

# Project Case Study

## Project

### Dam Intake Towers Aquron 7000



## Project Summary

Substrate

Concrete

Surface Preparation

Hydro Blasting

System

Aquron 7000

## Project Description

Expansive forces within a concrete matrix often leads to concrete degradation with cracking patterns usually evident at the surface of concrete structures.

This dam intake tower was showing signs of deterioration due to chemical reactions between and within the cement matrix, aggregate and moisture forming an expansive gel (ASR).

Poly-Tech Industrial services now has a long term solution to mitigate these issues using the new range of Aquron concrete repair and protection systems.

The Aquron penetrating hydrogel has been selected in this instance for its ability to limit moisture ingress into the concrete, effectively removing one of the vectors (moisture) from the expansive ASR reaction. Alkali (Portland cement), silica (reactive quartz aggregate) and moisture (water) equals the production of expansive ASR gel leading to concrete cracking.

Additionally Aquron readily penetrates Portland cement concrete when applied to its surface, reducing or eliminating soluble chlorides as it does so (only soluble chlorides are relevant to embedded steel corrosion), without affecting the insoluble chloride or reducing cement paste pH value, to depths of at least 100mm depending on porosity/permeability and density of the concrete being treated.

The intake crane was mobilized and a man cage placed in position before preparation and application could commence.

Our preparation method of water blasting ensured the concrete surface was clean of any contaminants that would adversely affect the penetration of the specified Aquron 7000 system.

Application of Aquron 7000 system was then applied to internal and external walls using a low pressure (200psi) spray system as per the manufacturer's specification. Geofabric was used for containment of any loose particles or contaminants released during cleaning or application.

So for long term solutions to concrete protection using the Aquron range of products contact Poly-Tech Industrial services.

The concrete protection & restoration specialists  
South Australia, Tasmania, Victoria & Northern Territory