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COMPLETION REPORT

Client	:	**Major Conference & Exhibition Centre**
Project Brief	:	**The Internal Refurbishment of 1 No. Steel, Fire Sprinkler Tank**
Site Address	:	**UK**
Site Contact	:	**XXXXXXXXXX**
System Spec	:	**3M Scotchkote™ 165PW** (Formerly Known as COPON Hycote 165PW)
Film Thickness	:	**1000 Microns**
Covac Supervisor	:	**Tim Ray**
Completion Date	:	**1st September 2005**
Compiled By	:	**Craig Phillips**
Covac Ref	:	**465**

Company registration number 03213638
Registered in England VAT number 670 635334
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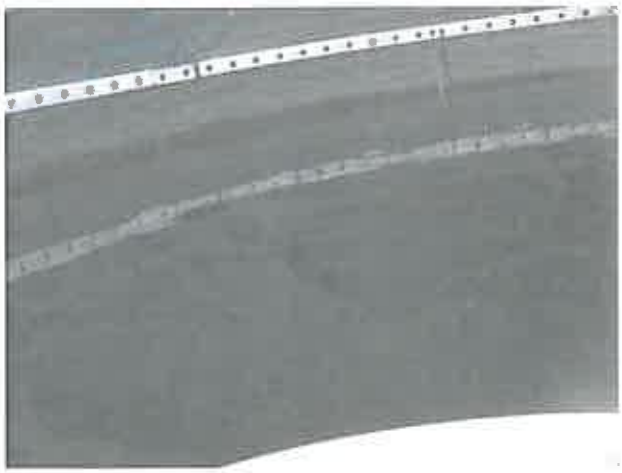
SUMMARY OF WORKS

The Brief

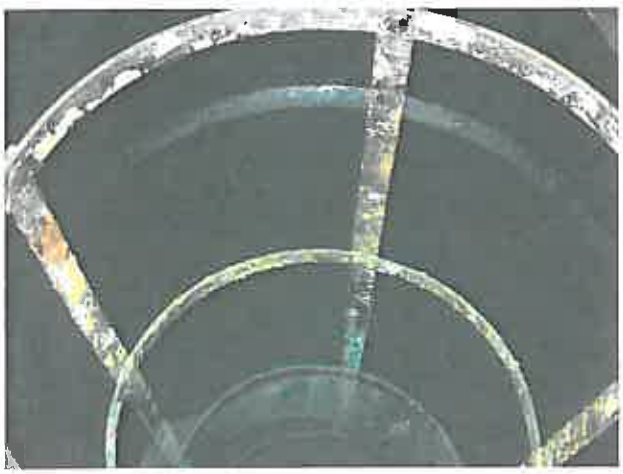
1 off cylindrical potable CWS tank sized at approx: - 6m high x 5.2m dia
located within the basement area of the

The tank is constructed of bolted steel panels, coated internally & externally with Vitrus enamel & located onto a concrete base. Internally the bolts & panel joints have been coated with a rubber-based sealant.

A black bitumastic-based coating was applied to the concrete floor as well as to the steel safety rung ladder & other associated steelwork. (See photographs)



The above pictures show the rubber sealant applied to panel joints & bolts.



Corroded ladder & ball valve chamber.

Bitumastic based coatings no longer carry WRAS approval for contact with potable water. The rubber sealant used to seal the bolt heads & panel joints may also not carry WRAS approval. Both of these materials could cause a possible taint or odour to occur within the stored water.

As the tank is supplying water, which is to be used for drinking, washing, cooking & food production within the NIA, we recommend that the existing rubber sealant & bitumastic coating was completely removed & the tank fully relined with a DWI (Drinking Water Inspectorate) approved flexible coating system suitable for both concrete & steel applications.

Therefore, we proposed to carry out the following:-

Mechanical Preparation (Walls & Steelwork)

All internal surfaces of the tank were prepared in accordance with Swedish Standard SA 2.5 BS7079 Part A1 1989 utilizing dry abrasive blasting equipment in order to remove any existing coatings and / or contamination. The abrasive used was capable of producing a surface profile of 50 – 75 Microns corresponding to the 'medium' in accordance with BS7079 Part C4, to promote adhesion of the lining system. Any minor holes found due to corrosion were repaired utilizing COPON Metal-Tech SG Metal Epoxy Filler.

Immediately after blast cleaning all dust, residues and debris left on the surfaces was completely removed.

Concrete Surface Preparation (floor)

Any coal tar bitumen, asphalt or similar coatings and surface contaminants were removed from the concrete surface by appropriate means and any broken or loose concrete removed.

Surfaces were lightly abrasive blasted to remove all laitance and curing agents.

Spalled areas and major voids were made good using lightweight, high strength, shrinkage compensated mortar.

The entire surface then receive a fairing coat (1-3mm) of cementitious lining, finished with a damp sponge to create a profiled surface comparable to coarse abrasive paper. The fairing coat was allowed to cure for the specified time recommended on the technical data sheet prior to application of **COPON Hycote 165PW Clear Sealer**
Surfaces were then inspected and any areas of porous fairing coat were sealed with **COPON Hycote 165 PW Clear Sealer,** applied in accordordance with the product data sheet to minimise pinholing in the **COPON Hycote 165 PW.**

Spray Application (Complete Tank)

COPON Hycote 165 PW was applied by plural component hot airless spray equipment.

As with all high build solvent free linings, **COPON Hycote 165 PW** requires heat to bring the material down to a sprayable viscosity. With two pack products the useable pot life reduces with increase in temperature, thus the most suitable method of application is by plural component hot airless spray equipment. A minimum spraying temperature (temperature of mixed base and activator at the gun) of 35-40°C, is required.

The spraying equipment works on the following principle:-

a) The Base component and Activator are usually heated separately by either or a combination of the following:-

   i) Individual drum heaters for Base and Activator, each heater fitted with a variable thermostatic control.

   ii) In line heaters, fitted onto the Base and Activator lines at the pump. 100-volt heaters for site work fitted with variable thermostats.

b) The Base and Activator are pumped individually to the airless proportioning pump and recirculated either through the Base and Activator lines back to the heaters, through the lines, back into the Base and Activator containers or back into the heated tanks.

In practice, the heated Base and Activator are kept separate throughout the system until they meet at the mixer head of each individual coating feed line. To minimise temperature losses the feed lines are insulated and the spray gun is attached by a single whip end paint line to the mixer head. Because this line contains mixed coating at elevated temperature the length of the line is kept to a minimum. To also avoid heat loss the 'whip end' line can also be insulated.

During start up and when spraying stops, the Base and Activator are recirculated down the Base and Activator return lines and left on recirculation to ensure that the coating in the lines is maintained at a constant temperature.

To maintain the specified film thickness at welds, edges, bolt heads and other sharp protuberances, a stripe coat was applied to these areas prior to carrying out the overall application.

The overall application, unless other methods are approved, was by plural component hot airless spray equipment.

During application all crevices and deeply pitted surfaces were completely penetrated and coated particularly edges, bolt heads, weld runs, etc.

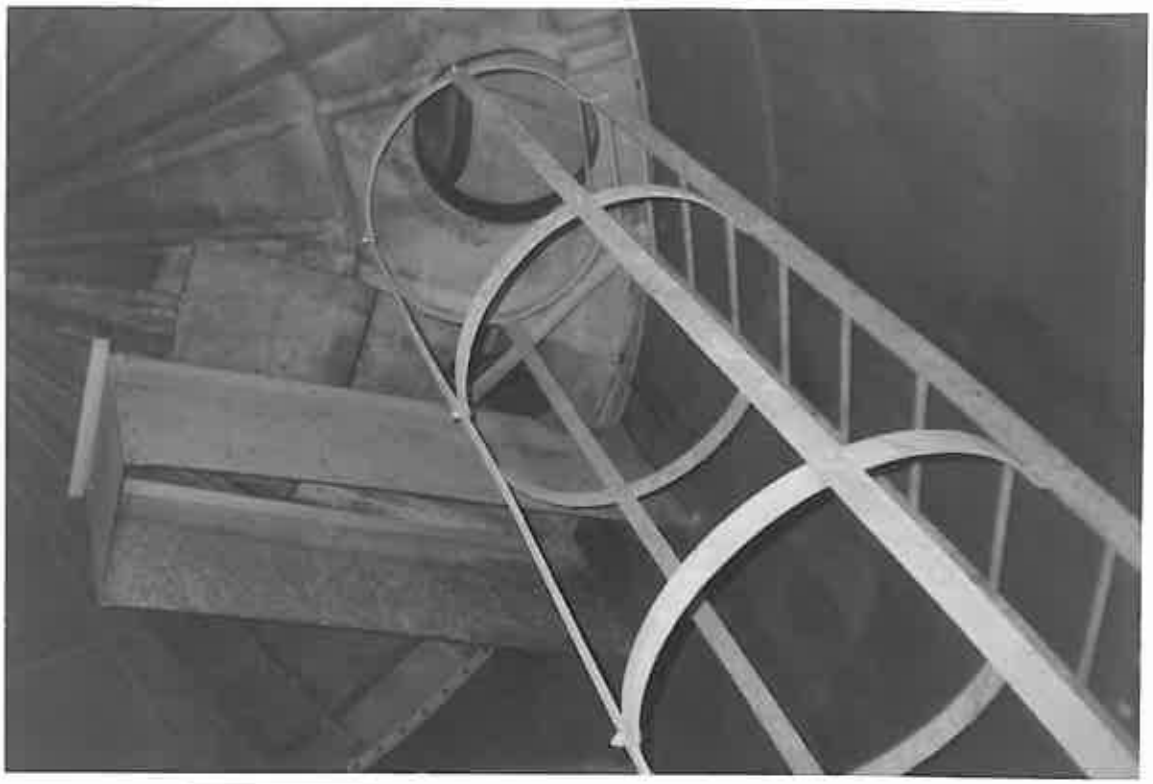
During application our operatives carried out regular checks of wet thickness with a wet film thickness gauge to ensure the specified thickness is applied.

COPON Hycote 165PW was applied as evenly as possible to the specified thickness, excessive build up of coating shall be avoided. Each area coated was visually checked for misses or holidays. Any area found were recoated prior to moving on to the next area.

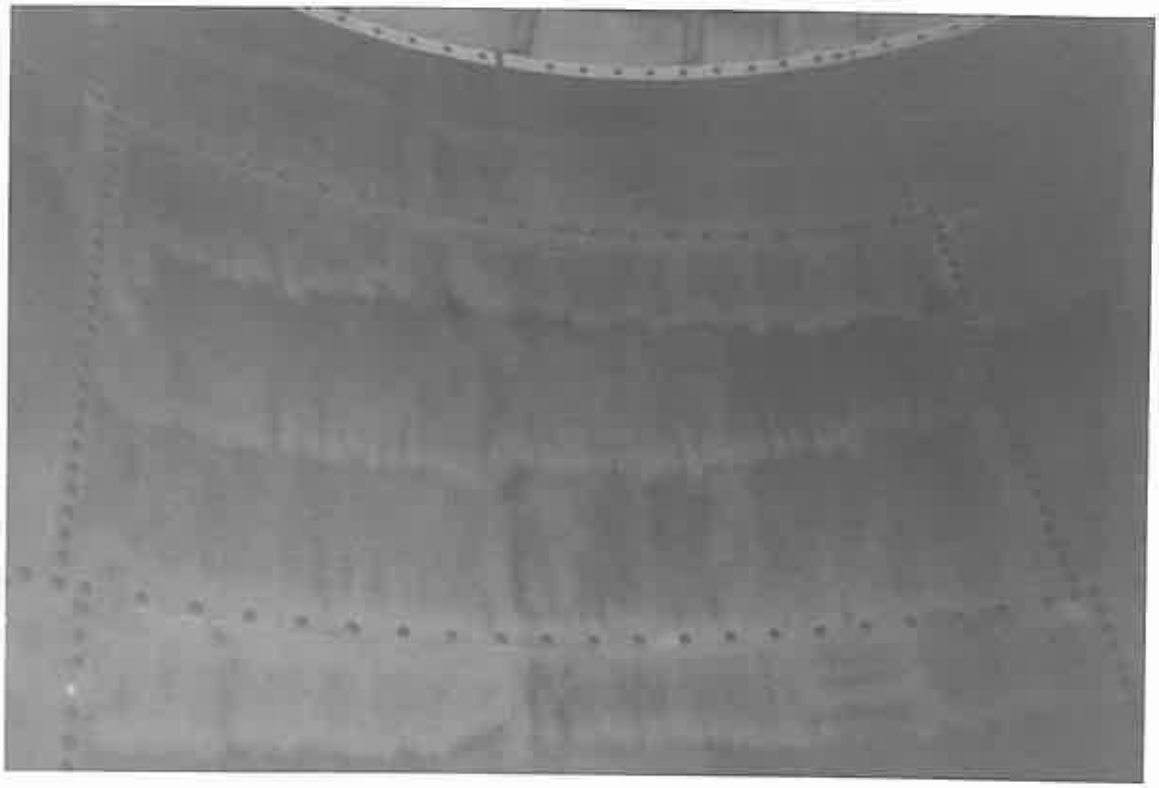
The nominal dft for the system will be determined by client requirements but shall be a minimum of 750 microns. (Nominal: 1000 Microns / 1mm)

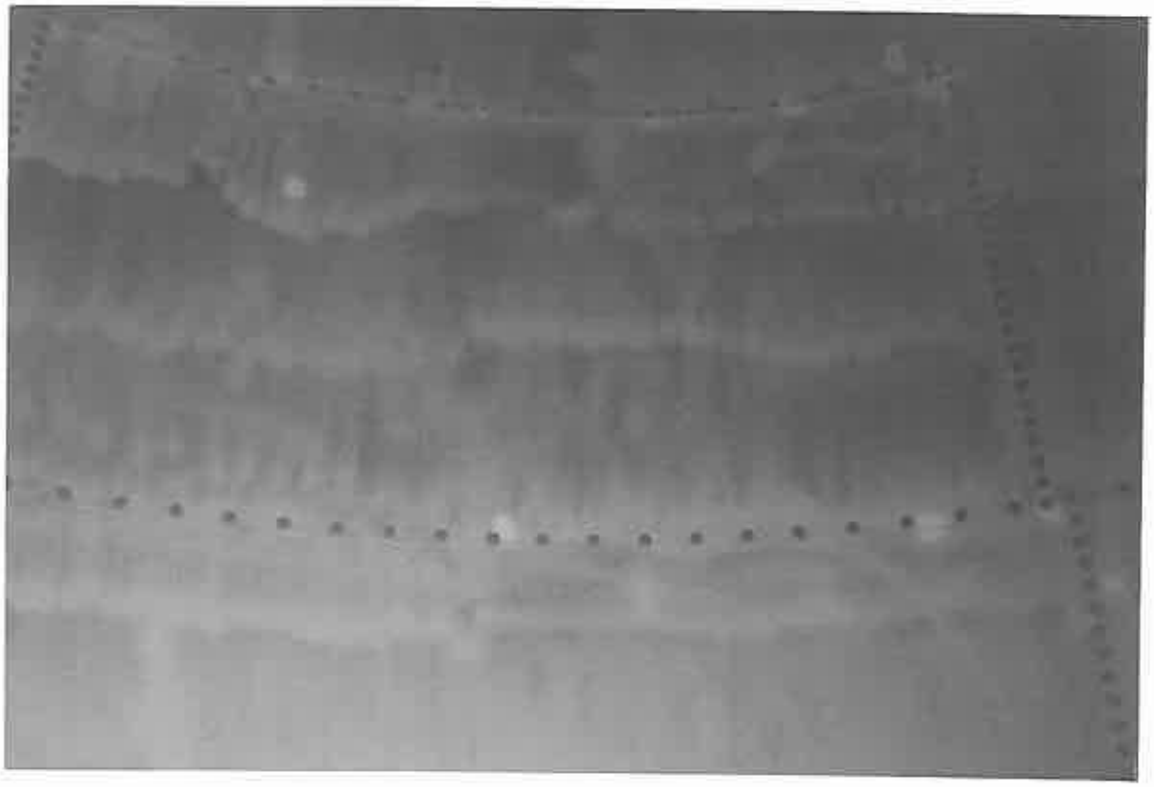
These photographs show the internals of the cylindrical tank having been drained of water and prior to any preparation works. As the photographs clearly show, corrosion is visible on the access ladder, ball valve housing and leaching through the existing coating on the jointing areas and rivets on the tank walls.

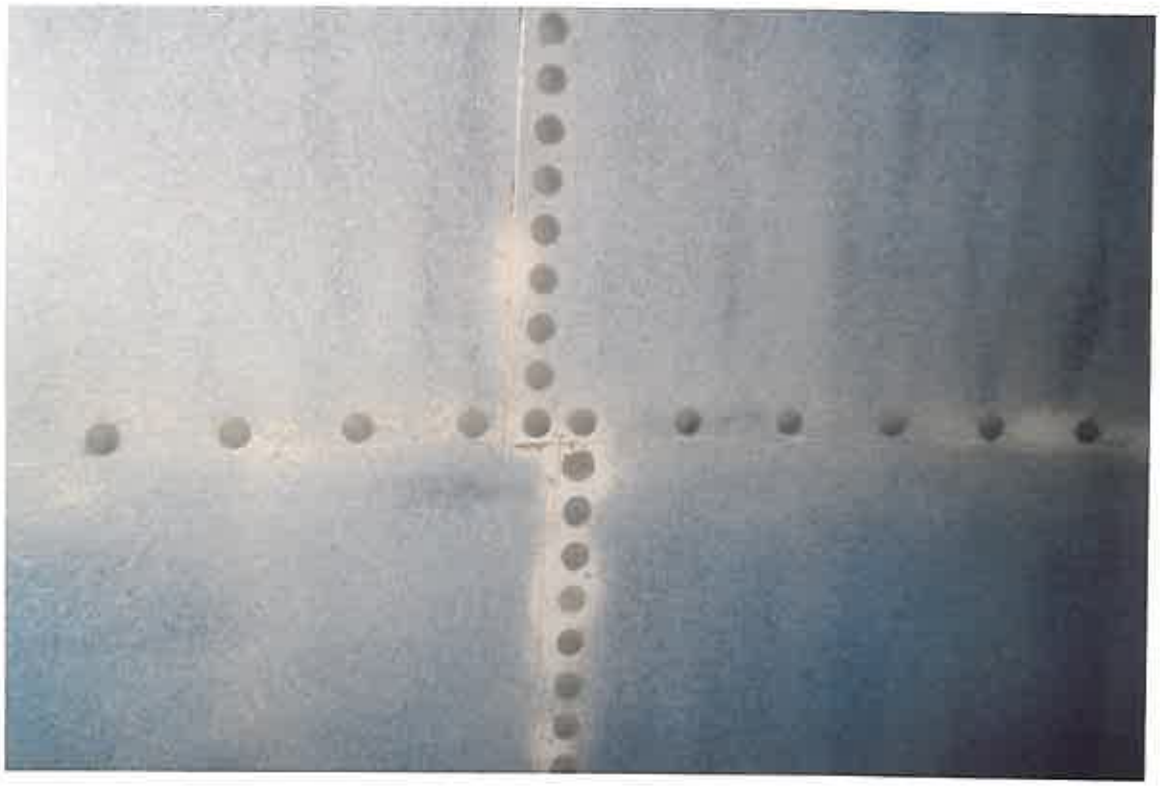
These pictures show the drain hole and the lower access hatch, which had been removed, making entry and egress easier throughout the project.

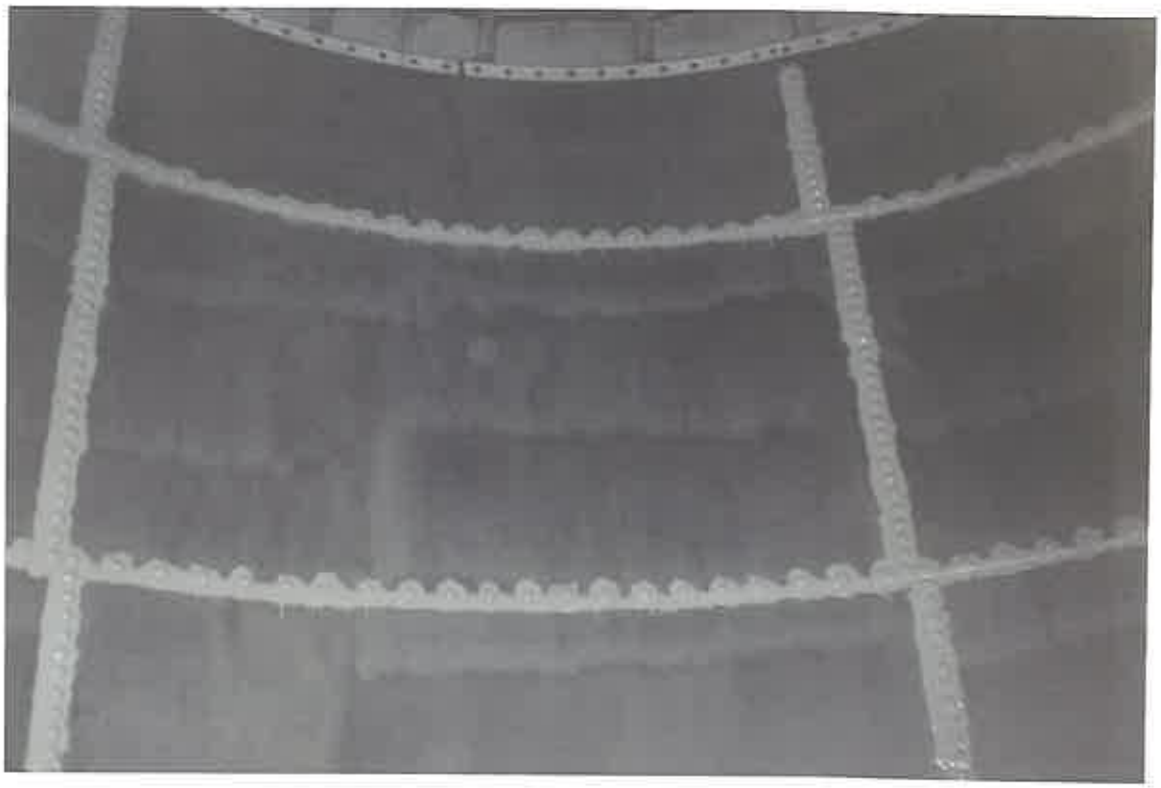


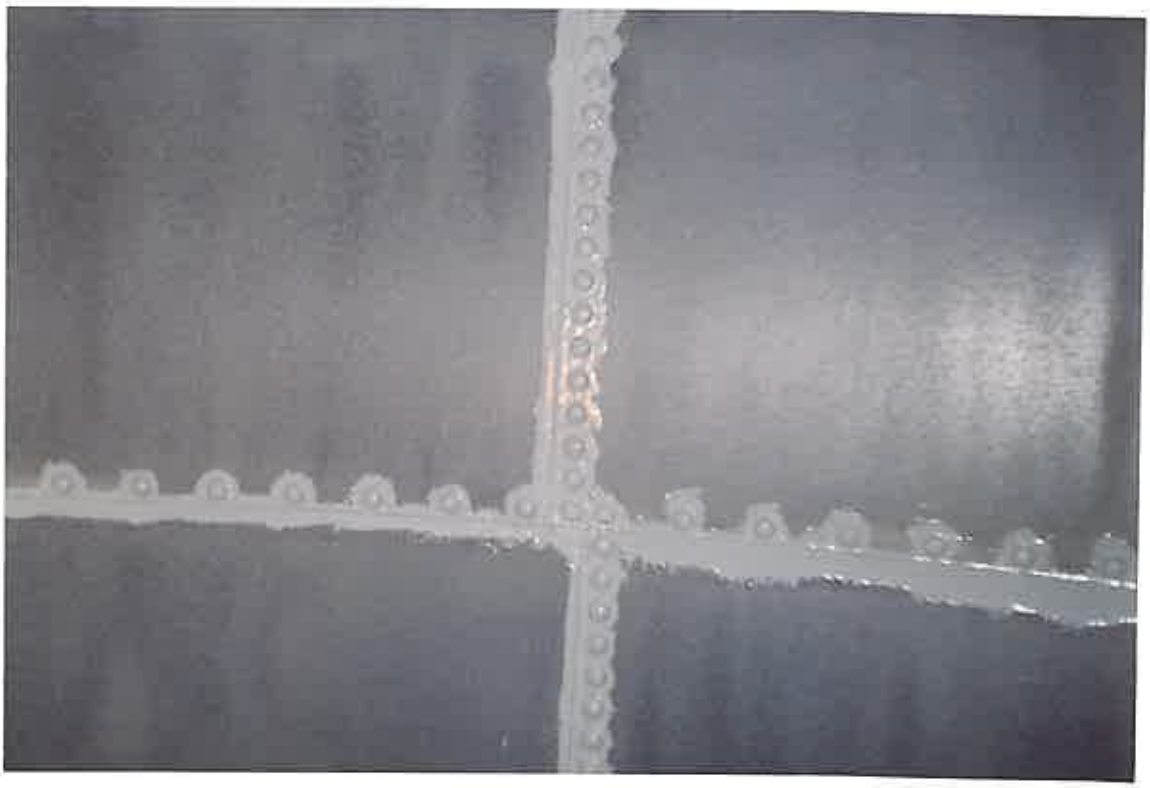
These photographs show all internal surfaces of the tank having been prepared in accordance with the accepted SA 2.5 / BS7079 standard by means of dry abrasive blasting techniques.



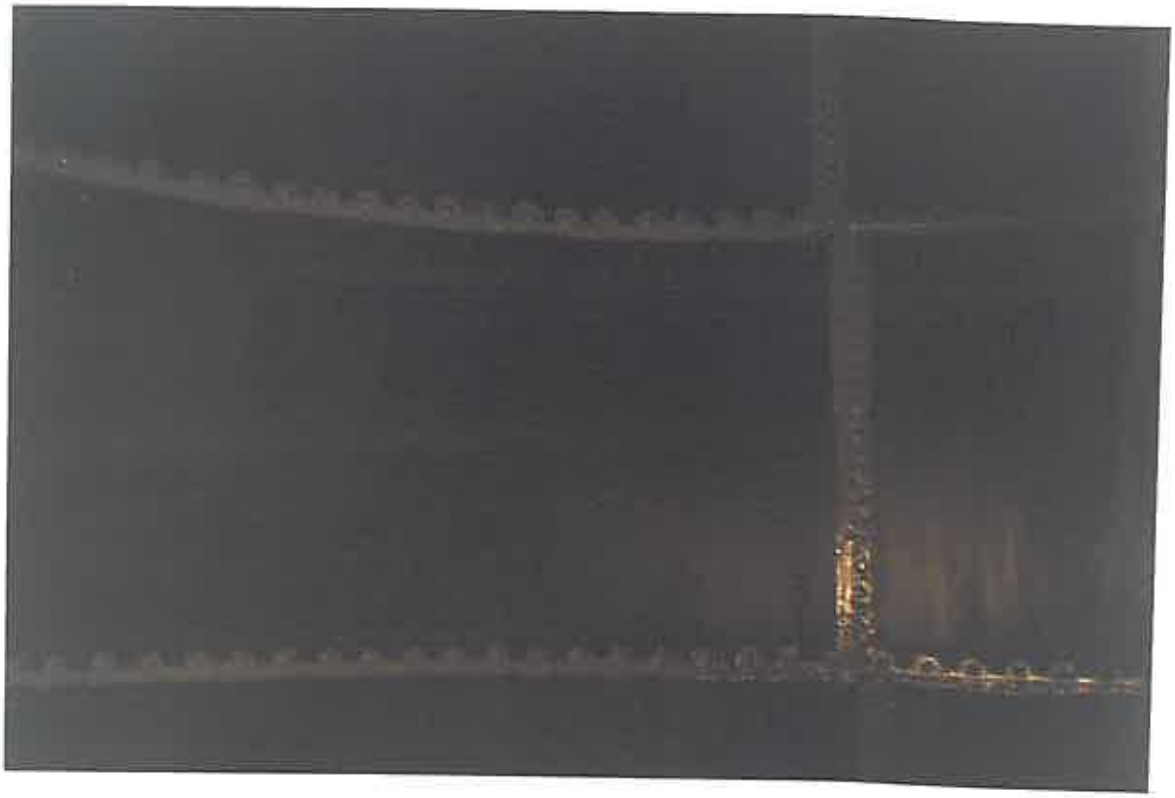


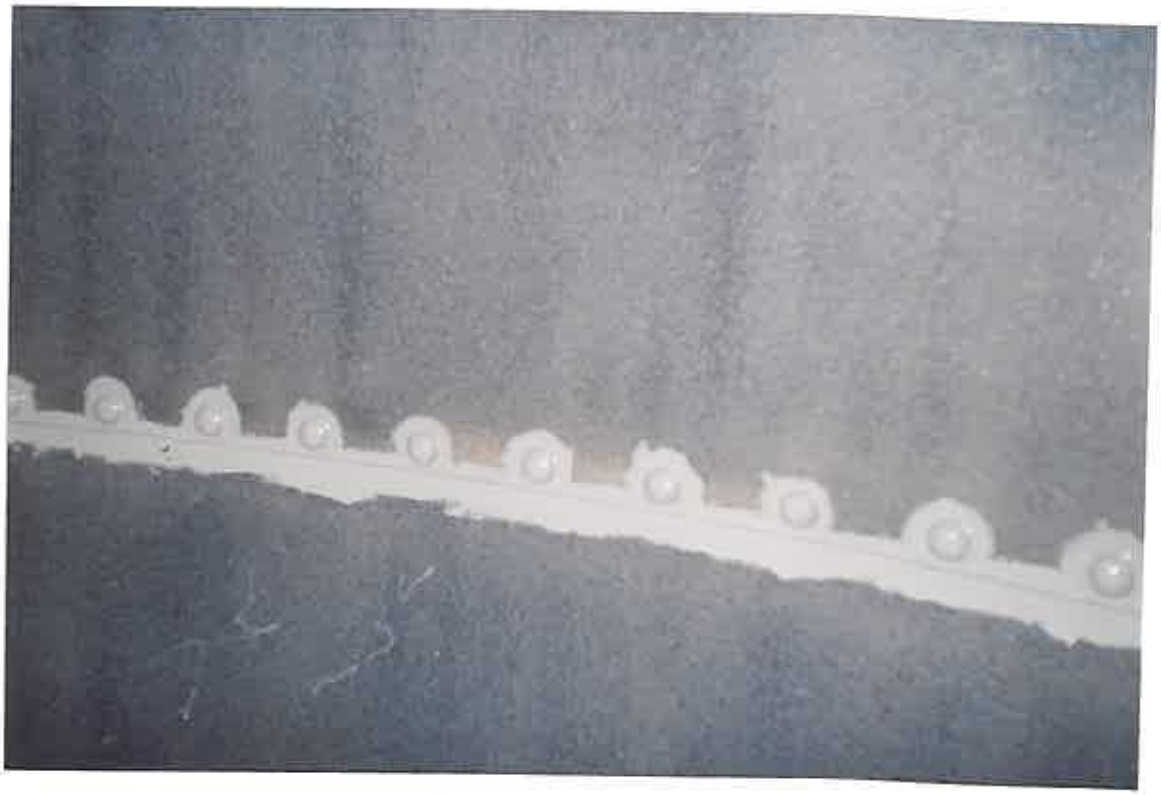




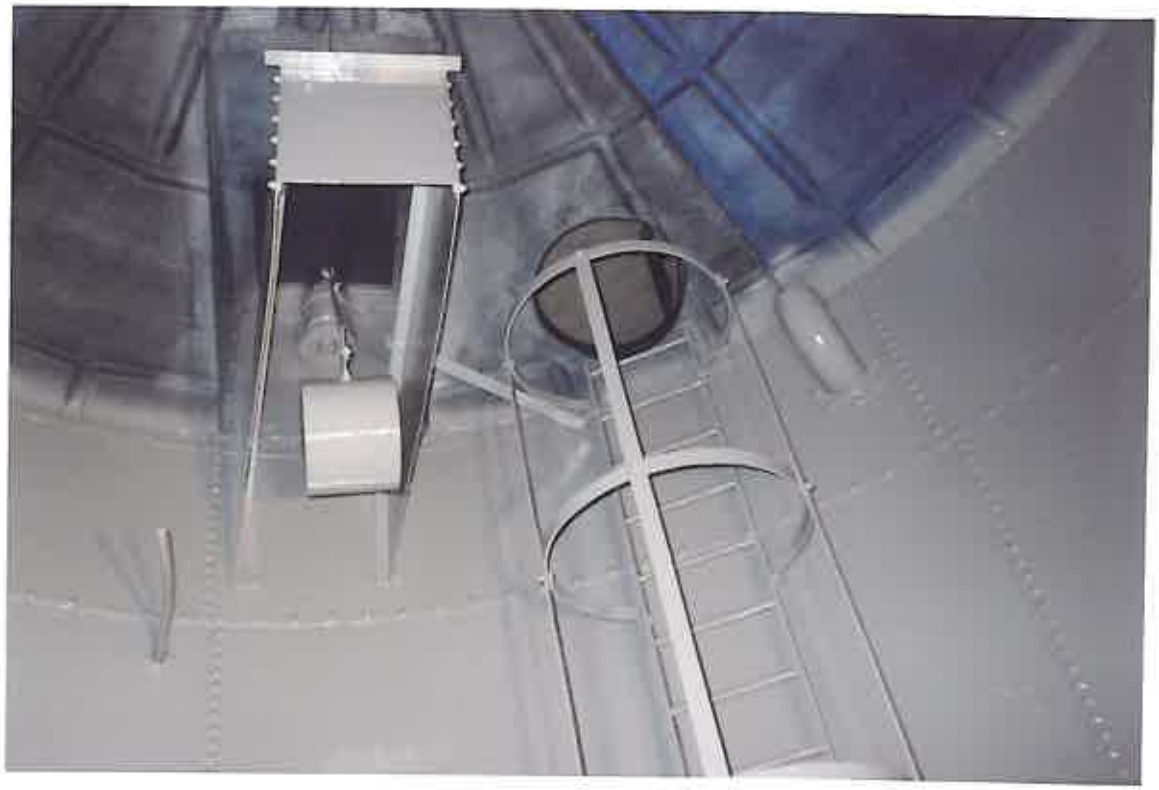


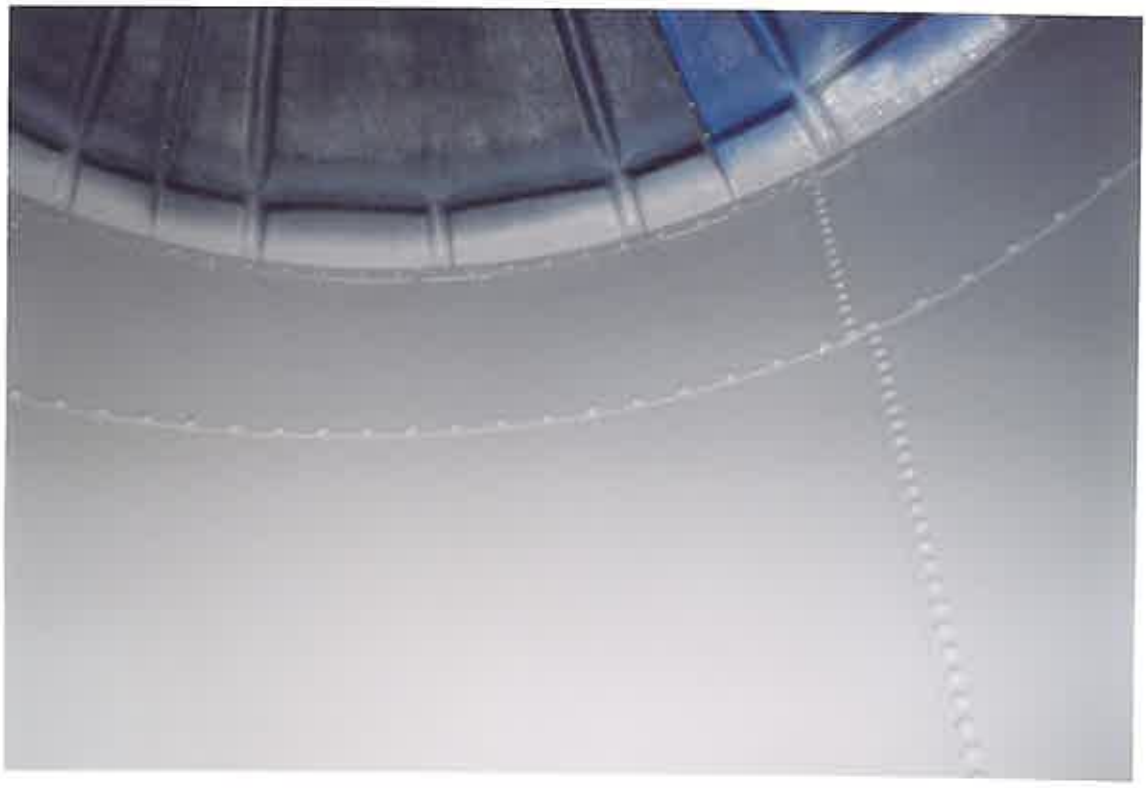
All remaining exposed and protruding rubber coating around the jointing strips and rivets were cut back until flush with the steel substrate. All joints and rivets were then filled with a flexible polyurethane sealant, followed by a full stripe coating of these and all other areas such as all sharp edges, access ladder, ball valve housing, bolts etc utilizing COPON Hycote 165PW –JBC.





COPON Hycote 165PW Clear sealer was applied to the concrete flooring and allowed to cure. This photograph shows the 'stripe coating' being overcoated with one full coat of 165PW (Grey) being applied through twin component, hot applied specialist spray equipment.





These photographs show the completed internal coating of COPON Hycote 165PW The final dft was approximately 1000 Microns (1mm) on all the 'flat' areas and 1500-2000 Microns (1.5 mm-2.0 mm) on all the jointed / striped areas.