

AUSTRALASIAN CORROSION CONSULTANTS  
PTY LTD  
TANK COATINGS ASSESSMENT

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## INTRODUCTION

ACC has developed an innovative coating assessment system that has been specifically designed for coated steel reservoirs which must remain in service. The system allows for an assessment of the internal coated surface below the water line without dewatering.

The advantages of this system include:

- A Coating survey can be carried out without requiring the tank to be taken off line. Water supply is maintained without additional infrastructure.
- There is no requirement to enter the interior of the tank therefore, additional personnel not required to meet confined space requirements.
- Large wetted internal surface areas are assessed within the tank using a simple test resulting in quantified data.
- Tanks with cathodic protection installed do not require additional temporary hardware to be installed.
- Tanks without cathodic protection installed can have a temporary system fitted.
- Results can be used in deciding further action to be taken with regard to coatings and used to assess deterioration rates.

ACC has developed this Unique and innovative method of tank analysis through decades of experience in the coating and asset management industry.

All access to the reservoir will be subject to ACC's OHSE procedure. ACC will provide 2 inspectors who are height trained with their own PPE. ACC's safety management system is externally audited annually to ensure that the highest standards are met.

## BELOW WATER LEVEL

1. Undertaking this method involves applying a known signal to the steel surface and taking measurements. Applying these measured values, the known signal and the water resistivity to ACC's Algorithm, an assessment is made providing an approximation of the area of coating defect as a percentage.

This methodology has been developed over the past 5 years and is proven and repeatable.

## ABOVE WATER LEVEL

ACC has designed and built a remote operated floating surveillance unit which, when deployed inside a tank, presents the interior surface on an external screen. These images are recordable so a detailed visual examination can be performed after the fact; focusing on areas of relevance. Relevant areas show coating defects; rust as a percentage and blistering defects.

### Coating defects

- 1) Coating defects visually showing rust will be estimated as a percentage in accordance with the SSPC Vis 2 diagram.
- 2) Coating blistering defects will be assessed and classified in accordance with AS1580 Method 481.1.19

## EXTERNAL COATING ASSESSMENT

ACC's external tank coating assessment system involves a three pronged analysis of; dry film thickness, visual delamination and rust, and blisters. These items will be assessed according to the specifications of the Steel Structures Painting Council (SSPC) as follows

### Large Surface Areas

For large areas of curved coated surfaces, five readings will be taken at even spacing's at each 10m<sup>2</sup> area. The 10m<sup>2</sup> inspection areas will be selected as follows:

- 1) Structures not exceeding 30 m<sup>2</sup>. Each 10 m<sup>2</sup> accessible area will be measured.
- 2) Structures not exceeding 100 m<sup>2</sup>. Three 10m<sup>2</sup> accessible areas will be chosen at random and measured.
- 3) Structures exceeding 100 m<sup>2</sup>. The first 100 m<sup>2</sup> accessible area will be measured in accordance with Option (2), and for each additional 100 m<sup>2</sup> area, a 10m<sup>2</sup> area will be chosen at random and measured.

### Small surface areas

For small item and flat coated areas less than 10m<sup>2</sup>, a minimum of 3 point readings per square metre will be taken were access allows.

### Coating defects

- 1) Coating defects visually showing rust will be estimated as a percentage in accordance with the SSPC Vis 2 diagram.
- 2) Coating blistering defects will be assessed and classified in accordance with AS1580 Method 481.1.19