

A local circular cycle for foils, just as 'Europe' wants them to be

Innovations do not always have to be grand and compelling to make an impact. Valipac provides proof of this with the development of shrink sleeves, 50% of which are made of recycled plastic. That percentage can still be increased considerably. First, however, we need to increase the market for circular shrink sleeves.

If it can be done in Belgium, it can be done in the Netherlands. And in Germany, France and the rest of Europe. Turning old shrink sleeves into new shrink sleeves. Valipac demonstrated in a demonstration project with various chain parties that it is technically and financially feasible. "Now we only have to do it with as many companies as possible," say project leaders Karel Gemmeke and Filip Vangeel. Until his retirement a few months ago, Gemmeke was Director of Innovation at Valipac. Vangeel is Manager Circular Economy. What do they need? "More market."

Valipac was set up in 1997 on the initiative of the Belgian business community to organise the extensive producer responsibility of producers of commercial packaging. Since then, the recycling rate of this packaging has risen from 74 to almost 90 per cent. However, the proportion of PE films and foils, with shrink wrap and stretch films, for example, lagged far behind. Of the 100,000 tonnes put on the Belgian market every year, only just over half is recycled. "At the time, this was mainly done in China," says Gemmeke. "We went there regularly for audits to see what happened to the foils. And that was all quite all right. After China banned the import of waste, the PE films found their way to many different destinations. This made it increasingly difficult to trace the final destination of the plastic waste. In the meantime, however, Valipac has already set up a system with traders, which today allows us to trace 90% of commercial plastic packaging to a recycler (whether or not outside the EU)".

Closed system

"In order to achieve demonstrably good recycling rates, we have started thinking about a closed system: a local circular cycle, as 'Europe' wishes. A circular economy is about preserving the value of materials. We wanted to prove that we could turn a used shrink sleeve into a new one. We succeeded, although I can still get quite excited that it took so long". Because it was not easy to get parties enthusiastic about the demonstration project. Gemmeke: "We had to have all the players in the chain at the table: a packer, a shrink sleeve manufacturer, a polymer specialist, a collector, a recycler. But in the beginning there was a lot of scepticism and even a little laughter. Because if it is not your problem, why should you do something about it? That's the way it is today: nobody considers the foils to be a problem.

Anyway, the Belgian branch of the Austrian brickworks Wienerberger wanted to take part. Total too. The producer was found in the Netherlands: Oerlemans Plastics. And Morssinkhof/Rymoplast joined. The project could get started. Vangeel sketches a typical picture from that time: "Technically it turned out to be not so difficult to make shrink sleeves with recycled content. Total had the technology available, but was unable to sell it because they did not know the customers of the converters. And it is precisely the users of the shrink sleeves who make the decisions. Then we asked Wienerberger: why don't you use recycled shrink sleeves? They didn't know they existed; after all, they weren't in the supplier's catalogue'. And what did the supplier say when we asked why they

didn't produce recycled shrink sleeves? Because our customers don't ask for it...' As Valipac we took our role here and made sure that the parties came to the table, to work together on the same idea.

Market

It resulted in a shrink sleeve that is as clear and as strong as the virgin plastic sleeves and that meets all the standards for cargo security. "We used it to transport pallets of bricks, which wobble in all directions. Without any problems. If they survive the forklift truck driver, they survive everything, even the EUMOS tests for transporting goods on pallets. Shrink sleeves can be used in all sectors, from agriculture and horticulture to retail, wherever logistics, transport and distribution are involved," says Vangeel. He estimates the Belgian market for this type of (shrink) film at around 35 to 40 ktonnes. The European market is estimated at four million tonnes of PE films and films.

That is what the focus is now on. "One aspect we are facing," continues Vangeel, "is that our project is a Belgian project. The collaboration with Wienerberger started at the main location in Belgium in Kortrijk, but corporate decisions on packaging are taken at the head office in Vienna. What did we do and what did we actually know about their packaging? It took us a year to prove it, before the decision was made to adjust their purchasing of shrink sleeves for all branches in Europe. And, as a matter of fact, tertiary packaging needs a European scale. This applies equally to Total and Oerlemans: the Belgian market alone is too small to develop such a new product. That is why we need international publicity.

Recyclate

The percentage of recycled content can be increased, according to Total, to as much as 70%. "We are still limiting ourselves to 50%, because otherwise there may not be enough recyclate available. The more you put in it, the higher the risk of contamination, which could eventually undermine the performance of your material. So there is a limit, just as there is for paper and cardboard. The recyclate we use comes from an open system. So it is not the case that we turn the Wienerberger shrink sleeves into new sleeves for Wienerberger. Waste collectors collect all kinds of foils, which are sorted and then end up at the recycler. It may contain some household waste, but it is mainly commercial waste, such as pallet films, intermediate films and cover films".

Valipac is also passing on the experiences and lessons from the demonstration project to other parties and applications. A number of Belgian companies have meanwhile made the transition to circular shrink film, such as Autover Saint-Gobain, which uses shrink film to protect car windscreens at all its European sites. Valipac has also already set up circular projects with stretch films, lashing straps and film printing. [Click here for more information.](#)