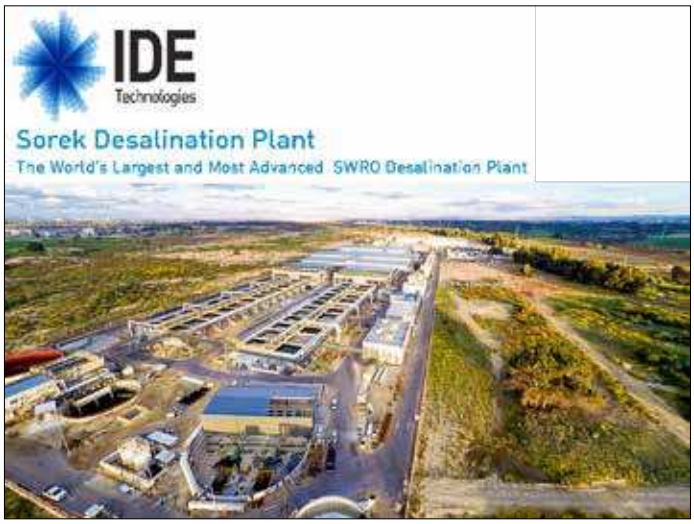
CASE HISTORY

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.

MCI®
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FROM GREY TO GREEN

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CONCLUSION

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

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