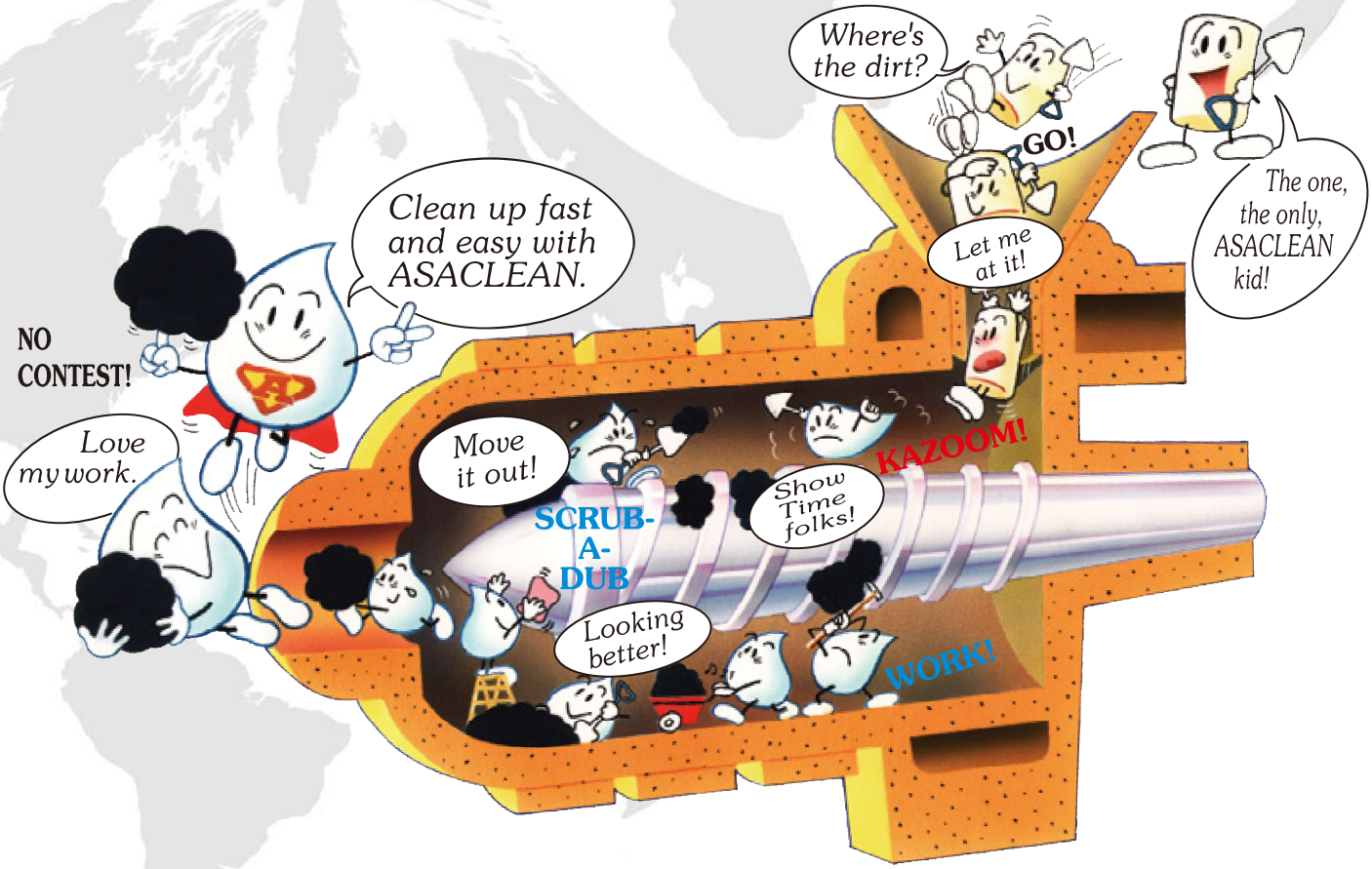
ASACLEAN™



AsahiKASEI

Read the SDS before using Asaclean

High-performance plastic purging compound-clean, safe, efficient-ASACLEAN™

ASACLEAN is a highly efficient purging and cleaning material developed for plastic molding machines by Asahi Kasei Corporation, a leading manufacturer of general, specialty, and engineering plastics.

It is a super compound, with characteristics that are not found in any other purging material and facilitate the molding industry trend toward small-lot multiproduct operations.
It combines efficiency and ease of use with outstanding cleaning power in purging injection molding machines and extruders for resin type or color interchange and for deposit removal.

CHARACTERISTICS OF ASACLEAN™

Effective Removal of deposits from cylinder
&
Economical
In material and time

High Cleaning Power

ASACLEAN drastically reduces the time it takes to do color and material changes and reduces the loss of molding materials. ASACLEAN also removes contamination within the screw and barrel, thus reducing the reject rate of finished products and increasing net operation rate.

Low Residue Formation

ASACLEAN leaves less residue within the molding machine due to its unique polymer structure. As a result, the next molding operation can start smoothly and quickly.

Easy use and handling

Pellet form, for ease of handling and broad operating temperature range that permits purging with no adjustment of molding temperature.

Safe

non-corrosive, non-reactive.

ISO 9001
JQA-0344

ASACLEAN BUSINESS DEPARTMENT & ASACLEAN TECHNOLOGY GROUP
got ISO 9001 approval from JQA.
Approval NO. JQA-0344 (ISO9001)

How to use ASACLEAN™

Recommended use of ASACLEAN is to feed it into the hopper just like general resin. It is not necessary to change temperatures before or while using ASACLEAN.
No mixing is required.

Please refer to the separate Technical Information for instructions on purging plastics processing equipment other than injection molding machines and for further effective way of use.

1. Select appropriate grade of ASACLEAN
   (Please refer to "Product Line "on the back cover page.)

2. Empty out the barrel of the previous resin by using high backpressure and screw completely forward.

3. Feed ASACLEAN and purge the previous materials completely with screw in the most foward position, with high back pressure.

4. Eliminate ASACLEAN and replace ASACLEAN with next molding material. (Use the same amount of the next material as the amount of ASACLEAN used.)

Precautionary notes on use of ASACLEAN™

Before using ASACLEAN, be sure to read the Safety Date Sheet(SDS) and ASACLEAN Technical Information and they are available upon request through your distributor or by downloading from our homepage.
(http://www.asahi-kasei.co.jp/asaclean/en)

1. Keep operating temperature

Follow operating temperatures strictly for each grade.
Machine overload may occur if purging at temperature below specified operating range.
Decomposition and ignition of ASACLEAN may occur at temperatures above specified operating range.

2. Do not retain at high temperature

Do not let ASACLEAN (except PX2, PF type) sit in the barrel at temperatures over 280°C for more than 30 minutes.
In case of high temperature type (PX2, PF type), do not let it sit in the barrel over 370°C.

3. Do not let ASACLEAN newEX and CG type sit in the barrel.

4. Turn off the heater or lower temperature to 150°C or less in case of ASACLEAN sitting in the barrel for more than one hour.

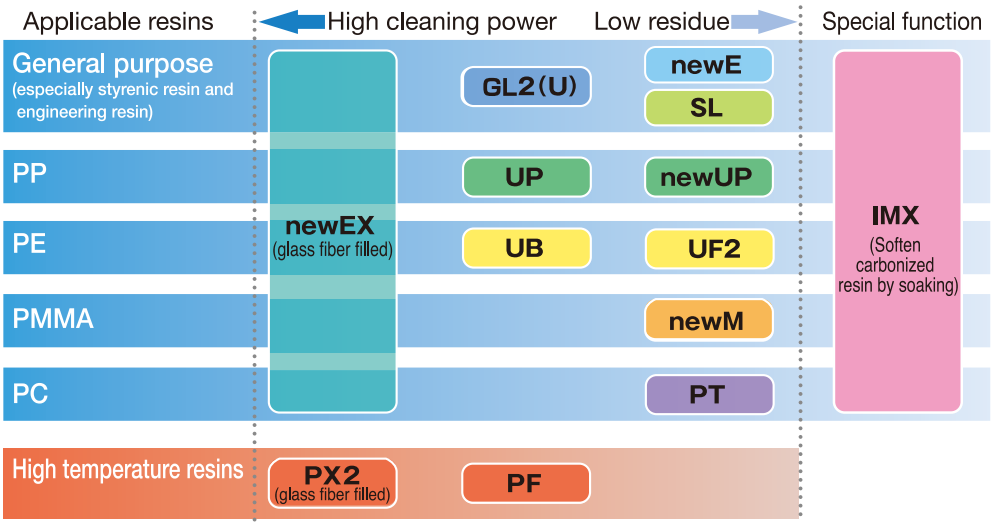
Purging Compound for Molding Machine

ASACLEAN™

AsahiKASEI
ASAHI KASEI CORPORATION
http://www.asahi-kasei.co.jp/asaclean/en

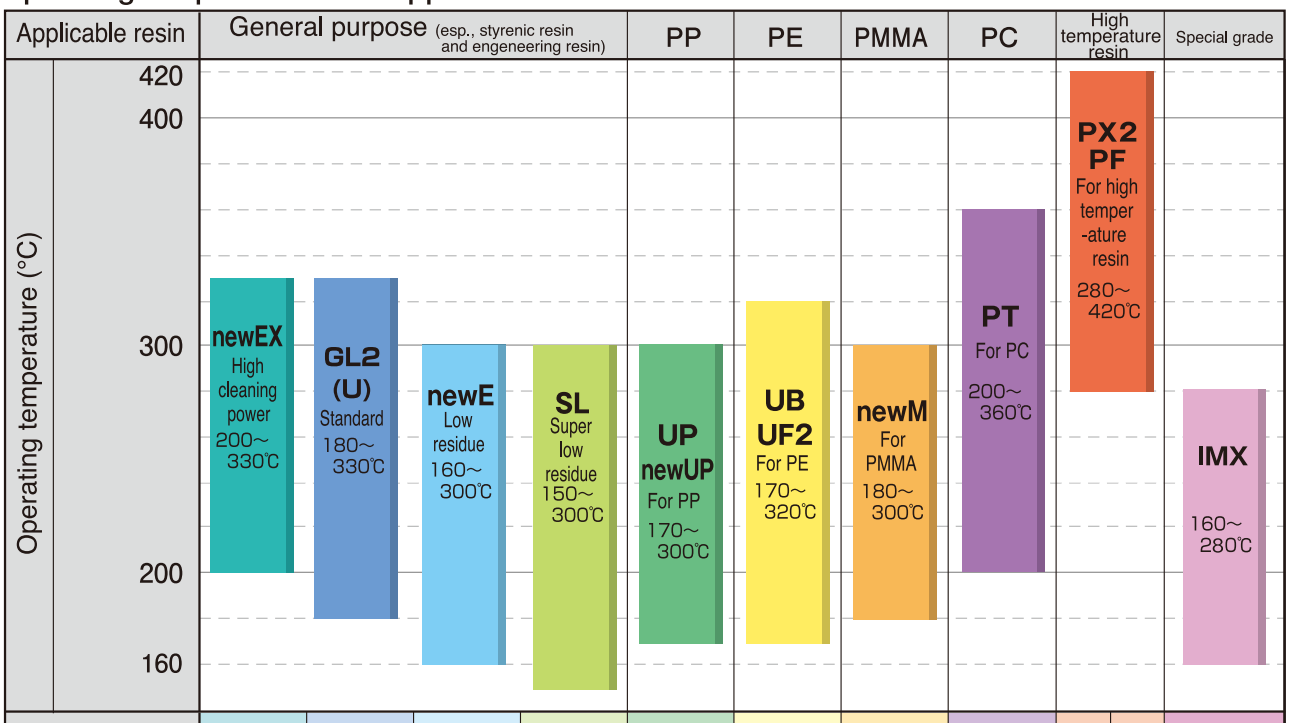
Products line-up

<Asaclean grades>



※The cleaning power and residue characteristics of each Asaclean grade are relative to the resin category, as shown. Performance may vary due to the conditions and resin used.
※Refer to IMX technical book for using IMX.

<Operating temperatures and application>



Grade		newEX	GL2(U)	newE	SL	UP/newUP	UB/UF2	newM	PT	PX2	PF	IMX
Application	Color/resin change	○	○	○		○	○	○	○	○	○	Soften carbonized resin by soaking
	Remove black specks	◎	○							○		
	Seal	×	○	○	◎	○	○	○	○	×	○	
	Hot runner	×	○	○		○	○	○	○	×	○	
Operating temperature (°C)	Max.	330	330	300	300	300	320	300	360	420		280
	Min.	200	180	160	150	170	170	180	200	280		160
Prohibited time and temperature for residence		Not applicable At any temperature	280~330	280~300		280~300	280~320	280~300	300~360	370~420		
			No longer than 30min.							Not applicable		

◎ : Excellent. ○ : Good. × : Not applicable.
※ Product lineup may be changed without notice.
※ Strictly follow limitation of residence time and temperature.
※ Typical resins and usages applicable are written above.

Standard purging procedures

"Screw-rotation purge" is recommended as basic purging method. This method can clean both screw and barrel at one time.

■ Main points of cleaning procedures

Back pressure	High (enough so that the screw does not move back)
Screw position	Farthest forward position
Screw rotation speed	Same rotation speed as usual molding operation
Temperature	Processing temperature for previous resin

■ Purging procedures

1. Discharge previous resin entirely.	• The purging effect will decrease if previous resin remains. Confirm that nothing is left in the hopper and feeding line.
2. Clean the hopper before feeding Asaclean.	• Refer to the table below and estimate the quantity of Asaclean to use.
3. Purge by screw rotation method.	• Back pressure: set higher; Screw position: farthest forward; Screw rotation: same as molding; Temperature: same as previous resin.
4. Visually check the discharge of previous color.	• In case of stopping machine, apply sealing procedures shown on page 4.
5. Set temperatures for next resin to be processed.	• Change the temperature if necessary.
6. Clean the hopper before feeding next resin.	• Confirm that nothing is left in the hopper and feeding line.
7. Discharge Asaclean by screw rotation purge.	• Perform in the same way as the purging operation.
8. Visually check the displacement of Asaclean.	• Confirm that Asaclean has been displaced entirely.
9. Check the molded products.	• Check the quality of molded products.

■ Recommended amount of Asaclean

(1) By machine capacity

[Test condition]

Purging temperature: 240°C; resin purged: ABS

Clamping force (tons)	Quantity of Asaclean GL2(U) (kg)
80	0.4
125	0.6
550	2.5
800	5.0
1,250	7.0
3,000	16.0

(2) By operating temperatures

[Test condition]

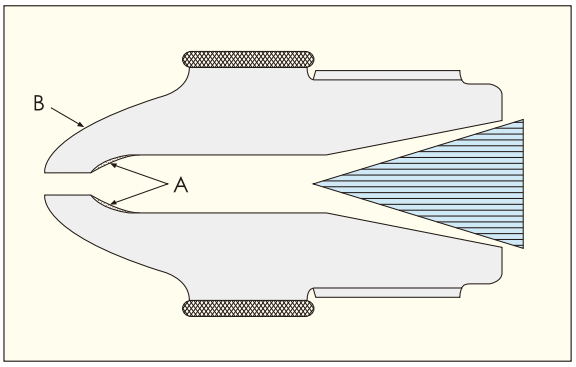
Clamping force: 125 tons

Molding temperature (°C)	Quantity of Asaclean GL2(U) (kg)	Resins (Example)
180~230	0.4	PS, PP, PMMA, POM, etc.
230~250	0.6	ABS, SAN, etc.
250~310	0.8	PA, PPE, PC, PBT, etc.

Purging method for difficult-to-clean sections (How to purge tip sections)

The sections such as nozzle tip, screw head, long nozzle, valve nozzle, backflow valve,check ring, etc., are generally difficult to clean. Insufficient cleaning of these sections may cause residue of previous resins or colors which leads contamination and defects of products.
In such cases, “short-shot purge method” is recommended.

■ Conceptual diagram of nozzle tip



Section A: dead spots
Section B: cooled by mold and surrounding air

↓

As section A is low velocity regions and resins are easy to stay, such sections will be difficult to clean.

■ Main points of cleaning procedures

Back pressure	0 (Zero)
Metering volume	Approximately 20 mm of screw stroke
Screw rotation speed	Same as molding operation
Injection speed	Increase injection speed by 20–30% higher than normal
Temperature	Raise the nozzle temperature by 20–30°C

■ Purging procedures

1. Raise the nozzle temperature by 20–30°C
2. Meter approx. 20 mm
3. Perform injection purging at high speed
4. Repeat procedures above 2 and 3 for 15—20 times

- Softens the previous materials stuck to dead spots so that they are removed easier.
- By metering small volume, increase the contact frequency of Asaclean to deposits.
- When inching injection is used together with screw-rotation method, purging is more effective.
- Repeat these procedures until the previous resin entirely removed.

-Note:

The following is the most recommendable purging method:

1) “Screw rotation purge” by using the half of the recommended Asaclean volume.

2) “Short-stroke purge” by using the rest of the recommended Asaclean volume.

Purging and Sealing

We recommend, “purging and sealing” together with “routine purging”. “Sealing” means turning off the machine power and having Asaclean fed in the barrel of the molding machine while it is stopped. “Sealing” with Asaclean prevents the progress of degradation of resins and ensures that the machine stays clean. Even if a small amount of resin is left in the machine during shutdown, degradation will progress due to high temperature and presence of oxygen. As a measure for preventing this, we recommend the method which the machine is stopped with Asaclean fed after purging by Asaclean.

■ Appropriate grade selection

- Same Asaclean grade used for purging or Asaclean SL.

(Note) Asaclean grades (new EX, CG, PX2) containing glass fiber must not be used for sealing.

■ Standard procedure for purging and sealing

1. All molding materials should be discharged after molding is completed.	• Fully discharge to allow for effective purging.
2. Feed Asaclean and perform screw-rotation purge.	• Purge thoroughly to ensure that all resin is removed
3.Visually check that previous resin has been displaced.	
4. Feed Asaclean in order to seal and discharge by screw-rotation purge.	• In case of using newEX, CG or PX2, discharge it with appropriate sealing grades (non-GF grades).
5. Meter full shot volume.	• Prevent entering oxygen from the nozzle tip. Do not leave Asaclean under the hopper in feed zone.
6. Stop the machine / turn off the heaters (or lower temperature).	• Turn off the power of the machine. By turning off the heaters and cooling the machine, deposits stuck on the screw and barrel come off from metal surfaces due to shrinkage.
(Sealing)	
7. Upon start-up, switch on the heaters (raise temperature).	• In order to avoid the risk of overloading, start rotation of the screw when the temperatures have been within ope -rating temperature range of its grade. Change Asaclean to the next processing materials immediately after the temperature reaches preset temperature in case of starting up of machine or temperature changing.
8. Discharge full shot volume performed (Injection at low speed or inching injection).	• Keep your face away from the nozzle during injection.
9. Displace Asaclean / re-purge.	• If the discharged Asaclean is very dirty, feed Asaclean again and continue purging until it becomes its natural color.
10. Feed next material and discharge by screw-rotation purge.	• Confirm that Asaclean has been displaced entirely.
11.Confirm the quality of the molded products.	• Confirm that molded products are good in quality.

■ Purging frequency

Every time when molding machine is stopped.

ASAHI KASEI CORPORATION
ASACLEAN Business Dept.
1-1-2 Yurakucho, Chiyoda-ku, Tokyo 100-0006 Japan
PHONE: +81-(0)3-6699-3274 Fax: +81-(0)3-6699-3458 http://www.asahi-kasei.co.jp/asaclean/en/