Purging of Extruders (1993)

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For engineering thermoplastics, while common to purge with rubber containing compounds such as high impact polystyrene (HIPS) because of their elasticity and higher viscosity, this purge should be followed by a non-rubber containing compounds such as PS. The rubber degrades in time in the hot extruder and contributes to a black speck problem.

Glass filled resins can make a good purge compound. They should be run at higher specific rates (#/hr/rpm) than the resin you have been running to scour more of the screw.

Don’t forget to clear the vents and any undercuts in the barrel that aid feeding and venting before completing a purge. These areas are notorious for holding materials that will later fall into the melt and cause appearance problems.

When purging, don’t overlook the feed system and feed throat. Since it isn’t as easily cleaned by the cold resin, it may need actual scouring to remove pigments. The smoother the feed system, the less the hang up. The cost of careful deburring of the feed lines is worthwhile to minimize downtime cost at cleanup time.

- Ken Powell

See also:

- How effective are purge compounds
- Melt block problems
- Purging of extruders
- Screw cleaning
- Screw maintenance

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