THE WATER MANAGEMENT SOCIETY

TOOLBOX TALKS

How to Flush a Tap - an introduction

Flushing is the process of displacing stale water held in pipework through the action of running water from a tap or other outlet to drain. This is done to minimise the growth of bacteria or concentration of harmful chemicals in the water, keeping the water safe for the user.

The Need for Flushing

Flushing should be part of the initial cleaning process when water services are first commissioned and equally important is to maintain water quality in systems once they have been filled. Most flushing takes place by everyday use of taps and showers, but where this does not occur (for example after filling the system and before the building is occupied, where parts or a building are vacant or where outlets are little-used), planned flushing might be required to minimise any growth of bacteria or leaching of chemicals from the pipework. In some applications, such as healthcare, other microbes might also constitute a risk and flushing is a technique which can minimise this in both cold and hot water systems.

Mains water changes during storage in tanks or in pipework as the disinfectant (usually chlorine) which the water company adds will reduce allowing microbes to grow.

Hot water systems by their nature are above the ambient temperature and therefore tend to cool, so the water can spend considerable periods of time warm allowing the growth of microbes.

Flushing Considerations

There are a number of considerations to take into account to ensure flushing is done sufficiently without wasting water, which would be a breach of the water fittings regulations. If excessive flushing is required, redundant outlets may be the issue and could be removed.

See Dead Legs Toolbox Talk for more information.

The Health and Safety Executive (HSE) guidance HSG 274 part 2 recommends that underused taps and showers be flushed for several minutes weekly, as a legionella control measure, but do not specify how many minutes. This should be decided by the Responsible Person. The guidance also states that more frequent flushing might be required in healthcare premises. The Department of Health guidance HTM 04-01 contains more detail for healthcare and should be part of the Water Safety Plan (WSP).

Setting Up a Flushing Regime

A simple cold water system supplied directly from the mains, in pipework of minimal size, might require only quite brief flushing to displace stale water and replace it with fresh containing a trace of disinfectant. Another, fed from a tank where the disinfectant will reduce before entering the distribution pipework, would require more sustained flushing to rinse out the stale water. A hot water system producing water at 60°C would require less flushing than one which reached lower temperatures.

A useful indication of what is a suitable flushing duration is to identify a measure of the source water such as its temperature or concentration of chlorine (or other disinfectant in systems which are treated on-site) and to flush until that measure is matched at the outlet. *See Temperature Measurement toolbox talk for more details.*

Safety

Flushing exposes the operator to the water being displaced and if that is heavily contaminated that can create additional risk. There needs to be a risk assessment for the task of flushing which considers the water quality, exposure and susceptibility of the operative and anyone else who might be affected (for example a patient in a hospital bed) and suitable precautions need to be implemented to prevent or control that risk. The risk is likely to be greatest when starting a regime of flushing and is likely to reduce once regular flushing has improved the water quality.