

UniClean® P1

Cleaning additive for PET flake recycling



General Metal Finishing

Cleaning Stripping Pretreatment

atotech.com



Innovative cleaning solution for the PET recycling process

30%

potential energy savings due to lower temperature cleaning

Environmentally friendlier PET flakes washing process

UniClean® P1 is the perfect cleaner additive for PET flake washing lines. It is a highly effective deterging, de-labeling, and low-foaming product that produces clean, contamination-free, high-quality PET flakes that come out bright and color-free and do not yellow after washing or during subsequent drying processes.

With its unique composition, UniClean® P1 maintains high performance even at lower temperatures, making it environmentally friendlier and more economical to run. The cleaner additive is tailored to remove dirt, glue, food/drink remains, labels, inks, oils, sugars, and other tough contamination and residues left over from production, usage, collection, and transportation, making it an all-purpose solution. UniClean® P1 removes all types of adhesives effectively and efficiently, leaving the output flake quality in the best condition for the following PET recycling steps.

Revolutionizing the PET recycling washing step



Image 1:
PET flakes after conventional washing process still containing ink contamination

Image 2:
Clean PET flakes free of color and contamination after washing process using UniClean® P1 at 10 °C lower bath temperature

Efficient and cost-effective solution for PET label and print removal

UniClean® P1 is highly efficient at removing labels and print residues leaving pristine flakes for further recycling processes. As a highly concentrated product, UniClean® P1 requires lower make-up and dosing volumes and exhibits a longer bath life, reducing shipping, handling, and storage costs as well as being economical for processing. By using UniClean® P1 it is also possible to reduce the NaOH concentration in the cleaning bath, saving costs as well as making rinsing water treatment and wastewater treatment easier and cheaper.

Energy savings through bath temperature reduction

UniClean® P1 enables lower bath temperatures to be used while still maintaining high cleaning efficiency. This reduction in temperature contributes significantly to reducing heating requirements. This leads to a large reduction in energy consumption which not only leads to cost savings but also helps to reduce the carbon footprint associated with the PET recycling process.

Process operating parameters

	Conventional process	UniClean® P1
Cleaner additive concentration	2%	≤0.3%
NaOH content	1.5 %	≤1.2%
Operating temperature	80 °C	≤70 °C
Heating energy requirement	20.5 kWh/week	14.1 kWh/week
Energy savings		31%

Features and benefits

- Excellent cleaning performance at lower NaOH concentrations
- Full adhesive and print removal
- Bright, clean flakes, no yellowing
- Lower temperature operation results in significant heating energy savings
- Lower NaOH concentration for easier rinsing and wastewater treatment
- Reduces chemical consumption due to low make-up and dosing volumes
- Highly concentrated product causing less shipping, handling, and storage

