

Certificate of Conformity for Fernox water treatment products:

Cleaners, Protectors, Inhibitors, Protector+ Filter Fluid and other central heating system chemical products

Technical statement of conformance for:

- Fernox Protector/inhibitors: F1, FC1, HVAC F1, MB-1, Protector Antifreeze Alphi-11.
- Fernox Protector/inhibitor+ Filter Fluid.
- Fernox Cleaners (neutral): F3, F5, FC3, HVAC F3.
- Fernox Cleaner (acidic): DS40.
- Fernox Boiler Noise Silencer F2 and Leak Sealer F4.

Fernox hereby confirms the safe use of the above mentioned products for use in domestic and commercial heating systems provided they are used according to their instructions for use.

In addition, when used in accordance with their instructions for use, and provided that the fill water is derived from potable quality water, i.e. without corrosion causing contaminants such as high chlorides or sulphates, and that the system is maintained with an oxygen concentration in line with VDI 2035 Part II, Fernox confirms its products fulfill the requirements of VDI 2035 Part I and II for corrosion prevention and scale reduction relating to the use of water treatment chemicals.

Fernox chemical products can safely be used in all water based heating systems containing any of the following materials of construction: stainless steels, mild steels, malleable iron, copper, brass, soft and hard soldered joints and aluminium.

To ensure corrosion protection for all the above mentioned materials, Fernox products are formulated to achieve a neutral pH range when dosed using the recommended working concentration. Fernox chemicals are compatible with all other Fernox products, however, compatibility with other chemicals cannot be guaranteed.

The benefits of using Fernox products are as follows:

Fernox F1 Protectors/inhibitors, MB1, HVAC F1, FC1

Fernox chemical Protectors and inhibitors (F1, FC1, HVAC F1, MB-1, Protector Antifreeze Alphi -11) give long-term protection of domestic and commercial central heating systems against internal corrosion and scale formation. The products prevent corrosion of stainless steels, mild steels, malleable iron, copper, brass, soft and hard soldered joints and aluminium. They are suitable for all types of boiler, radiators and pipework systems containing any of the aforementioned materials.

The efficacy of all Fernox Protectors / inhibitors is confirmed by compliance with the UK BuildCert performance standard for corrosion inhibitors including hardness levels consistent with VDI 2035 Part I and II. Listing number is BC1059/0712 and can be verified on the BuildCert website:

<http://www.wrcnsf.com/buildcert/downloads/BuildCert%20-%20CIAS%20Industry%20Spec%20June%202012%20Final.pdf>

Compliance with the BuildCert test standard is independently validated and is recommended in the United Kingdom Building Regulations, Part L, for systems under 60kW. There is no European (EN, BS, DIN) performance standard for such products.

The BuildCert Chemical Inhibitor Approval Scheme (CIAS) assesses the ability of chemical inhibitors for use in domestic hot water central heating systems to restrict the formation of limescale, reduce metallic corrosion and ensure compatibility with non-metallic components typically found within central heating systems.

The BuildCert test requirements specifically include a measurement to ensure that products do not cause pitting corrosion. The Fernox corrosion Protectors/ inhibitors are formulated not to just meet the CIAS BuildCert specification but to exceed considerably the performance standards required and have been manufactured for more than ten years with many thousands of individual systems treated.

Why use a Protector/inhibitor?

- To avoid system breakdowns and inefficiencies caused by sludge, dirt and debris by providing long lasting protection against corrosion and scale in mixed metal central heating systems.
- To save energy. For domestic systems, results show that Fernox Protector F1 when used in conjunction with Fernox Cleaner F3.
- To avoid the build-up of gas which can result in the frequent need to vent radiators.
- To prevent sticking pumps and boiler noise caused by corrosion
- To reduce maintenance costs and save on fuel bills.
- To prevent cold spots in radiators by avoiding gas and magnetite build-up.

All Fernox Protector/inhibitor products are non toxic and environmentally friendly.

Gas savings of up to 15% can be achieved every time you heat your room.

Fernox Filter Fluid + Protector/inhibitor

Why use Fernox Filter Fluid+ Protector/inhibitor?

- Fernox Protector/inhibitor+ Filter Fluid is an enhanced corrosion inhibitor containing a special blend of dispersants specifically designed to be used in conjunction with a system filter such as one from the Fernox TF1 filter range.
- Fernox Protector/inhibitor+ Filter Fluid is a unique formulation designed to prevent corrosion, scale and sludge formation in a mixed metal heating system.
- As well as offering all of the attributes and benefits of the Fernox market leading Protector F1, the added dispersant effectively lifts any sludge contained in a lightly-contaminated system and delivers it to a filter for safe removal.
- The product maximises the sludge removal process by delivering any circulating or remaining loose system contaminants to the filter. It increases a filter's effectiveness to protect vulnerable and vital components and extend system longevity.
- Fernox Protector/inhibitor+ Filter Fluid are ideal for use in lightly-sludged central heating systems. Where the system has previously been cleaned and treated but where inhibitor levels have not been maintained and further corrosion has subsequently taken place.

- Additionally, it is recommended in central heating systems with inherent design issues or low flow rates, as small amounts of sludge may remain in dead leg areas even after powerflushing.
- Similarly, in systems where water drain down or system shut down is not practical or possible, the use of Fernox Protector/Inhibitor+ Filter Fluid and a Fernox TF1 in-line filter is an ideal solution.
- Always adhere to the local regulations relating to the treatment of hot water systems.

Fernox F3, F5, HVAC F3, FC3

Fernox cleaners remove sludge, loosen scale and installation debris from new and existing central heating systems to restore and maintain energy efficiency.

They are neutral universal cleaners ideal for pre-commissioning new systems in accordance with BS7593:2006. However, **please note**, Fernox Cleaner F3/F5 products must always be removed to ensure all the dirt and debris is removed from the system. Once removed, Fernox Protector F1/inhibitor should be added to protect the system from future corrosion.

Why use a Fernox Cleaner? (F3, F5, HVAC F3, FC3)

- To remove sludge, loosen scale and other debris to restore heating efficiency of existing systems.
- Fernox products are compatible with materials commonly used in heating systems: stainless steels, mild steels, malleable iron, copper, brass, soft and hard soldered joints and aluminium.
- They are easy to use, and the system can be left running normally during cleaning.
- They are suitable for use with all known, domestic powerflushing machines.
- They comprise a neutral, non-hazardous formula.

For domestic systems, results show that when used with Fernox Protector F1, gas savings of up to 15% can be achieved every time you heat up your room.

Fernox DS40 System Cleaner

Fernox DS40 System Cleaner is an acidic cleaner which can be used as a fast-acting remover of limescale, black sludge (magnetite) and other deposits from boilers and central heating systems. This product is designed for use with powerflushing units for more efficient, rapid cleaning. It can also be used separately to descale a boiler.

Why use Fernox DS40 System Cleaner?

- To rapidly remove limescale, black sludge and other deposits.
- Restore circulation and improve heating efficiency.
- The free-flowing powder is easy to use with powerflushing units or application via an F&E tank or Injector (for sealed systems).
- System water turns yellow when product is exhausted.
- Fernox DS40 System Cleaner is compatible with all mixed metal systems.
- Neutraliser sachets are included.

Fernox Boiler Noise Silencer F2 and Leak Sealer F4

Why use Fernox Boiler Noise Silencer F2?

- Fernox Boiler Noise Silencer F2 helps to reduce boiler noise and improve heat transfer efficiency.
- It is suitable for all types of boiler, including combination boilers and those containing aluminium components as well as radiators and pipe work system heating systems.

Why use Fernox Leak Sealer F4?

- Fernox Leak Sealer F4 is used in domestic heating systems for sealing small inaccessible leaks. Fernox Leak Sealer F4 works best in warm/hot circulating water.
- Once dispersed evenly in the system water it is effective within 1 - 24 hours. The sealing efficiency of Fernox Leak Sealer F4 has been formulated to prevent blockage of safety devices, pumps, etc.
- For long-term protection against corrosion and limescale we recommend systems are cleaned using Fernox Cleaner F5 and inhibited with Fernox Protector F1.

Fernox is a licensed member of the Benchmark Scheme which aims to improve the standards of installation and commissioning of domestic heating and hot water systems in the United Kingdom and to encourage regular servicing to optimise safety, efficiency and performance.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the scheme.

Visit www.centralheating.co.uk for more information

