RMF Systems Case

PLASTIC INJECTION MOULDING

The plant in Putte was established in 1929 and today has 46 injection moulding machines ranging in clamping force from 35 to 2,700 tonnes. There is also a fully equipped assembly department with ultrasonic, vibration and mirror welding machines, screen printing, hot printing and tampon printing facilities. At the Putte site, virtually every thermoplastic can be processed with the exception of PVC, including Polypropylene (PP), Polyethylene (PE), ABS, ASA, PPO, Polycarbonate (PC), Polyacetal (POM), Nylon (PA) and Polyesters (PBT).

POLYTEC GROUP

PROJECT DESCRIPTION

One ENGEL injection moulding machine is contaminated with Varnish. Previous filter actions resulted in clean oil but no elimination of the Varnish. Especially when the oil is <40°C varnish tends to clog valves, filters and other small passages. Varnish also reduces the oil life considerably. In order to ensure a trouble free operation, Polytec had high priority in removing the varnish.

RMF OFFLINE FILTER

The solution for Polytec was a RMF Off-Line Filterunit. The filter unit acts as a kidney loop, continuously pumping a small amount of oil through extreme fine filters. Next to solid particles and water the RMF filters should be able to remove the Varnish. In order to be sure that the filter would do the job we agreed on a 'no cure – no pay' project.
Goal of the project; < ISO 17/15/13 / potential Varnish MPC dE: < 30

PROJECT

We started of with potential Varnish MPC dE: 83 and ISO class: 21/18/12
After 4 weeks of operation there was no improvement in ISO class 21/18/11. MPC test was postponed. We checked the process and found that the Offline unit was not running continuously. We changed the settings to Continuous operation and we preventively changed the filter elements. After this we decided to extend the test period for another 4 months.

RESULTS AFTER 4 MONTH

Potential Varnish MPC dE: 14,4
ISO class: 16/14/11

Remark: We will keep trending the oil quality over the next year in order to guarantee a stable varnish level, Potential Varnish MPC dE: < 30

TECHNICAL DATA;
Machine: Engel Injection moulding machine
Fluid type: Hydraulic oil
Brand oil: Shell
Type of oil: Tellus 46
Oil tank: appr. 3000 liter

Before: MPC dE: 83

After: MPC dE: 14,4

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