

BASF Antiscalants for Reverse Osmosis (Sokalan® RO)

“BASF Water Chemicals launched a new portfolio of products for Reverse Osmosis (RO) membrane processes.

This portfolio consists of both standard and speciality scale inhibitors that have been designed with full consideration for sustainability; they will have a low impact on the environment whilst effectively treating commonly existing scales. Acciona Agua has tested BASF's range of antiscalants in our R&D Centre in Spain.

Sokalan® RO100 has been selected as optimal to pilot trial on Acciona Agua's seawater desalination plant “La Tordera - Blanes”, which is our main global R&D test facility for our global RO desalination developments.

BASF is a real partner who offers innovative solutions beyond chemicals.

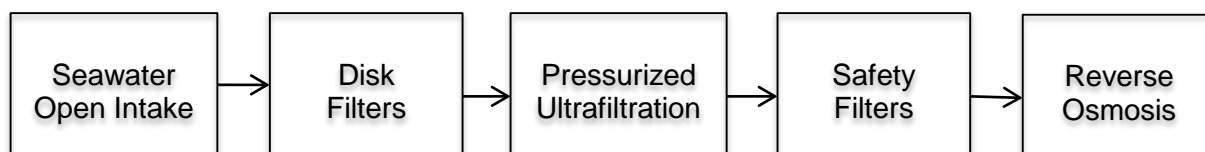
Jordi Bacardit – R&D Department – Acciona Agua

Customer	ACCIONA AGUA
Site	SWRO R&D Facility “La Tordera”, Spain
BASF Solution	BASF Sokalan® RO100, antiscalant
Overview	<ul style="list-style-type: none"> ▪ Raw water supply: sea water, open intake ▪ Pilot plant treats up to 20 m³/h ▪ 8” Reverse Osmosis membrane elements
Start Date	March 2013
Duration	3 months (24/7)



Process Description

- La Tordera desalination pilot plant is located in the premises of “La Tordera - Blanes” Seawater Desalination Plant (Girona, Spain). This pilot plant contains various technologies currently used in full scale desalination plants.
- Sea water from the open intake (pre-filtration via disk filters) enters the pressurised ultrafiltration system (outside-in dead end hollow fiber UF). The filtered water is stored in a break tank which supplies the RO system and provides backwash water for the UF operations.
- The pretreated water passes through cartridge filters and enters the RO system. The RO pilot system is equipped with a single 8" pressure vessel fitted with 8 modules.



Challenge / Issue

The challenge for BASF was to control CaCO_3 and CaSO_4 potential scale with a phosphonate-free antiscalant, and fully prevent RO Membrane scaling during inline operation at high recovery rate.

Solution

BASF's solution consisted of dosing Sokalan® RO100 at 0.24ppm, over the 3 month trial period no other chemicals were dosed. Sokalan® RO100 is based on BASF's polycarboxylate chemistry to avoid scale and protect RO membranes and is ANSI/NSF Standard 60 Certified for Potable Water.

Result

Acciona Agua was very satisfied with the Sokalan® RO100 test results. Sokalan® RO100 is now approved for use in Acciona Agua sea water desalination plants worldwide.

BASF Supports You With



- Know-How and experience sharing with Reverse Osmosis desalination
- Close collaboration and partnership
- Solutions to anticipate future regulation