

# GRANITOL

## ECOLOGY AND CIRCULAR ECONOMY

Plastics are generally considered to be a non-ecological product, but there are also environmentally friendly variants adhering to the circular economy concept. Plastic products, when used reasonably and consequently recycled, become a material that can be a useful raw material again.

**We too advocate for a shift from a linear to circular economy. Ecology and environmental friendliness are also our long-term goal.**

Thanks to the use of regranulate in the production of films and products made from films, the circular economy becomes closed, and the environmental burden on the environment is thus reduced. The aim is to achieve the highest efficacy of waste recovery with the lowest possible energy consumption.

## ECO STEPS



# 1. ECO PRODUCTS

We produce ECO films **from up to 100% recycled materials and 100% recyclable**

**Group packaging film GRANOTEN®**  
up to 80 % regranulate



**ECO T-shirt Bags**  
min. 30 % regranulate



**ECO bag for dog excrements**  
black, with a proportion of regranulate



**Film for packaging paper and wood products GRANOTEN®**  
up to 30 % regranulate



**ECOTEN® film with regranulate content**  
suitable for wrapping and other undemanding use



**Monomaterial Flexible Packaging**  
100% recyclable, only of Polyethylene



# 2. OWN REGRANULATE

Thanks to the **processing of our own technological waste** and careful sorting, **our regranulate is of high quality**, thus minimization of negative impact on the quality of the end product

## OWN PRODUCTION OF REGRANULATE

(mechanical recycling of PE film waste in GRANITOL)

- 1. Source (waste films)** – we use our own technological film waste, or waste collected from our customers
- 2. Waste sorting** – thorough sorting according to material, color, melting indices and according to a specific recipe
- 3. Regranulation/recycling** – the film is crushed, melted, filtered (maximum amount of impurities is removed) and the result of such process is regranulate
- 4. Homogenization** – after production, the regranulate is transported to the homogenization silo, where it is mixed, thus stabilizing the properties of the regranulate (sliding, hue, possible differences in melting indices, etc.)
- 5. Re-using in production** – either as 100% or in varying proportions together with the primary material



**By using our own regranulate, we saved 40 tons of CO2 emissions on transport in 2023, thus fulfilling the plan made in 2022 and kept our CO2 savings at the same level year-on-year.**

# 3. FILM BUYBACK

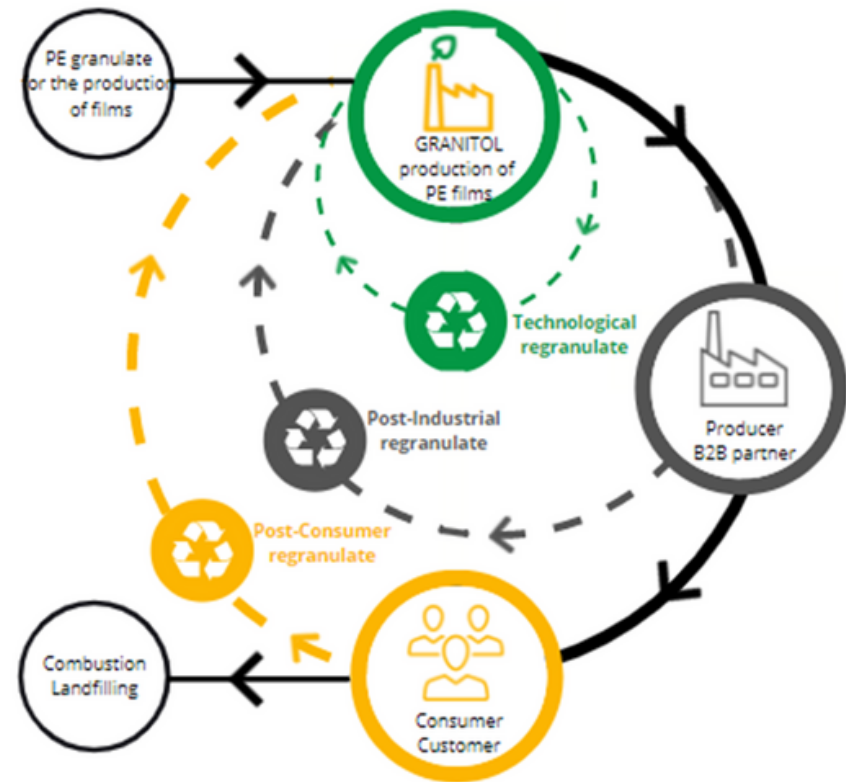
In addition to processing our own technological waste, we also **buy back film waste from our business partners (PIR)**. The used film, which is a waste product for our customers, is a source of valuable raw material for us.

## TYPES OF REGRANULATE

**1. Technological** – created by mechanical recycling of own waste from GRANITOL production; 80% is used in GRANITOL products (films, sheets, various bags)

**2. PIR (post-industrial)** – created by mechanical recycling of waste, which we obtain thanks to the repurchase of film waste from our business partners (recycling takes place at the GRANITOL facilities); this waste is sorted and free of impurities

**3. PCR (post-consumer)** – plastic wastes from final consumers, i.e. households, commercial or industrial facilities (so-called “yellow bins”/containers). In GRANITOL we do not have our own solution for processing such waste, but we purchase regranulates (it is necessary to select a suitable supplier)



**In 2023 we bought back and processed 200 tons of used film.**

Year-on-year increase in the buyback quantity was 41%.

# 4. PALLET RECYCLING

We are involved in a circular pallet recycling system. As a PRS Green Label partner, **we reduce our carbon footprint, packaging waste and promote the reuse of wooden pallets.**

- for more than 20 years, PRS has been organizing controlled reuse and shared use of pallets for the European polymer industry
- The PRS Green Label is an award for the efforts of all active partners in the network of polymer manufacturers, processors, distributors, suppliers, warehouses and carriers who actively contribute to a better environment



**We have 18,000 pallets in use, that are in circulation and reused.**

Thanks to this system, we save 360 tons of wood that would have been needed to produce new pallets.



# 5. FILM THICKNESS

The long-term trend of reducing plastic consumption is in the reduction of film thickness.

For manufacturers, this means a continuous process of developing and testing films. There are areas where it is possible, but there are also certain limits – the film must meet certain conditions: processability, necessary and required utility properties, physical-mechanical properties (load capacity, ...) etc., so the thickness cannot be reduced indefinitely.

**Thanks to the reduction of film thicknesses, the weight of the film per package has been reduced, in turn reducing the cost of transporting the film and disposing of waste.**



Over the last 10 years, the thickness of the films has been reduced by 25%.

# 6. SINGLE-TYPE MATERIALS

As is generally known, packaging makes up a very substantial part of waste, especially when it comes to disposable flexible packaging. In addition to all the benefits that **flexible packaging** offers, **a new requirement for such packaging has recently appeared, namely recyclability. The solution to this is single-type packaging, i.e. packaging made of a single type of plastic.**

- Complex packaging that is designed for the main purposes of functionality, health safety, high barrier properties ensuring the sustainability of packaged food, etc., have a lot of disadvantages when it comes to recyclability.
- The only thing that can be done with them at the moment is landfilling or cutting, in the best case burning in some heating plants or cement plants.



100% RECYCLABLE

**Almost the majority of our products are single-type – LDPE or HDPE films and products made from them. For flexible packaging, which is created by lamination of multiple layers of material, we also produce single-type packaging composed 100% of one type of plastic. This packaging type guarantees, on condition the entire collection and sorting process is set up properly, that it does not have to end up in a landfill or incinerator, but will be used as a secondary raw material for PCR (post-consumer recycling).**

**Year-on-year, the share of single-type flexible packaging increased by 22%.**

Over the last four years, it has increased by 59%.

# 7. WASTE REDUCTION

All **waste** generated in the company **is properly sorted** and, depending on its nature, supplied to secondary raw materials collection points or handed over to the contractual partner for disposal in a landfill.

Technological waste generated during production is regenerated. The regranulate produced is reused in the production of films.

**We have been able to reduce waste production for several years in a row.**

- **MUNICIPAL WASTE - total year-on-year decrease by 18%**
- **PAPER WASTE - total year-on-year decrease by 6%**

At the end of the year, we joined the **Responsible Company** project, which is organized by EKO-KOM. The project aims to help companies with employee training in the field of waste sorting and recycling.

**The newly established waste sorting system reduced the amount by 6 tons year-on-year.**

In the last 5 years, we have reduced the amount of waste by 38%.



# 8. AWARDS RECEIVED

## BRONZE MEDAL FROM ECO VADIS

This achievement ranks our company among the top 50% of companies rated by EcoVadis.

EcoVadis is a recognized and independent platform that examines corporate social responsibility (CSR) according to internationally applicable standards.

EcoVadis analyses a total of 21 indicators related to sustainable development from the perspective of four main agendas – environment, fairness of working conditions, ethics and soundness of business practices, and supply chain.



## 2ND PLACE IN THE SOCIAL RESPONSIBILITY COMPETITION

for Social Responsibility. We ranked 2nd in the category of companies with more than 250 employees.

Agendas related to social, economic, regional and environmental responsibility were assessed.

## SMETA AUDIT (SEDEX)

Sedex audit takes place in our company regularly. Thanks to it, we meet the requirements of our customers.



In 2023, we received three awards in the field of CSR.

# 9. ENERGY SAVINGS TEAM

The company has a work team, which deals with energy savings.

## ACTIVITIES 2023

- implemented cost-saving measures in the consumption of heat and electricity
- implemented insulation of some buildings
- replacement of old light fixtures with LED lamps
- photovoltaic power plant installation is in progress, start-up planned by 06/2024

**Total annual heat savings of 3,919 GJ.**

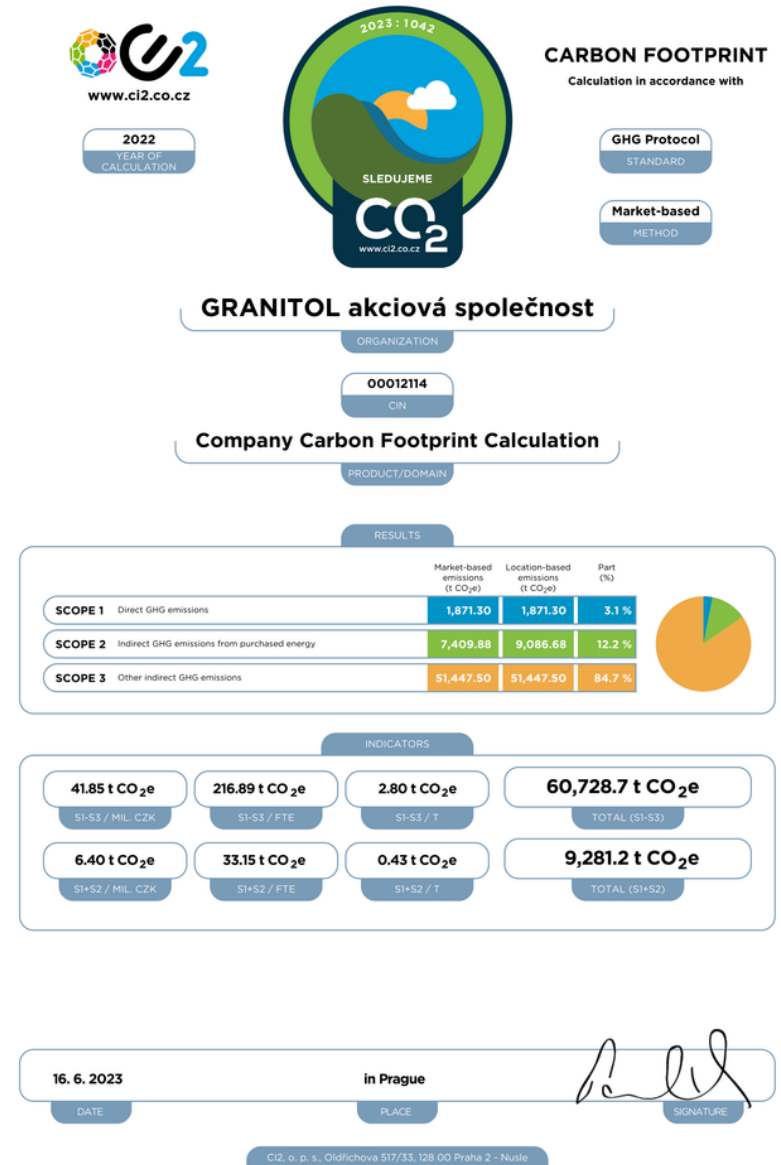
**Total year-on-year electricity savings energy converted to a produced quantity of 500 MWh.**

# 10. CARBON FOOTPRINT

The carbon footprint is an indicator of the impact of the company's activities on the environment (especially climate change).

It collects data on the use of input resources, waste production and emissions and measures the amount of greenhouse gases corresponding to these impacts.

Its value is expressed in CO<sub>2</sub> equivalents.



The carbon footprint of our company reaches a value of 60,728.7 t CO<sub>2</sub> for the year 2022.

# WE REALIZE...



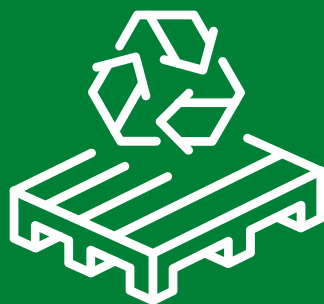
ECO products



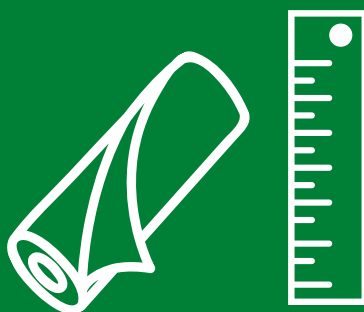
own regranulate



film buyback



pallet recycling



film thickness



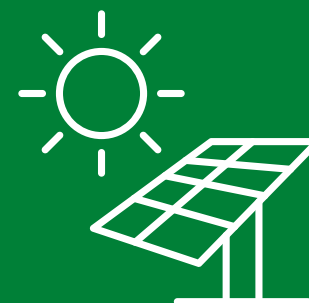
100% RECYCLABLE  
single-type materials



waste reduction



award received



energy savings