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Sustainable film: Not without the right forming shoulder!

Whenever film is turned into bag form – whether self-standing bags, sachets or stick packs – the job requires a forming shoulder. This is an essential part of a flow bag machine, and also a key component when it's time to switch to alternative materials.

Anyone involved in bagging products knows that a form shoulder is essential. This replaceable tool shapes the film prior to sealing and filling. Precise shaping is important, an addition to avoiding damage to the film. The finished bag must also be wrinkle-free. FormerFab, based in Freital in Saxony, applies a special formula to calculate all these requirements. "We are one of a small number of companies around the world that can do the forming shoulder calculations directly," says Roy Holfert, Sales Director at FormerFab. "This procedure gives our customers the certainty that everything will work, and that tricky materials can also be processed perfectly."

Thanks to its high-precision forming shoulders for horizontal and vertical flow bag machines, the company supplies packaging machine builders, end users and contract packers in more than 50 countries. "Our forming shoulders are used by many major industry players," says Holfert proudly. "So even as an SME, we can be active on the global market."

The company started out making fully milled forming shoulders. "The calculated forming shoulders were ideally suited for real-world conditions," Holfert says. Another benefit of the calculation is that the components have a longer service life, thanks to the ideal distribution of forces. The results are first tested using prototypes. The team uses 3D printers before moving on to manufacturing using CNC machines. "Each individual forming shoulder is adapted to suit its future task – to the packaging machine, to the material to be processed, and to the bag design," says Holfert, describing the development process.

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Paper has its challenges

The focus in the past was on processing PE and PP film, and also composites. Holfert notes that this has changed dramatically: "The defining theme among our customers right now is paper. That was the situation at the last FACHPACK, and it will be again this year." But converting conventional plastic film to paper-based materials is far from straightforward. "Machine builders and users have to understand that paper is less elastic," Holfert explains. "That means that forming paper is a more circuitous process compared to plastic film. It's also reflected in the design of the forming shoulder." In addition, paper film comes in countless compositions and variations: Some have short fibres, others long; there are types with or without a barrier function; and also coated and uncoated. The experts at FormerFab therefore calculate every application individually, and always take the type of machine, material, and shape of bag into consideration.

And of course they have to interact with the paper and film suppliers. "To enable the film from the manufacturers to be used properly at the customer's end, they have to include the forming shoulders in their considerations," says Holfert. "During the changeover process we're often the first point of contact when problems arise – and they nearly always do at the beginning." At the last FACHPACK, many material manufacturers came to the stand to talk about the challenges with paper film. "Our work makes the changeover easier for customers," says Holfert. "If the forming shoulders aren't right, the quality will suffer. Paper is unforgiving. In the worst case, the film will tear, leading to breaks in production. Barrier layers can also lose their effectiveness under excessive stress. We advise the customers that they can also switch to alternative films without difficulty." Wherever they can, FormerFab removes obstacles facing users. Customers therefore receive their forming shoulders fully configured. Set-up information is provided on a drawing. That means various formats can be quickly changed and operation resumed.

Asymmetrical seam makes the difference

FormerFab also supports the "Transition in Packaging" with a constant programme of innovations that help manufacturers to use paper packaging that is every bit as good as plastic. With flowpacks made of paper, customers have previously been limited to a central seam. "We calculated that it was possible to make a flowpack forming shoulder with an asymmetrical seam,

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in other words, one that is offset to the side rather than central," reports Holfert. "There had never been anything like that for paper before." That greatly increased the level of design freedom for paper products — for example, the back of the packaging can be structured much more freely. Thanks to this development, the company has made it to the final round for the highly rated Sustainability Award, which will be presented in Portugal in September. "It goes without saying that we very much hope we can display this Award at our stand at FACHPACK," Holfert comments.

Plastic has its justification too

Nevertheless, Holfert firmly believes that demand for plastics will continue. For one thing, many regions around the world will still hesitate to make the switchover, and plastic will also remain indispensable for sticky foodstuffs or hygiene items. But even in the case of plastics, there is still potential to improve their sustainability – by using monomaterials that are easier to recycle, for example. "All customers realize that sustainability has become a defining trend," says Holfert. "But many are still uncertain and vacillate between paper film and monomaterials. We can offer users the appropriate forming shoulder for both versions. Of course, monomaterials also come with challenges: For example, they often generate more friction on the shoulder. We take these properties into account in the design of the forming shoulders, so users have a flexible choice." The range of available packaging options is now much greater thanks to the use of more sustainable films. With the right advice, manufacturers can benefit from this wider selection – as long as they don't forget the forming shoulders.

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