

Innovative Ink Jet Inks for Textile Printing

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Abstract

The development of inks is a very complex field, in which the currently available systems have been tailored to individual ink jet print head technologies. We focus on ink jet solutions for the textile industry, where for digital printing a bright future is predicted. Technological requirements are much more challenging compared to the standard inks used in the SOHO-market. In order to be competitive to conventional textile printing, very reliable prints are necessary, which can currently only be achieved by the piezo technology. In addition, prints have to exhibit superior properties concerning chemical and mechanical resistance. Therefore, adhesion promoters and binding functions have to be added.

This paper outlines our recent developments in the area of universal pigment inks suitable for all kind of textile substrates such as cotton and polyester. We have introduced an innovative ink set into the market, which contains a new multifunctional agent (MFA). Our MFA exhibits unique properties concerning dispersing organic pigments, stability of inks, adhesion on different textiles and high mechanical resistance. All these functions are combined in one polymer by tailoring the functional units to the pigment and the textiles.

The prints on textiles exhibit high light fastness, outstanding rub and wash fastness levels equal to conventional textile printing combined with a extremely soft handle. We are convinced, that this new ink technology will open new applications for digital printing in the classical and new textile world.