

# Evaluation of Gravure for Printed Electronics

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## Keywords

Gravure, Printed Electronics, Conductive Ink, White Light Interferometry,  
Printed Lines Directionality

## Abstract

This work focuses on evaluation of engraving quality and printability of conductive traces by gravure printing for use in printed electronics. Gravure print forms were prepared by chemical etching, which nowadays uses laser ablation of the mask resist. The quality of engraved features was characterized with white light interferometry. Various line widths at five different angles to print direction were studied and it was observed that the actual engraved line widths are higher than specified. This widening effect was observed for all measured line widths and angles to imaging direction.

In order to evaluate the quality of printed fine lines for applications in printed electronics, silver-flake conductive ink was used to print from these characterized engraved forms. It was observed that lines oriented perpendicularly to print direction were printed wider than the lines in parallel with print direction. Moreover, the quality of printed lines was evaluated in terms of line width standard deviation and it was found that lines printed parallel to the print direction have the lowest edge raggedness (lowest standard deviation of line width).

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