How Digital Processes Promote Paper Packaging

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ADVANCEMENT in technologies such as digital workflow and new coatings have put paperboard on the packing pedestal. The digital revolution has embraced traditional manufacturers of carton, corrugated cardboard and paper-based packaging worldwide. The distinguishing features of this segment of packaging technology are enhanced speed, accuracy, flexibility and cost effectiveness, while the necessary preconditions can be easily preset by computer. The preparation of the prototype samples for folded board used to be difficult and time consuming, but has since changed when computers are used to generate these samples, at a significantly lower cost and shorter time.

Niche Marketing Easier and Cheaper

Digital printing allows different information to be printed on each individual package in a print run. For example, not only could folded boxes or bags be varied from country to country, but even from item to item, since they can be printed from the digital data carrier with the option of individual variation. Experts in the packaging industry see this as a key value add and an opportunity for brand producers to succeed. The key benefits are faster product launches and micro-segmentation of the markets. This allows fundamentally identical packaging concept to be used for different brands, because the visual appearance of the packaging can be altered cheaply and easily without a great deal of effort. The benefits not only apply to fragmented markets but also logistics processes, which have growing significance in terms of distribution and cost control.

Digital artwork proof

Defined by Design

There is continuing demand for the new design features to differentiate between brands on the shelf. By combining several design elements, an item's visual impact can be improved. For example, Black Apron package design incorporates a rigid box that has the stability to protect the product and a folding carton wrap and laser cut sleeve that give it a high-end look with easy product accessibility.

Replace Plastic

One new application of carton is for packaging, which was once dominated by plastics, as it offers the necessary barrier layers, and does not involve such a high level of visual input. These types of packaging can extent the shelf life of foodstuffs substantially. For example, this technique gives fresh fish a storage life of up to three weeks. In the future, plastic packaging may be replaced by molded carton trays which are given specific barrier coating depending on their intended application. The barrier properties of the carton packaging are said to be comparable with those of plastic packaging.

What is special about this form of packaging is that it is suitable for printing. With up to 4 colours, a broad range of design options are supported, and the previous practice of labeling the plastic variants becomes superfluous. Another advantage of carton trays is cost saving compared with their plastics competitors. The coating provides carton packaging with the necessary barrier against humidity and grease.

Greaseless Packaging

Carton or paper packaging also provides a solution to the long existing problem of packaging dry foods. Manufacturers have devised multi-layered paper bags which remain impervious to grease even under tropical climate conditions, with a relative humidity of 65% and a temperature of 70deg. The multi layered bags have a layer of grease-proof paper applied inside, which also provides the necessary mechanical strength for the bag construction. An optional plastic layer provides an additional barrier against particularly greasy products, such as croquettes or French fries, where necessary. Another layer of kraft paper increases the physical strength of the bag. Finally, a layer of superbly printable paper on the outside ensures that the products attract the necessary degree of attention. In this way, the manufacturer hopes to accommodate consumers' interest in quality feeds for their pets, their desire for a bag which is easy to handle, with an environmentally friendly design. Recent progress in bag and sack technology is also aided by new fibers in paper production. New, longer fibers produce much stronger sack paper. In this way, manufacturers have managed to reduce the empty sack weight by 15 to 20% with a comparable load capacity, without losing filling speed. The cost saving has contributed to the remarkable renaissance of the paper bag in recent years. Another decisive factor was the improved design of the base section, which now supports square shapes in keeping with logistical requirements for space saving usage. ■

Elegant purse design with cardboard

World cup chocolate