

## BEAMA Water Safety and Hygiene Group have updated the Code of Practice white paper on safe water temperatures.

The new document replaces the previous “Recommended Code of Practice for Safe Water Temperatures” published back in March 2000 which has now been withdrawn. The original Code of Practice was developed by manufacturers through the Thermostatic Mixing Valve Manufacturers Association (TMVA). Over time the TMVA has evolved into the ‘Water Safety and Hygiene group’ within BEAMA and its scope has expanded to cover a wider range of valves and other products. Its focus is now to deliver safe hot water solutions on a systems-based approach as well as at point of discharge.

This summary document is an introduction to the full document that is available to download from the BEAMA website [here](#).

### Scope:

- The guide is intended for non domestic applications but the advice also applies to domestic situations.
- The guide is intended for use by building managers, consulting engineers, installers, facilities managers and any other interested parties
- It provides awareness of the risks of supplying hot and cold water.
- The document enables the correct selection, design, installation, operation and maintenance of wholesome hot water systems.
- Provides guidance for assessing the risks in hot and cold water supply systems.

The NHS regard scalding as a ‘never event’ eg it is wholly preventable and covered by adequate safety guidance and processes. It is therefore regrettable that there are so many injuries every year from scalding hot water when practical solutions exist to reduce this risk.

Evidence on scalding indicates a risk increasing rapidly from temperatures of 45 °C and above. For example, partial thickness burns will occur within 30 seconds at 55°C, reducing to less than 5 seconds at 60°C and above. Water at 60 °C will cause significant injuries to children in less than 1 second and adults in less than 6 seconds.

It is increasingly common practice around the world to regulate the storage water temperature to at or above 60°C, and to circulate water at a temperature at or above 55°C.

Building owners have a duty of care to all users, especially if the occupants are regarded as high risk. The onus of responsibility is with them to make sure that there is a safe environment for all users.

The balance is between scalding risk and legionella control. Installing Thermostatic Mixing Valves (TMVs) can ensure that water is delivered at the required temperature at point of use, thereby



reducing the risk of scalding accidents; it also reduces hot water consumption from a supply that is maintained at a higher temperature.

In order to safely provide hot and cold water it is recommended that water supplies are distributed to the point of mixing, either below 20oC for cold water supplies or above 55oC for hot water supplies. While scalding prevention is important, the role of thermostatic control in optimising the delivery of water at a comfortable temperature is essential for effective and consistent hand washing.

Risk assessments should be taken in any installation where there is likely to be a risk of either Legionella or scalding. The following process can be used to determine the risk.

Examples of suitable risk assessment processes are available on the HSE website,

<https://www.hse.gov.uk/risk/casestudies/index.htm> these are general health and safety assessments. The additional aspects of Water Safety could be covered as follows:

1. To identify the hazards
  - o Read the BEAMA Water Safety and Hygiene White paper to understand the risks and solutions,
  - o walk around the area, noting water supplies, outlets and storage.
  - o talk to users regarding the application and ask for opinions on potential for health and safety issues in the environment;
  - o look at the accident book, to understand what has previously resulted in incidents.
2. Each item above should be noted and a potential risk of each assessed including who could be harmed, what controls or signage are in place, and potential modification to reduce the risk.
3. For each hazard, the Code of Practice paper can be consulted to find a suitable solution.
4. Putting the risk assessment into practice, it should be decided and recorded who is responsible for implementing the further actions and when they should be done. When each action is completed, the assessment document should be updated. The risk assessment should be visibly displayed and available to all users.
5. The assessment should be regularly reviewed for changes either in usage or application and amended accordingly.
6. System design temperatures should be monitored and logged regularly, and appropriate servicing regimes employed for the devices fitted in the system.

Further information from HSE can be [found here](#) and advice on legionella [control here](#):

