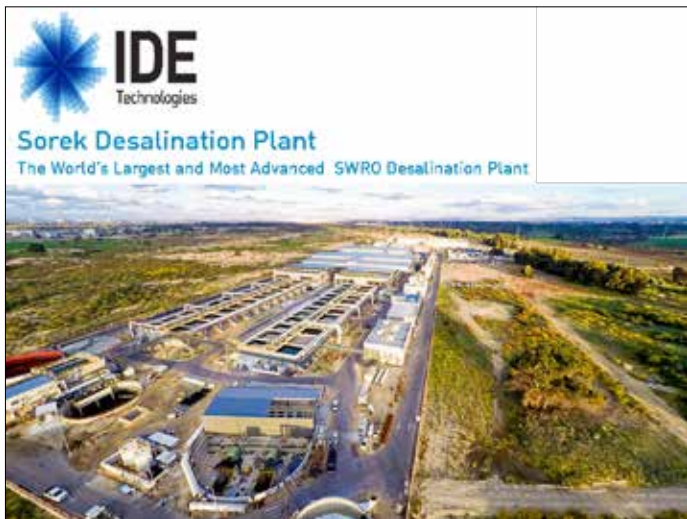


CASE HISTORY

Extending Service Life: Sorek Desalination Plant



DATE
2010-2013

DISTRIBUTOR
Glimmer - Industrial Consultation

SPECIFYING ENGINEER
Peer Moshe Civil Engineering LTD

LOCATION
Sorek Desalination Plant, Israel

PRODUCTS
MCI®-2005
MCI®-2020

PROBLEM

Currently, Sorek is the largest reverse-osmosis desalination plant worldwide. As an infrastructure facility built on the seashore and designed to process seawater, longevity of the plant's concrete was a major concern. Construction plans included the use of prefabricated concrete jack-pipe segments (comprising the longest single-push concrete jack-pipe to date: 2.6 m [8.5 ft] ID, 1500 m [4921 ft]), concrete pretreatment sand filtration bins, and concrete brine water reservoirs.

APPLICATION

Because of the aggressive environment, initial plans were to include MCI® in all concrete components to protect the rebar reinforcement and ensure continued service life for the planned duration. However, due to budget limits, project management finally decided to implement MCI® only on sensitive elements in extremely aggressive conditions.

The prefabricated concrete jack-pipe segments included both MCI®-2005 corrosion inhibiting admixture and Xypex® C-1000 NF crystalline waterproofing admixture in the concrete mix. Ready-mix concrete used for filtration bins also contained MCI®-2005 and Xypex. Ready-mix concrete for brine water reservoirs contained MCI®-2005 admixture. MCI®-2020 was surface applied to structures such as desalinated water reservoirs and columns in less aggressive environments where MCI®-2005 had not been used and there was insufficient rebar coverage due to application errors.



MIGRATING CORROSION INHIBITORS
FROM GREY TO GREEN

CONCLUSION

Seven years from application, there have been no apparent corrosion or other concrete related issues.

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