



INJECTION MOLDING / HOT RUNNER INJECTION BLOWMOLDING

Chemical Purging Instructions

Note: The screw and barrel will be purged separately from the manifold / hot runner.

Attention: Pelletized grades cannot be used on molds with gate size less than .008 inches (0.203mm) and 5000 Series Powder Concentrates cannot be used on molds with gate sized less than .035 inches (.889mm)

Concentrate grades must be mixed with a carrier resin prior to use – Please see Chemical Mixing Instructions

Preparation

- Run machine to empty all production material.
- Clean hopper and screw inlet of residual material.
- Raise heat on the mold and around gates (25 degrees or more) to melt the buildup of material.
- If vented barrels, cap vents for maximum effectiveness. Clean vent throat of resident material.
- If possible, push hopper aside to get direct access to the throat. If not, RapidPurge can be fed via hopper magnet drawers or hopper itself.
- Move barrel away from mold.



Tip

Pre-flush system with natural material to minimize resident color/material prior to purging. Empty system again.



Tip

If challenging degradation exists in the screw & barrel, raise temperature (25 degrees or more) on the metering zone and nozzle for added chemical reaction and maximum cleaning results. **Never exceed maximum temperature of resident resin.**

Temperature Sensitive Materials

If purging temperature sensitive materials like PVC, POLYACETALS, ABS, or Flame Retardant resin, please see page 3 before proceeding.

Purging Screw/Barrel

While mold temperatures are increasing:

- Feed RapidPurge directly into the throat. Keep screw at normal production RPM until RapidPurge is observed coming out of the nozzle.
 - If HIGH TEMPERATURE purging - starve feed RapidPurge to prevent bridging /collaring at the feed zone.
 - If vented-barrel systems, vary screw RPM as RapidPurge is being run through, to change velocity through the decompression zone.
- Continue adding RapidPurge as required until resident material/color has been visually removed.
- Empty screw and barrel of RapidPurge. Varying screw speed may help to clear RapidPurge from system more quickly.
- Move screw and barrel back to the mold and Continue with Hot Runner Purge

✓ *Tip* For maximum effectiveness, add a 10-15 minute soak cycle with the screw stopped in the forward position. Assure the nozzle remains filled with RapidPurge during the soak and keep the throat filled with fresh RapidPurge. If the drool stops, the screw should be turned on briefly to replace the exiting RapidPurge.

✓ *Tip* Be sure the nozzle temperature doesn't drop below the metering zone temperature

Purging Hot Runner

After screw and barrel are cleaned and mold temperatures are reached, there are two methods of Hot Manifold Purging: Open Mold or Closed Mold/ Partial Shots:

- **OPEN MOLD PURGE** - Feed RapidPurge directly into the throat. Keep screw at normal production RPM until RapidPurge is observed coming out of the open mold gates. We recommend using a splash guard to protect adjacent mold half from residue. Inspect purgings and continue adding RapidPurge as required until resident material has been visually removed. Varying screw speed may help to clear resident color/material.
- **CLOSED MOLD PURGE / PARTIAL SHOT** - Feed RapidPurge directly into the throat. Keep screw at normal production RPM and empty the screw and barrel by taking partial shots (i.e. RapidPurge slugs). Hold in a closed mold for 5-10 minutes. Remove RapidPurge slugs and repeat the partial shot sequence until all traces of resident color/material is gone. Cycle machine until empty.

Post-purge

- Empty system until all visible traces of RapidPurge are removed.
- Clean feed areas of RapidPurge to avoid contamination.
- Set metering zone and nozzle back to normal temperatures.
- While elevated mold temperatures are returning to normal, follow with production material until all traces of RapidPurge are removed.

✓ *Tip* Varying screw speed while running new production material may help to clear RapidPurge from RapidPurge from system more quickly.

✓ *Tip* If switching to material of decreased viscosity, bridging down may be required to assure removal of purge residue. Varying screw speed can also be helpful.

✓ *Tip* **RapidPurge chemical compounds are excellent for shutdowns.** Simply empty the machine after the purge, leaving residual RapidPurge in the system with heats turned off. At start-up, bring equipment up to operating temperature and introduce production material to remove residual RapidPurge.

Temperature Sensitive Material

If purging temperature sensitive materials like PVC*, POLYACETALS, ABS, or Flame Retardant resin, two purges may be required.

- The first purge **MUST** be performed at normal operating temperatures to remove the temperature sensitive material.
- If carbon deposits are still present after the first purge, a second purge can be performed at higher temperatures.

*PVC

If purging PVC with our standard chemical grades - **PM9240, PM5540, PM8240, IG3000**

- It is required to PRE-FLUSH system with natural PE/PP prior to introducing RapidPurge.

If purging PVC at low temperatures - below 380°F,

- Increase temperatures, except feed throat, to 380°F for the first purge.
- If carbon deposits are still present after the first purge, Raise the heats on the nozzle and front zone and purge again

If following RapidPurge with PVC or other temperature sensitive materials,

- Let machine cool back to operating temperatures before introducing the next resin, or use polyethylene as a temperature bridging material.

Questions/Comments? Contact us at 800-243-4203 or info@rapidpurge.com

These instructions are provided as general guidelines only. Your application, material, and/or process may have unique requirements. Please feel free to contact our Technical Services department at any time so that we may assist you in achieving maximum purge results with our RapidPurge products.