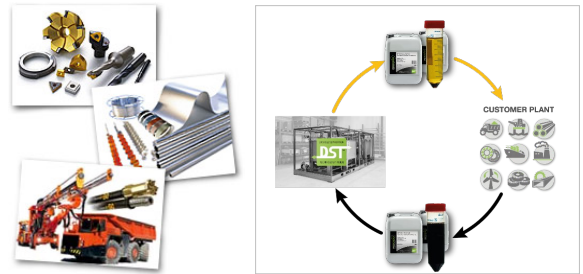


Roller Oil

World-leading engineering group.
Sweden



Problem

Sandvik is a high-technology engineering group with advanced products and world-leading positions in materials. The company is represented in 130 countries and has about 47,000 employees.

New fine wire rolling line was installed - capacity 1,000 ton. Dirty oil causes a number of problems in a wire rolling mill (e.g. coating of the wire, bent wire, roll realignment and regrinding). All of them here entailed very expensive processes. Scrapping of wire was also high. As the majority of the contaminants produced in the process are smaller than 1 μ , they float in the oil. This here meant that none of the known conventional cleaning technologies was effective, not even high-speed centrifuges. **To maintain high quality in production they had to replace the oil every 12 weeks.** This involved major costs (destruction of the rolling oil and purchase of new) and standstill.

The customer wanted to lower the oil costs and increase the production capacity and at the same time reduce the carbon footprint.

Solution

Continuously online cleaning for high contaminated roller oil. Industrial process and steel industry

The DST™ technology was used to solve the problem. All oil is purified in a continuous system where the oil passes into a tank.

The oil is treated with a Separation Booster which collects the impurities and they are later separated out via the high speed separator.

Result

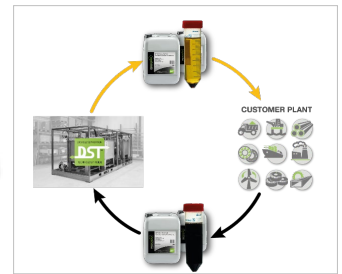
- ✓ The same oil has been used for five years with new oil quality all the time
- ✓ Over the period, expenditure on 65 m³ of oil has been saved and 22 oil changes have been avoided
- ✓ This equates to a CO₂ reduction of 180 tonnes
- ✓ In terms of kg of rolled material, productivity has increased by 25%
- ✓ Scrapping of material has decreased by 80%
- ✓ Lifetime of drawing dies (diamond coated) has doubled



Installed at Wire drawing plant,
Sandvik AB

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Constantly clean oil year after year



By continuously removing macro and nano size particles both soft and hard the oxidation processes in in practical stopped and the oil remains light yellow with the same viscosity In spite of the very harsh environment.

Reduced oil cost



By using the same oil **over and over again** only the oil losses in the wire production has to be compensated for. Small amount of EP additives is also added.
Cost for oil changes and downtime is also drastically reduced.

Reduced maintenance cost



One of the main cost in wire production is changing od drawing dies that can be diamond coated. By continuously having a completely clean oil in the production the life time of the diamond coated dies is doubled. Grinding and maintenance of the wire rollers is also heavily reduced and in total the maintenance cost is significant lowered.

Increased productivity



No downtime for oil changes. The complete clean oil allows any product quality to be produced at any time. Down time for adjustment of the production line is significant reduced.
In terms of rolled material the productivity increased with 25% when the DST technology was introduced.

Reduced CO2 emissions



The CO2 emission from the oil use is reduced by 90%. At the same time also emission from transport and waste handling is decreased. The increased productivity and reduced maintenance all contribute to a low emission operation.

Keeping the carbon footprint to a minimum in wire production.