

Upgrading existing water storage tanks



Modern water storage tanks are designed, manufactured and installed to exacting standards which have been set in accordance with the British standards institute, WRAS, the current water regulations and the HSE along with other contributing organizations and bodies. However many older tanks which do not meet these standards are still in use and have the potential to provide water which does not meet the required quality standard.

Water storage tanks which were installed prior to the original revision of the water by-laws, now referred to as the current water regulations, which commenced implementation during the 1980's often fall short of today's high standards.

It is not always necessary to replace older tanks, a range of products and associated services are available to allow tanks to be upgraded to help them to provide improved water quality and conditions which meet the current standards.



Upgrading existing tanks

Some of the specific areas contributing to non - compliance are as follows:

Insufficient inspection & maintenance/cleaning of water storage tanks

The approved code of practice for the control of legionella bacteria in water systems requires that all trade or business premises where water is used are required to carry out a suitable & sufficient assessment to identify and access the risk of exposure to legionella bacteria from work activities. All water storage tanks fall within the risk assessment. Any risk must be managed by the implementation & monitoring of a control scheme which when correctly carried out will ensure the best possible water hygiene within the building. Part of this regime is inspection & if necessary cleaning & chlorinating of the tank and associated system(s).

Uninsulated tanks

Lack of, or insufficient insulation to the tank lid, body and associated pipework can result in excessive heat gain, a major contributing factor for the growth of legionella bacteria. Freezing temperatures can also lead to frozen pipework resulting in loss of water supply and structural and material damage.

Un-screened connections to the tank

All vents, overflows, warning pipes and similar connections must have a mesh screen (0.65mm max opening) to prevent ingress of insects etc, older tanks are often fitted with un-screened connections which result in the potential for contamination of the water contained within the tank.

Lack of water usage and/or flow of water through the tank

The location of inlet & outlet connections is important. A cross flow through the tank needs to be achieved to assist the regular turnover of water throughout the storage period. Poor turnover will result in stagnation within the tank, this condition is normally caused by inlet & outlet connections being positioned on the same face, and or tanks with an oversize capacity.

Incorrect air-gaps

The current water regulations detail specific fluid categories ranging from category 1 - wholesome water, through to category 5 - fluid representing a serious health hazard. In order to protect the mains supply from the possibility of contamination caused by back siphoning an air gap is required between the discharge point of the inlet and the overflow connection in the tank. The calculation and design of any specific air gap is dependent on the fluid category of the water stored within the tank.

Older tanks often fall well short of these requirements, having insufficient or non-existent air gaps.

Non compliant tank lids

Older tanks often have lids which are ill fitting, not sealed and without means of entering the tank without first removing the lid. Ill fitting lids allow debris, animals, insects and other organic waste to contaminate the stored water. These contaminants aid the build up of sediments which may harbour bacteria and also provide a nutrient source for them. Tank lids should be close fitting and sealed with a screened vent. Tanks having an actual storage capacity of 1000 litres or greater should be fitted with man-way access facility to allow inspection of, and entry to the inside of the tank without removing the main lid from the tank.

The remedy

All of the above detailed conditions can be improved and in many cases the existing tank can be upgraded to allow compliance with current water regulations. This provides a cost effective solution when compared with replacing the tank and or system. A full range of products and services are available, including:

- Tank cleaning and re-coating, using the most advanced materials.
- The supply of screened vents, overflows and warning pipes which can be fitted on site by the client.
- The full upgrade of tanks including fitting insulation, and the manufacture and fitting of new Grp lids.
- The supply and fitting of high quality float valves designed to reduce actual storage capacity, reducing the likelihood of stagnation due to over capacity.
- The supply and fitting of internal pipework to ensure a cross flow of water within the tank, without the need to alter external pipework.
- The supply and fitting of a full range of additional connections and ancillaries as required.
- Cleaning and sterilisation of tanks including associated pipework and system equipment.
- Purewater also provide a full risk assessment and monitoring services, ensuring that all statutory requirements are being adhered to.