

CLEANING GRANULATE

Patented. Effective. Sustainable.



THE 10 COSTS OF CLEANING:

In addition to the cleaning granulate, cleaning also costs at least electricity, time and valuable raw materials. However, cleaning that is not carried out or not carried out optimally causes significantly more costs: machine surfaces such as screw elements wear out and the use of staff and materials overloses on average.











Parameter adaption

Electricity cleaning process

Electricity reaction time

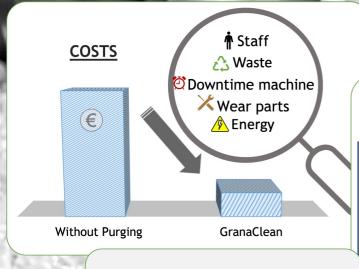






SAVE MONEY WITH GRANACLEAN®:

- ★ No reaction time
- 🔭 No parameter change required
- Easy handling: No training necessary
- Tighly effective: Minimal amount of rejects
- Comes out of the machine well: Minimal consumption of precious raw materials
- * Reduced wear due to maintenance
 - Fast:
 - Minimal production downtime
 - Minimal use of personnel



PRODUCTION

Non abrasive
No odor development

Retention of process parameters

No exposure time

Ready-mix

Hotrunner approved Robotic removal possible

SPECIALTIES

- Made in Germany
- ii Individual formula adjustment
- In-house cleaning by our experts
- patent protection
- Food conformal ingredients
- 🐸 CO2 Footprint 🥆
- Certified Quality Management

"Anything that has a screw and spins, we can clean." Dr. Hubert Christ, Managing Director

CONTRIBUTE TO THE ENVIRONMENT

INGREDIENTS:

Safe: Non-toxic and non-hazardous to the environment

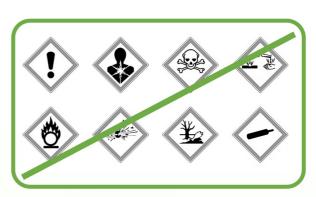
rood grade

Non-abrasive or corrosive to machine surfaces

On demand: 100% biodegradable ingredients and up to 80% bio-based

REACH & RoHS konform





CO2-SAVINGS:

PRODUCTION

- 🜟 Energy balance production low 🕽
- Production according to certified environmental management
- Climate-neutral parcel shipping
- Electricity for production from renewable energies
- made in Germany

CLEANING PROCESS

- ★ 1 kg GranaClean® vs. 7 kg polypropylene → Raw material savings
- ★ No reaction time → Energy saving

DISPOSAL

- Recyclable like rPE, for example in center films or colored parts
- ★ Packed in recyclable mono-PE bags

Made in Germany

ISO 14001

Certified Environmental Management System

www.tuvsud.com/ms-cert

Climate neutral parcel transport since 2012



LONG TERM

★ Non-abrasive to part surfaces → Wear

With GranaClean® you are at the top of the waste pyramid.

PREVENTION

RE-USE

RECYCLING

RECOVERY

DISPOSAL

THIS IS HOW IT WORKS: CLEANING INSTRUCTIONS WITH GRANACLEAN® UNI

For thermoplastics with processing temperatures from 160 °C to 320 °C.

SAFETY INSTRUCTIONS:

As with the processing of all other plastics, safety instructions such as eye protection, good ventilation and skin protection must be observed.

IMPORTANT:

The cleaner expands to reach hard-to-reach areas.

GranaClean® does not require a reaction time!

PROCEDURE:

Run the machine empty. Clean the feed and metering unit.

Recommended quantity of GranaClean®: Approx. 1 to 3 times the cylinder volume.

INJECTION MOLDING

Without hot runner:

Fill GranaClean® until material comes out of the nozzle.

The machine can be run in automatic mode.

The back pressure should be reduced to a minimum.

The injection rate should be medium to high.

Inject approximately 20 shots into the open until no contamination is visible.

Clean with hot runner:

First clean the cylinder as above, then the hot runner. Move the unit to the mold. Clean the hot runner over an open mold until no contamination is visible.

Open or remove valve gate nozzles on the hot runner.

The cleaner can be injected to parts and recycled. For part production with GranaClean® use half the dosing volume.

During cleaning, the processing temperatures of the subsequent material can already be set.

Fill the machine with the following material and purge the cleaner out of the machine with it. If impurities (e.g. streaks, shadows, black speks) appear in the subsequent material, repeat the previous steps.

EXTRUSION:

Fill in GranaClean®.

Fill the screw and barrel with cleaning granulates at half speed. Monitor the back pressure upstream of the melt pump. If necessary, change or remove screens, as impurities can clog them.

Check degassing nozzle.

Pass the cleaner through the profile nozzle.

As soon as the cleaner comes out of the nozzle, the nozzle gap can be changed with the set screws. This provides better rinsing of the edge area.

The cleaner can be taken off as flat film/profile or processed into granulates and used as recyclate.

During cleaning, the processing temperatures of the subsequent material can already be set.

Fill the machine with the following material and purge the cleaner out of the machine with it. If impurities (e.g. streaks, shadows, black speks) appear in the subsequent material, repeat the previous steps.

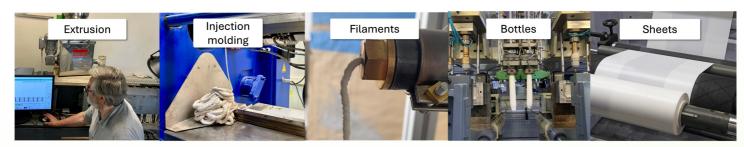
			GranaClean®	lean®				
UNI	UNI GREEN	TPE/TPU	Clear	PK	BIO	COOL	GF	customized
160 - 320 °C	160 - 320 °C	180 - 240 °C	180 - 300 °C	200 - 260 °C	150 - 220 °C	100 - 120 °C	160 - 320 °C	Up to 420 °C
lyolefine (PP, PE, Copos), (6, 6.6, 12, 4.6, Blends), PA- -Blends, POM, EVA & EVOH,	Corresponds to the UNI	PC-ABS, SAN, ABS, TPE/TPU, ASA	PET, PBT, PS, PC, PMMA & Copos, Polyester-Blends	Poketone	PLA, PBAT, PLA-Blends	Waxes Food	Attention: Abrasive! For glass fibre processors	PEEK, PSU, LCP, PES Possible on the basis of all polymers
PVC, PPO, PPE PVC, PPO, PPE ET, PBT, PS, PC, PMMA & Copos, Polyester-Blends .BS, SAN, ABS, TPE/TPU, ASA	Made from up to 80% bio-based ingredients		For crystal clear applications, e.g. LED and light channels		Made from 100% biodegradable ingredients		Corresponds to UNI with extra scrub	Adaptation to machines, e.g. robot removal

Polyc PA (6, ABS-BI PET Co PC-AB!

DEVELOPED FOR YOUR PRODUCTION

AREAS OF APPLICATION:

GranaClean® cleaning granulates are suitable for all machines with a rotating screw, such as in particular injection moulding machines (including hot runners) and extruders (including blown film, profile and filament extrusion).



A lack of care or irregular cleaning of the machines leads to deposits that become visible in the form of inclusions, streaks or so-called black specks in the products.



To prevent this, it is recommended to clean with GranaClean® at regular intervals, for example after colour or material changes or in between.



In addition to the universally applicable GranaClean® UNI for standard thermoplastics, GranaClean® series cleaners are available for e.g. transparent products, high-temperature applications or biodegradable plastics, or can be customised in a very short time. A fully automated, uninterrupted cleaning process with robot removal can also be customised, saving costs, time and valuable raw materials.

FAMILY BUSINESS IN 2ND GENERATION

Founded in 1996, Granula Polymer GmbH is a family-owned company based in Groß-Umstadt (Germany) and certified to ISO 14001 and 9001. Today's core areas are the production and sale of customised masterbatches and universally applicable cleaning granulates. The company has been developing and producing cleaning granulates for injection moulding machines and extrusion systems since 2008. The investment in an extensive, multi-year development phase included several research projects, scientific work and patents.

In 2023, Granula Polymer GmbH was recognised as an "Employer of the Future".



GRANULA POLYMER GMBH

Family business since 1996





Research & Development

© Consulting

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Ask our partners to GranaClean®:



Gefördert durch:

Bundesministerium für Wirtschaft und Klimaschutz Supported by:



Federal Ministry for Economic Affairs and Climate Action Supported by:



Federal Ministry for Economic Affairs and Energy SPONSORED BY THE



aufgrund eines Beschlusses des Deutschen Bundestages on the basis of a decision by the German Bundestag on the basis of a decision by the German Bundestag

Hessische Staatskanzlei
Hessische Ministerin für
Digitale Strategie und Entwicklung





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