

FAQs on the need for Water Treatment

- **Why do I need water treatment?**

Building Regulations state that all heating systems should be cleaned and flushed prior to fitting a new boiler and that a chemical inhibitor should be added to the system water during final filling to prevent corrosion.

We all think of water as pretty harmless stuff, but when the wrong conditions come together, as they can inside a central heating system, corrosion can occur rapidly. The process of corrosion is a chemical reaction and is likely to occur when a metal surface is in contact with water. As with most chemical reactions, heating the water accelerates the process, making your central heating the perfect place for corrosion to take place if it hasn't been properly prepared and protected.

- **What will happen if I do not get my system cleaned?**

Building Regulations recommend that all systems should be chemically cleaned and flushed prior to the installation of a new boiler. Manufacturers' installation instructions also require this and failure to follow the correct installation procedure can affect the warranty for a new appliance.

From the time of installation and commissioning a central heating system will, potentially, start to corrode. This is because water in the system will start to react with the steel in the radiators and possibly with other metals present. To reduce the rate of corrosion, an installer will clean and flush out a newly installed system to remove any debris or substances likely to increase the rate or risk of corrosion.

The most common symptom of corrosion within a central heating system is sludge, a black, mud like, deposit resulting from the reaction between the water in your system and the steel in the radiators. The sludge can build up over a period of time in an untreated central heating system, and cause:

- Damage to the boiler.
- Blocked and damaged hot water heat exchanger on a combination boiler
- Damage to radiators by causing pin holing and leaks.
- Damage to the pump.
- Noise.
- Blocked pipework and radiators – reducing the heat output and the efficiency of the system.

- any of which can prove costly or leave you without heating and hot water while the problem is being fixed.

- **Will my boiler last longer?**

Modern condensing boilers are made to be more efficient than non condensing and as such have smaller internal water ways and more moving parts. Ensuring that the system water is clean is vitally important in maintaining the efficiency and reliability of the appliance and the system as a whole. The boiler warranty may be affected if correct cleaning and flushing, and correct use of inhibitors, is not carried out.

Understanding and preventing corrosion in a central heating system will ensure that the system is operating at its most efficient and will prevent serious damage to the equipment in the system and potentially to the property itself, arising from "pinhole" leaks.

- **What is a powerflush and when is it necessary?**

Powerflushing is a process by which heating systems are forcibly cleansed using water at high velocity, but low pressure, so that no physical damage is caused to the system. The process can be made even more effective with the addition of powerful cleansing and mobilising agents.

It is often required when corrosion has taken place over an extended period and the bottoms of the radiators are cold due to sludge deposits preventing effective water circulation.

A large pump is used and the process can take up to a day to complete if the system is particularly fouled.

- **How long does an inhibitor last?**

Once added, a good quality inhibitor will last for a considerable period unless the system is fully or even partly drained down. If any work is carried out on the system which requires full or partial drainage of the system water then the inhibitor concentration should be checked and topped up if required.

Leakage of a sealed heating system, requiring frequent topping up to maintain pressure, can also lead to gradual loss of inhibitor from the system. Any such leakage is indicative of a fault and this should be fixed before adding inhibitor to maintain the recommended concentration.

- **Is there ever an occasion where I would not need the system to be chemically cleaned after an installation?**

All systems should be chemically cleaned after the installation of a new boiler or if new parts such as radiators are installed. It is also required to comply with the Building Regulations and is viewed by boiler manufacturers as a condition of warranty.

When a new boiler is installed, the Benchmark Checklist should always be completed and left with the husholder to confirm that all requirements for installation, including cleaning, flushing and use of inhibitors, have been followed.

- **Does having a system filter fitted prevent the need for chemical cleaning?**

No, the system should still be chemically cleaned and inhibited to prevent the formation of black sludge (sometimes called magnetite). The system filter is there as a long term back-up to collect any corrosion that has already taken place and is difficult to remove.

- **What should I do if the quote that an installer has provided me does not include chemical water treatment of the system?**

You should ask the installer what cleaning and inhibitor treatment is included before agreeing to proceed with the quote.

Be sure to specify when asking for quotes that you would like BuildCert approved water treatment products to be used in your system. As energy prices rise and central heating efficiency becomes more important, an increasing number of cheap central heating treatment chemicals are appearing on the market. Be highly wary, as these imitations can be up to 97% water and may not be as effective.

- **What if I remove a radiator in the future to decorate?**

Depending on the dose rate of the inhibitor, taking the odd radiator off to decorate may well be ok, if in doubt certain manufacturers of inhibitor produce test kits which can be used to see if the dosage is still correct after the radiator has been refitted and filled.

It is good to know that you cannot over-dose a system so for peace of mind if you remove a radiator or two it is best to renew the inhibitor while you are re-filling the system.