



## 1. Introduction

The control of Legionella requires water to be stored at a minimum of 60°C and distributed at a minimum of 50°C (see HSE ACoP L8). Hot water at 55°C is required for many applications such as washing in kitchens and laundries. However, water at these higher temperatures may scald vulnerable persons. (Vulnerable persons - Those at risk from scalding/burning include children, the elderly, those with reduced mental capacity, reduced mobility and anyone with sensory impairment, or who cannot react appropriately, or quickly enough, to prevent injury.)

Effective ways to ensure the safety of hot water include fitting blending valves (TMV- Thermostatic Mixing Valve) to each fitting which may be accessed by vulnerable persons. This allows water to be distributed around the system at a temperature high enough to discourage the growth of legionella bacteria.

To prevent scalding, water temperature must not exceed 43°C for baths and 41°C for showers and any other hot water outlets accessible by vulnerable persons. A stringent maintenance and testing regime is therefore required with the results documented.

The risk of burns from the surfaces of radiators and hot pipes must also be assessed and controlled. The maximum temperature of such surfaces should not exceed 43°C, in areas where a vulnerable person could have prolonged contact.

Where a building has a mixture of outlets, some of which are temperature controlled, signs should be displayed warning of the very hot water at uncontrolled outlets. Signs should include a standard yellow and black hazard warning pictogram in accordance with the *Health and Safety (Safety Signs and Signals) Regulations 1996*.



## 2. Control of Legionella Bacteria

Legionella bacteria multiply actively at temperatures between 20°C and 45°C.

Legionnaire's disease is controlled by designing and managing all water services according to the guidance contained in HSE Legal Series L8 'Legionnaires Disease - Control of Legionella Bacteria in Water Systems - Approved Code of Practice and Guidance'

In buildings which have lengthy and complex hot water distribution systems it may be necessary to provide water treatment as well as using clarifiers or storage vessels which are designed to eliminate or minimise stagnation and stratification by incorporating circulating pumps.

To meet the operational standards required, those in control of premises are required to have a risk assessment conducted by competent persons. This is carried out by a specialist contractor. The risk assessment should identify specific hazards such as areas where water may have a poor utilisation rate, or where slime may build up.

In terms of precautions and procedures to be adopted for the control of legionella bacteria, these should include the universal precautions specified within the technical memoranda and codes of practice, as well as any site specific control measures identified through the risk assessment. Records should be kept on site to demonstrate the actions which have been taken and the results of any measurements and inspections.

### 3. Key Actions

- Identify vulnerable service users for whom uncontrolled hot water temperatures present a hazard
- design water systems to meet legal requirements including prevention of contamination to water supplies, protection of vulnerable persons from hot water and the control of Legionella bacteria
- implement management controls including risk assessment, day to day operational procedures, staff training, maintenance and testing to ensure that legal requirements continue to be met
- Maintain records of all maintenance and testing.