

Where is Packaging really heading?

Flexible Machinery for sustainable Film and Paper Packaging



■ Packaged with a polyolefin fine shrink film (without PVC and plasticizer) at only 7 µm: This provides approximately 60% savings in film volume per package compared to an industry standard PVC stretch film.

Where is packaging heading? Is it really moving away from plastics and towards paper? Is this the future direction for sustainable packaging? The answer, according to Hugo Beck, which has been providing customised film packaging solutions for more than 60 years, is to stay flexible – as there is no single solution. And, to meet the growing demand for sustainable packaging, the company has expanded its product range to include paper-based solutions, with the launch of a new generation of flexible Form Fill and Seal machines that use both paper and all types of film for primary and secondary packaging applications.

Hugo Beck is well known in the packaging industry for providing the highest quality in terms of packaging appearance, machine availability and efficiency. It is the customised horizontal packaging solutions for flowpacks, bags and shrink packs - made using all types of film - that represent the core business of the family-owned German company. And, while paper packaging has been in the portfolio for some time, or available as an additional option to the company's film packaging machines, it has not been a primary focus within the business – until now.

“Over the last year we have experienced an enormous change in demand for alternative packaging solutions,” said Timo Kollmann, Sales Director at Hugo Beck. “While the topics of sustainability, recyclability and the circular economy of packaging are not new, the urgency and awareness in the industry to become active, beyond mere talking, has increased significantly. “In this context, it is almost impossible to have an objective discussion in relation to the use of plastics in general, with plastic or film packaging under particularly heavy attack within the media. We are therefore seeing a great amount of uncertainty among our customers.

Packaging is often now perceived only in a negative light by consumers, yet the fact is that, in the case of many products, packaging is essential and cannot simply be omitted. “It is also a growing concern that some companies are looking to push through new plastic-free or so-called ‘green’ packaging to simply give the perception of sustainability, while in reality it may have an even greater impact on the environment, particularly when a true lifecycle analysis is taken. Making the move away from easily recyclable film packaging in favour of paper packaging - or even doing without packaging - should therefore be undertaken only when the sustainability benefit has been well thought out.”

The goal will show the way

Every company's long-term goal should include the pursuit of a genuinely holistic sustainability strategy. Yet many factors, such as transport, logistics, energy costs, recycling possibilities and legislation all play a role. Choosing the right packaging is another important step towards this goal. There will be product-specific requirements

that must be considered. For example, requirements regarding product protection, shelf life, hygiene, barrier properties and appearance will all be important in deciding upon the most appropriate packaging. Packaging requirements can also vary from country to country, adding another layer of consideration to the review process.

The choice of the best possible material

Hugo Beck helps its customers to choose the best material according to their individual sustainability goals and product requirements. For many years now, the company has approached the development of innovative machine technology in three ways, in order to provide packaging that minimises the use of resources and future-proofs the user. These are:

- Minimising film or material use in production
- Processing all types of machine-compatible films at maximum speeds, including those that are considered problematic. For example, processing extremely thin films, which are already available today from 7µm (e.g. polyolefin), 100% recyclable films made from monomaterials (e.g. polypropylene) and those made from recycled materials and bioplastics (e.g. PLA), and ensuring their sealability
- Having the flexibility to switch to paper and various other packaging materials as an alternative to film packaging where appropriate

Saving resources through film reduction by 15 – 70%

Minimising the use of packaging material in the first place is a key requirement for

■ A classic shrink pack: chocolate box in extremely tight-fitting film (bottom overlap and ionisation)



sustainability. Hugo Beck's continuous Form Fill and Seal machines are the perfect example of delivering this, as they are designed to ensure film use is as efficient as possible. The amount of film required is reduced by approximately 15%, simply by using the company's patented tight packaging technology, which delivers a precision fit of the film and hardly

any waste during production. Through the highly precise synchronisation of the transverse sealing unit with each product, gaps are therefore minimised. This ensures continuous high-volume production output, delivering an extremely close-fitting, precise and film-efficient packaging solution with an unrivalled finish. For example, with the packaging of an A4 magazine at a produc-

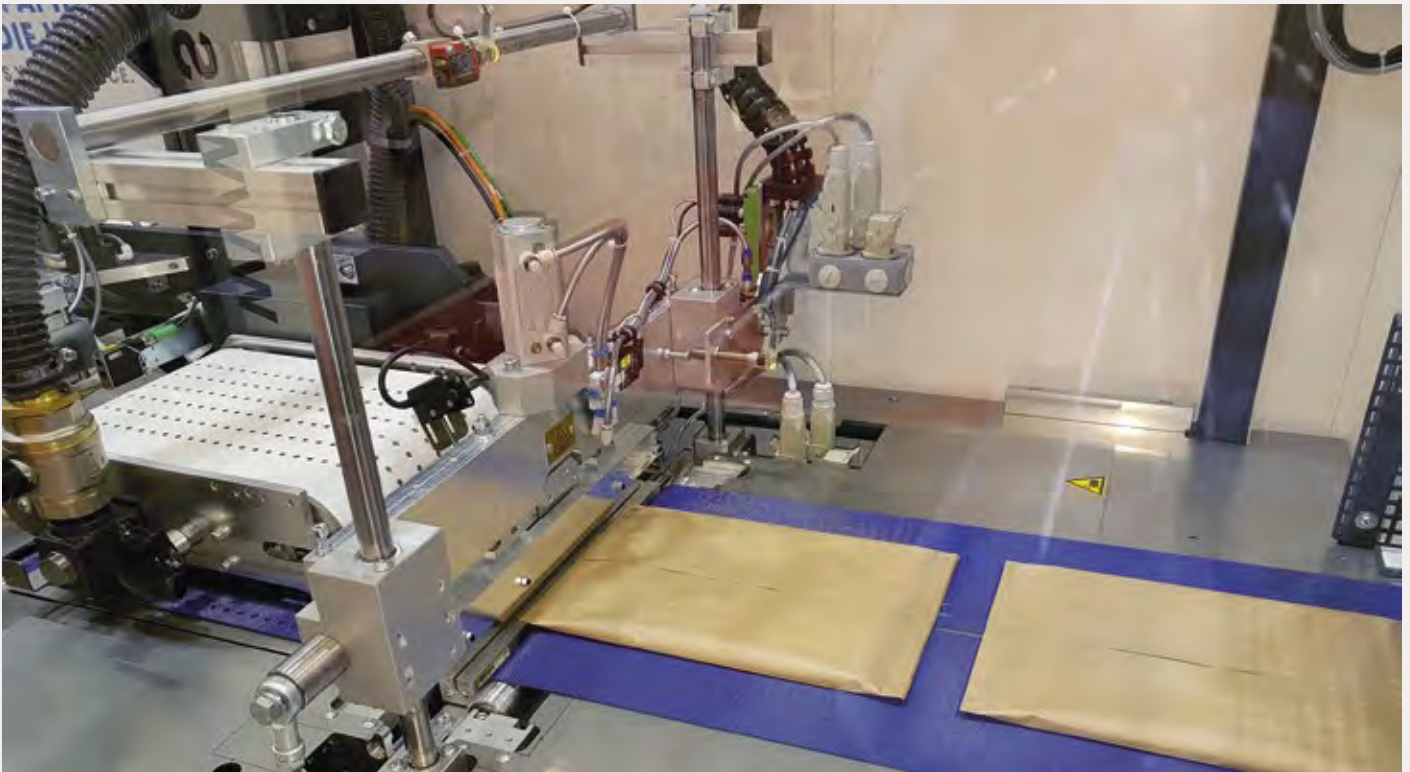
tion output speed of 8000 cycles per hour, the fitting of the bag ensures a film excess of only 2 x 2.5mm. Also, if the magazine is shrink wrapped, less film is then shrunk, which further improves the packaging result and reduces energy consumption.

In combination with efficient film use, further significant material savings of approx. 60-70% per pack can be achieved by using thinner and therefore lighter packaging and shrink films. These are increasingly available and proven examples include the Cryovac® ultra-thin polyolefin shrink film (without PVC and plasticizers) at only 7µm from Sealed Air and 9µm from Bollaré. These are already being used for fresh products such as fruit and vegetables, but many other industries are now using them to significantly reduce their packaging volumes. These new films require machines that are designed for their specific use - otherwise the packaging quality and speed can suffer.

Hugo Beck's cutting-edge machine technology has been designed to deliver a consistently high, or even increased, output across these new film types and deliver significant film reduction. This means that a new machine investment can often pay for itself in a very short space of time, simply through the annual film savings alone.



■ Future-proof and flexible: the paper X hybrid advance for film and paper packaging on just one machine. It processes films of all types and papers from approx. 60 g/m² to 120 g/m².



■ Both uncoated and coated paper can be used for producing bags.

Flexible use of paper and film on only one machine

“Our latest innovation in machine technology now enables the cost-effective, flexible use of paper alongside filmic packaging to deliver even greater functionality to customers and help future-proof their investment,” said Timo Kollmann. “Industry and trade sectors now have a range of packaging options available to them to process both paper and practically all types of film.”

Hugo Beck’s horizontal Form Fill and Seal machine – the paper X hybrid advance - can use both paper and film materials for packaging. After a simple changeover of about 30 minutes, the machine is ready for a different product and packaging material. In most film applications this has a side seal and overlap on top, while for paper-based packaging applications there is an overlap on top and standard gluing. Alternative sealing techniques are also possible and can be developed as part of the overall machine specification.

In terms of defining the specification of paper to be used, it’s up to the customer and the future market trends. Kollmann explained: “We are currently dealing with a wide variety of enquiries where new types of paper for the machine packing need to be tested to ensure their usability. Inquiries for this application are coming from practically all industries; from food and household goods to technical items, graphic print products, logistics and e-commerce.”

In addition, Hugo Beck flowpack machines also flexibly process both film and paper, which must contain a minimum coating of

some type, such as PE or cold glue, in order to be sealed. This requirement needs to be considered for each application as, depending on the country, the percentage up to which plastic-coated paper is still recyclable, varies significantly.

What will the future bring?

“In the short term, new sealing techniques, paper types and films will certainly come onto the market, which in turn will offer new oppor-

tunities for us to continue working with customers on packaging solutions that are sustainable in every respect,” said Kollmann. “Within this, we will of course continue to innovate. For example, we are currently developing a technology that allows the two or three open sides of a paper package to be closed in a completely new way. This new machine innovation will be shown for the very first time at the forthcoming interpack show. While it is particularly suitable for textile products and the e-commerce sector, like all our solutions it can be applied across a variety of industries and end-uses.”

„He added: “Despite the growing demands for innovation and pressures created by changing legislation and consumer behaviour, as a packaging machines specialist we must continue to focus on delivering primary and secondary packaging that remains fully functional as well as being sustainable, and all from a machine investment that is future-proofed for our customers.”



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