

# HOW TO COMBAT PROBLEM **LIMESCALE**



## What causes limescale deposition?

Minerals in chalk or limestone rock collect as water permeates through the ground and collects in aquifers. These minerals remain within the water and are carried into the domestic water supply. They inevitably reach central heating and water systems, where they build-up over time to cause blockages in pipework, efficiency losses and the premature failure of components. These problems can arise in both the primary water system (the central heating system) and secondary (household hot water) system.

The mineral deposits, collectively known as limescale, consist primarily of calcium and magnesium carbonates which are generally insoluble. Limescale occurs when these deposits are formed as a result of heating water that contains soluble bicarbonate salts (which are thermally unstable and break down to form carbonates).

**There are several factors that contribute to the build-up of limescale, including:**

- High (temporary) hardness
- Elevated pH (alkalinity) of the water
- Elevated temperature

## What should be done?



Prevention is always better than cure. In central heating systems, the addition of any **Fernox Protector F1** will prevent deposition of limescale.

For domestic hot water systems, Fernox offers a range of scale reducers designed to provide either whole house or single appliance protection.



For whole house protection, the **Fernox Electrolytic Scale Reducer** should be installed on to the mains water supply to the property. To protect single appliances such as the boiler, the **Fernox Magnetic Scale Reducer** is ideal.



If the central heating system is already contaminated with limescale it should be cleaned using an acid-based cleaner such as **Fernox DS40 System Cleaner**. However, descaling alone will not restore the central heating system to its original condition. After descaling it is imperative to protect the system against further scaling by adding any **Fernox Protector F1** or if a system filter is fitted **Fernox Filter Fluid + Protector**.



If limescale formation has occurred within the hot water system, individual appliances such as kettles, showerheads and heat exchangers can be descaled using **Fernox DS-3 Limescale Remover**. For open vented systems **Fernox Superconcentrate Limescale Preventer** is an ideal way to keep system water scale-free.



**FERNOX RECOMMENDS:** Fernox Protector F1; Fernox Electrolytic Scale Reducer; Fernox Magnetic Scale Reducer; Fernox DS40 System Cleaner; Fernox Filter Fluid + Protector; Fernox DS-3 Limescale Remover.