

COVAC COMPLETION REPORT

Client	-	MOD
Address	-	RAF XXXXXX
Project Details	-	The Internal Repair of 1 No. Sectional, Potable, Water Retaining Structure.
System Specification	-	COPON Hycote 165PW Solvent Free Polyurethane
Nominal Dry Film Thickness	-	1000 Microns (1mm)
COVAC Site Supervisor	-	David Elwell
Completion Date	-	11th September 2003
Report Prepared by	-	Adrian Emmett
COVAC Contract Ref:	-	249



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SUMMARY OF WORKS

*** Tank No. 1: Q1103 (sized @ approximately 16' x 16' x 8')**

The Brief: Internals of Tank

1 No. steel, sectional, potable water tank located externally within the grounds of RAF ~~X X X X~~. The tank was internally lined with a GRP lining system which had approached the end of its useful life due to severe de-lamination. The tank also appeared to be leaking from numerous areas of mastic joints between the steel panels, our recommendations were therefore, to carry out the following:-

Mechanical Preparation

All GRP shall be completely removed from all internal surface areas of the tank and all mastic between panel joints shall be cut back flush with the steel, prior to the following procedure

All internal surfaces of the tank shall be 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 shall be 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.

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

Spray Application

COPON Hycote 165 PW shall be 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.

Note With **COPON Hycote 165 PW** only the Base shall be heated.

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. The 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 shall be applied to these areas prior to carrying out the overall application. The stripe coat may be applied by brush or dual feed hot airless spray.

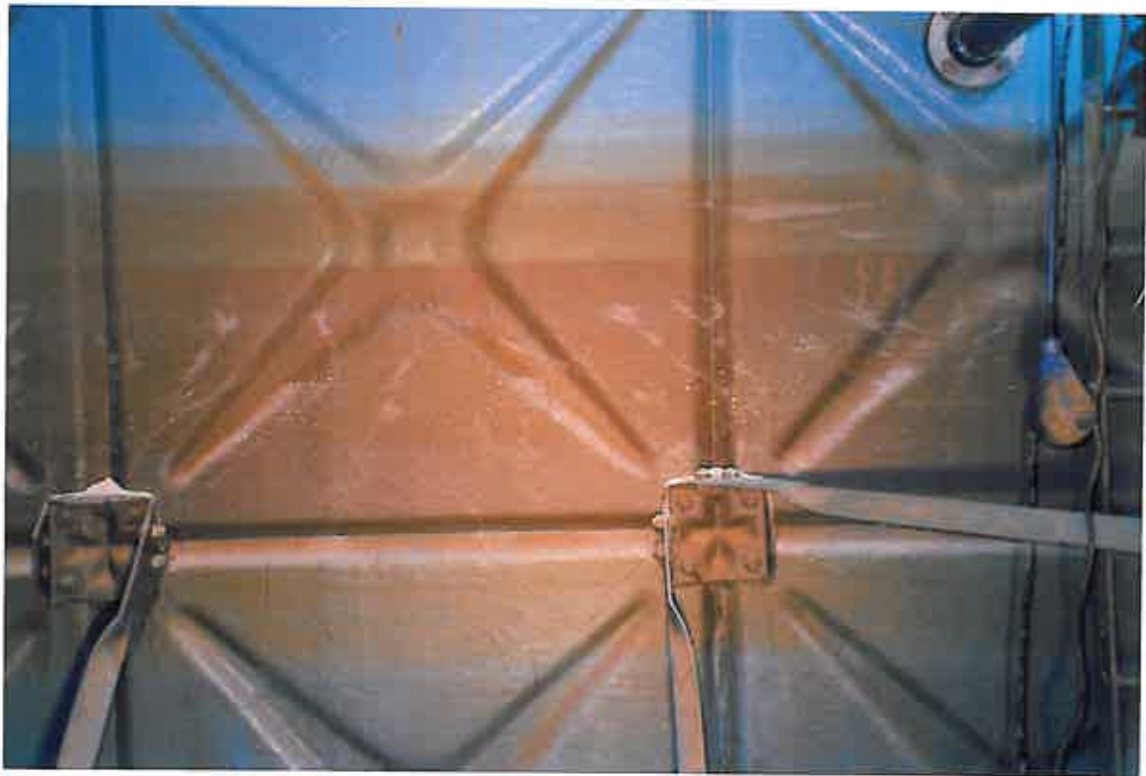
The overall application, unless other methods are approved, shall be by plural component hot airless spray equipment.

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

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

COPON Hycote 165PW shall be applied as evenly as possible to the specified thickness, excessive build up of coating shall be avoided. Each area coated should be visually checked for misses or holidays. Any area found shall be 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).



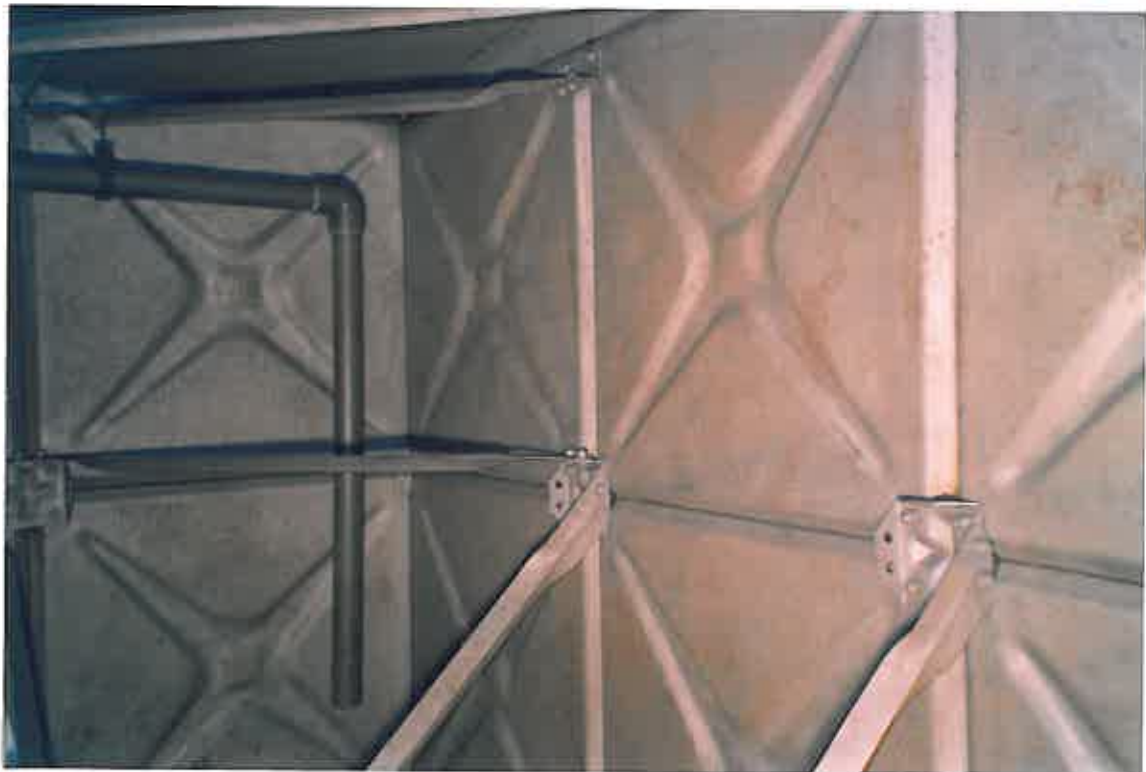
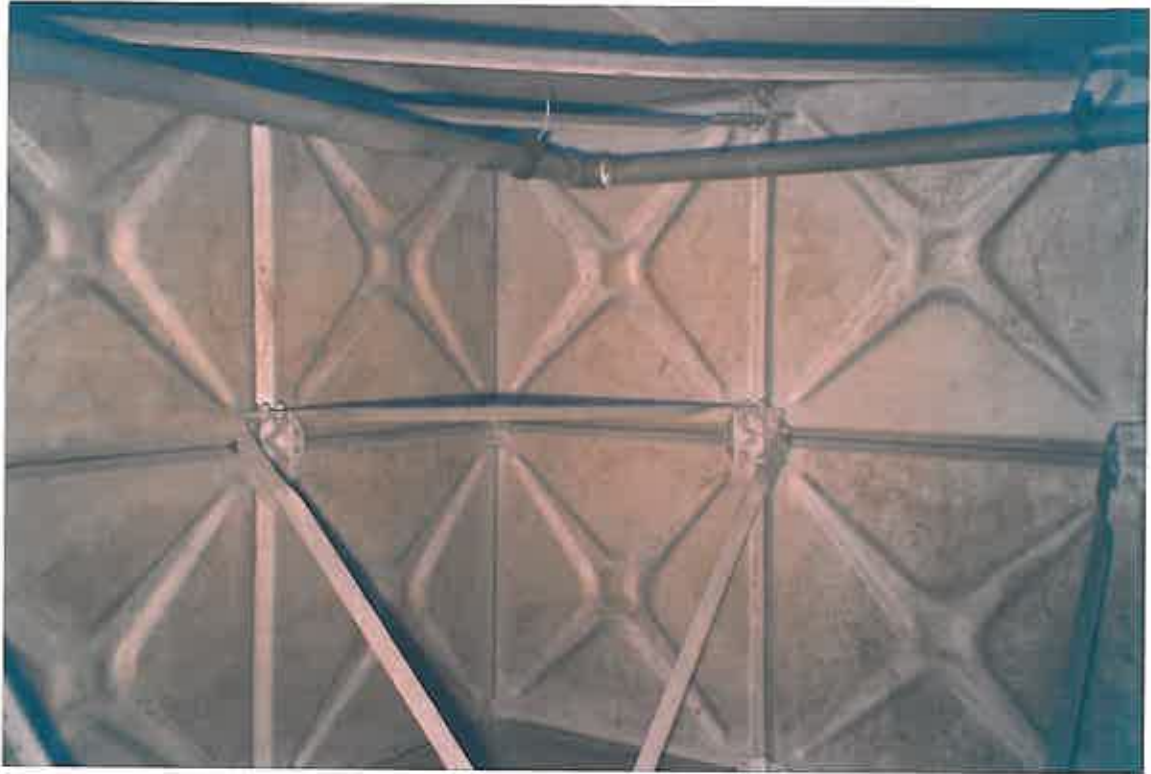
These photographs show the tank drained of water and prior to any preparation works. It is evident from these photographs that the existing fibreglass lining had reached the end of its useful life due to sub-film corrosion, de-lamination and general deterioration.



These photographs show our operatives in the process of removing the failed fibreglass lining system utilizing tools such as pneumatic chisels. This process of removal revealed a Bitumen paint underneath.







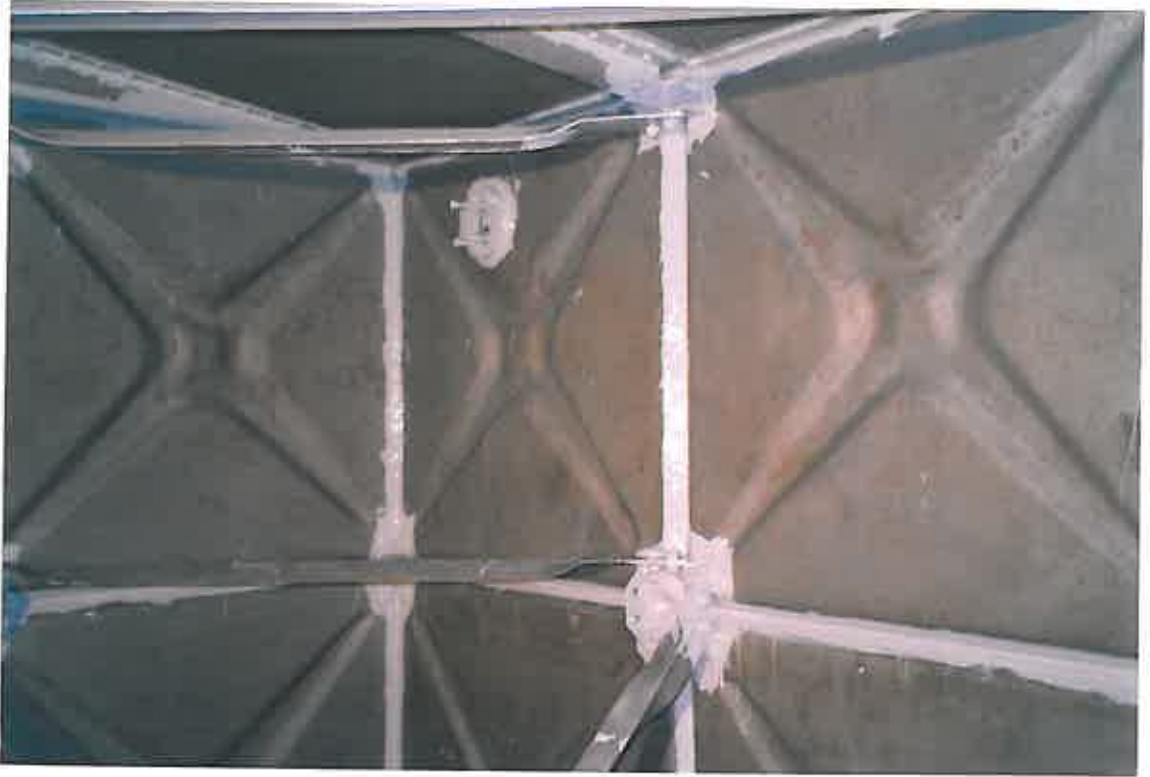
These photographs show the internal substrate having been prepared in accordance with Swedish Standard SA2.5 BS7079 Part A1 1989 utilizing dry abrasive blasting equipment.



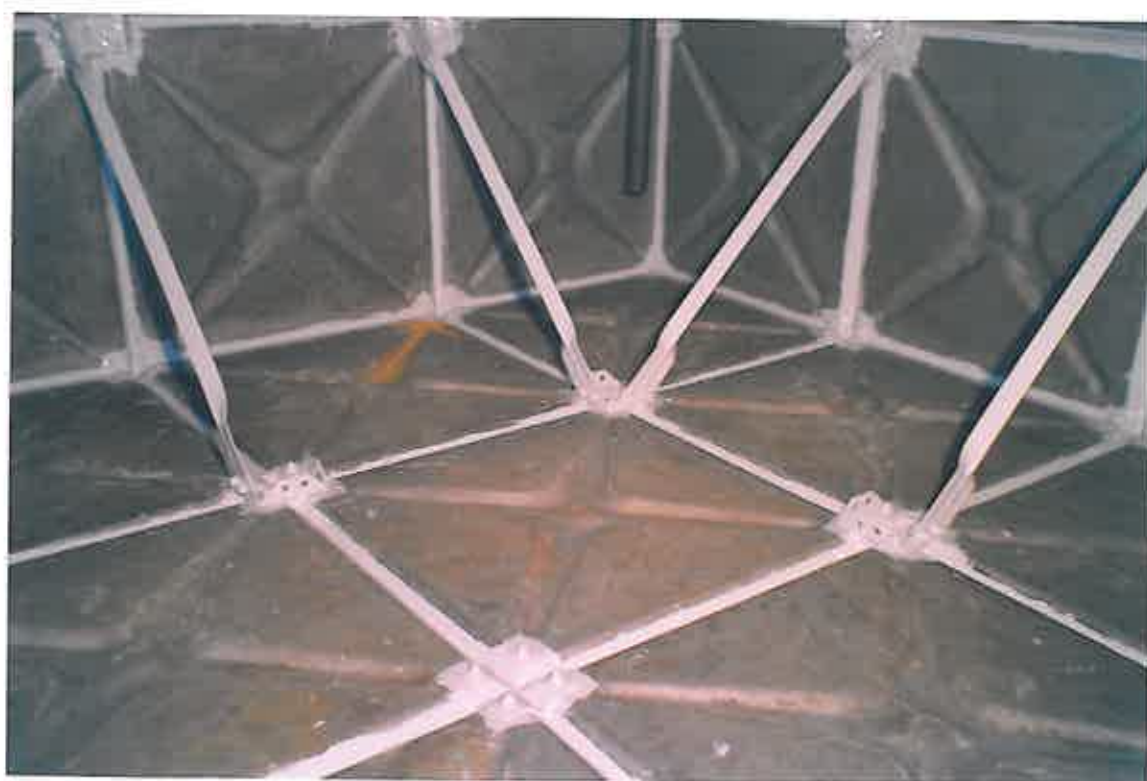
These photographs show the initial stripe coating, by brush application, of all areas such as joints, sharp edges, struts, bolt heads, ladder, etc.

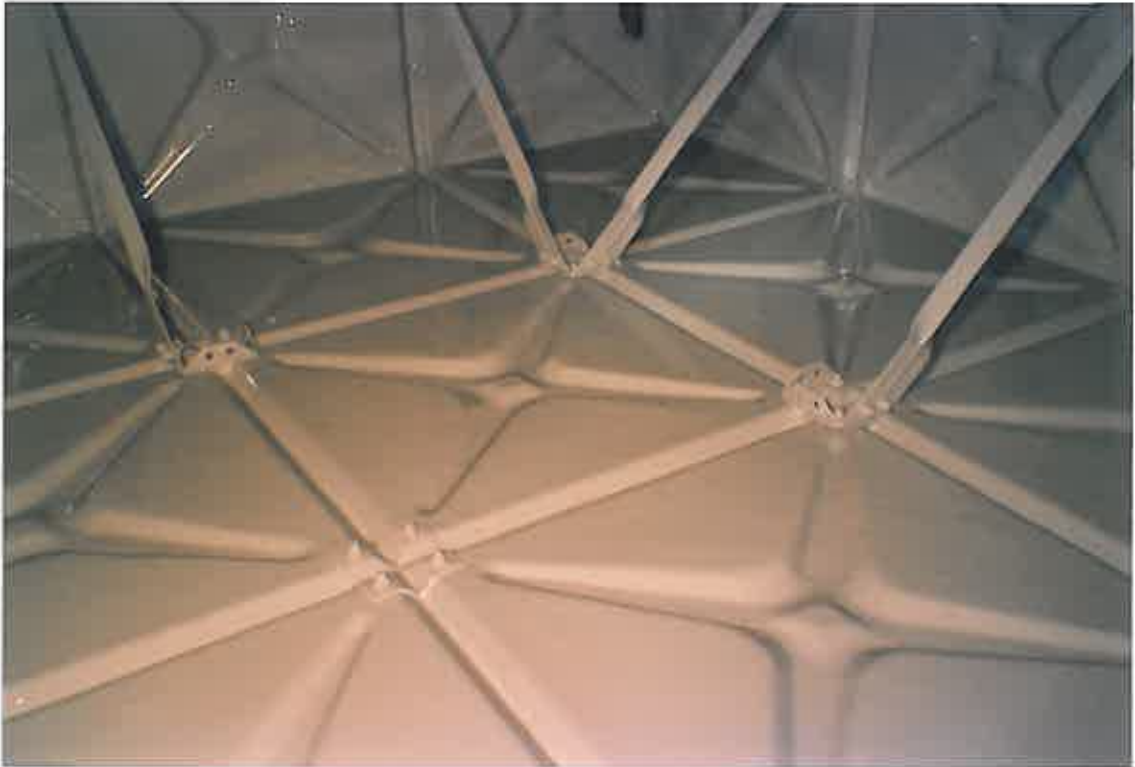












These photographs show the internal substrate of the tank, having been completely lined with COPON Hycote 165PW Solvent Free Polyurethane to a nominal w/dft of 1000 microns (1mm) by means of Plural Component, Hot Applied, Spraying Equipment.

