



Application note



Continuous Ink Jet Achieving the perfect code on a bread bag

The challenge

Many bakeries print expiration dates and other content on bread closures such as plastic clips and tamper evident tape. Coding on bread bags though can ensure a more permanent and visible code as consumers may remove the closure, losing the code on it. However, coding on a bread bag can be challenging and requires the right equipment, supplies and integration of the printer into the line. This application note outlines the challenges of coding on bread bags and highlights methods to help ensure a perfect code time after time.

The Videojet advantage

Bread bakers look to Videojet to provide application-specific coding solutions backed by the industry's leading experts in coding technology:

- With unrivaled application expertise, Videojet helps you make the right coding decision for your applications
- Videojet's 1000 Line of Continuous Ink Jet (CIJ) printers is engineered for extended uninterrupted runs, keeping your production line up and running longer
- Videojet's portfolio of CIJ inks is the broadest in the industry and includes specialized inks for bakeries

Why is it so difficult to print the perfect code on a bread bag?

Packaging

The most common method for packaging bread limits the ways one can code expiration dates or other information on the bread bag. Most types of bread are packaged in light poly, preformed bags with a closure on the end. The preformed bag can only be coded on after the bag has been filled and closed and is on the conveyor. Products in many industries are coded on while on a conveyor, but bread bags can easily get wrinkled and bunched together. This can be caused, for example, by injecting too much or too little air in the bag. Any movement or change in the position of the bag causes the code to appear in a different location on the bag.

Additionally, the light poly film used for the bags is sensitive to heat. Hot methods of coding such as wax jet tend to melt the bag, leaving a code that can be hard to understand. Worse, these technologies create the possibility of puncturing the bag which could lead to premature spoilage of the bread.

Contrast

It is common to see codes on bags that are printed on the clear portion of the bag which results in the bread becoming the background for the code. Most companies also choose to print with black ink. Therefore, if the bread is dark, there is very little contrast between the dark bread and the dark code. This makes it challenging to find and read the code on the bag.

Handling the bags

The bags usually travel on short conveyors after they are packaged and coded to the end of the line. They are then stacked together in plastic bins or trays to deliver to retail or foodservice locations. In that short period of time, if the ink has not had sufficient time to dry, the code can smudge when the bags contact each other making the code difficult to interpret. For example, different plastics are formulated from different ingredients including plasticizers which can affect ink adhesion and dry time.

What can you do to avoid printing problems?

Consider your printer and ink

It is critical to select a printer and an ink that are specifically formulated for your application. All solutions are not created equal.

Continuous Ink Jet is a versatile coding method optimized for marking on irregular or curved surfaces such as a bread bag. This non-contact coding technology helps ensure that the bread will not be damaged during the coding process. Dust can also be an issue with this printing technology in this environment but Videojet's CleanFlow™ technology reduces the amount of dust and ink that accumulates on the printhead, reducing the frequency of printhead cleanings.

Additionally, it is important to select one of the specialized inks designed for bakery applications. Certain formulations will dry quickly to prevent the code from getting ruined when the bags are packed together. Also, odorless and non-MEK inks are available. Furthermore, different colored inks can be used to create contrast on a bag with dark bread as the background. Finally, since the ink is not hot, the bread bag will also not be damaged during coding.

Consider the integration of your printer

Even the perfect combination of a printer and ink will not guarantee a similar position of the code on each bag. However, the proper integration of the printer with the line can help make certain that the code is in the same place every time.

One simple way of integrating the printer into the line is to use a metal guide to smooth out the top of the bag and pull it tight, ensuring a consistent bag position and location of the code. This metal guide can also be used to help hold the printhead facing downwards at the top of the bag, making the printhead less susceptible to dust and crumbs from the baking and packaging process.

Consider your packaging

A small change to the bag design can improve the appearance of the code dramatically. Dark ink on a clear bag with dark bread as the background produces a code that is not easily visible to consumers and retailers. To create a sharp contrast between the background and the ink, one solution is to pre-print an additional light colored rectangle on the bag to print in.



The bottom line

Printing directly on the bread bags produces a more permanent code than printing on bread closures such as plastic clips and tamper evident tape. However, getting a perfect code on the bag time after time can be challenging because of the packaging used, quick dry times required and the contrast of the code on the package. By choosing the right combination of a printer and ink and method of integration, it is possible to get a clear, consistent code that is visible to consumers and retailers. Additionally, slight adjustments to the packaging can make the code stand out even more.

Videojet stands ready to help you think through the best solution for your bakery line. Videojet is a leader in CIJ solutions. The 1000 Line of CIJ printers has been engineered for extended uninterrupted runs, keeping your production line up and running longer. Videojet also has the broadest portfolio of CIJ inks, including specialized inks for bakery applications, and the industry's leading team of chemists. In addition, with dedicated technicians and knowledgeable sales engineers, Videojet has the expertise to integrate the printers into your line.

Ask your local representative for more guidance, a production line audit or sample testing in Videojet's specialized samples laboratories.

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Printed in U.S.A.

