



WHAT REQUIREMENTS DOES THE PPWR IMPOSE ON PACKAGING ADHESIVES?

ABSTRACT

Without packaging, our civilization as we know it today would not be possible. Packaging preserves the quality of the packaged goods and enables a safe, simple, and cost-effective storage and transport of goods of all kinds. At the point of sale, it facilitates the easy distribution of goods, advertises the product, and informs the consumer.

Due to the constantly increasing of global trade, and also the fact that many products have a short shelf life (especially in the food sector), more and more packaging waste is generated after use.

Although the absolute amount of packaging waste is relatively small compared to other types of waste, packaging waste is particularly noticeable because it is generated in every household and every business.

To reduce the amount of waste in the future, the EU enacted the "Packaging and Packaging Waste Regulation" (PPWR) on February 11, 2025, which implements the European Green Deal, especially the requirement for a circular economy in the field of packaging. The PPWR stipulates, among other things, that all packaging must be recyclable by 2030.

In connection with this requirement, the question arises: What is meant by "recyclable"? This point is currently being discussed in various European bodies, and a clear definition is not yet in sight.

It is also problematic that the desire for more recycling does not automatically lead to a circular economy. Most current recycling processes deliver qualities that are below those of virgin materials (down cycling), since further quality improvement is economically and ecologically pointless.

The example of paper and cardboard packaging (the largest material group in packaging by volume) shows that the topic is rarely discussed based on facts but rather on industry-specific interests. For many decades, paper and cardboard packaging have been recycled after use more and more, and new packaging is manufactured from the recovered cellulose fibres. But the impact of auxiliary materials used in the production and processing of packaging (e.g., coatings, printing inks, varnishes or adhesives) on recycling is still a topic of discussion.

The vast majority of packaging contains adhesive applications (cured or set adhesive layers), and it has been shown that these adhesive applications do not hinder the recycling process. Despite this fact, the question of whether adhesive applications negatively affect the recycling of paper and cardboard is still debated.

Currently discussed test methods are intended to show the extent to which adhesives bonded packaging are "suitable for recycling." However, it is questionable whether there is a scientific correlation between these tests and the processes in a real paper recycling plant.

Scientific studies of hydrophobic and hydrophilic adhesive applications clearly show that, provided certain parameters are met, adhesive applications as currently used in packaging do not negatively impact the recycling of paper and cardboard packaging. It would be desirable for such scientifically sound results to be reflected in the PPWR's "Design Tables".