Hydraulic Oil
Cement Mill, Vertical Raw Mill, Hydraulic System

CJC® Application Study

CUSTOMER
Holcim Philippines Incorporated, Bulacan Plant, Bulacan Phils.

SYSTEM
Cement mill, vertical raw mill #4,
hydraulic system 1 and 2.
Oil type: ISO VG 68, Tellus-68
Oil volume: 2 x 1,680 Litres

PROBLEM
Holcim Philippines - Bulacan Plant is doing a quarterly machine condition monitoring through oil analysis. On May 15 they found out that the oil in the hydraulic system 1 and 2 on raw mill #4 was heavily contaminated with dust and wear particles. Due to the consequently high costs and profit cuts caused by unplanned maintenance downtimes and shortened oil lifetime Holcim searched for a reliable solution to solve the problems generated by the contaminants in the oil.

SOLUTION
A CJC® Oil-Care system 27/27 with a CJC® Depth Filter insert was installed to reduce the contaminants and wear particles present in the oil.
Filter material: 100% renewable raw material
Filtration degree: 3 μm (micron) up to 1 μm (micron)
Dirt holding capacity: up to 10 kg

RESULT
Within only one month of filtration the oil cleanliness level was reduced from 19/17/14 to 16/14/11 (according to ISO 4406). The installation of the CJC® Oil Care system enabled to attain plant target regarding oil-consumption-ratio (OCR) within shortest time. Furthermore, the mean-time-between-failures (MTBF) was prolonged.

BENEFITS FOR COMPANY AND ENVIRONMENT
The achieved oil cleanliness and extended oil lifetime have a direct, positive impact on the company - less costs (spare parts, maintenance, waste oil, new oil, man power) and increased machine reliability. Only by the avoided oil changes on both hydraulic systems (2x 1,680 litres) Holcim **saved approx. 5,455,- EUR and , additionally, 8,736 kg CO_2** (during waste oil incineration would be generated approx. 2.6 kg CO_2 per litre).

COMMENT
Mr. Joel Aycardo, Lubrication Supervisor: *"Perfect solution to help our oil-consumption-ratio concerns, now we can save on oil change and can increase our machine reliability."*

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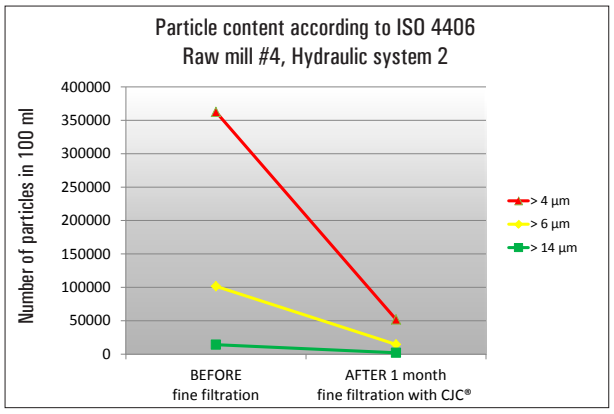
CJC® Oil-Care System installed at the hydraulic system of the vertical raw mill #4


*Sight glass - **BEFORE** fine filtration*


*Sight glass - **AFTER** fine filtration with CJC®*

RESULT



	Raw mill #4, system 2		Raw mill #4, system 1	
	BEFORE fine filtration	AFTER 1 month fine filtration with CJC®	BEFORE fine filtration	AFTER 1 month fine filtration with CJC®
Particles > 4 µm	362,600	51,900	263,500	59,600
Particles > 6 µm	101,500	14,500	73,700	16,700
Particles > 14 µm	14,200	2,000	10,300	2,300
ISO Code *)	19/17/14	**16/14/11**	19/17/14	**16/15/12**

**) Further information on cleanliness classes are available on request.*

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