

## Excerpt from New British Standard BS 7592:2008 – Sampling for Legionella bacteria in water systems – Code of practice

### 6.4 Timing of sampling

Whenever possible, samples should be collected at the time when the numbers of legionellae are most likely to be at their highest, and the risk of legionellae being present is, therefore, at its greatest. This will normally correspond to the time when the temperature is more likely to support growth, and/or any biocide present is at its lowest concentration, or before an under-used outlet is flushed. However, it might not always be possible, practicable or appropriate to take samples under these conditions; in these situations, a note should be made of any relevant factors that might affect the sample taken. Routine sampling should be planned to coincide with the highest risk of legionellae being present, as noted sampling above.

#### 8.1.4 Sample types

The following types of samples can be taken

- a) Dip samples. a dip sample is water collected by immersing an appropriate sterile container into a body of water
- b) Pre-flush samples. a pre-flush sample is water collected immediately after a tap, or fitting, is opened. the tap or fitting should not have previously been disinfected, or water run to waste. the pre-flush sample represents water held within the tap or fitting and, ideally, should be taken when the tap has not been used for a period of time (for example, up to several hours).
- c) Post-flush samples with disinfection. a post-flush sample with disinfection is water collected after a tap, or fitting, has been disinfected and water has been run to waste for a prescribed length of time or until a particular endpoint has been reached (e.g. a temperature measurement). this type of post-flush sample is intended to be representative of the quality of the water supplied to the tap or fitting.
- d) Biofilm samples.
- e) Samples of other materials, e.g. sediment.

*NOTE Post-flush samples without disinfection. A post-flush sample without disinfection is water collected after water has been run to waste for a prescribed length of time or until a particular endpoint has been reached (e.g. a temperature measurement). Any legionellae in this type of post-flush sample could be derived either from the outlet itself or from the water supplied to the outlet. These samples are not recommended due to the difficulty of interpreting results.*

### 8.4 Pre-flush and post flush samples

#### 8.4.1 General

*NOTE 1 Adequate, consistent temperature control or secondary disinfection should reduce the risk of growth or multiplication of legionellae in a system. However, one area where growth and multiplication of legionellae is likely to occur is within the components of an outlet.*

*NOTE 2 Readers are reminded of paragraph 185 in the HSE Approved Code of Practice and Guidance L8 [6] regarding temperature control.*

In order to determine the colonisation of a particular outlet, a pre-flush sample should be collected. this is the type of sample that is most representative of the risk to individuals and is the only sample that should need to be taken from systems where there is evidence of adequate, sustained control and low risk.

Where it is necessary to determine whether the system itself is colonised, as opposed to outlets, and to determine that the numbers of legionellae flowing around the system are controlled, a post-flush, disinfected-outlet sample should be collected.

To indicate the relative risk from an outlet and the system, both pre-flush and disinfected-outlet post-flush samples should be taken.

*NOTE 3 Detection of legionellae in a sample taken from an outlet which has not been disinfected would not discriminate between outlet or system contamination – further sampling would then be necessary with and without outlet disinfection.*

Whenever possible, samples should be collected from individual taps (see **8.4.2** and **8.4.3**), rather than mixer taps (this ensures that the samples are representative of the water flowing around the system and do not just contain localized contamination of the outlet(s)). Guidance on sampling from mixer taps, including thermostatic mixer taps, is given in **8.4.4**.