

Ink Jet Technology in Textile Finishing

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Abstract

Digital printing has been around in the textile industry for years but is still confined to a very small area of application in the textile printing market. With the introduction of new industrial ink jet printing technologies and processes and with recent advances in understanding the interaction between inks; print heads and substrates; ink jet technology will move into new areas of application for the textile industry and will increase its share in existing applications.

Three elements are of great importance for a large breakthrough and implementation of industrial ink jet printing in the textile industry. First the availability of reliable industrial print systems with sufficient speed and productivity; secondly a low index score (Investment per unit produced); third and last is the availability of industrial inks and finishes with competitive pricing.

This paper will focus on the recent results of two major research projects; with leading companies as TenCate; Xennia and Reggiani where great advances are made in the development of novel ink jet processes and technologies that enable the use of ink jet technology in traditional textile

finishing processes and in using ink jet technology in new and existing textile functionalities and processes.

A breakthrough development is a novel and patented industrial print concept where both the substrate and the print head carriages move continuously. This novel concept enables higher linear print speeds up to 10 m/min or higher with a higher industrial reliability and with a low index score (Investment per unit produced).

Combined with recent developments in the area of textile finishing technologies based on digital printing (Coatings, dyeing and functional finishes) and with new inks for digital textile printing it is expected that in the coming years digital printing will be able to replace analogue processes in textile printing and textile finishing.

Author Biography

Kasper Nossent graduated from the Saxion Hogeschool as a Chemical Engineer (Bsc) and received his Msc. in Innovation Management from the University of Utrecht. In 2006 he joined TenCate as a project coordinator and works in the area of ink jet technology and textile finishing. In 2010 he moved to Xennia Technology in the UK, a TenCate subsidiary and works there in the area of business development and R&D.