

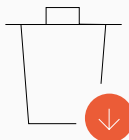
CASE STUDY - THERMOPLASTICS

Ultra Purge™ helped a cosmetic packaging company make up for significant cleaning downtime.

UP TO 95%
REDUCTION OF
DOWNTIME
FOR CLEANING



>3%
REDUCTION OF
SCRAP RATE



-60%
MATERIAL
COST SAVINGS
TO PURGE



WHAT WE ACHIEVED.

A European cosmetics packaging company was experiencing significant downtime in their production process. Stoppage for cleaning during color changeover from cosmetic containers was particularly challenging and led to residual color streaking that caused a cumulative standstill of up to 10 hours monthly. After employing a tailored formulation of Chem-Trend's Ultra Purge™ line, the manufacturer achieved a 95% reduction in downtime for cleaning and a minimized scrap rate.

HOW WE GOT THERE.

Working alongside the customer, our thermoplastics experts examined the pigment in use and investigated the precise scrap amount being produced during the SAN color change. We found that the competitor purging compound in use was producing scrap for more than two hours at a time. Additionally, we observed that the product was scratching the mold's polished surface — this issue alone caused up to three hours of downtime to re-establish the proper surface condition to the mold. To improve the screw and barrel cleaning process,

we experimented with screw positioning, back pressure, and injection speed to find the proper settings. For hot runner cleaning, we implemented and compared two different tailored Ultra Purge™ mixtures, both of which eliminated the problematic color streaks.

OUR SOLUTION.

We helped streamline a complicated two-step cleaning process into a simpler one-step method to remove the sticky red organic pigment. The old method consisted of virgin SAN being applied first to clean the machine's screws, followed by an additional infusion of virgin resin to remove contamination from the hot runner system. By using Ultra Purge™ to clean the machine, the manufacturer reduced the total amount of virgin resin needed for the purging process contributing to an overall cost savings of material used to purge of around 60%. Additionally, the tailored Ultra Purge™ solution offered a concentrated mix ratio that dramatically reduced streaking.



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HANDPRINT IMPACT.

At Chem-Trend, we pride ourselves on our long history of sustainability efforts. However, it is our effect on our customers' processes that provides the greatest impact. It goes beyond our global Footprint; it is our even wider Handprint.

Here, we achieved the following:

- Material use reduced due to lower scrap rate.
- Increased energy savings due to more production uptime and decreased usage of mold cleaning and polishing equipment.