



## CASE STUDY: Color Transition for Blow Molding

### Situation:

One of the world's largest producers of blow molded liquid soap and cosmetics containers was spending more than 3.5 hours and 545 kg (1200 pounds) of HDPE to change from orange HDPE to red color on a three-layer co-extrusion blow molding machine. The manufacturer had multiple machines in the facility making high quality containers, each experiencing similar color change difficulties during approximately 150 color changes per month. Their biggest problem was in removing the knit line of the previous production color on the container's exterior. With the competitor's product, the manufacturer could clean about 97% of the system but the last 3% proved to be problematic with no satisfactory solution.

### Solution:

Chem-Trend Lusin® Clean G301 purging compound specifically meets the needs of the blow molding market for applications on continuous shuttle, co-extrusion, mono-layer and continuous wheel applications. Lusin® Clean G301 is a ready-to-use purging compound that does not contain any fillers or abrasives and processes through a machine without the need to change any settings. It is ideal for rapid cleaning of screws, barrels and extrusion heads.

A test was conducted on a 3-layer machine, with two 70 millimeter screws and one 60 millimeter screw with twenty extrusion heads. The machine, which molds shampoo bottles, was viewed as a high scrap generating machine requiring more than 3.5 hours of purging

time and 545 kg of purging material. Initial parameters required a color change from orange to red bottles and the need to make a color change on both of the 70 millimeter screws. The 60 millimeter screw did not require a color purge.

Lusin® Clean G301 purge compound was introduced to each of the two lines requiring cleaning. The total time to clean the screw barrel and die was 45 minutes. Residual purging compound was removed after 15 minutes of run time and defect-free parts were produced.

### Benefits

- The customer saved an estimated \$42,500 on material alone (based on an average of 60 critical color changes per month).

- The customer experienced a reduction in purging time from 3.5 hours to one hour - a 70% reduction!
- The customer realized a savings of up to 545 kg of virgin resin per color change.
- The results were so compelling that the customer converted to the Chem-Trend Lusin® product in all their plants worldwide.

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