

Cleaning and disinfection

2.126 The risk from exposure to legionella should be controlled by keeping the water system and water in it clean and free from nutrients, including those arising from contamination and corrosion; and maintaining its cleanliness. Hardness scale may also trap nutrients, encouraging biofilm formation and so form a barrier to disinfectants.

2.127 Where necessary, hot and cold water services should be cleaned, flushed and disinfected in the following situations, as specified in BS 8558:2011:

- on completion of a new water installation or refurbishment of a hot and cold water system;
- on installation of new components, especially those which have been pressure tested using water by the manufacturer (see the manufacturer's instructions);
- where the hot and cold water is not used for a prolonged period and has not been flushed as recommended or the control measures have not been effective for a prolonged period. For example, this could be as little as two or three weeks, but will depend on the ambient temperature, condition of the water system, potential for exposure to aerosols and the susceptibility of users considered in a specific risk assessment;
- on routine inspection of the water storage tanks, where there is evidence of significant contamination or stagnation;
- if the system or part of it has been substantially altered or entered for maintenance purposes that may introduce contamination;
- following water sampling results that indicate evidence of microbial contamination of the water system (see Table 2.2 or 2.3);
- during, or following an outbreak or suspected outbreak of legionellosis linked to the system;
- or where indicated by the risk assessment.

2.128 A suitable safe system of work, or for more complex systems, a site-specific method statement should be obtained before the start of any cleaning and/or thermal or chemical disinfection of a water system. The documentation should clearly define the process to be undertaken and should be derived from risk assessments of the typically encountered hazards, which might include:

- access/egress, storage and special site hazards, eg asbestos;
- machinery and equipment isolation;
- work in confined spaces;
- manual handling;
- work at height;
- slips, trips and falls;
- electrical equipment;
- chemical(s) to be used;
- personal protective equipment required;
- waste disposal and chemical neutralising process (a discharge permit maybe required from the water utility).

2.129 Evidence of the competence of individuals undertaking the tasks should be confirmed, indicating that the knowledge and experience of the operatives is satisfactory for undertaking the proposed work.

2.130 Disinfection of the water services when the system is offline may be by:

- **thermal disinfection**, ie by raising the HWS temperature to a level at which legionella will not survive, drawing it through to every outlet, and then