

Coding on flexible film for fresh fruit and veggies

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Whether bagged, ready-to-serve, or on-the-go, consumers are looking for convenience, good shelf life and freshness when it comes to their fruit and veg. And to achieve this, flexible film offers an ideal packaging option to slow down the metabolism of fresh produce, extend its shelf life, and display products at their freshest.





To code these products, Thermal Transfer Overprinting (TTO) is a digital technology that was specifically developed for coding flexible film.

What is TTO?

According to Markem-Imaje, locally represented by Pyrotec PackMark, the main elements of a TTO printer are the printhead, the inked ribbon and the roller (for continuous applications), or the flat platen (for intermittent applications). When given a signal to print a predefined code, the printhead descends, pushing the ribbon and the packaging film against the roller. The heating elements related to the code heat up, melt the ink on the ribbon, and the melted ink is then transferred onto the packaging film.

The heating elements are embedded in a ceramic unit and individually heated to form characters such as letters and numbers. The ceramic unit protects the heating elements as they transfer the heat to the inked ribbon and print the message. Ceramic units vary in their ability to withstand repeated heating and cooling cycles and to resist abrasion. Both factors affect printhead life and coding speed.

Why TTO?

Compared to mechanical approaches such as hot stamping or rotary coders, TTO provides greater uptime and less waste while allowing the inclusion of real-time data. Compared to other digital technologies, such as continuous and thermal inkjet printing, TTO is typically easier to integrate into the packaging machine and provides better print quality.

With a high resolution of around 300dpi – approaching the quality of preprinted packaging – TTO is versatile, allowing barcode, logo and 2D coding. Pack rates of up to 120 to 160ppm or 1,200mm/s are achieved on average, though more advanced units can reach up to 455ppm or 1,800mm/s.

TTO is also reliable, it has a relatively small initial capital outlay, and it offers low maintenance and running costs. There is

virtually no equipment warm-up time – it is ready within 60 seconds of being turned on. There is also zero risk of film perforation, unlike mechanical methods where broken stamps can pierce the packaging.



Thermal Transfer Smartdate X65-128

Designed for wide format printing applications, the SmartDate X65-128, available from Pyrotec PackMark, delivers high-resolution coding on flexible film packaging as fast as 400ppm. Its printhead characteristics make it ideal for wide messages such as ingredients and nutritional coding.

Its fully intuitive 10.1" user interface makes daily operations easy and straightforward while providing the most valuable information you need to optimise and improve your overall equipment effectiveness (OEE) through MI Sigma reporting.

Main benefits include:

- Extended performance
- Up to 128mm x 500mm printing area capacity with twice the amount of variable print versus a standard coder, thus reducing costs
- Efficiency
- Minimised time and effort as it prints multiple codes on multi-lane packaging lines on demand, quickly and efficiently
- Code quality is ensured.
- Automatic printhead setup that optimises printhead lifetime and allows for dead-dot monitoring.
- Superior printing speeds.
- Print speed can be set from 10mm to 700mm/sec allowing for more than 400 printed packs per minute at 300 dpi.

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