

LEGIONELLA & WARM WEATHER



Background

Legionella bacteria is typically dormant at temperatures below 20°C and for most of the year, throughout the UK, mains water temperatures fall well below this level. However, elevated mains and cold water temperatures are common during the warm summer months particularly in central London and other major UK cities with water suppliers permitted to provide a water supply up to 25°C.

Legionella bacteria is active between 20°C and 45°C, with the rate of bacterial activity increasing as water temperatures increase above 20°C with an optimum temperature for growth of around 37°C.

Poor water turnover significantly increases the risk of stagnation in a system which can also result in heat gain in a cold water system as water is allowed to stand in tanks, pipework and the wider distribution system and warm to ambient temperatures. Throughout much of 2020 and 2021 occupancy in many commercial buildings has been significantly lower than usual due to the Covid-19 pandemic. This low occupancy creates a large reduction in water use and therefore increases the risk of stagnation and elevated cold water system temperatures.

The presence of nutrients such as scale, sediment and corrosion will also increase the potential for bacterial activity.

Preventative Measures

Poor turnover linked to Covid-19 linked low occupancy has been the subject of previous Briefing Notes and should have been addressed over the course of the pandemic. However, the additional controls implemented may prove to be insufficient during periods of hot weather and should therefore be revisited.

To ensure hot and cold water systems remain free from elevated levels of Legionella bacteria during periods of hot weather, the demand placed on the water system should be reviewed and adaptations to system maintenance made as set out below:

- Cold water storage tanks must achieve complete turnover in a typical 24 hour period and their storage capacity must be reduced where necessary to achieve this.
 - ◆ Where cold water storage tank temperatures are elevated in comparison with incoming water supplies their storage capacity should be further reduced.
 - ◆ If tanks contain significant levels of nutrients, such as sediment, scale or corrosion, they should be cleaned and disinfected.
- Any outlets which are not regularly used must be flushed at least weekly for sufficient time to clear their supply pipework and achieve a stable temperature comparable to the source supplying the outlet.

- Cold water services with discharge temperatures above 20°C should be flushed manually on a weekly basis and insulation inspected and upgraded if deemed necessary.
 - ◆ Temperatures should be closely monitored and, if weekly flushing is insufficient to maintain cold water temperatures below 20°C and/or close to the temperature of the incoming mains supply, the frequency of flushing should be increased accordingly.

In systems fitted with continuous chemical dosing units the dosing rate of the unit should be reviewed with consideration given to increasing the set point while ensuring levels do not exceed advised upper control limits for the system. It should be noted that a chemical dosing system will rely on a comprehensive flushing regime or frequent outlet use in order to draw water through the system and therefore remain effective.

Guidance document HSG274 Part 2 advises regular sampling is undertaken 'where the control levels of the treatment regime are not being consistently achieved'. Maintaining cold water systems below 20°C is a key aspect of a standard legionella control regime and on this basis, we advise frequent legionella sampling be undertaken for the duration system temperatures are above 20°C to provide reassurance that the additional controls implemented are effective.

Increased sampling will also serve as an early warning where legionella growth does occur allowing further review and additional control measures to be implemented.

There are three main types of Electric Vehicle (EV) charging point, each defined by power output and hence how quickly they can charge an electric vehicle. While vehicle connector types can be conceived as a problem, most electric vehicles are supplied with multiple cables allowing connection with a wide range of EV charging points:



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