

# The intelligent stretch film

## POLIFILM EXTRUSION conquers world markets with innovative products

“Intelligent materials lead to an intelligent product,” says Bastian Runkel, the managing director of POLIFILM EXTRUSION GmbH in Weißandt-Görlau. With its innovative plastic films, his company has made a name for itself in Europe, Asia and the USA. “These days, the only companies which can compete on world markets are those that invest in research and development,” highlights the director.

“We are the biggest manufacturing location for extrusion film in Europe,” explains Bastian Runkel. On a guided tour of the giant-sized halls of POLIFILM EXTRUSION GmbH in Weißandt-Görlau, the meaning of “film extrusion” quickly becomes clear: in a conveying system known as the extruder, plastic granules are melted into a viscous mass before being pressed through an annular nozzle and inflated – up to 35 meters high and nine meters wide. Once it has cooled down, the film is cut to suit its respective use – in wide sections for use in the fields of agriculture or construction, for example.

“Plastic film has a very negative image, quite unfairly” – explains the managing director of POLIFILM, and not just because 800 employees in Saxony-Anhalt alone earn their money in the production of plastic film. Runkel goes on to say that when people throw away plastic bags containing rubbish in public areas it’s irresponsible and environmentally damaging – but the plastic isn’t to blame: “Plastic can be one-hundred-percent recycled. We granulate our own plastic waste and we also buy it from the waste disposal companies.”

And at POLIFILM EXTRUSION, far more happens than simply the melting and recycling of plastic. Managing director Runkel steers the discussion to the “intelligent film”, the properties of which the end-customer should be able to orient to its specific use. These could be the drinks bottler who wants to stretch their pallets as quickly and efficiently as possible, or the logistics company which has to ensure the slip-resistant packaging of various different products. “We are taking a close look at our end customers’ processes,” explains Bastian Runkel, before addressing one recent example: the special challenge of ensuring that mattresses packaged in film don’t slide around if stacked on top of each other, and that they don’t get stuck to each other either. After all, when making a sale, it is necessary to be able to withdraw the individual mattresses from the stack.

Bert Wölfli and his employees from the “development and applications technology” department have already realised several innovative ideas when it comes to the new material properties of plastic film. The fact that the chemical region in the south of Saxony-Anhalt is home to concentrated expertise in this field was one of the reasons why the Runkel family, a business family hailing from Cologne, decided to come to Weißandt-Görlau and take over what remained of Orbitaplast, a subdivision of the Buna chemicals works, in 1991. With its research director Wölfli, the company has secured the services of an expert who has considerable experience in management and product development as well as professional knowledge gained through several years of work in the USA. When it comes to the development of plastic, Bert Wölfli is a key player in a well-developed network in central Germany. The Institute for Plastics Technology and Recycling (IKTR) in Weißandt-Görlau, Merseburg University of Applied Science, Martin-Luther University of Halle-Wittenberg and the Fraunhofer Institute for Micro-structure of Materials and Systems (IMWS Halle) are all in the immediate vicinity.

Attracting bright young staff and making them into young professionals is also a key topic at POLIFILM. Maria Heinze decided to move from the world of science to the world of industry. She is enthused by the company’s in-house “experimental laboratory”. Over one million Euros have been invested in equipping the new technical facility. This is where almost every development project begins. The company is currently conducting ERDF research projects: the “development of stretch films with stretch-independent bonding” and the development of films with ultra-thin and mechanically flexible high barrier layers.”

“Even thin household plastic film consists of several layers,” says Maria Heinze with a smile – she is used to the amazed reactions of those who don’t know much about plastic – before unwinding one such roll. Cling film has strong self-bonding properties – that’s something that most people know. Stretch films have similar properties. They are wrapped around pallets several times until the consignment is stable and secure enough to transport. The use of an optimised film would save materials, time and costs. Project manager Heinze explains that special types of polymers can be incorporated into the outer layer of the film in order to enhance its bonding. The polymers are expensive, however. The goal of one of the research projects at POLIFILM is the development of a kind of molecular Velcro fastener, meaning the creation of a surface structure which works in accordance with this exact principle – without the use of any additives. When it comes to this topic, POLIFILM is a partner in a research association at the Fraunhofer Institute for the Microstructure of Materials and Systems in Halle. The German name of the project, which is focusing on a specialist embossing technology, is KoMiNaKu, which stands for the “combined micro- and nano-structuring of plastics”. Maria Heinze calls it the “Gecko phenomenon”. Extremely fine hairs and fins on the animals’ feet enlarge their surface and enable an interaction at the molecular level. The result: Geckos are able to attach themselves to smooth surfaces when they are upside down.

Drawing inspiration from this example in the natural world, the films manufacturer from Weißandt-Görlau is hoping to develop surfaces that have brand new properties: stretch films which bond without the need for additives, adhesive films that are easier to unwind and printed inks that last longer.

Development director Bert Wölfli highlights the in-house “stretch academy”, which is where retailers refresh their knowledge of the new material properties of the stretch film. The intelligent company strategy is leading to success: POLIFILM EXTRUSION has become a global player. It delivers approximately 200,000 tonnes of film to 87 different countries per year. “In the run up to Christmas and the new year we are always very busy,” highlights Runkel.

Author: Kathrain Graubaum (text/photo)

[www.polifilm.de](http://www.polifilm.de)

Image caption: POLIFILM EXTRUSION - Managing Director Bastian Runkel, Project Manager Maria Heinze and Research Director Dr. Bert Wölfli (from left) meet at the company’s technical facility. This is where every development project begins.

24.11.2016

◀ previous article

next article ▶

Add page

