



CELDAR® TECHNOLOGY

Case history

FLUORIDES REMOVAL IN LITHIUM BATTERY RECOVERY INDUSTRY

Location	NORTH EUROPE
PRODUCED WASTEWATER	40 cubic meter/hour
Typical problems in wastewater	High Fluorides, Sulphates, COD

TREATMENT PRINCIPLES AND AIMS

To design a **wastewater treatment plant**, the customer asked us to evaluate the **ELECTROCOAGULATION** for the **removal of Fluorides**, to be able to avoid corrosion phenomena in installed electrical and mechanical. Another option required was the **ZERO LIQUID DISCHARGE** and therefore the possibility of reusing the treated water 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

TYPICAL ANALYSIS PARAMETERS

Achieved results

PARAMETER	Unit	Starting	End	Reduction %
pH		3,6	7,5	
Conductivity	microSiemens	4400	3800	
TSS	ppm	1550	5	99,7
COD	ppm	2300	940	59,1
Sulphates	ppm	460	210	54,3
Fluorides	ppm	130	20	84,6
ANIONIC TENSIDES	ppm	210	2	99,0

ELECTROCOAGULATION PROCESS PARAMETERS

Number of electrodes	36
Type of alloy	CELDAR
Volt applied	7
AMPERES	48
Reaction time	2 hours
Temperature	48 °C
Final treatment	Flocculation

