

CERAMIC INDUSTRY

Breakthrough Waste Water Treatment Solutions



CASE STUDY

The ceramic industry plays an important role in the global economy, producing a wide range of construction materials and decorative products. However, one of the main challenges faced by the industry is related to the treatment of wastewater generated in its factories.

The ceramic manufacturing process involves the use of a significant amount of water, resulting in large volumes of liquid effluents. These wastewater streams often contain high concentrations of suspended solids, heavy metals, and chemicals, making their treatment complex and costly.

To address this challenge, ceramic factories are adopting advanced wastewater treatment technologies and chemical processes for contaminant removal. On the other hand, the implementation of water conservation measures and the reuse of treated effluents are becoming increasingly prevalent in the sector.

The quest for efficient solutions for treating wastewater in the ceramic industry is essential to minimize environmental impact and ensure compliance with environmental regulations. This ongoing effort is crucial to promote more sustainable and responsible production within the ceramic sector.

PROBLEM

Due to chemicals used in treatment plants, it is very hard to reuse water and paste in ceramic industries, the accumulate salinity in sludge and water, from used chemicals, creates problems when reusing sludge for paste preparation and doesn't allow for a free reuse of water.

SOLUTION

Using **VABEC®** technology allows to completely treat these industrial effluents, with better efficiency, lower power consumption, **NO CHEMICALS AT ALL**, generating treated water and sludge **WITHOUT** any salinity increase, no chemical contamination. Water and Sludge can be reintroduced in process without any risk, as they are exactly similar to the original water and pastes used.

TECHNOLOGY

Electrocoagulation process

- **NO CHEMICALS**
- Very **LOW POWER**
- Aluminum enrichment in sludge
- Continuous process
- Small and large scale operations
- **ADD-ON** to existing plants

RESULTS

MAIN CONCLUSIONS FROM VABEC® TECHNOLOGY :

PERFECT coagulation and flocculation/settling **WITHOUT ANY CHEMICALS**

Settling velocity equivalent to conventional processes

FULL COLOUR REMOVAL with colour pigments

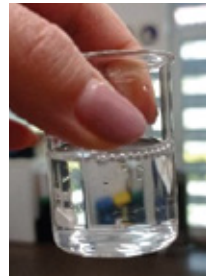
POWER SUPPLY BELOW 1 kWh/m³



Raw effluent



After VABEC®



After settling

With coloured paste - fully colour removal - fines are also aggregated easily



Raw effluent



After settling

**NO
CHEMICALS**

**100%
WATER RECOVERY**

**100%
SLUDGE RECOVERY**

MAIN ADVANTAGES:

- ∴ **NO CHEMICALS USE**
- ∴ **NO CHEMICALS STORAGE**
- ∴ **NO CHEMICALS LOGISTICS**
- ∴ **FULL REUSE OF WATER** for any industrial process
- ∴ **SUSTAINABILITY INCREASED**
- ∴ **FULL REUSE OF SLUDGE** for paste preparation

- ∴ **NO WASTE TO DISPOSE**
- ∴ **LOW POWER CONSUMPTION**
- ∴ **REDUCE CARBON GAS EMISSIONS**
- ∴ **LESS MANPOWER**
- ∴ **LESS STORAGE REQUIREMENTS**
- ∴ **LESS LOGISTICS**