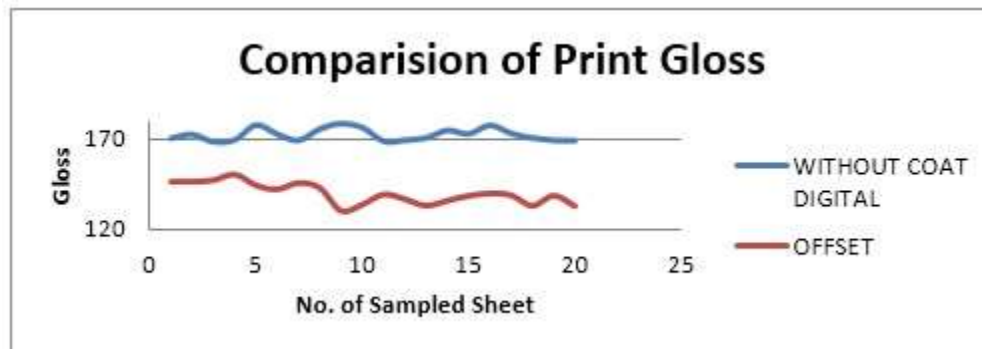
When print gloss of offset printing process and without primer coated sheets with dry toner based digital printing process was compared it was observed that the sheet printed with dry toner digital printing process have comparatively higher gloss ranging between the 170% to 178%. Whereas the print gloss of the sheet (without primer coat) printed with sheet fed offset printing process showed a print gloss of 130% to 150%......

CONCLUSION

When print gloss of primer coated sheets printed with sheet fed offset printing process and dry toner digital printing process was compared the average print gloss was found ranging between 130% to 150% and 108% to 118% respectively. it was observed that the sheet printed with sheet fed offset printing process have comparatively higher gloss in case of primer coated sheets.

Whereas without primer coated sheets printed with sheet fed offset printing process and dry toner digital printing process was compared the average print gloss was found ranging between 130% to 150% and 170% to 178% respectively. But in case of without primer coated sheets the print gloss of the sheet printed with dry toner digital printing process showed higher print gloss comparatively.

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