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CELDAR® TECHNOLOGY

Case history

TANNERY

Location	EAST EUROPE
PRODUCED WASTEWATER	50 cubic meter/hour
Typical problems in wastewater	Sulphides, COD, TSS, Chromium ...

TREATMENT PRINCIPLES AND AIMS

To improve the **wastewater management**, the customer asked us to evaluate the **ELECTROCOAGULATION** for the **removal of pollutant** and to be able to drain the treated water into the sewer system.

Another option required was the **ZERO liquid discharge** and therefore the possibility of **water recycling** with the least amount of consumption possible.

This option is possible using an **ELECTROCOAGULATION PLANT** since no chemicals are used and therefore the physical and chemical characteristics of the water to be treated have little variation compared to the treated water.

The obtained results and working conditions are below

Type of electrodes tried during the lab tests	CELDAR Alloys Graphite Iron Stainless Steel low Chromium
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TYPICAL ANALYSIS PARAMETERS

Achieved results

PARAMETER	Unit	Starting	End	Reduction %
pH		9,5	8,7	
Conductivity	microSiemens	5700	5900	
TSS	ppm	3500	25	99,3
COD	ppm	4500	650	85,6
Chlorides	ppm	4200	1850	56,0
Sulphates	ppm	2500	380	84,8
Sulphides	ppm	460	2	99,6
ANIONIC TENSIDES	ppm	230	2	99,1
CATIONIC TENSIDES	ppm	110	1	99,1
NON IONIC TENSIDES	ppm	78	1	98,7
Cr 6+	ppm	25	0,1	99,6
Cr 3+	ppm	5	0,1	98,0

ELECTROCOAGULATION PROCESS PARAMETERS

Number of electrodes	20
Type of alloy	CELDAR
Volt applied	8
AMPERES	55
Reaction time	1 hour
Temperature	38 °C
Final treatment	Flocculation

