



CLEAN OIL
BRIGHT IDEAS

Application Study
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CJC™ Application Study

CUSTOMER

Kröger Stahlumformung GmbH located in Atten-dorn, Germany (www.kroeger-stahlumformung.de), is specialised in manufacturing drop-forging parts and supplies a wide range of industries for example the automotive sector.

THE SYSTEM

Hydraulic drop-forging hammer No. 619 with elec-tronic control system from Lasco for the manu-facturing of forging parts weighing from 0.1 up to 6 kg.
Oil: 1,000 L hydraulic oil ISO VG 46, temp. 30° - 50°C

THE PROBLEM

Because of the operating conditions the oil was con-taminated with coarse dirt, especially metal wear. Additionally, the oil degradation process led to a gen-eration of resin-like debris / varnish. Every 2 years, the oil was changed and simultaneously the tank was laboriously cleaned.

THE SOLUTION

A **CJC™ Fine Filter HDU 27/27** with **CJC™ Filter Insert B 27/27** (3 micron absolute) and a pump with a flow of 180 ltr/h was installed.

Dirt holding capacity: approx. 2 kg

Water absorption capacity: approx. 0.9 L

THE TEST

On February 23rd, 2010, before installation of the CJC™ Fine Filter, the 1st oil sample was taken from the oil which had been changed in 2008. The 2nd oil sample was taken 2 weeks after installation of the CJC™ Fine Filter and the 3rd oil sample after 2 months on May 5th, 2010 (see photos right).

THE RESULT

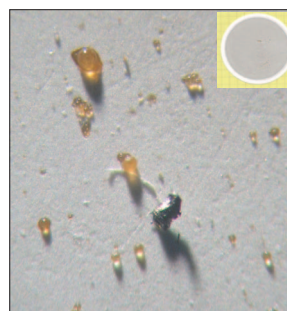
The first oil sample was heavily contaminated with (metal) particles to such extent that sediment was generated (colour of the oil: dark brown). Due to the high amount of varnish it was not possible to make an analysis with the particle counter. Within only 2 weeks the particle content was already visibly lower. The 3rd oil sample could finally be analysed again according to ISO. ISO Code of 18/16/13 was established and the oil was visibly clearer and more transparent. Because of the convincing results a sec-ond drop-forging hammer was equipped with an identi-cal CJC™ Fine Filter.

Hydraulic Oil Lasco Drop-Forging Hammer

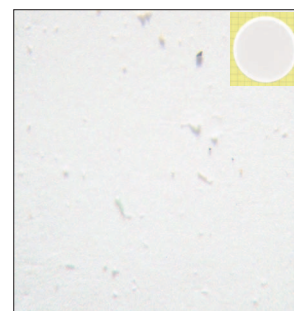


Lasco drop-forging hammer with CJC™ Fine Filter HDU 27/27

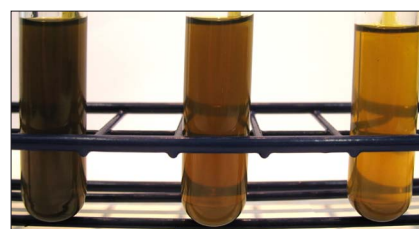
OIL SAMPLES



BEFORE filtration with CJC™
(scale 1:23)



AFTER filtration with CJC™
(scale 1:23)



Oil samples No. 1, 2 and 3 (from left to right)

THE RESULT

Particle content BEFORE:	Particle content AFTER:
not measurable	ISO 18/16/13

COMMENTS

*Dieter Lubowietzki (lubo@kroeger-stahlumformung.de),
managing engineer and director at Kröger Stahlumformung:
"Using the CJC™ Fine Filter the oil quality has improved to such an
extent that an annual oil change is obsolete and the valves are pro-
tected."*