

Case Study Pasminco Hobart Smelter

Pasminco Hobart Smelter replaced the six existing Pure Solution Tanks with four larger concrete tanks in 2002.

The specification required the tanks to have long term durability despite the solution being stored being highly aggressive as set out in the table below:

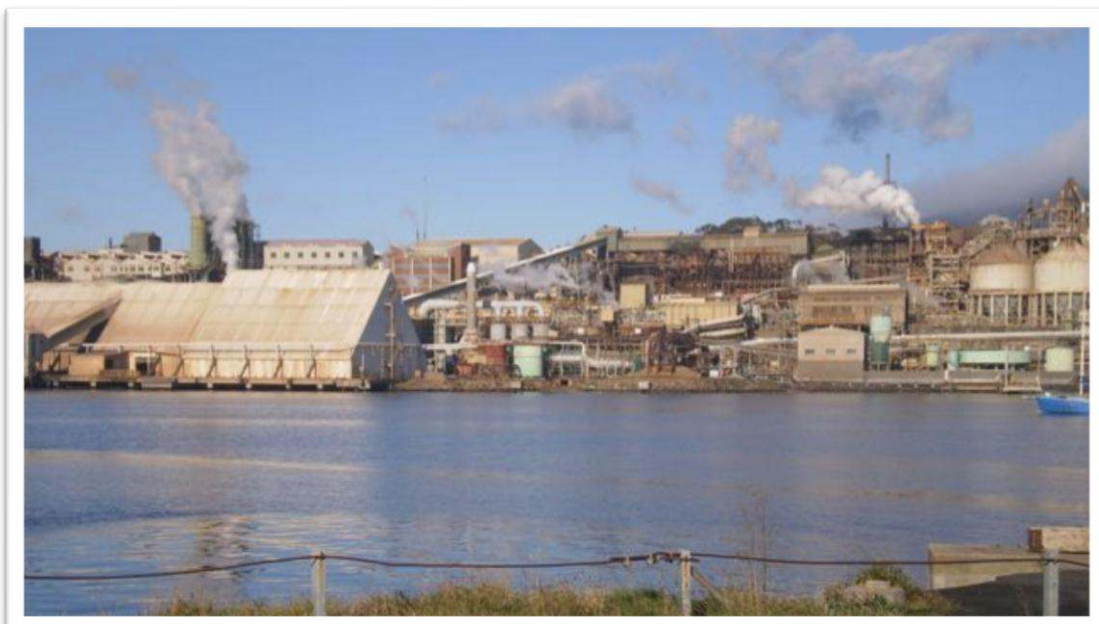
The maximum ranges for the pure and spent solutions:

	Range
H ₂ SO ₄	140-185 g/l
Zinc	250-300 g/l
Sulphate	260-310 g/l
Magnesium	9-14 g/l
Manganese	4-8 g/l
Sodium	0.6-1.5 g/l
Potassium	0.1-0.4 g/l
Chlorine	85-200 mg/l
Fluorine	2-15 mg/l

	Range
Iron	2-40 mg/l
Copper	0-0.3 mg/l
Cadmium	0.1-2.0 mg/l
Cobalt	0-0.7 mg/l
SG	1.25-1.4
Temperature	10-450C
PH	<1-5.4
Calcium	0.3-0.5

Tender requirements also included:

- No curing compounds to be used on inside face
- Tank lining to bridge hairline cracks which may develop during normal use
- Lined areas must be resistant to periodic high pressure cleaning
- Resistant to impact from tools and equipment that may drop from upper platforms
- Resistance to sludge build up
- Floor to be slip resistant and resistant to abrasion



The Pure Solution Tank environment is very demanding on any lining system adopted. It is fair to say that this project is at the demanding end of the scale for any long term durability performance assessment.

The Aquaron 300 (mix design) and 2000/ 7000 (spray applied) System was chosen against several other options as it provided the most long term durability and had a proven performance record in other demanding environments over lengthy time periods.

The construction sequence proceeded well and the subsequent tank performance has been in accordance with the contract requirements.

The finished tanks that have now been in production for 10 years.

The AQURON 7000 System was chosen because of its reliability and durability. It has provided what was needed for this demanding project and it is interesting to note that other concrete bund work carried out without the AQURON 7000 has now deteriorated and is to be remediated.

Prepared by G-Group Limited

G-Group Limited has researched existing independent testing on AQURON 7000/2000 and summarised the findings in a draft paper.

It includes findings from USA, Australia and New Zealand.

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