

## TANK REPLACEMENT CASE STUDY – INSTALLATION OF SECTIONAL GRP TANKS

Steel water storage tanks were often installed at a time when Legionella was not yet discovered and standards required under the Bylaws were lower. Loose wooden covers, lack of insulation and high levels of rust and scale will often render refurbishment of an ageing steel cold water tank uneconomical. It should also be noted that fibreglass tanks will, over time, develop blisters in the laminate surfaces that can trap water. This stagnant water offers a favourable environment for microbiological growth, including Legionella.



The existing cold water storage tanks suffered from neglect. As well as poor insulation, and high levels of corrosion, the tanks were plumbed in so that stagnation in some was creating a risk of Legionella proliferation. Overhaul was considered, but as the tanks could not be isolated in turn, an epoxy or polymer treatment could not be given sufficient cure time. Refurbishment of untreated tanks with lids, insulation and pipework modifications was uneconomical and replacement the most viable option.

The client required that stagnation was reduced in the new tanks and that servicing was facilitated with improved arrangements for isolation. Residents asked for interruptions to the water supply to be minimised during the installation. Residents were given prior warning both that engineers would be on site for the duration of the works and of the days on which the water supply would be disrupted.

Before the tanks were replaced, hot water vents were re-plumbed to tundishes which in turn discharged to the flat roof outside. All pipework installed was heat resistant, as hot water passing through the vents would be reach around 100°C.

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The existing tanks were, in turn, isolated and cut into sections with power saws. A new base of RSJs, treated against corrosion was installed and the GRP sections bolted together.

The new GRP tanks were fitted with overflows with screens to prevent the ingress of vermin and insects. At under

1000 litres, warning pipes were not required, and the overflows were set to discharge to the outside garden area where escapes of water would be quickly noticed.

The new pipework was arranged so that the new cold water storage tanks could be isolated and serviced without disrupting supply, air vents and access manways fitted to the lids.



Each tank was cleaned and disinfected as it was put into service. Pipework in the flats below was checked at the end of each day to ensure that airlocks had not blocked supply as the tanks were refilled. Once the system was fully functional, pipework was insulated, tanks labelled and valves tagged.

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