



CHOOSING THE BEST CONFECTIONERY CODING SOLUTION

INTRODUCTION

Confectionery is changing as brands fight to innovate and diversify in a fast-moving, packed market environment, and each new trend brings its own packaging challenges

The trend towards recloseable bags or tubs of bite-sized chocolate has brought demand for different types of plastic pack, in addition to the traditional paper or card outer wrapper of the chocolate bar or box.

And so manufacturers and packers too need to be increasingly nimble as they switch production, machinery and staff between lines. In this environment mistakes are expensive, both in terms of downtime and wasted product.

Only an individual business can truly calculate the specific costs incurred through downtime, but all commentators agree that the impact of wasted production time can be significant.¹

Coding and marking equipment plays a small but vital role in this process so reliability and versatility are crucial. Code requirements may be simple and driven by legislation² – usually a best-before or use by date, batch code or other identifier. But stringent food regulations and the importance consumers place on accurate labelling information³ mean this is something no manufacturer can afford to get wrong.

FAST MOVING

Linx's own industry research has confirmed that fast-changing production environments, with quick switches between products or lines, increase the likelihood of operator error, especially where staff may be unskilled or temporary with a high turnover. It's an atmosphere where manufacturers or packers don't have time to worry about whether machinery can be trusted to perform its basic task.

This is an area where making the right choice of coding and marking equipment can help, for example by choosing machines that are capable of storing many different messages of various types that can be changed quickly, or with easy-to-use picture-based interfaces which minimise the likelihood of error, or even where several machines can be controlled or monitored remotely from a computer or even a smartphone.

The type of substrates which need to carry the code are also changing, with Euromonitor identifying a boom in bite-sized 'share' packs⁴ which has meant that almost one-third of flexible packaging used in the food industry is now used for confectionery.

Equally, the need remains to code onto paper wrappers, plastic tubs or tins – and all at different line speeds – meaning coders have to be capable of delivering quality print at varying line speeds without loss of integrity,



especially at peak production times such as for Easter or Christmas when the pace of production is crucial.

In a crowded market place with many products jostling for impact on shelf, every millimetre of the packaging is valuable as a carrier of branding. This means the area where the code has to be printed may be small, further driving a need for accurate, mistake-free coding at different angles – on the side, top or bottom of a container.

FUTURE PROOF

For contract packers particularly, major customers such as supermarkets may require to oversee early production personally to satisfy themselves that their quality requirements can be met straight away – another reason why coding machines must be able to deliver straight from start-up, with the first print as good as the last.

In a hygienic production environment, coders must operate cleanly, with the ink delivered where it's needed and not on the floor or the production line.

Future-proof coders, which allow add-ons to be integrated at any time, mean users can react quickly to changing trends, such as the boom in flexible packaging, without having to trial, test and gain expenditure approval for more machines.

Effective coding and marking technology can help the owners of valuable brands both resist counterfeiting and ease the traceability of products. As long ago as 2006, the European Commission was warning of a rise in counterfeit and 'copycat' confectionery in some markets.⁵ And in late 2013, several UK retailers unwittingly bought and put on sale counterfeit promotional 'Wonka' chocolate bars which imitated a Nestlé product.



FACTORS TO CONSIDER

Choosing the right coding solution for confectionery applications is not easy. No two applications are exactly the same and the following are all factors to be considered when deciding which coding solution to choose:

- Code content – will a simple, one-line Julian date and batch code be sufficient in the future? What are the requirements from your packaging designers and customers? Will increased code complexity such as additional lines, or printing in different orientations be supported by the printer you choose, or will you need to purchase another printer?
- Substrate – consider the range of materials you need to code onto eg. rigid or flexible plastic, metal or card or cardboard secondary packaging. Ensure that you have each of these sample-coded by the printers you are considering. Is the code legible? Also consider the range of colours of the materials you want to code onto: could one coding solution be suitable for all?
- Line speed – will the coding solution keep up with your line speeds? Will the print be compromised if it cannot?
- Factory environment – if your coding environment is wet or dusty then ensure that your coding solution has the right IP rating to perform reliably
- Available budget – not just the initial purchase price, but consider the overall cost of ownership and factor in reliability; by compromising on price you may pay more with unexpected breakdowns. Is leasing a better option, as a revenue rather than capital cost? During seasonal peaks in production, will rental give you flexibility to meet coding demands?
- Testing – will your coding and marking provider offer a free trial? You need to be sure the machine is capable of adapting to the demands you will put on it

Our own customer research has suggested that the key drivers behind coding purchases in the confectionery industry are code quality, reliability and cost of ownership. However these and other, factors are often interlinked.

Code quality

Flexible coding equipment gives the option to print onto differing substrates, allowing you to meet fast-changing requirements from customers who, in turn, may be responding to shifting consumer demand.

Add a printer's potential to be moved easily from one line coding onto one substrate, to another line coding onto another, and the value of versatile equipment is soon obvious. Or, different types of pack may require the code to be printed at different angles – from the top, side or bottom – so a printhead which can deliver from various angles is a huge advantage.

Code accuracy is also a major consideration. As pack designers seek new ways to provide on-shelf impact, the amount of space available for functional information such as durability dates continues to be squeezed. Set against this may be legislative requirement for the code to be printed using characters of a certain size. This means printers have to be able to deliver the code accurately into what may be a small area.

Reliability

Reliability is a must: as other parts of the production line become faster, coding equipment has to be able to keep up, especially in coding environments where sugar or chocolate dust or powder could cause a machine to fail.

You need to keep your line moving not just at high-speed peak times, but also just as reliably when volume output may be lower.

Maximising productivity means reducing unscheduled and scheduled maintenance time and costs. Printers have to be equipped with quicker trouble-shooting and servicing capabilities, and 'self-service' options to allow basic maintenance to be carried out without the need to bring in an engineer.

Low Cost of Ownership

Flexibility is key here: a printer that can fulfil several coding functions by being moved between lines will pay for itself in months.





Today's lean manufacturing principles, sometimes led by quickly-changing consumer demands, require production to be more flexible, to react to smaller batch sizes and faster delivery. Therefore printers must be more flexible – capable of dealing with faster product changeovers and easily moveable between production lines.

Cost of ownership takes into account the initial purchase price, plus the consumables and servicing costs over years; not forgetting the hidden cost of downtime caused by an unreliable printer or delays in code entry during changeovers.

Attractive leasing options may also be available, where the higher overall cost is offset by the attraction of not having to get capital expenditure approval. Servicing and consumables can be added in to make the overall cost predictable from the start.

Examine what arrangement works best for you – buying, leasing or renting all have advantages in different production and business environments.

Ease of Use

Feedback from Linx research across a range of FMCG and industrial markets suggested that users prefer a simple, cost-effective solution rather than complex, feature-heavy machines. A printer with an intuitive interface will save time during product changeovers when new codes are entered: prompted coding fields can simplify this process even further, and remote control features will also allow code control from a central location, further reducing the risk of coding errors.

The costs of errors can be substantial, particularly if these are not detected until after product has left the factory. In a survey of the food and beverage industry for Ernst & Young, 81% of respondents deemed financial risk from recalls as significant to catastrophic, while 58% had been affected by a product recall event in the last five years.⁶

THE DIFFERENT CODING TECHNOLOGIES

There is a range of coding technologies available, each with their own particular strengths in different applications.

Laser

Laser coding has no ink involved in the coding process and therefore no drying time and no risk of smudging which can be an issue on some materials where the coded product is in contact with other products or handling systems soon after coding. Laser coders are suitable for a wide range of substrates at any line speed. They are particularly attractive due to low down-time, high-speed capability and the fact there is no use of consumables.

Steered beam laser systems are highly versatile as they provide clear, consistent and perfectly formed characters in a variety of fonts and message formats, and enable the use of high quality graphics and logos over relatively large print areas. They are particularly suitable where high quality codes are required e.g. to blend in with the style of the pre-printed packaging.

Since their introduction into coding and marking, the advances in technology and efficiency means that the initial purchase price has significantly reduced. Add to this the low cost of ownership due to no consumables and relatively low maintenance, laser coders are a viable choice for confectionery applications.

Developments in design have also recently given rise to a new generation of lower cost compact laser coders, which offer an affordable alternative to other technologies whilst still maximising functionality.

Continuous Ink Jet

CIJ maintains an important place in the market as it can print on almost any substrate, including metal tins. A wide range of inks is available to use with CIJ printers. Choices include inks of different colours to ensure legibility on any colour substrate, and food grade inks for applications where the code may come into incidental contact with the confectionery itself. Many more inks are available, adding yet another dimension to the coding process.

From cardboard and plastic, to paper, metal and glass, CIJ can print from one to multiple lines of text and simple graphics at speeds of over 2600 characters per second. Further versatility is given by the compact printhead that can be situated above, beside or beneath a production line – even traversing from side to side across the line if necessary. With lighter models increasingly being produced, the CIJ printer is more capable of being quickly moved from line to line and is quicker to install and set up than laser coders.





Large Character Marking

Case coders are particularly well-suited for printing variable information onto secondary packaging such as cardboard boxes. These outer cases usually require text and graphics which are easy to see.

Case coders can print to a high-resolution quality, and are versatile enough for use on a variety of surfaces and materials. Easy to set-up and adjust, their reliability and predictable cost of ownership endear them to production lines in a range of industries. They are also a cost effective alternative to pre-printed boxes or labels.

Thermal Inkjet

TIJ printers also offer a flexible coding solution for both outer cases and primary packaging. Although offering a smaller print area than case coders, these high resolution coders offer superb print quality for premium packaging, and are a cost effective solution for slower production lines or where production is not 24/7.

BRAND PROTECTION

Although there is only sporadic evidence of confectionery brand counterfeiting, the ability to protect a product and consumers, and to demonstrate the provenance of it, can help build trust and reassurance. Many manufacturers are also looking for effective and unobtrusive ways to track products throughout the production and packaging processes.

The coding and marking industry is able to offer some solutions.

Serial numbering of packs can help identify that a product is genuine, through the use of codes that can be linked back to a central warehouse for authentication. Hiding the identification or serial number in an encoded format such as a Data Matrix barcode makes it more difficult for these codes to be reproduced.

Combining this with supply chain management, whereby individual products are scanned as they migrate from manufacturer to end user, can provide added security and highlight from where counterfeits may be originating.

CONCLUSION

Make sure you have explored all the options in order to select the coder that meets your exact requirements.

And remember line speed, code content, the coding environment and true cost of ownership are all important factors to consider before making your choice.

A reputable supplier with experience in supplying coding solutions to the confectionery industry should be your first port of call.

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