VinylPlus® PharmPack

A joint project of VinylPlus, PVC film producers and recyclers for the sustainable development of PVC pharma blister packaging

vinyl plus® pharmpack

COMMITTED TO SUSTAINABILITY IN PHARMA PACKAGING

RECYCLING OF PHARMA BLISTERS

Pharma Blisters in the Healthcare Sector

PVC products have been successfully used in healthcare for decades. These include blister packaging for pharmaceuticals which are mainly made from PVC composite films with aluminium foil. They offer a high degree of safety, through excellent barrier properties and allow to take the pharmaceutical individually without impacting the shelf life of the remaining tablets. They keep them sterile and reliably protected against germs, bacteria, moisture, and oxygen. Due to these positive product properties, PVC is the leading material in pharma blister packaging.

Pharma blisters made of PVC composite films with aluminium protect content reliably and safely from damage for example by moisture, and allow an easy dose of medication.

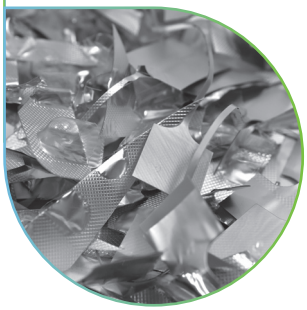
Recycling Initiative Launched

Pharmaceuticals that are no longer needed must be disposed of safely. This also applies to used pharma blisters. This post-consumer waste is therefore incinerated with energy recovery.

The available pre-consumer waste which consists of punched grids or empty packs, which are created in the manufacturing process of films, blisters, and the packaging of pharmaceuticals. These waste materials can be recycled mechanically. This initiative includes all steps of the value chain – from collection, transport, and recycling of waste to the manufacture of new products from recycled PVC. The aim is to conserve valuable resources, optimise the carbon footprint of the products, and support pharmaceutical companies in achieving their sustainability goals while saving costs.

The Recycling Process

Pharma blisters usually consist of PVC composite films, which are mainly sealed against aluminium. This project recovers materials from film and packaging production, punched grids and empty blisters which are collected and transported to recycling partners. There the pre-consumer waste is milled and then separated into its main components, PVC and aluminium. From the fine milled PVC fraction converters produce for example spacer profiles for the construction industry. The aluminium fraction is used in metal processing, including the production of light engine blocks for new cars.



Punched grids and empty pharma blisters made of PVC-aluminium-composite material will be recycled and processed to new products.

VinylPlus Sustainability Programme

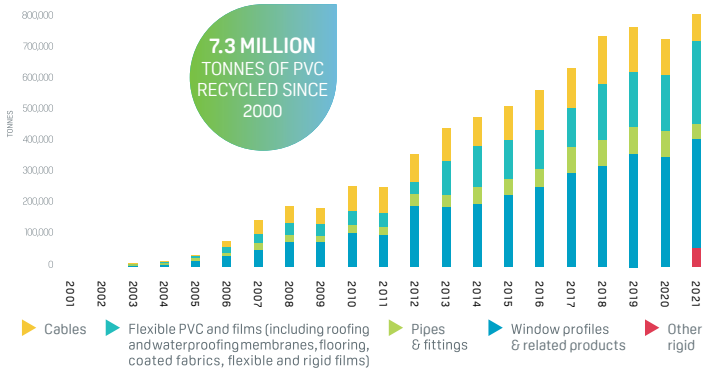
VinylPlus®, the sustainability programme of the European PVC industry, has set itself the target of increasing the annual PVC recycling volume to 900,000 tonnes by 2025 and 1 million tonnes by 2030. In 2021, already 810,775 tonnes of PVC had been recycled, mainly from the construction sector. This amount is preventing the release of 1.6 million tonnes of CO_2, reduces primary energy consumption by 90 percent and creates new jobs in the recycling sector.
The industry has invested over 120 million Euros in the sustainable development of PVC since 2000.

The recycling initiative for pharma blisters recovers further recycling volumes back into the materials cycle. Approximately 10,000 tonnes of composite punched grids are generated each year by the packaging of pharmaceuticals, from which approx. 2,000 tonnes of aluminium can be recovered. This is sufficient for the production of approx. 120,000 new engine blocks and saves approx. 18,000 tonnes of CO_2 compared to new aluminium. The corresponding PVC recycling quantity is approx. 6,500 tonnes and saves around 12,000 tonnes of CO_2 through recovery. The VinylPlus® Med project, launched in 2021, also promotes the circularity in healthcare by recycling of single-use PVC medical devices such as IV bags and tubings through a partnership of hospitals, waste management companies, recyclers and the PVC industry. The recycling initiatives thus make an important contribution to sustainability in the value chain, preserve valuable resources and prove to be pioneers for the European Circular Economy Package.

RECYCLING OF PHARMA BLISTERS

CIRCULAR ECONOMY

PVC Recycled within the VinylPlus Framework



7.3 MILLION tonnes of PVC recycled since 2000

14.5 MILLION tonnes of CO_2 saved since 2000

+1.6 THOUSAND direct jobs in recycling plants

COMMITTED TO RECYCLING

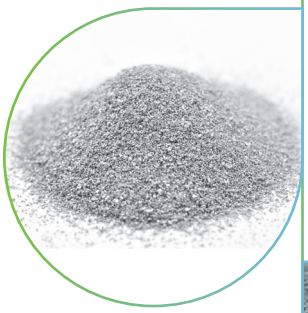
900,000 TONNES of PVC recycled per year by 2025

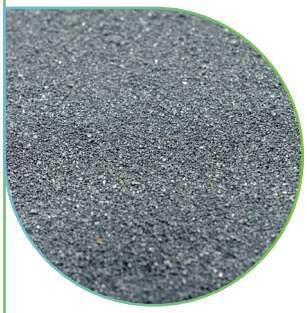
1 MILLION TONNES of PVC recycled per year by 2030

RECYCLING OF PHARMA BLISTERS

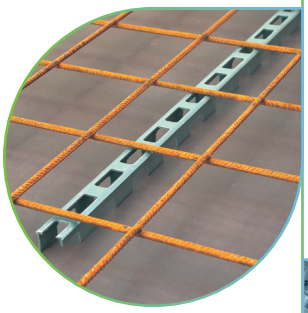
Partners of the VinylPlus® PharmPack Project

The joint project for the sustainable development of PVC pharma blisters was initiated in co-operation of VinylPlus® and the two PVC film manufacturers Liveo Research GmbH and Perlen Packaging GmbH.
Recycling partners are the companies Hundhausen Kunststofftechnik GmbH and Neidhardt Rohstoff GmbH. In addition, VinylPlus® is researching other innovative recycling technologies such as chemical recycling and physical recycling including solvent processes and thus invests in these new sustainable solutions.





Images showing the pharma blisters originating PVC fraction (above) and the separated aluminium fraction (right).



Among other things, the fine PVC regrind is processed into spacer profiles for the construction industry (left). Aluminium pellets (below) are used in the metal industry, i.e. for new engine blocks. Photo left: courtesy of MAX FRANK Gruppe

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PARTICIPATING COMPANIES

- Liveo Research GmbH https://www.liveoresearch.com/en
- Perlen Packaging GmbH https://www.perlenpackaging.com/de

PARTICIPATING RECYCLING-PARTNERS

- Hundhausen Kunststofftechnik GmbH https://www.hkt-achim.de
- Neidhardt Rohstoff GmbH https://www.neidhardt-rohstoff.de

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