



**CLEAN OIL
BRIGHT IDEAS**

Lube and Cutting Oil Precision Engineering, Metal Parts

CJC™ Application Study

**Application Study
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2008

CUSTOMER

Panalok Ltd, located in Ennis, Co Clare.
Maker of twist off nuts, clinch fasteners, stand-offs, spacers, bushings, special nuts, screws, and various precision turned components for aerospace, automotive, medical, electronics, electrical applications, and other various applications and OEMs.

THE SYSTEM

- 30 Davenport and 7 Brown & Sharpe automatic screw machines
- 6 Herbert & Hardinge capstans
- 1 Cincinnati centreless grinder

Oil type: Houghton CF 33 and Texaco MX 32 used for lubrication of bearings and for cooling in the cutting process respectively

Oil volume: 1,000 L each batch

THE PROBLEM

The machining processes lead to a high level of particle and water contamination, which means that the oil could only be reused for cooling. Therefore the amount of used cutting oil was building up, as only new oil could be used for lubricating the bearings.

THE SOLUTION

A collecting / settling tank was already present. It was filtered by using a Freddy (Mobile 100 micron filter) with a drain into a 1,000 L IBC tank as well as through a bag filter. When the IBC tank was full, the **CJC™ Fine Filter HDU 27/54 PV-E1M**, with **CJC™ Filter Insert B 27/27** and a UCC 125 micron pre-filter circulated the oil for 10 days at a flow of 120 L/h.

FINANCIAL BENEFITS

In one year, Panalok Ltd have reduced their purchase of oil from 29,000 L to 20,000 L. This is a reduction of 31% on new oil, equal to an **annual saving of approx. Euro 12,000.**

ENVIRONMENTAL BENEFITS

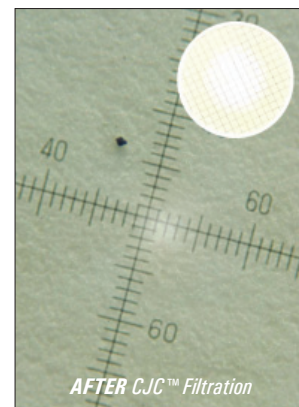
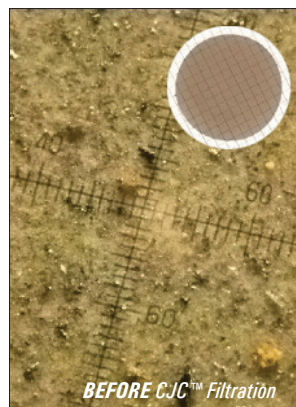
9,000 L of oil have been reused, where it was previously disposed of as waste.

THE RESULT

From ISO code 22/21/17, with a grey membrane and 225 ppm of water, to **ISO code 15/13/7, white membrane** and 34 ppm of water - better than new oil!



OIL SAMPLE



THE RESULT

	Before Filtration 03.07.2007	After 10 days of Filtration 13.07.2007
Particles > 2 µm	3657120	23088
Particles > 5 µm	1228261	4696
Particles > 15 µm	83125	85
ISO Code	22/21/17	15/13/7
Water, ppm	225	34

Number of Particles per 100 ml