



Case Study

Chlor-alkali Industry

Primary Brine Purification Process Plant – 4.2MLD



Problem Statement

A leading manufacturer of chlor-alkali derivatives in South Africa pursued new technology to reduce the amount of suspended solids in their primary brine purification system. The objective of the technology would eliminate the use of barium in its current manufacturing process, which would lead to a more environmentally-friendly process with better profits.

Solution

Watericon, together with the customer, investigated updated ceramic membrane technology and trialled this technology on the customer's premises over a period of 12 months.



Typical Plant Feed

- High temperature brine (55 – 65 °C) with a salt content of ± 300 g/L



Performance Target

- 160 m³/hr plant production
- High quality outlet brine
- TSS reduction
- pH between 9 – 11



Process

- Chemical addition
- Reaction tanks
- Coarse filtration
- Ceramic membrane cross-flow filtration
- Sludge dewatering



Innovation

Watericon successfully implemented new cutting edge technology; a first in Africa using cross-flow ceramic membrane filtration within the chlor-alkali production industry.