

Effective water safety management during full or partial closure of buildings

As building occupancy levels continue to fluctuate drastically due to continued lockdowns and restrictions, hot and cold water systems remain largely under-utilised and operating at below normal levels, posing a critical risk of contamination.

Legionella bacteria can colonise water systems over a number of months as a result of reduced water flow (even in systems where building occupancy levels average 75%) which creates ideal conditions for microbiocidal growth and the development of biofilm.

It is crucial that this is prevented, as the slow and hidden colonisation can lead to deep rooted issues, often resulting in a need to install costly water treatment solutions to control bacterial levels.

A recent analysis of samples taken during the first lockdown shows an increase in the failure rate of legionella samples in hot and cold water systems to 28%. This means that almost one in three samples indicated the presence of the legionella bacteria across building types and industry sectors.

Risk factors to consider when assessing potential water system contamination

Stagnation

- Bacterial growth and biofilm formation
- Degradation of system components
- Mechanical deterioration as a result of corrosion and/or settlement of suspended solids

Temperature changes facilitating bacterial growth

- Circulating hot water systems and/or heating systems leading to thermal gain in the cold water systems
- General thermal gain as a result of ambient temperature increases (hot weather conditions) and/or air conditioning switched off
- Infrequent use of water leading to local increases in temperatures within the water system

Stand alone or non-water use systems not considered during lockdown, such as:

- Vending machines
- Drinking water stations
- Humidifiers

Increased risk of legionellosis as a secondary infection due to Covid-19

- Significantly increased susceptibility of all building occupants before returning to work (i.e. those who either have or have recently recovered from Covid-19)

Control legionella bacteria in your water systems

The below steps are critical to control harmful bacteria in your water systems and effectively manage any immediate risks to health.



01 Implement a strict daily flushing regime

All outlets to be flushed on a daily basis to mimic normal operational use. This must be recorded and logged, as enforcement agencies are inspecting water meter readings to establish that flushing has been undertaken.



02 Conduct validation sampling

Due to prolonged period of fluctuating occupancy levels, validation for sampling should be undertaken from strategic points across the water system to establish the efficacy of your flushing regime.



03 Plan for recommissioning disinfections

If your water samples indicate the presence of legionella bacteria, consult with a water hygiene specialist for a suite of supplementary samples and/or targeted or system-wide disinfection.

Where buildings have been closed or kept open at very low occupancy levels, plan for a system-wide chemical disinfection before fully re-opening and undertake further validation sampling to demonstrate that your building is safe to use.

Where buildings have remained open, and flushing has been implemented with slight reduction in occupancy, consider precautionary disinfection before fully re-opening the building.



04 Review your water hygiene/legionella risk assessment

The Health & Safety Executive urges all building and premises managers to review risk assessments to ensure they are current and address the change in circumstances as a result of the Covid-19 pandemic.

As part of the review, you should consider the following:

- Has your building's water system usage changed?
- Has a flushing and sampling regime been implemented?
- Has the susceptibility of your occupants changed? Is there an immediate risk to health?
- Are the current control measures sufficient?
- Have all remedial actions previously identified been addressed?

Churchill Environmental delivers a full range of environmental compliance services including water treatment and Legionella control. Our expert teams will work with you to recommend and implement the best disinfection and sampling regimes for your water systems to protect the health and safety of your returning building occupants.