

COMPLETION REPORT

Client : **University of XXXX**

Project Brief : **The Internal Relining of 1 No. Concrete CWS Tank**

Site Address : **North England**

Site Contact : **XXXXXXXXX**

System Spec : **3M Scotchkote™ 165PW**
(Formerly Known as COPON Hycote 165PW)

Film Thickness : **1000 Microns**

Covac Supervisor : **Ian Looms**

Completion Date : **4th August 2010**

Compiled By : **Adrian Emmett**

Covac Ref : **976**

SUMMARY OF WORKS

The Brief

1 No. concrete, potable water retaining structure accessible by a (non-fixed) ladder through an access hatch in a student accommodation dwelling.

The structure is sized at approximately 8' x 5' x 4' high and has a GRP tank cover. The internal surfaces were covered with a flexible liner which had reached the end of its useful life due to failure. If left untreated, the internal surfaces would continue to be at risk from bacterial growth including Legionella, Pseudomonas and Biofilm; this could have led to further deterioration in the tank's surface structure and contamination of the down services with the supply of unhygienic water to the outlets.

We, therefore, proposed the following: -

Specification

Concrete Preparation

After removal of the failed flexible liner the concrete substrate was found to be coated with an unknown industrial coating. This coating was also fully removed before all internal concrete surfaces were fully abraded in order to raise a minimum 75 micron surface profile ensuring all surface laitance & curing agents were completely removed. All dust & abrasive material was completely removed from the surface prior to coating application. High performance CCZ600R desiccant dehumidification equipment was utilised to remove the moisture within the cementitious coating.



These photographs show the internal surfaces of the structure having been drained of water, but prior to the failed liner being removed and any relining work commencing.





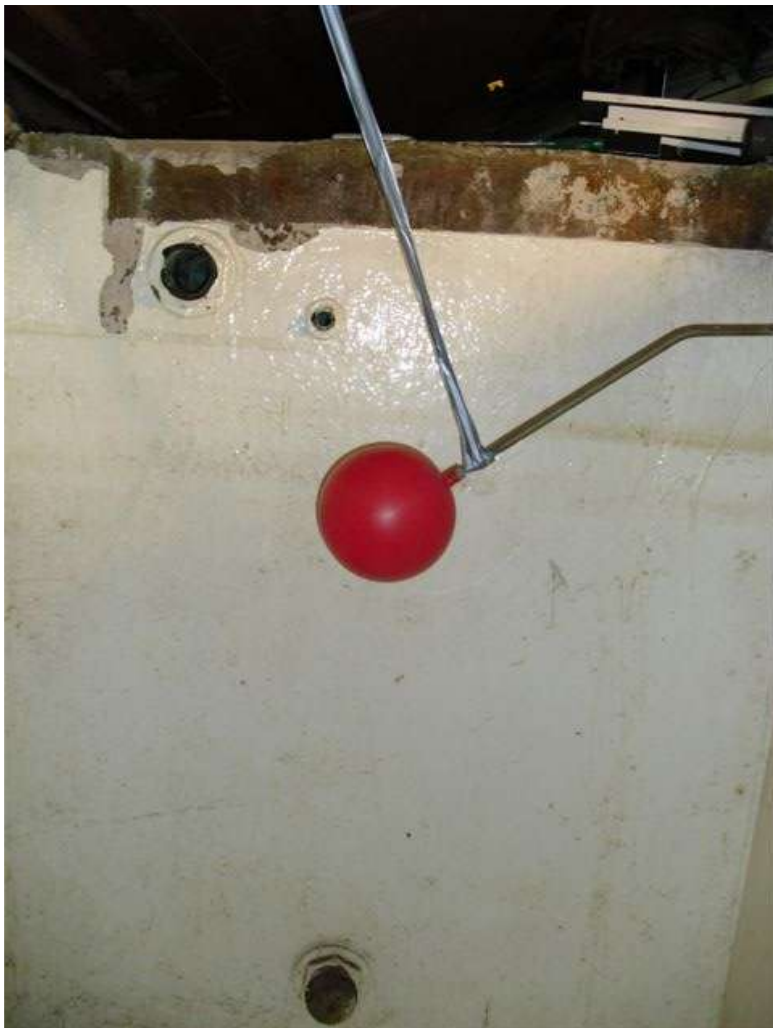
After removal of the failed flexible liner the concrete substrate was found to be painted with an unknown industrial coating. This needed also needed to be removed before any further preparation work could begin.



The coating was clearly de-laminating from the concrete substrate.



A combination of the failed flexible liner and de-lamination of the failed coating had allowed water to damage the concrete substrate resulting in cracks and pitting.





The top image highlights where the previous liner had been secured as well as remedial work to the buildings roof which had been reinforced utilising the concrete tank walls as structural supports that, in turn, had compromised the integrity of the tank.



All internal concrete surfaces were then fully abraded in order to raise a minimum 75 micron surface profile ensuring all surface laitance & curing agents were completely removed.





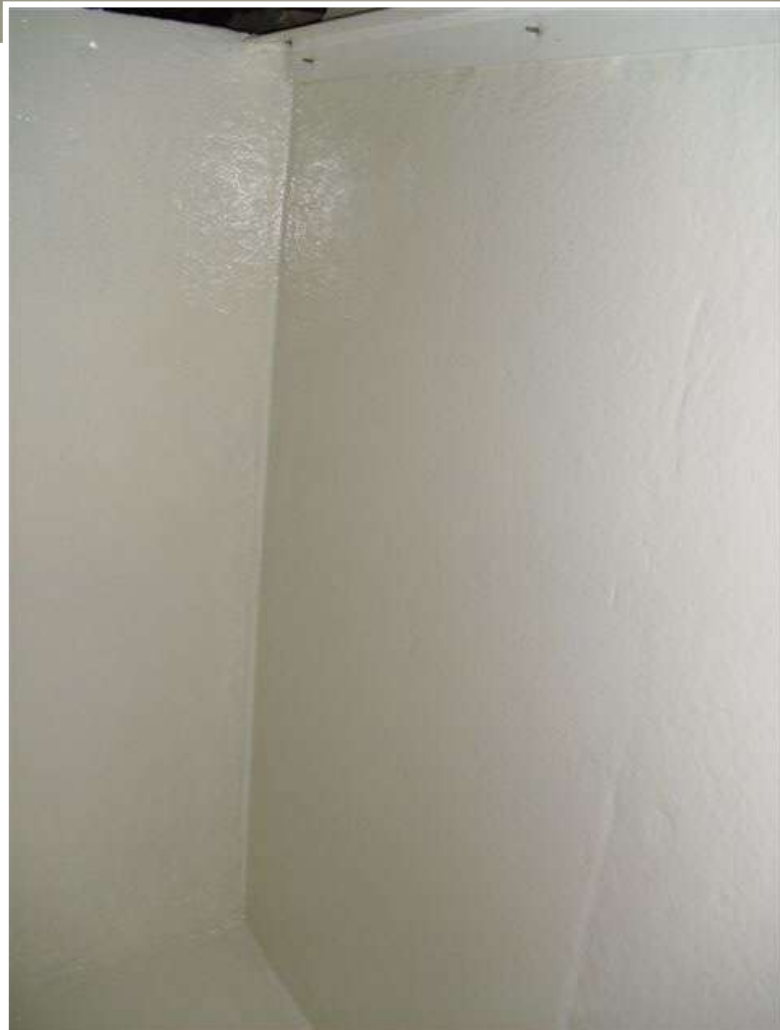
Due to the poor condition of the concrete, all surfaces then received a fairing coat (1-3mm) of cementitious lining, finished with a damp sponge in order to raise a suitable surface profile and allowed to cure.



These pictures show the structure after the application of 3M Scotchkote 165PW Clear Sealer to all surfaces.



All seams, joints, bolts etc were initially 'stripe coated' to ensure all intricate areas were coated prior to the 1st full coat. These photographs show the substrates having received the 1st full coat of 3M Scotchkote™ 165PW (cream) Solvent Free Polyurethane.





All intricate areas were again 'stripe coated' for a second time. The following photographs show the final application of the 2nd coat of 3M Scotchkote™ 165PW (grey).







The external top and edge of the tank was also coated for additional protection.