

BIOPLASTICS – ARE THEY THE RIGHT CHOICE?

Bioplastics are currently a hot and widely discussed topic.

The whole idea is beautifully captured by the following phrase: *"Sometimes we do bad things when we fully immerse ourselves in committing good deeds. In the case of bioplastics and compostable plastics, this is almost perfectly true."*

GRANITOL, as one of the largest plastic film producers in the Czech Republic, strives to follow trends in the packaging industry, develop and innovate its products. We started the production of biofilms back in 2010.

During almost a decade of testing of multiple available materials, addressing technological conditions of production, addressing the recycling of technological waste, we came to the conclusion that the use of bioplastic materials and their environmental benefits must be assessed in many respects. What are these aspects? The key question is:

"What actually happens to bioplastics at the end of their life cycle, after they have served their purpose?"

1. Biofilms will only disintegrate under strict composting conditions in controlled composting plants

- There is a composting standard in the Czech Republic, prescribing that such products need to be composted in an ideal environment: in an industrial composting plant, with a certain ratio of nitrogen, carbon, nutrients, at certain temperatures (approx. 60 ° C), and for a certain period of time.
- The EKO-KOM company reports that most composting plants in the Czech Republic are based on composting in open areas - they do not meet the above conditions for composting of bioplastics.
- Composting of one kilogram of bioplastic requires more than ten times the amount of compost, and, in addition, composting requires the supply of other nutrients such as nitrogen and phosphorus.
- Many bioplastics decompose poorly or not at all, and quite often these materials are still not decomposed after the composting process and are then discarded by the composting plant operators as other impurities and waste.
- Optimum bioplastic decomposition conditions are virtually absent in the open countryside, nor do they decompose in water, lakes or seas (just like conventional plastics).

2. If biofilm is added to regular PE film waste, such waste will become useless for recycling

- Bioplastics waste must be processed separately from conventional plastics, i.e. they should be carefully sorted at the point of origin, can cause major problems in recycling and significantly reduce the quality of the secondary raw materials, basically destroying them.
- The problem is that bioplastics are not easily distinguishable from conventional plastics, and therefore, they can be thrown into the yellow garbage container where they don't belong.
- Bioplastics do not belong to the yellow garbage container, but also do not completely fall apart – i.e. they also don't belong into the brown biowaste container; the only thing to do with them is to throw them in the black communal garbage container.

3. Technological waste arising from the production of biofilms cannot be further processed and reused

- We cannot recycle bioplastics in the usual way
- LCA tests assess negatively the impact of bioplastics throughout the product lifecycle
- The environmental impact of biodegradable plastics, for example from PLA, is much worse than that of polyethylene, which we can recycle and reuse

With this article, we want to familiarize our business partners and the public with the issue of bioplastic films, and to highlight the related issues. We are not discontinuing the production of bioplastic films, but it is up to our customers to decide whether, despite these facts, they will still require this product. Research and development in this area may in the future bring new materials, technologies and know-how that may eliminate some of the above mentioned shortcomings. Therefore, we will continue to follow this direction. However, the question in the title of this article is pertinent to the current state of this product: is it the right choice to reduce the environmental burden?

With the **Green G logo** we designate GRANITOL products that are compostable and made from certified materials.



100% COMPOSTABLE

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