OIL FILTRATION SYSTEMS

# CJC™ Application Study

## Hydraulic Oil - Siti Ceramics Press

INDUSTRY


***Application Study***
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***In co-operation with:***

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*AZULEV CERÁMICA*


### CUSTOMER

AZULEV Cerámica is a manufacturer of floor and wall tiles.

### THE SYSTEM

AZULEV has 4 SITI MAGNUM presses at its floor tiles plant. The presses are equipped with a hydraulic system to regulate speed of piston cycles. The system operates at a low pressure of 2.5 bars, and the hydraulic system is centralised at a 1,000-litre oil reservoir.
The oil is AGIP ARNICA 32.

### THE PROBLEM

The presses operate in a dusty environment, and it was not possible to prevent particles from entering the oil reservoir. The contamination of the hydraulic oil resulted in a drastic reduction in the useful life of the presses and their components, causing inner wear of valves and increased leakage.
The oil was contaminated by metallic particles and sand, but more than 50% of the particles were resins resulting from the high oxidation of the oil. AZULEV was changing the oil every year due to impurities that choked proportional valves and other components, thus causing breakdowns.

### THE SOLUTION

AZULEV wanted to pre-empt breakdowns, reduce repair costs and oil purchases, reduce unplanned stoppages, and most importantly, reduce the creation of hydraulic oil waste. A **CJC™ off-line FineFilter HDU 15/25 PVH** with **FilterElement CJC™ BG 15/25** was installed at the hydraulic oil reservoir of the presses to clean and dry the oil. It ran at a flow rate of 120 L/h removing down to 3 µm absolute particles, resins and micro-sludge.

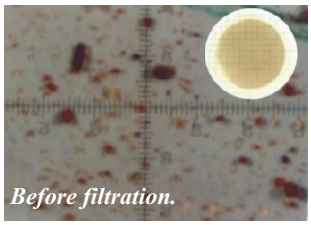
### THE RESULT

One month after the installation of the CJC™ unit, wear particle contamination had been reduced by 70 times. At present, the oil is maintained at a cleanliness level that will make the useful life of the hydraulic components 5 times longer. (Longer useful life table, 2002 Noria Corporation). The by-products of oil oxidation have also been removed, thus increasing the useful life of the oil.

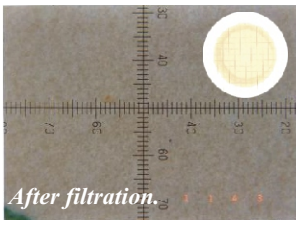
*AZULEV Cerámica.*

*The CJC™ off-line FineFilter and Mr. Ramón Jiménez.*

*One of the 4 presses, type SITI MAGNUM.*



*Before filtration.*



*After filtration.*

### THE RESULT

| | BEFORE | After 3 weeks | AFTER 2 months |
|---|---|---|---|
| **ISO rating** (contamination level): | 19/18/15 | 15/13/8 | 13/12/8 |
| **2 micron absolute particles.:** | 334,192 | 16,728 | 4,855 |
| **Water, ppm:** | 227.5 | 212.2 | 140.3 |
| **Resin level** (oxidation) **Membrane colour:** | brown | light brown | white |

### COMMENTS

*"The reason for installing CJC off-line filtration is not only to reduce breakdowns and improve the maintenance of the machines, it will also result in high percentages of savings in oil costs and less disposal of contaminated oil into the environment.*
*The CJC filtration will allow us to keep oil in the machines for anything up to 4 years".*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