CLEAN OIL
BRIGHT IDEAS

Lube Oil
Cement Mill, Trunnion Bearings, Fixed & Floating

CJC™ Application Study

Application Study written by:

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2014

CUSTOMER

Cement Plant, Ireland.

SYSTEM

System: Cement Mill, Trunnion bearings, fixed & floating
Oil Type: Mobil Gear 600 XP 320
Oil Volume: 700 ltr

PROBLEM

Short pump life was the norm. Every 3 months a pump had to be replaced. Extremely dirty environment, high pressure system and heavy load, made the pumps wear out very quickly.
Lost production, increased maintenance hours, and of course cost of new pumps was an issue.
Samples were taken showing a cleanliness level with an ISO code of **24/20/18** on the fixed bearing lube oil and 20/19/14 on the floating bearing lube oil.

SOLUTION

2 x CJC™ Fine Filter HDU 27/54 P-DEP each with 2 CJC™ Filter Insert B 27/27 (3 µm abs) were installed. One oil filter on the fixed bearing lube tank and one on the lube tank for the floating bearing.

Main purpose - to prolong pump life time.

RESULT

After 1 month of installation, ISO codes were**18/17/10** on the fixed bearing lube oil and 17/16/10 on the floating bearing lube oil. Now 6 years later the ISO Codes are kept at low levels, fixed bearings: **ISO 14/13/8** and for floating bearings ISO 14/13/10.

The effect of the CJC™ Oil filter has been extreme. Since the installation, the cement plant has not changed any pumps on those lube oil systems. No unplanned maintenance hours has been used, no lost production and no cost for new pumps since 2008.

FINANCIAL BENEFITS

Cost savings on pumps:
2 system, 7,5 years
42,390 EUR

Calculation, 2 systems:
2 pumps every 6 month = 4 pumps/year.
Price per pump = 913 EUR x 4 pumps = 3,652 EUR/year
+ labour costs, 500 EUR/exchange x 4 = 2,000 = 5,652 EUR
x 7,5 years = 42,390 EUR

Production loss per pump exchange:
if unplanned shut down, approx. =
800 tons per stop

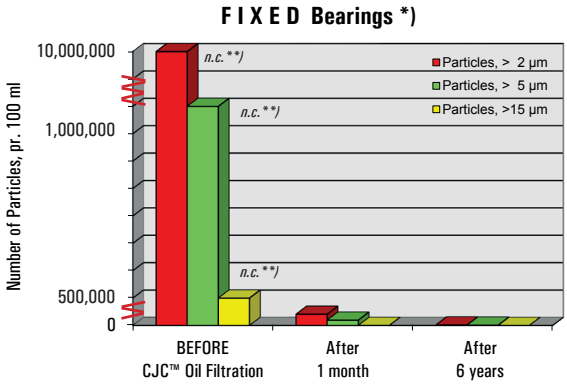
ENVIRONMENTAL BENEFITS

The whole plant has since 2008 installed 26 CJC™ Oil Filters on critical oil systems, and in 2013 & 2014 they have only changed 5 ltrs of oil in the whole plant.

Cement Mill, Ireland

CJC™ HDU 27/54 P installed at Trunnion FIXED and FLOATING bearings

PARTICLE DEVELOPMENT



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RESULT

	*) F I X E D Bearings			F L O A T I N G Bearings		
	BEFORE	After 1 month	After 6 years	BEFORE	After 5 months	After 6 years
Particles > 2 µm	n.c. **)	205,226	9,687	846,560	88,504	11,547
Particles > 5 µm	n.c. **)	98,124	6,531	307,840	44,893	7,463
Particles >15 µm	n.c. **)	995	131	15,625	720	746
ISO Code	**24/20/18**	**18/17/10**	**14/13/8**	20/19/14	17/16/10	14/13/10

****) not countable**

Other oil systems fitted with CJC™ Oil Filters since 2008:

- Cement Mill Main Drive
- Kiln bearing lube
- Raw Mill Roller Lube
- Raw Mill vertical roller lube
- Raw Mill Roller hydraulic
- Coal mill roller lube
- Coal mill hydraulic
- Clinker pan conveyor
- SRF hydraulics
- Cement silo bucket elevator

CUSTOMER COMMENTS

Mr. Stephen Beirne Maintenance Manager:
"Having undertaken an assessment of our onsite lubrication activities we introduced a program of offline filter installations across site. This has allowed us to move from a situation where oil replacements were frequent to nearly no oil changes at all. CJC™ Oil filters have been a huge help in this program."

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