



# THERMOPLASTICS Case Study



## Color Changes for Injection Molding

### SITUATION:

A multi-national custom injection molder of OEM parts needed to improve efficiency while minimizing start-up scrap. The account evaluated the Lusin® purge technology for transitioning from \*Xenoy® black to yellow.

Historically, for this production run, the account would use 23 kg (50 pounds) of the competitive purge with a cleaning time of 30 minutes and produce approximately 70 pieces of start-up scrap before achieving streak-free production. With a 75 second processing time per part, the total down time due to scrap was typically about 90 minutes. The total purge to streak-free production time was approximately two hours.

### SOLUTION:

Chem-Trend Lusin® Clean G320 was selected, as it provides the user with a ready-to-use, low consumption product that rapidly cleans and purges engineering grade thermoplastics such as: ABS, nylon (polyamide), polycarbonate, PET, POM, PMMA, including many of the alloy blends/modified resins such as Xenoy® and Surlyn®. The typical use level would be roughly 1.5 kg (3 pounds) for a 60 millimeter screw to 15 kg (33 pounds) for a 140 millimeter screw.

Using the Lusin® Clean G320, the total time to clean the barrel and return to streak-free production totaled 22 minutes. The amount of purge compound consumed was approximately 5 kg (10 pounds).

A scrap-tracking study of the Lusin® product versus the competitor's historical performance was conducted over a three-day, 1700 part run. Lusin® Clean G320 outperformed the competition with color streaking scrap of only 3 parts (.17%) versus the competitor's 54 parts (3.17%).

### BENEFITS:

- Approximately 1.5 hours of down time reduced per cleaning/color change. An improvement of 80%.
- Eliminated roughly 100 kg (215 pounds) of start-up and production scrap on a 1700 part production run.
- Improved cleaning efficiency while also reducing the amount of purge required to clean by approximately 80%.
- An estimated annual savings of \$32,000 in material, labor and overhead costs.

\*Xenoy®, a registered trademark of the General Electric Corporation, is an alloy blend of semi-crystalline polyester (typically polybutylene terephthalate, PBD, or polyethylene terephthalate, PET) and polycarbonate (PC).

