



CLEAN OIL
BRIGHT IDEAS

**Application Study
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BIANOR

Hydraulic Oil STORK Plastic Injection Moulder

CJC™ Application Study

CUSTOMER

BIANOR sp. z o.o. produces high quality plastic components for Philips, BOSCH-SIEMENS, and Whirlpool, using 40 Plastic Injection Moulding Machines, each operating 8,000 hours a year.

THE SYSTEM

STORK Plastic Injection Moulding Machine SXEP4000-3500.
Tank volume 875 L.
Hydraulic oil RANDOHM46 from Texaco.

THE PROBLEM

The plastic injection moulding machines produce critical components for customers. The target for downtime due to repair on each machine was set to less than 4 hours per year. Oil analysis showed high resin contamination. Oil replacement and chemical tank cleaning used to be a common practise, but the oil's chemical and physical characteristic (the additive package) was still intact for further use.

THE SOLUTION

A CJC™ Fine Filter LG 15/25 L with a 300 L/h pump was chosen, using a CJC™ BG 15/25 Filter Insert.

THE TEST

Oil cleanliness level at start-up accounted for ISO code 15/14/8. After 3 months of operation the CJC™ Fine Filter, the contamination level was stabilised and oil cleanliness was improved to ISO 12/11/7.

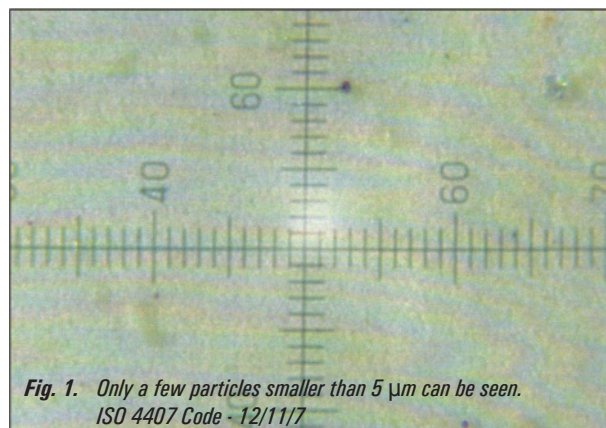
THE RESULT

- The improved oil cleanliness results in faster machine cycles and a life extension factor of 3 for system components.
- The removal of micro particles and resins has resulted in an average time of 2.5 years between unplanned stops, which is an impressive result, when comparing to one accident a month before installation of the CJC™ Fine Filter.



The plastic injection moulding machine at BIANOR with the CJC™ Fine Filter LG 15/25 installed

OIL SAMPLES



*Fig. 1. Only a few particles smaller than 5 µm can be seen.
ISO 4407 Code - 12/11/7*

THE RESULT

Particles	Samples No 1	Samples No 2
> 2 µm	28,622	2,461
> 5 µm	11,617	1,196
> 15 µm	230	72
ISO Code	15/14/8	12/11/7

Tabl. 1. Number of particles in 100 ml of tested oil
Samples collected in a 3 months period

COMMENTS

Maintenance costs have been significantly reduced due to reduced down-time. Furthermore, there has been no need for removing resin deposits from the proportional valves and no leaking has been reported.