



Application Note



Salty snacks

Choosing the right coding technology for your bag

The challenge

From pillow to four-sided to block-bottom bags, innovation in packaging design is ever changing, as are the vertical form fill seal (VFFS) machines used to fill them. The selection of an optimal coding technology is dictated by bag innovation, code appearance and content needs.

The Videojet advantage

With over four decades of experience in the snack industry, we have an extensive understanding of the application. We can provide coding solutions based on your unique manufacturing needs including bag type, packaging line, desired print quality and content.

We offer three proven solutions for printing on virtually any bag type or film:

Thermal Transfer Overprinting (TTO) – High-resolution codes (300 dots per inch) on flexible film with no solvents.

Continuous Inkjet (CIJ) – Useful for coding on preformed pouches and bags with very thick resealable zippers.

Laser – Etches permanent codes with limited consumables on select film types.

Snack companies are in heavy competition for impulse purchases by consumers and capturing sales means making the most of their brands. Brand marketing teams aim to maximize the packaging artwork for marketing and promotional purposes. The last thing they want is unattractive or poor quality codes that could detract from the package or dilute the marketing message.

It is imperative for manufacturers to understand that each coding technology produces a code of differing appearance. 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. Laser and CIJ have high quality, but a different appearance than TTO. Laser marking creates solidly filled text with a steered beam of light. With CIJ, characters are formed with a dot matrix appearance.

While TTO has been a favored technology in the snack food industry for many years, there are other factors that may favor alternative technologies in this industry.

Bag design features

TTO is typically the ideal coding solution for bag applications as it is designed to print high quality codes on flat, thin, flexible films. Printing on roll stock before bags and pouches are formed allows the printed film to be formed into different bag types such as zipper, 4-sided, gusseted, stand-up and other pouch variations. Zippers, fitments, gussets and package seals provide benefits to consumers and help the package stand out on the shelf. However, they all present unique challenges for TTO in the packaging line, especially if they are already part of the package before they are printed.

Many solutions can accommodate the varying film thicknesses when gussets are present or when a zipper is presented to the printer. CIJ and laser are particularly useful for coding on more complicated applications such as preformed pouches and bags with very thick resealable zippers. Custom brackets are also available for bag and pouching machines, including rotary pouch fillers to allow printing before pouches are filled.

Code content requirements

Code requirements can vary greatly from producer to producer. For products where expiration and traceability information are required, CIJ and laser printers are a viable solution. As you move towards more content, TTO adds more flexibility.

An additional coding requirement for many snack producers is the need to print ingredient information. Meeting this coding need, TTO is capable of wide format, on-demand printing of fine text for nutritional, ingredient and allergen statements. This helps ensure producers can meet the minimum labeling requirements of the snack food industry globally, and can also help reduce the number of pre-printed packaging film SKU's held in stock.

Type of flexible film

While metalized polypropylene is most common for snack packaging, new biodegradable and compostable films as well as matte-finished ones have become more popular. These new substrates have different adhesion characteristics and require thoughtful selection of printer ribbons to achieve maximum print quality for your substrate. Therefore, for applications utilizing TTO or CIJ, it is very important to pick the correct ribbon and ink, respectively, to help ensure that the code adheres to the film.

With laser marking technology, a beam of infrared light is focused and steered with a series of carefully controlled small mirrors to create marks where the heat of the beam interacts with the packaging surface. Certain lasers are capable of marking on metalized bags and pouches, such as those with MBOPP as the outer layer, making precise and permanent marks yet controlled enough to preserve the packaging's integrity.

The laser's optimal installation location on a bag or pouch packaging line depends on the size constraints of the packaging and tests to determine the substrate's surface reaction to the laser.



The Bottom Line

With a number of different bag features, considerations, and coding technologies to choose from, achieving high quality coding on your bag filling line requires thoughtful planning. Videojet offers three proven coding solutions for snack producers that address your unique needs: thermal transfer overprinting, continuous ink jet and laser.

We are ready to help you think through the best solution for your production line. Ask your Videojet representative for more guidance, a production line audit or sample testing on your substrate.

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