

## i-TEST® IMPROVES HEATING SYSTEM RELIABILITY - SAVES TIME AND MONEY

The addition of a chemical corrosion inhibitor to a wet central heating system is mandatory through Part L of the Building Regulations, but how do you check if any inhibitor added is doing a good job once it is in the system? Heating Engineers can now reliably check the performance of a corrosion inhibitor on site in under 5 minutes using Scalemaster®'s i-Test®.



The use of a corrosion inhibitor to treat the water in a wet central heating system began in the late 1980's. Research studies identified the benefits derived from a reduction in the number of subsequent engineer call-outs to rectify problems if systems were initially flushed and the final fill water treated to prevent corrosion. With the wider use of mixed metals in heating systems, new water treatment chemicals were developed, and the evolution of corrosion inhibitors proliferated.

Over subsequent years, the chemical manufacturing companies developed test methods for assessing the performance of chemical heating system inhibitors culminating in the NSF 'Buildcert' Corrosion Inhibitor Accreditation Scheme (CIAS) which confirms a minimum acceptable level of corrosion protection afforded by a corrosion inhibitor in laboratory

Different chemical inhibitors work in different ways. Some form protective barrier coatings over system metal surfaces, whilst others employ anodic and/or cathodic protection strategies which creates a significant challenge in devising a simple, single test to determine if a chemical is present in a system and if it is still provides protection.

The shortcomings of using individual manufacturer chemical inhibitor 'test kits' usually include:

- Test kits from one manufacturer can't be used to detect other manufacturers 'chemicals
- Some test kits use indicators to identify the presence or concentration of a particular constituent which is then used to infer if a chemical is (or was) present and not whether the chemical sought is actively providing protection
- None appear to consider if any contaminants are present in the system water (such as residual system cleaner) which often ultimately overrides the benefit of any inhibitor added.



Over the past few years, Scalemaster® R&D has been developing a test method which works with any chemical inhibitor present and addresses these problems. This has now resulted in the creation of a portable electronic device which can be used to determine the level of corrosion protection afforded by the water in a wet central heating system on site in under 5 minutes for less than the price of a cup of 'take-away' coffee.

The inhibitor tester (called i-Test®) uses a patented process in which small tabs of dissimilar metals (typical of those used in the manufacture of central heating system components) are introduced into just 10ml of mains and system water. The test unit connects to a free-to-download App on a mobile phone using the latest Bluetooth Low Energy technology.

Response in the mains water is used to check cleanliness of the corrosion probe. Results from the system water are used to give a PASS or FAIL indication of the level of corrosion protection achieved compared to the target level 'certified' corrosion inhibitors must satisfy as the minimum performance criteria of the NSF CIAS scheme.

The Report which the App generates can be sent direct to the Estates Manager or householder. Clear recommendations are given for any corrective action which can be carried out (and the water checked again) before leaving site, saving time and money. Programmes within the mobile phone can be used by the plumber to create site visit lists and to store and access site test history.

The Scalemaster® i-Test unit is supplied in a protective storage case with sufficient probes for 10 tests. Additional probes will be available from Scalemaster® product stockists.

