

CASE HISTORY

SEMICONDUCTOR
SOLAR
PHARMA
POWER GENERATION
FOOD & BEVERAGE
PULP AND PAPER
CHEMICAL
OIL AND GAS
MINING
AEROSPACE AND TRANSPORT
METAL FINISHING
MUNICIPAL



TOVEKO FILTERS

Åbergs Förnickling, Sweden

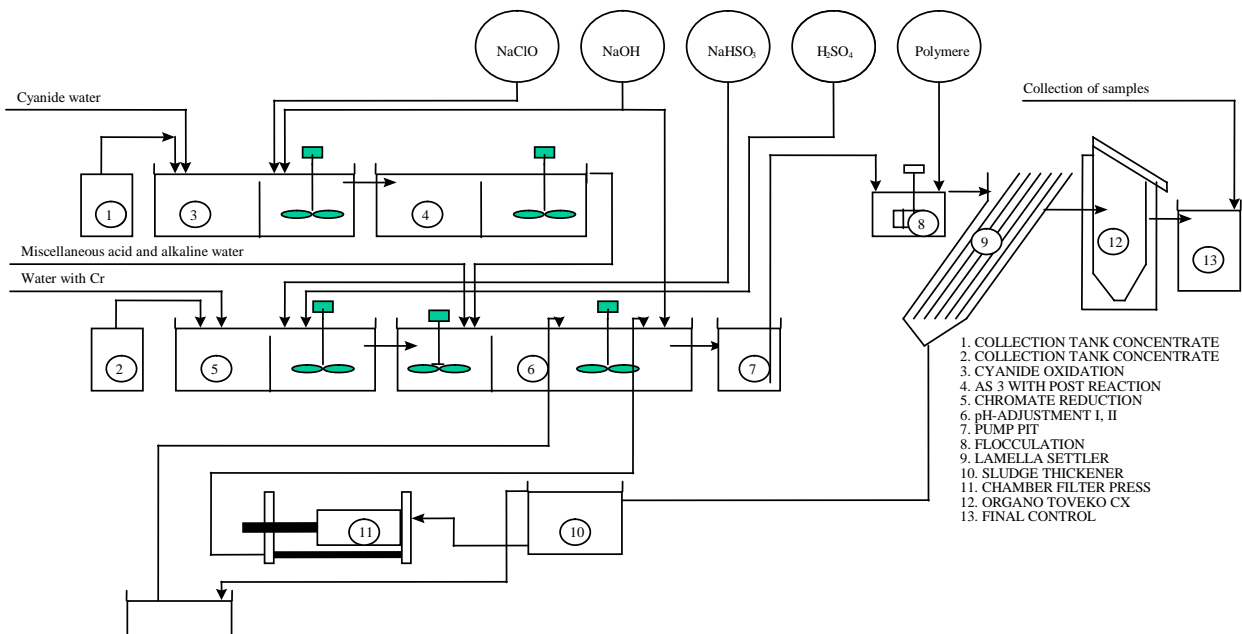


**"If you are going to buy a sand filter, you want it to run perfectly.
With the TOVEKO CX filter, you know the analysis results are going
to be good."**

For sixty years, the Åberg family has been involved in the surface treatment of materials. At Åbergs Förnickling, the experience of several generations is combined with modern equipment. The company's latest investment is a continuous sand filter that has removed the last vestiges of concern about the quality of their effluent discharge.

In 1938, Lars-Åke Åberg's parents started their metal finishing business in a house outside Stockholm. At that time they were polishing bracelets by hand. Nowadays, Åbergs Förnickling employs 25 people with an SEK 25 million turnover a year.

The company's specialities are silver, copper, nickel and tin electroplating and aluminium chromating. Åbergs does a lot of work for electronics companies. "We are currently delivering a batch of parts to Holland for Ericsson base stations for their mobile phone system" says Lars-Åke. "Other major clients are Algon and ABB."



With three automatic machines and a barrelling line, the company produces a lot of waste water. Chrome containing rinses are treated in a closed loop ion-exchanger. Cyanide and acid/alkaline rinses are pre-treated separately before combining in the flocculation tank. After the flocculation, the water flows to a lamella clarifier before overflowing to the sand filter. "Most of the metal hydroxide flocks settle as sludge at the bottom, but inevitably some escape." says Lars-Åke. "Before we installed the TOVEKO filter it was a problem since our treated effluent discharges straight to the municipal sewer system but now we have no problems at all."

It was during the Autumn of 1996 that Åbergs Förnickling invested in a TOVEKO continuous sand filter from H+E (then Organo). "When the lamella was overloaded, the quality of our discharge was totally unacceptable." explains Lars-Åke "Now the filter acts as a Policeman." For this company it was important to find a filter that was available continuously. Other advantages are that the filter occupies little space and waste water flows into it by gravity. "This means that we don't break up the delicate flocks, and neither do we need pumps and their running costs" states Lars-Åke. "The filter just sits next to the rest of the effluent treatment plant, with no need for a tall building."



The responsible people at the effluent treatment plant

Åbergs Förnickling, test the quality of the discharge every hour. When the water leaves the H+E TOVEKO filter, it contains very low concentrations of nickel and other metals Lars-Åke is satisfied. "We constantly try to improve everything we do out of sheer self-preservation. The TOVEKO filter has provided us with a substantial safety margin in our discharge quality, and even if the Authorities should reduce our discharge limits, it wouldn't worry us unduly. These days, we know the analysis results will be good."

Mineral	mg/l	Mineral	mg/l
Aluminium	0.71	Magnesium	3.5
Lead	< 0.05	Manganese	< 0.01
Boron	1.1	Molybdenum	0.02
Iron	< 0.05	Sodium	580
Cadmium	< 0.01	Nickel	0.27
Calcium	78	Strontium	0.16
Potassium	29	Sulphur	240
Silicon acid	9.9	Vanadium	0.03
Cobalt	< 0.01	Zinc	0.04
Copper	0.28	Silver	< 0.01
Chrome	0.03	Tin	0.18
Lithium	< 0.01	Nitrogen	54

* Sampling and analysis of effluent from Åbergs Förnickling, was done by Aqua Konsult AB, Stockholm, Sweden
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H+E ranks among the world's leading suppliers in the fields of: water & wastewater treatment, and energy efficiency. Based on its global presence, the **H+E GROUP** has completed projects in over 50 countries.



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