



Application note



Thermal Transfer Overprinting **Meeting the speeds of flow wrappers**



Packaging equipment manufacturers are pushing their machines to the limit and continually release products into the market that can package at higher speeds to meet the increasing production demands of food manufacturers. Also trends in packaging type and consumer buying behavior have led to food manufacturers releasing individual and smaller portioned packages which run at higher throughput speeds than larger products.

The challenge:

While many companies think of speed in terms of throughput, printing and coding technology suppliers think of speed in a slightly different way. In addition to throughput, linear speed, which is the speed the film is moving at, is also important. Finding a printing solution that can not only get the entire message on the product and in the allotted space, in a high quality readable format, but also make all necessary adjustments to be ready to print the next code on the next pack can be an onerous task.

Videojet advantage:

Videojet thermal transfer overprinting (TTO) technology is an ideal coding partner for flow wrappers as they offer reliability, faster changeovers and can typically offer lower total cost of ownership compared to some alternative mechanical printers such as hot stamp or roller coders. Furthermore, Videojet TTO printers are perfectly adept at meeting line speed requirements across a range of flow wrapping applications from slow speed trays to ultra-fast individual wrapped goods. Videojet are able to offer a wide range of ribbon colors, types and lengths to help meet your exact application need, as well as offering deep knowledge and expertise in flexible film printing solutions.

Thermal Transfer Overprinters (TTO)



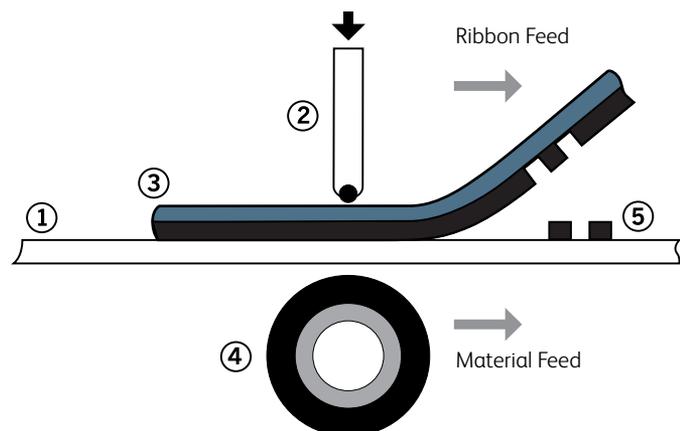
How TTO works with flowwrapping machines

Thermal Transfer Overprinters are used to mark directly on flexible packaging. In flow wrapping, the packaging material is printed while the film is moving (see below).

The printer is mounted close to the point of packing by a bracket mounted directly onto the machine.

The film (#1) runs between the printer unit's printhead (#2), inked ribbon (#3) and a print roller (#4) which are all integrated into the bracket as part of the TTO printer unit. The printhead is positioned perpendicularly to the flow of the film. After a signal from the packaging machine, such as a print mark, the printhead, ribbon and packaging film are pressed against the print roller and printing is started.

Individual heating elements on the printhead are heated as required based on the content of the required code data and the colored ink on the ribbon (#5) is then transferred onto the packaging material only where the elements are heated. As soon as printing is finished, the printhead returns to the start position.





TTO is a clean, no-mess printing technology that is friendly to operators and production environment. No solvents are used and ribbon waste can be disposed of without special arrangements for hazardous substances.

Simple programming and variable data for each package

This high-resolution printhead helps enable text, graphics, batch numbers, real-time dates and bar codes to be printed.

The codes produced by TTO should typically read in the direction of the endseal (widthwise) to maximize ribbon usage. Since the printhead is positioned perpendicularly to the flow of the packaging, printing in the other direction would only use a portion of the ribbon unless it was a tall code or the printer had radial ribbon save functionality. Radial ribbon save allows companies to utilize the entire ribbon width with the caveat that the position of the code will move from product to product within the width of the ribbon.

An additional coding requirement for many food producers is the need to print ingredient information. Legislation in many countries requires that specific ingredients are highlighted on the pack, to assist consumers with allergies, to make educated buying decisions. Videojet TTO can respond to this need, helping producers to meet the minimum labeling requirements of the food industry globally, as well as reducing the number of pre-printed packaging film SKU's held in stock.

One of the major benefits of TTO is high resolution content, as most advanced TTO printers can print a resolution of 300 dots per inch (DPI) or 12 dots per millimeter.

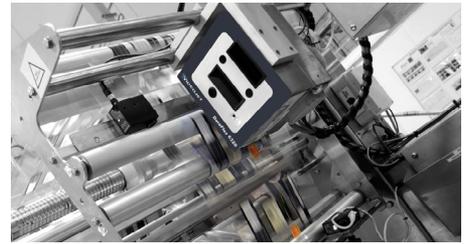
Videojet TTO can perform at linear speeds up to 1,000 millimeters per second and pack rates up to 350 packs per minute.



Considering integration

TTO printers must be integrated directly with the packaging equipment. Thus, when purchasing a TTO printer, one should carefully consider the integration of their new TTO printer with their new or existing flow wrapper. While the function may be the same, flow wrappers from different manufacturers are built differently and can require specialized brackets and other accessories. Therefore, it is important to find a company with the right experience and accessories to complete the integration seamlessly.

Regardless of the margin profile of the product, hitting production targets every day is critical and any unscheduled downtime that stops product from getting out the door should be reduced or eliminated. Therefore, companies should look for TTO printers that have been designed for maximum uptime and a total low cost of ownership. TTO printers can be extremely reliable and require minimal maintenance as compared to other coding technologies, but Videojet TTO printers also maximize the use of ribbon in the printer which leads to ribbon savings and reduces downtime required to replace the ribbon on the line. Additionally, the time between changes can be increased with the use of our longer ribbons, and since ribbon replenishment will be required for any TTO printer, one should choose a printer that makes ribbon replacement easy – like the DataFlex® TTO range.



The bottom line

To meet the increasing demands on throughput, facilities need to be prepared to make educated decisions on the most suitable coding solutions that can support their business critical needs. Videojet stands ready to help with innovative TTO printing solutions that promote operational efficiency and can keep pace with modern flow wrapping machines.

Let Videojet help you meet your production objectives and performance needs with the DataFlex® Thermal Transfer Overprinter range.

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