



Application Note



Pharmaceutical

Thermal inkjet solutions for non-porous packaging materials

The challenge

Historically, the high resolution print capability of Thermal Inkjet (TIJ) has been limited to porous packaging materials. This meant creating knockout windows on coated cartons and labels, adding cost and complexity. For other pharmaceutical substrates like blister foils and films, TIJ was not a viable coding alternative.

The Videojet advantage

With our portfolio of innovative inks, Videojet can offer all of the traditional benefits of Wolke TIJ coding (high resolution codes, ease of use, and seamless integration) to semi-porous and non-porous packaging materials.

Historical attributes of TIJ

TIJ coding technology has been selected by pharmaceutical companies for years due to its ability to deliver consistent, high resolution (up to 600 DPI) codes at industry standard line speeds. This technology has also been popular due to its simple, clean cartridge changes for clean rooms, no wear parts for reliable production, and flexible configurations for integration into complex machinery.

A new frontier for TIJ technology

Until recently, TIJ only offered water-based inks, restricting applications to porous packaging materials. This required creating knockout windows on cartons and paper-based labels.

Recent developments in inks have brought all of the traditional benefits of TIJ coding to a broader range of the packaging materials present in the pharmaceutical industry.

Wolke Black Solvent ink

Black Solvent is an ethanol-based ink designed for adhesion onto semi-porous and some non-porous materials, particularly foils. The Black Solvent ink cartridge can be used in the Wolke m600 oem, as well as the m600 advanced and 8510. These coding options provide a variety of user interfaces and make a TIJ solution ideal for integration into the tight spaces that are commonly found with pharmaceutical packaging equipment.

Wolke MEK ink

Wolke MEK ink is a proprietary, MEK-based formula that provides adhesion on challenging packaging materials such as heavy gauge plastics and flexible films. Wolke MEK ink cartridges are supported exclusively on the m600 universal, which was engineered from the ground up for solvent-based TIJ coding. The m600 universal includes the Cartridge Readiness System™ which extends cartridge life, providing the lowest cost per code among Videojet solvent-based TIJ coding solutions.

Addressing industry challenges

The arrival of Wolke Black Solvent and MEK inks is well-timed given the rapid changes underway in the pharmaceutical industry. Developed markets are creating stringent coding requirements while emerging economies are introducing new consumer requirements into the market. Wolke solvent-based TIJ inks help enable manufacturers to meet these challenges on varying packaging materials.

Legislation

With recently established regulations such as the *Falsified Medicines Directive*, *Drug Supply Chain Security Act* and *ANVISA*, manufacturers are being asked to code more content on a wider range of packaging materials. Historically, leveraging TIJ coding technology would require working with converters to create the appropriate knockout windows on products of varying size, increasing the complexity of using a TIJ coding solution. Now, solvent-based ink solutions can deliver high resolution codes to meet industry requirements, without alterations to packaging.

Single-dose packaging

The packaging landscape in the pharmaceutical industry is evolving rapidly. For example, the prevalence of single-dose blister packs and pouches is increasing, especially in developing markets where patient compliance is a significant challenge. From a coding perspective, this means providing batch, lot and expiry information at the unit level. Solvent-based TIJ coding solutions work well on common packaging substrates for single dose like blister foils and pouches, enabling manufacturers to better serve this rapidly expanding marketplace.

Make an informed decision

Legislation and single-dose packaging are just two examples of the numerous pharmaceutical challenges new solvent-based inks are able to address. If you are currently evaluating coding solutions, Videojet offers a sample lab service and can provide you with various codes using different technologies on your packaging. Our experts can suggest the optimal technology for all of your packaging types and provide samples to help you make an informed decision before you invest in a coding solution.



2D DataMatrix code
on a coated carton



Thermal inkjet
code on blister foil

The Bottom Line

Wolke TIJ technology has become a pharmaceutical industry standard due to the numerous benefits it provides. With newly developed solvent-based inks, Videojet offers the traditional benefits of a TIJ coding solution for a broader range of common packaging substrates.

To find out more about our Wolke TIJ printers and inks, ask your Videojet representative for a production line audit and free sample testing on your packaging materials.

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