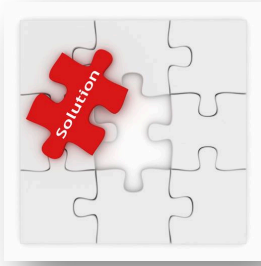




Completion Report

Refurbishment of Cold Water Storage Tank – FEBRUARY 2016



Project Brief

Key Environmental Services were asked to provide a solution to re-line the cold water storage tank supplying apartments 3, 4, 9, 10, 15, 16, 21 & 22 which had previously been fitted with a butyl flexible tank liner, but which had split, allowing water to ingress and stagnate between the liner and tank substrate.

We proposed that the tank be given long term protection by the application of a solvent free polyurethane coating.

The product employed was ACOTHANE DW, which offers numerous economic, technical and environmental features and benefits, some of which are highlighted below:

- WRAS / DWI Approved
- Complete Solvent Free Technology
- Extremely Fast Curing Times, even at low temperatures
- High degree of flexibility @ > 35%, capable of accommodating structural movement compared with resin / epoxy / bitumastic coatings of <1.0%
- Superb adhesion to steel, concrete, GRP and many other substrates.
- High levels of impact and chemical resistance.
- Reduced downtime of storage tanks and process vessels - refill after minimum of 6hrs after completion.
- Long life performance with minimal maintenance
- Easy clean, ceramic tile-like finish
- Application by brush / roller or plural component spray equipment
- Excellent track record for applications such as drinking water tanks, cooling towers, reservoirs etc.

The following pages show the methodology employed.

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Methodology

There is a single GMS cold water storage tank located in the tank room of the block containing apartments 3, 4, 9, 10, 15, 16, 21 & 22. This is sized at 1.5 x 1.2 x 1.2 metres and is supplied direct from the town main supply.

This tank has previously been fitted with a butyl flexible tank liner, but this has now split, allowing water to ingress and stagnate between the liner and tank substrate.



The tank was then drained using a submersible pump and the failed butyl liner and insulation was removed.



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The tank was then manually prepared with a scabblatex & wire brushes to provide a 65 micron surface profile to accept the new coating.



All joints then had a 'stripe coat' of Acothane DW applied to build up a nominal thickness of 3 - 5mm at the joints, followed by a base coat of Acothane DW over the entire tank internal surfaces

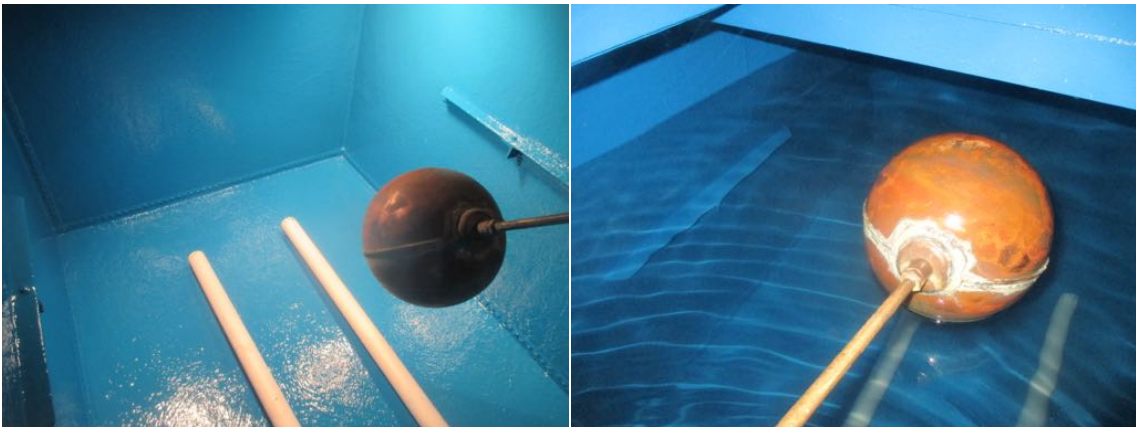
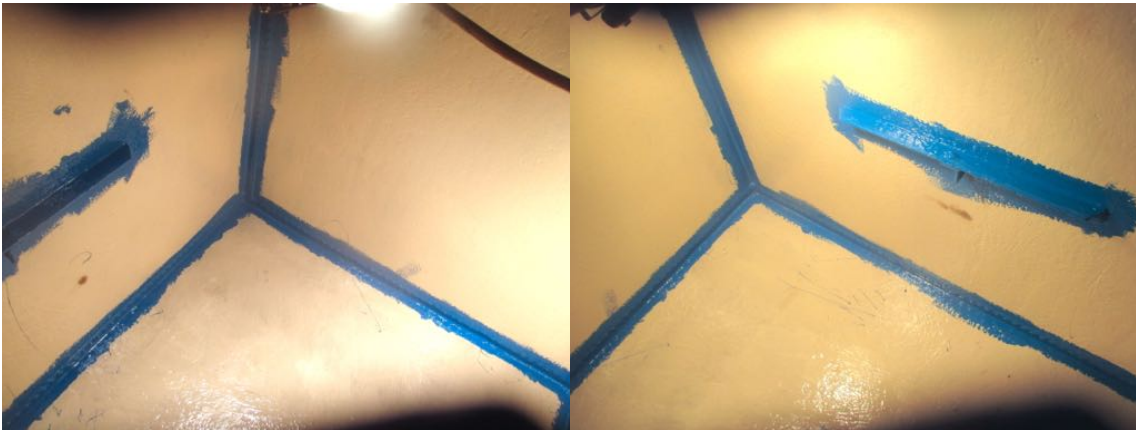


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This was then repeated with a blue top coat



The sparge pipes were reinstalled to promote tangential flow of water through the tank. Upon final cure, the tank was then refilled and disinfected with SuperSil before being put back on line.

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The tank was also re-insulated externally with BCO MMMF insulation.



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FORM OF GUARANTEE

Client:

(hereinafter called "The Employer")

Description of Work:

(hereinafter called "The Works")

We, **KEY ENVIRONMENTAL SERVICES LTD** (hereinafter called "The Contractor"), hereby guarantee The Works for a period of 10 years from 25/02/16 being the date of practical completion (hereinafter called "The Guarantee Period"). If any defect in The Works develops and is reported to The Contractor in the Guarantee Period and is proved to be due to the use of defective materials or faulty workmanship, The Contractor will rectify the defect without charge to The Employer.

EXCLUSIONS

There shall be no liability under this guarantee in respect of: -

1. Degradation of or damage to The Works due to external causes, for example, change of use of or structural failure of the contract location, fire, vandalism, attack by animals, birds or insects, chemical spillage, pollution etc.
2. Consequential Loss of any kind.
3. Subsequent work affecting The Works executed by another contractor or other authorised party.
4. The application of loadings to the surface of The Works otherwise than in accordance with the procedure recommended by The Contractor.
5. Damage to or degradation of The Works due to the failure of The Employer to carry out any reasonable recommendations of The Contractor.
6. Any guarantee exclusions specific to The Works in any estimate, quotation, contract or specification or as otherwise communicated in writing to The Employer.
7. The service environment of The Works changes from that originally stated (e.g. overdosing with chemicals such as Bromine, Chlorine Dioxide, Sodium Hypochlorite, etc)
8. Any temperature changes other than that communicated in writing by The Employer.
9. The general structural integrity of The Works

CONDITIONS

The observance of the following conditions shall be precedent to liability hereunder: -

- 1 Full payment for The Works having been made in accordance with the terms of the contract between The Employer and The Contractor.
- 2 A competent representative of The Employer should inspect the coated structure on an annual basis throughout the Guarantee Period. Written confirmation of each inspection should be sent to The Contractor within 3 weeks of inspection date.
- 3 Any alleged defect being reported to The Contractor in writing immediately upon its discovery.
- 4 Notice in writing being given to The Contractor before The Works are disturbed in any way, apart from any necessary emergency action, whether in the course of inspection or otherwise, to enable The Contractor to investigate the alleged defect.
- 5 All facilities which may be reasonably required to facilitate inspection of the alleged defect being made available without delay and the co-operation and collaboration of The Employer being forthcoming.
- 6 The Employer agreeing to the rectification of the defect being executed by The Contractor.
- 7 All preliminary works necessary to facilitate investigation of the alleged defect and its rectification if proven being commenced without delay.
- 8 The Contractor being permitted by The Employer to commence rectification work immediately the appropriate method of rectification has been mutually agreed.
- 9 A tolerance level of 1% of the total surface area coated will be effective throughout the Guarantee Period. In summary, this means, that if a very minor defect/s are discovered within the Guarantee Period, which equate to 1% or less than the total surface area coated, The Contractor will supply product only, free of charge. An agreed fee will be charged to apply the product to the effected areas in accordance with the manufacturer's recommendations. This procedure will be, however, carried out F.O.C. by The Contractor within the first year of the guarantee (if necessary)



CON O'SHEA

DIRECTOR

Dated: 02/03/16

For and on behalf of Key Environmental Services Ltd