



Application note



Dairy

Laser coding for aseptic dairy containers



The use of lasers to apply clean, crisp product codes is common in harsh dairy environments. Laser marking helps dairy producers achieve higher uptime, reduce maintenance, and improve mark legibility. Meet the demands for more accurate and legible product identification with a permanent laser marking solution from Videojet.

The challenge:

Usage of aseptic packaging, including new and improved consumer-friendly forms, is expected to continue to grow by 12% through 2026.* Manufacturers utilize this packaging type to protect the freshness, flavors, and nutritional qualities of dairy products and to meet rising expectations of consumers. While aseptic packaging allows for wider distribution with longer shelf life, coding on these multi-paneled, varnished materials can be a challenge, especially with cold production.

Videojet advantage:

Videojet laser marking systems are as unique as your production, and depending on your needs and application, can provide speeds up to 900 meters per minute. Our high performance CO₂ lasers provide crisp, permanent codes on dairy products across a range of packaging types, including aseptic. The optional Videojet TCS+ laser controller is especially designed to reduce operator error and help ensure products are coded consistently and accurately. Optional productivity tools are also available that can help you identify the root cause of downtime events, assisting you in making sustainable process improvements.

Laser myth

Lasers can damage packaging integrity, which makes laser marking a non-viable solution for dairy applications.

Dispelling the myth

The key to using laser coders on aseptic packaging is to build a specific laser configuration comprised of the optimal focal length, laser power (10W, 30W or 60W), wavelength (10.6µm, 10.2µm or 9.3µm) and laser spot size to properly mark and maintain package integrity.

* https://www.oaoa.com/news/business/article_f76af575-74b4-558c-ae70-fe5402e1fd6.html; Global Aseptic Packaging Market Analysis 2017-2018 with an Outlook to 2026;

Laser is a compelling choice for marking aseptic packaging



Laser benefits

Laser technology delivers highly legible codes and adds a permanent code to packaging. Additionally, it eliminates the need for inks and supplies which can help simplify production and reduce the overall cost of ownership.

Integration

Because of the production characteristics of the filling equipment, most aseptic container marking occurs on the conveyance system after filling and sealing. In washdown environments, an IP65 rated laser can save time and money by remaining in place during the washdown process. With an optional IP65 rated laser, you can also avoid potential damage from dairy products or water getting into the printer during the packaging or washdown process.

Marking directly on the container

Lasers mark by ablation. This process etches a small amount of the ink off of a carton's pre-printed top ink layer. A selected laser solution will take into consideration lens requirements, marking heads, and laser wavelength. The end result will create a mark at the preferred line thickness with the lowest energy required. Because small differences in configuration can yield big differences in performance, configurable laser solutions are an absolute must to create the optimal mark on the given material.

Laser reactive marking

For light colored aseptic packaging, an alternative approach is to incorporate a laser receptive pigment into the topcoat ink when the package is manufactured. This pigment is typically applied to a small area, or patch, where you want to mark. The laser energy interacts with the pigments and changes color to produce a clear, durable, permanent code.



Laser reactive marking

The Bottom Line

Videojet has the technology, proven experience, and support experts to help you identify and seamlessly integrate the optimal coding solution into your aseptic packaging lines. Our knowledge of laser reactive marking and the relationships we have with the leaders in this technology offer you a single source solution for your marking needs.

To find out more on our proven solutions for aseptic marking, ask your Videojet representative for a production line audit and for free sample testing on your packaging.

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