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[\[PDF \(1077K\)\]](#) [\[References\]](#)**Mechanisms of Gloss Development with Matte-Coated Paper in Offset Printing**Yoshihisa KITANO¹⁾, Toshiharu ENOMAE²⁾ and Akira ISOGAI²⁾

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Abstract

In recent years, many color printers using electrophotography technology have been commercialized in the printing market. However, for electrophotography, the correlation between print gloss and paper gloss is inferior to the offset printing. Therefore, it is desired that print gloss changes in accordance with paper gloss to make prints look natural for these printers in the market. This study is intended to clarify gloss development mechanisms in offset printing in comparison with electrophotography technology. About mechanisms of gloss development in offset printing for matte-coated paper, the following experimental results were obtained. In offset printing for matte-coated paper, printed surface topography is greatly influenced by paper surface topography. This relationship can be interpreted through the following processes topographical compliance. When an ink transfers to paper, topographical unevenness of the printed surface is caused by inhomogeneous ink layer split. The level of the topographical unevenness becomes low for initial several tens of seconds, and the printed surface becomes smoother than the paper surface. For another several hundreds of seconds, roughness of the printed surface continues to approach that of the paper surface while the ink layer contracts by vehicle penetration into paper.

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