



CHOOSING THE BEST CODING AND MARKING SOLUTION FOR SECONDARY PACKAGING IN THE SNACKS INDUSTRY

INTRODUCTION

The snacks market is a thriving industry in the UK, currently estimated to be worth £3,229 million.¹ Of that, crisps and savoury snacks represent £2,778 million, nuts £379 million and popcorn £72 million.

A rapid expansion of new techniques such as baked, high-pressure 'popping' and a re-imagining of traditional popcorn with modern twists on flavours has helped fuel these developments.

With factors such as the growth in online purchasing, there are suggestions that the use of corrugated secondary packaging by snack food manufacturers is increasing.²

Cardboard remains the leader in food packaging (33 per cent) ahead of plastics (30 per cent). Corrugated cardboard represents 3 million tons and boasts a positive image with environmentally-aware consumers, as 90 per cent of corrugated cardboard production comes from recycling. The use of what are perceived to be 'clean' materials – such as solvent free inks for coding and marking – can help promote this image.³

Elsewhere, the global corrugated box packaging market is forecast to grow at a CAGR of almost four per cent over the period 2014-2019.⁴

But growth and increased productivity bring other challenges as manufacturers look to set their products apart, minimise costs and tighten margins. As an integral part of the process, the coding and marking equipment you choose must be capable of operating effectively and efficiently in a demanding, fast-changing environment.





CODING REQUIREMENTS

EU Country of Origin labelling regulations and the Food Information Regulations (FIR) have had significant impact on coding needs.

Labels must be printed with a minimum font size and face the consumer - this leaves less advertising space on the primary pack, further highlighting the need for brands to produce stand-out secondary packaging.

Getting it wrong can be costly, with the Department for Environment, Food and Rural Affairs having calculated that the average cost of a label change is £3,260.⁵

Retail ready packaging (RRP), to meet demands for secondary packs which help sell a product, is being used increasingly as an eye-catching marketing tool. Placed straight onto the shelf, it results in ease of use for the retailer and a great item of brand marketing, often including QR codes linking to interactive content.

Whatever the secondary pack format, there is the need for the efficient and reliable coding of variable information such as batch codes and sell-by dates – which may have to be discreet so as not to interfere with designs – in order to meet retailer and legislative traceability requirements.

Modern coding equipment can offer the flexibility to cope easily with demand for both essential variable information and more complex quality graphics.



CODING AND MARKING CHALLENGES

The explosion in snack consumption has led to a multitude of primary pack types being used, from flexible or rigid plastic to glass, tin and card. The primary pack's size and shape may in turn dictate the type of secondary packaging selected – for example shelf-ready cartons or boxes.

This can affect the speed at which coders need to work, anything from 30-60 cardboard cases per minute to up to 200 or more cartons.

Coding and marking equipment needs to be simple to integrate onto packaging lines, and then work reliably and unobtrusively.

Quality of code is important, especially as the overall appearance of secondary packaging can also be a reflection of brand image. Printers with quick start up capability, where the first print is as good as the last, minimise the risk of poor quality codes.

Linx's own research has shown that barcode readability is a concern for most suppliers – particularly with the heavy fines which can be given out for poor or incorrect barcodes by major retailers. There is also a preference for adjacent side case marking to ensure a barcode is easy to see when the filled cases are palletised.

Competitive retail markets mean there is a growing variety of product types and pack sizes, leading to shorter production runs. Coders need to be able to cope with fast changeovers to maximise line uptime and production throughput.

On packing lines where employee turnover may be high, or be affected by seasonal demand, coding equipment that is easy to programme is a significant benefit. Modern printers featuring picture-led displays, capable of storing and switching between multiple messages, or even being controlled remotely via a web browser, can help eliminate costly errors on the factory floor.

Fast drying specialist inks can be invaluable in environments where there is a risk of smudging through manual handling or boxes being placed together on pallets after coding.

Printers must also be robust and reliable, and able to withstand bumping from packs which may not be placed straight on the line.



DIRECT PRINTING VS PRE-PRINTING

The right type of printer can add significant value by cutting waste.

Direct printing - using a single machine to code quality graphics and variable information straight onto the packaging or variable data onto labels - means boxes are coded on demand. Where the process replaces labels altogether, this reduces consumable costs and the amount of storage needed, and means there is no danger of excess stock of pre-printed labels or boxes at the end of a production run.

Accurately-placed, direct coding reduces the risk of incorrectly applied labels, and codes and graphic designs are not restricted by label size. In addition, a manual label application process can cause a bottleneck in production, whereas a direct printer can help a manufacturer or packer react to sudden demands or changes, with easy set-up or remote control of the procedure offering the flexibility to change messages rapidly.



THE DIFFERENT CODING TECHNOLOGIES

Whether it is graphics, codes or both that are to be applied, the choice of coder needs to be carefully considered. There is a range of ink jet technologies available, but some – such as Drop on Demand - are unable to print graphics, and code quality can be inconsistent. The three main options outlined here have their own particular strengths in different applications but offer the most flexibility where graphics and/or high overall code quality are particularly important.

Impulse Jet (IJ)

Impulse Jet Printers, using piezo inkjet technology, can be an effective alternative to labels and pre-printed boxes. They offer an ideal solution for high definition printing of both branding and variable information directly onto cartons - helping to keep costs low.

Case coders can print to a high-resolution quality. Easy to set-up and adjust, their reliability and predictable cost of ownership endear them to production lines in a range of industries.

Clean operation can be assured by selecting a coder with a self-cleaning printhead, a particularly valuable benefit in dusty working environments.

Continuous Ink Jet (CIJ)

Although traditionally used for primary coding, some of the latest CIJ printers now include a carton coding feature, meaning they have the ability to produce more codes of a greater height. This enables a single model to print variable data for both primary and secondary packs, making it an extremely versatile choice, particularly lighter, portable models that can be quickly moved from line to line.

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.

A wide range of inks is available to use with CIJ printers, including inks of different colours to ensure legibility on any colour of box.



Thermal Inkjet (TIJ)

TIJ printers also offer a flexible coding solution for both outer cases and primary packaging.

Although providing 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.

Ideal for higher quality codes and barcodes, TIJ offers good entry level coder technology which is simple to operate, while no cleaning is required because the printhead and ink are contained within one easily-replaceable cartridge.

Easy to use colour touch screens, and simple machines which are quick and simple to install straight out of the box, add to the advantages of TIJ.



CONCLUSION

The snack manufacturing and packing environment can be hectic and fast paced, so coding and marking equipment must be easily incorporated onto lines.

Crucially important for manufacturers is the need for accurate, high-quality coding of variable information, such as sell by dates, batch codes or traceability information, onto boxes. Errors here can have significant cost and time implications.

All direct printers offer cost, waste and storage advantages over pre-printed labels or boxes. And the options range from easy to use, entry level coders which can offer both primary and secondary pack printing, to high-definition 'future proof' coders capable of printing graphics, and where further capability can be added as needs become more complex.

Whatever the requirement, selecting high quality, reliable and flexible coding and marking equipment can help snack food manufacturers be ready to meet challenges now and in the future.

References

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