



## Water management in an open refrigeration circuit

### Background

Circuit with high water consumption, debris and several problems of widespread fouling.

### Implemented Solutions

- Anti-fouling treatment with organic polymers technology;
- Gradual increase of concentration cycles;
- Telemetry implementation in the monitoring os system critical variables.



Fig. 1 – Circuit carbon steel and copper corrosion coupons.

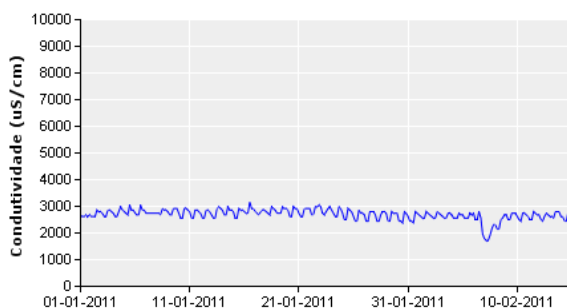


Fig. 2 – Record of circuit conductivity.

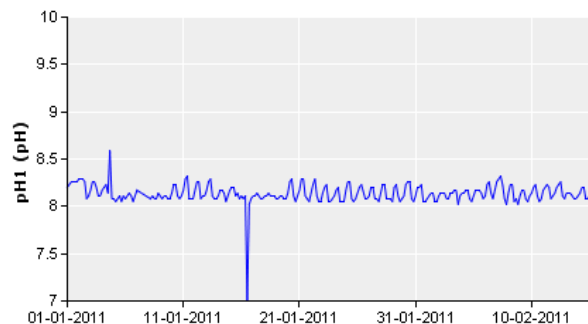


Fig. 3 – Record of circuit pH.

### Results and Conclusions

- ✓ The increase of concentration cycles from 2 to 4 has translated into a water saving of 6.500 m<sup>3</sup>/year ± **13.000 EUR/year**;
- ✓ Treatment cost < 50 % of savings;
- ✓ Reduction of debris in the circuit;
- ✓ Lack of corrosion on the cooper and carbon steel alloys;
- ✓ Lack of fouling phenomena;
- ✓ Significant reduction in water consumption, energy aind maintenance (information made available to the Client);
- ✓ By using telemetry Enkrott and the Client are allowed to monitor online, having revealed itself a crucial tool for efficient circuit management.

