

## Central Heating System Sampling

### For Sentinel System Check

#### Common Problems

When taking central heating system water samples for Sentinel System Check analysis the common problems experienced are:

1. Insufficient flushing of the system after the cleaning process resulting in samples containing residual cleaner, flux and a high level of suspended solids/corrosion products.
2. Incomplete mixing with the system water after addition of inhibitor resulting in samples containing either extremely high levels of inhibitor or very low levels of inhibitor.
3. Addition of the inhibitor through a header tank and insufficient water being pulled from the header tank into the system, resulting in samples containing low levels of inhibitor.
4. Poor flushing of the sampling point leading to samples containing high levels of suspended solids/corrosion products.
2. Add the inhibitor through a radiator bleed valve using the Sentinel Dosing Vessel or a similar device to ensure that inhibitor is added directly to the circulation system. If inhibitor has to be added through a header tank, ensure that as much water as possible is displaced from the tank into the system before refilling the tank with water, taking care not to introduce air into the system.
3. After addition of inhibitor and prior to taking a system water sample, ensure that the system is fully circulated for at least 30 minutes (or longer on a large system) to ensure that the inhibitor is evenly distributed.
4. If possible, choose a sampling point which does not have a long dead-leg prior to the sampling valve. The normal drain off point should be a suitable sample point.
5. Prior to taking the sample, run water from the sampling point for a sufficient length of time to ensure that the sample taken represents the water in the system and does not contain debris that has collected in the dead leg associated with the sampling point.
6. Before taking the sample check the level of Sentinel inhibitor in the system water with either the Sentinel Quick Test or the Sentinel X100 Test Kit. If the inhibitor is low then consider whether further system circulation may be necessary or whether further addition of Sentinel X100 is required.

Any of the above conditions may cause the System Check sample to fail and require the process to be repeated.

#### Recommended Sampling Guidelines

1. Ensure that the flushing process is complete by checking that the total dissolved solids of the flush water at the end of the flush is within 10% or less of the total dissolved solids of the mains water. (Refer to Sentinel Technical Information document "General Cleaning and Flushing Procedures").

After taking the system sample check the appearance of the water in the bottle. If the water is dirty then the System Check will fail and a re-flush will be recommended. Review the previous recommendations and consider where appropriate actions could be taken to improve the quality of the sample before submission.