

Water-based Pigment Inks for Textile Printing

Deverakonda Sarma and Steve Liker, Trident, Brookfield, Connecticut, USA

Abstract

A set of water-based, pigment inks with binder was formulated for ink-jet printing onto textiles. The inks formulated have good color strength for printing onto various fabrics such as cotton, cotton blends, polyester etc. with heat curing at 160 C for 2-3 mins. The ink formulations were optimized to address the needs of reliably printing with ink jet print heads and the textile print properties. In addition to process colors, spot colors (Red, Green, Blue, Orange and Violet) and tone colors (LC, LM and Gray) were formulated to capture variety of applications. The inks were tested for reliability using Epson desktop and wide format printers. The

print properties were tested on both prepared and unprepared fabrics to see the impact of commercially available pre-treatment on print properties. Results are shared and recommendations made to obtain the print properties needed.

Author Biography

Deverakonda Sarma holds bachelors and doctoral degrees in Chemical Engineering with fifteen years of work experience which includes ink-jet textile printing. Dr. Sarma is currently working as a Senior Engineering Manager at Trident.