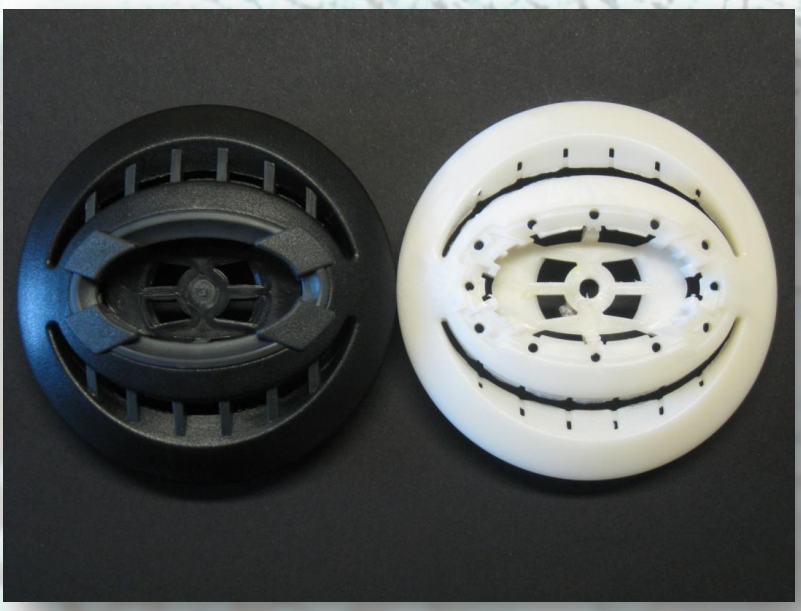
C.J.P. Sales Ltd.
PVC and Polymer Distribution

SHUMAN Dyna-Purge®
Productivity Begins With Purging®

Objective: - Changing from Black PC/ABS to Yellow then Natural



**Black to Natural**

The reason for these trials was to test Dyna-Purge K and Dyna-Purge F on the hot runner tool. We were evaluating both grades in order to offer one grade across the 6 machines.

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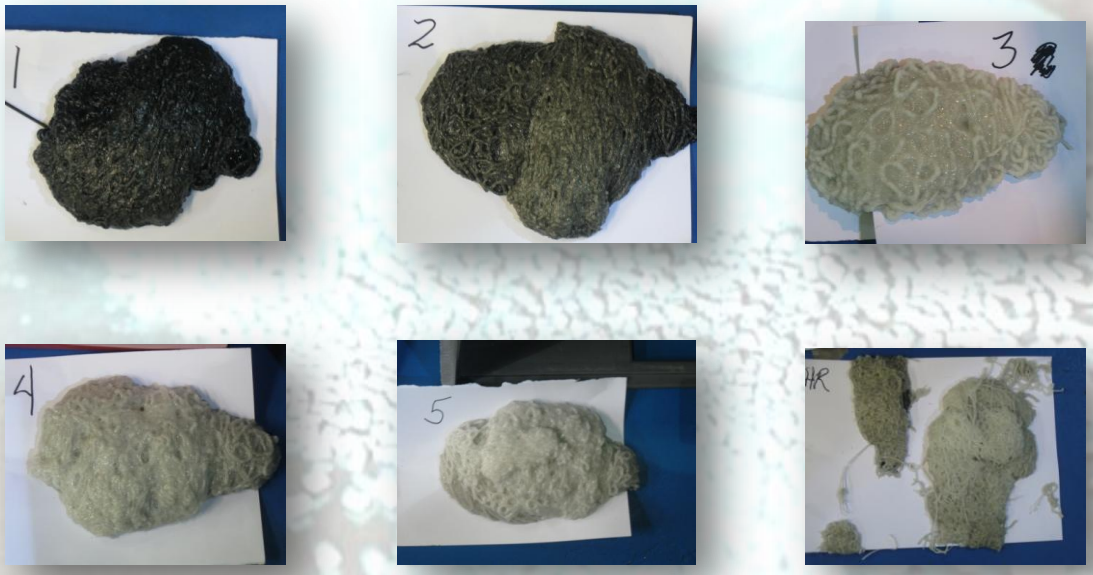
**Trial 1 Dyna-Purge K**




**Black cleared in 1.4kgs of DPK**

Firstly, the hot runner temp was reduced to 280C because of the maximum limit on DPK. Using the auto purge function on the Arburg, settings were set the same as production.

| | |
|---|---|
| Screw speed: | 15/53 |
| Back pressure: | 60 bar |
| Shot: | 45mm |
| Time: | 60sec |

Each purge cycle took 350g of DPK; it took 4 cycles to remove the black and two cycles to clean the runner in the open position. Yellow PC/ABS was introduced and the mouldings where contaminated with black, this continued for 10 shots without improvement. There was no sign of any black in the yellow air shot, as it was hanging up in the hot runners.

**Contamination from Hot runner**

## Trail 2 Dyna-Purge F

For the Dyna-Purge F we increased the hot runner temp back to 300c, purged 2 cycles to clear the yellow, and then 2 cycles to clear the hot runner. We started production using natural PC/ABS and had clean mouldings first shot, moulding continued to produce 30 shots all clean. There was a small amount of de lamination in the first few mouldings which cleared very quickly.

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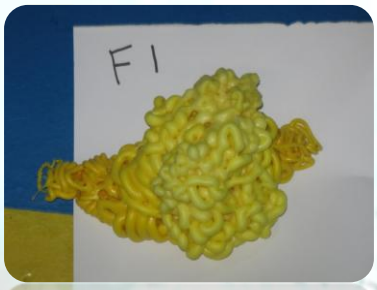
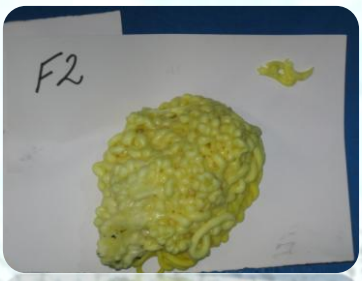
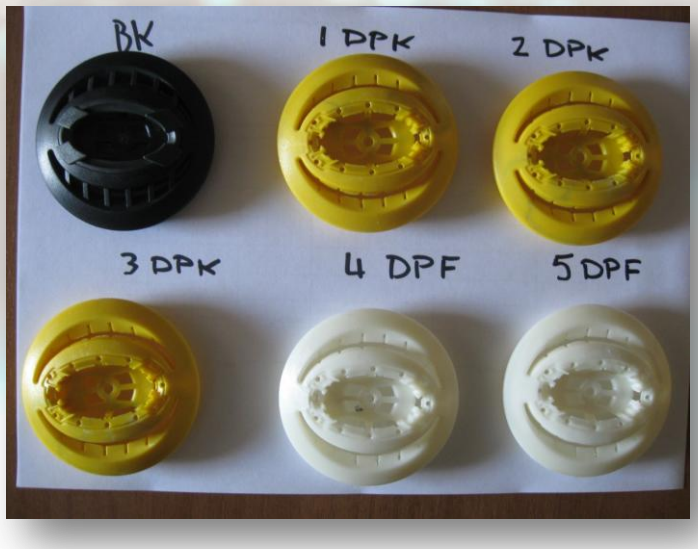


**DPF through the Hot Runner Yellow to Natural**

**Note:** The MFI difference between the DPK and DPF was very evident, the stiffer flow of the DPF and the higher temp on the hot runner made a big difference in clearing last of the black from the runners.

| | |
|---|---|
| Time to Purge: | 15 mins |
| Amount of Purge: | 1.4 kgs |
| Amount of natural PC/ABS to flush: | 1kg |



Black last off before purging, yellow first off after purging with DPK, Natural first off after purging with DPF, first moulding clean.

Conclusion

The trials showed that Dyna-Purge F was the most suitable grade to be used across the range of materials; it was very effective at cleaning the barrel and hot runners when using standard production settings.