

Modern crushing plant hydraulics and lubrication for Outokumpu's Kemi mine

Outokumpu selected PMC Polarteknik as the supplier for its hydraulic and lubrication units in connection with the F3 project ongoing at the Kemi chrome mine. The renovation of the Kemi mine located in Southwestern Lapland was completed in autumn 2012. The mine was completely upgraded to meet the current demands. Owing to an increase in the demand for ferrochrome, the mining volumes of metallic ore have recently doubled.

In terms of hydraulics, the project went on stream during summer 2011, beginning with competitive bidding, in which PMC Polarteknik won the contract. The bidding was organized, because the value and scope of the project was significant. The criteria favoring PMC Polarteknik included its ability to provide a complete turnkey solution. The company was able to offer the entire package from installations to commissioning. These so-called full-line deliveries are an important part of PMC Polarteknik's strategy.

– PMC Polarteknik's offer was many-sided, including components, installation and the necessary know-how needed. The schedules held true throughout the project and the new lubrication units have been in test use since September, says **Katri Hast**, Maintenance Technician of the Kemi mine.

Integrated hydraulics

PMC Polarteknik supplied the Kemi mine with a hydraulic power pack equipped with a 1,500-litre tank. The company also provided

lubrication units with capacities of 1,500 and 1,000 litres respectively. The lubrication unit provides lubrication for the two cone crushers of the concentrator plant during the beginning of the process above-ground. The hydraulics unit then integrates all hydraulics used in the crushing plant machinery. Before this, every piece of equipment had its own unit.

The Kemi chrome deposit is located near the city of Kemi on the Gulf of Bothnia. The deposit was found in 1959 and a few years after that, a decision to utilize the chrome was made. The mine and its concentrator plant were established in 1968. The ore from the mine is further processed at the near-by Tornio ferrochrome mill.

PMC Polarteknik has previously collaborated with Outokumpu's Tornio Works unit, but the agreement with the Kemi mine is first of its kind. The Tornio Works uses the ferrochrome to manufacture stainless steel.



Ferrochrome for global steel production

Outokumpu exports the ferrochrome mined in Kemi and processed in Tornio as steel raw material to companies all over the world. The ferrochrome refined by the company is of high quality and produced in an energy-efficient way. During production, emissions are kept low and the best available technology is used at all times.

In 2012, Outokumpu was selected for the sixth time in the Dow Jones Sustainability Index both in Europe and on a global level. Outokumpu is among the top 5 steel companies in the DJS index. The company's environmental know-how and practices are viewed as best in the world in the steel industry field.

Outokumpu Kemi mine

Chrome deposit found in 1959

Mine established in 1968

The only chrome mine in the EU area

The open-pit mine has a depth of 170 metres and the underground mine is 600 metres deep. Nowadays ore production takes place exclusively in the underground mine

After the expansion, the mining volume is about 2.7 tonnes, in 2013 about 2.2 tonnes

Confirmed ore reserves are about 35 million tons

