



# Reducing water use in cement manufacturing

**PPC Cement**

De Hoek, Cape Town

Through technological readjustments and the recycling of water, PPC Cement has reduced its water use by 50% per ton of cement by-product produced.

## CaseStudy

### Challenge

PPC is a leading cement manufacturer that also produces aggregates, metallurgical-grade lime, burnt dolomite and limestone. The company aims to operate sustainably, reduce its environmental footprint and produce resource efficient products. To these ends, the company has identified water scarcity as a key operational risk, and has undertaken multiple water reduction initiatives at the De Hoek cement manufacturing plant.

### Solution

PPC has reduced water consumption by 23 kl per day by simply increasing kiln temperature limits. The company has changed filtration devices from electrostatic precipitators to high temperature-resistant bag filters to reduce process cooling water requirements. Further interventions have included reducing water used for garden and recreational facilities, using recycled mine water for dust suppression, distributing greywater collection containers to staff, running employee water awareness sessions, and monitoring consumption rates through leak detection.

### Lessons learned and plans for the future

As part of contingency planning, PPC is drilling a borehole at De Hoek. The company is also building an extra treatment plant to treat saline mine water at a delivery rate of 20 kl per hour. Future projects will consider technologies that require less water.

### Business benefits

Through these interventions, PPC has reduced their water use by 50% per ton of clinker\* produced. Water use in the production of clinker has dropped from 1 kl/ton in 2013 to 0.5 kl/ton in 2017.

(\*Clinker is a by-product of cement manufacture and is used as a binder in many cement products and derivatives)

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