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DeeDee; vision on plastics and sustainability

Sustainability is a remaining hot topic. As a packaging supplier, DeeDee takes sustainability very serious. Is plastic as bad as some information says? And how easy are alternative solutions? We feel it is our purpose to educate and provide our customers with the most sustainable packaging solution.

Therefore, we hereby provide you more insight in how we deal with sustainability and what we encounter in our business. In this second blog of our sustainability communication, we dive into the world of biobased, biodegradable and compostable materials in relation to our own sustainability ladder.

Biobased, biodegradable and compostable – What is the difference?

Biobased materials are materials made of (mostly the waste streams of) renewable sources. This can include wood, corn, starch, sugar cane, proteins, but also cellulose. Fossil raw materials are no longer being used. Biobased materials can be biodegradable, compostable or recyclable, but that is not necessarily the case. Biobased plastic can be 100% biobased, but partly biobased alternatives do exist.

Biodegradable materials are materials that degrade when they come into contact with for example microorganisms. These are mostly fossil based plastics, where an additive has been added.

When talking about compostable materials, most parties refer to materials that comply with the European standard for industrial composting (for example EN 13432). These materials can fall down into water, carbon dioxide and/or biomass without adding an additive.
In practice these materials often only decay under industrial conditions, which means that a lot of compostable materials can still not be thrown away as compostable (green) waste or into nature.

DeeDee's vision on biobased, biodegradable and compostable materials

DeeDee is a promotor of biobased materials. Whenever the product and process allow for it, we use biobased materials. Concerning biodegradable or compostable materials, we are still cautious. These materials break down in nature, in little pieces that often do not degrade fast enough (or not at all) which is very polluting for our earth. If these small elements are not 100% biobased, we are precisely doing what we do NOT have in mind for future sustainable packaging!

Our vision of a truly sustainable packaging solution is a biobased packaging that is completely biodegradable or compostable. That is our way for product innovation development. However, this solution is not yet suitable for all products and/or processes, and also many biobased, biodegradable or compostable packaging are not yet 100% biobased. Because of this most people still have doubts about the actual sustainability of these materials. In addition, the commercial availability and possible waste processing options of these materials are limited, making it not a viable or realistic option for many parties.

Do we need to move towards biobased, biodegradable and compostable materials? Yes, but in manageable steps, where problems such as food waste and shelf life will not be forgotten either.

In our own sustainability ladder we show how we move, step by step and together with our customers, towards the most sustainable packaging solutions.

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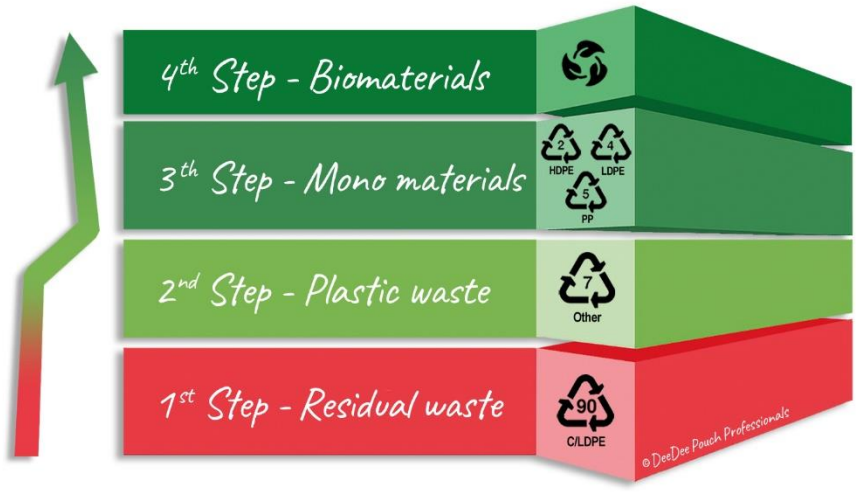

Food wastage and food spoilage are still the most important starting points. The packaging must inseparably meet these point, taking into account the product to pack and the process to pack the product. People seems to forget this sometimes. You can switch to another more sustainable packaging, but what if the product can then nog longer be packed or shelf life decreases significantly?
Secondly a packaging should be as light and small as possible, using no more materials than necessary. If these conditions can be met, then recyclability should be considered next. To come to a recyclable packaging, the following steps on our sustainability ladder can be followed:

The first step is residual waste, where recyclability is not possible yet. Many stand-up pouches contain a (vaporised) layer of aluminium to protect the product against oxygen, hydrogen and UV. Here, Resin Identification code 90 can be shown to indicate that the packaging is made of a combination of plastic and aluminium. Packaging that combine plastic and paper must also be deposited with the residual waste, using Resin Identification code 81.

When aluminium is replaced by a plastic variant with similar barrier properties, the step towards a better product in the waste processing system is immediately taken. Often this results in a packaging that is lighter and thinner in packaging weight. This kind of packaging is made from 100% plastic materials and can be deposited with the plastic waste, showing Resin Identification Code 7. With proper guidance, almost all stand-up pouches can develop from step 1 to step 2 with very little effort.

The third step moves towards packaging that consist only of different types of PE (polyethylene) or PP (polypropylene). This kind of packaging is recyclable as mono material, the highest attainable coding for recycling. Depending on the main plastic component, recycling code 2 (HDPE), 4 (LDPE) or 5 (PP) can be shown on the package. At this moment, a mono-material packaging is suitable for dry and frozen products, with various options for adding a barrier. For different customers, there are really already feasible solutions into this step!

The last step can be reached when a packaging consist out of biomaterials. Materials such as cellulose or polybutylene succinate (PBS) are often combined with paper to realise a compostable packaging. These kind of packaging does no longer contain plastic and is currently only suitable for dry products.

The developments within mono- and biomaterials are going very fast. Producers are working on different barrier properties and on short term a biodegradable packaging will be accessible for more and more products. DeeDee keeps on following these developments, so please feel free to contact one of our pouch professionals in case of questions.