

## Drinking water quality

Aqualogic Ltd carries out tests to drinking water supplies where these are the responsibility of the building manager. Typically, this is where water is stored in a break tank at ground or basement level and delivered to flats or office units via booster pumps, or where it is possible residents are drinking from bathroom basins. The importance of managing water supplies under your control is underlined in the following from the World Health Organisation's guidelines for drinking water quality:

“Outbreaks of gastrointestinal disease can occur through faecal contamination of drinking-water within buildings arising from deficiencies in roof storage tanks and cross-connections with wastewater pipes, for example. Poorly designed plumbing systems can cause stagnation of water and provide a suitable environment for the proliferation of Legionella. Plumbing materials, pipes, fittings and coatings can result in elevated heavy metal (e.g., lead) concentrations in drinking-water, and inappropriate materials can be conducive to bacterial growth. Potential adverse health effects may not be confined to the individual building. Exposure of other consumers to contaminants is possible through contamination of the local public distribution system, beyond the particular building, through cross-contamination of drinking-water and backflow.

The delivery of water that complies with relevant standards within buildings generally relies on a plumbing system that is not directly managed by the water supplier. Reliance is therefore placed on proper installation and servicing of plumbing and, for larger buildings, on building-specific Water Safety Plans.

To ensure the safety of drinking-water supplies within the building system, plumbing practices must prevent the introduction of hazards to health. This can be achieved by ensuring that:

- pipes carrying either water or wastes are watertight, durable, of smooth and unobstructed interior and protected against anticipated stresses;
- cross-connections between the drinking-water supply and the wastewater removal systems do not occur;
- water storage systems are intact and not subject to intrusion of microbial and chemical contaminants;
- hot and cold water systems are designed to minimize the proliferation of Legionella;
- appropriate protection is in place to prevent backflow;
- the system design of multi-storey buildings minimizes pressure fluctuations;
- waste is discharged without contaminating drinking-water; and
- plumbing systems function efficiently.

It is important that plumbers are appropriately qualified, have the competence to undertake necessary installation and servicing of plumbing systems to ensure compliance with local regulations and use only materials approved as safe for use with drinking-water. Design of the plumbing systems of new buildings should normally be approved prior to construction and be inspected by an appropriate regulatory body during construction and prior to commissioning of the buildings.”