

it does
the job
✓.com



EndoThermTM

AN ENERGY SAVING ADDITIVE
FOR CENTRAL HEATING SYSTEMS

INDEPENDENTLY TESTED BY



17025 ACCREDITED LAB

SAVE UP TO 15%
ON HEATING
COSTS

EndoTherm™ Energy Savings Delivered



HOMES



SCHOOLS



OFFICES



EndoTherm™ works in any wet central heating system and can deliver real energy savings regardless of building size. Our team of experienced installers will ensure the correct dosage is installed; optimising product performance and maximising savings.

We have many successful case studies covering a multitude of different areas of application from single occupancy residencies to large commercial properties. Please contact us for case studies most relevant to your system.



HOTELS



CARE HOMES



LEISURE



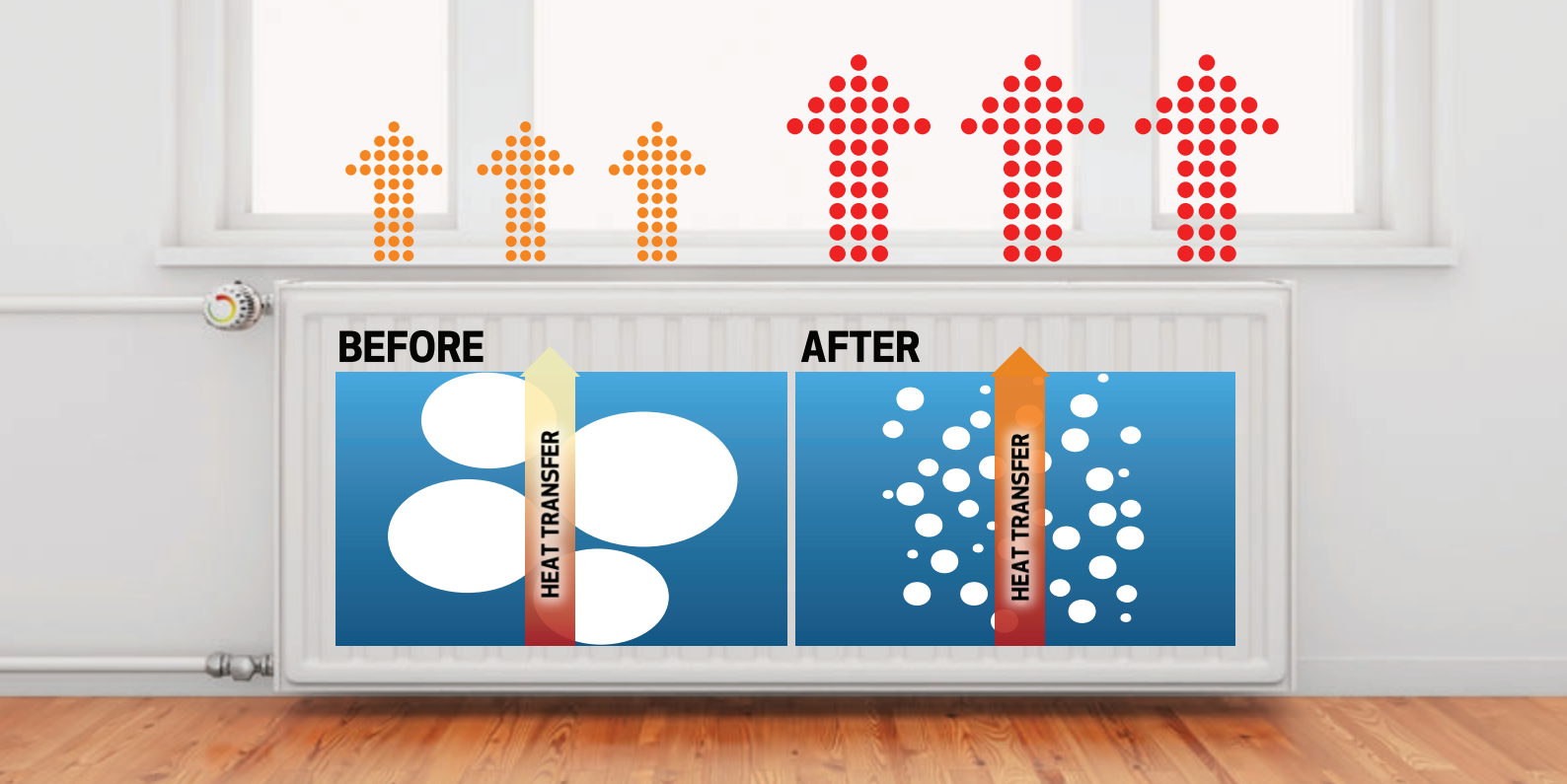
HEALTHCARE



MUSEUMS



CORPORATE



EndoTherm™ Background

A REAL ENERGY SAVING SOLUTION

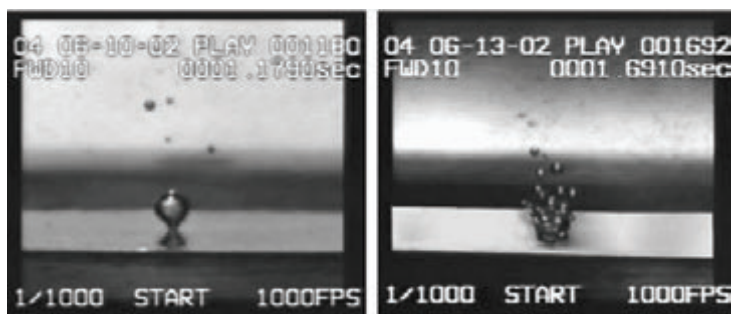
HOW IT WORKS

As hot water travels through radiators and returns to the boiler, part of it contacts with the hot metal of the fired boiler tubes. This boils and transfers heat into the remaining bulk water causing the overall temperature of the system to increase.

At the hot boiler tube, nucleated boiling occurs. Vapour forms within small micro-cracks and escapes as large, irregular oval bubbles. These large bubbles are lethargic and flow inefficiently restricting and obstructing the heat transfer into the bulk liquid and around the heating system.

EndoTherm™ creates a change in the bulk water surface tension, thereby changing the behaviour of the vapour bubbles emerging from the micro-cracks. In effect, it creates more, smaller shaped bubbles making them less obstructive (with a greater surface area) and able to move more efficiently. This difference in bubble formation between untreated and EndoTherm™ dosed systems can be seen in the image below.

This process means the bulk water within a heating system exhibits a greater overall heat transfer coefficient.



OVERVIEW

- EndoTherm™ is an energy saving additive for central heating systems.
- The effects of EndoTherm™ have been independently tested and proven by an ISO17025 accredited test house.
- EndoTherm™ is proven to be non-corrosive and causes no damage to heating system components.
- Easy installation in 10-15 minutes.
- EndoTherm™ will work in any closed, wet central heating system.

EndoTherm™ Case Studies

EndoTherm™ has now been installed in a large number of domestic and commercial properties. To support the accreditation achieved from independent test bodies, Endo Enterprises have recorded the savings achieved by users of EndoTherm™ in real-life situations.

Each installation is surveyed to identify the optimum volume of EndoTherm™ required to ensure the quickest return on investment (usually 6-12 months). Historic gas readings are then compared with the recorded usage after the product is installed to identify the savings delivered by EndoTherm™.

Degree days are used in each case study to compensated for the variances in external temperatures over different months and years. This provides a true reflection on the effectiveness of EndoTherm™ in a heating system.

KEY INFORMATION

INSTALL DATE: Nov 2013

TEST PERIOD: 2 Months

REPORTED SAVINGS:

13.8%

NHS - SPECIALIST CENTRE FOR REHABILITATION MEDICINE

EndoTherm™ was trialled at a dedicated, stand-alone unit for Rehabilitation Medicine within the grounds of a major NHS hospital.

The centre had 16 single occupancy rooms powered by a 300kW boiler system (and 70 radiators) giving a total system volume of 1400L. EndoTherm™ was installed in late November 2013.

The gas usage of the centre, when compared with the historical usage figures in 2012 attributed a saving of 13.8%

KEY INFORMATION

INSTALL DATE: Nov 2013

TEST PERIOD: 2 Months

REPORTED SAVINGS:

14.9%

COMMUNITY HEALTH SERVICES CLINIC

The performance of EndoTherm™ was tested at a 'Stay and Play' Clinic which forms part of a local community hospital. The clinic is a single storey building with a 40KW combi-boiler and 17 radiators giving a total system volume of 320L. EndoTherm was installed in early November 2013.

The recorded usage for November and December 2013 were then compared with historic readings using degree day data. With reported savings of 18.5% in November and 11.3% in December, the total saving delivered by EndoTherm™ was 14.9%.

EndoTherm™ Case Studies

KEY INFORMATION

INSTALL DATE: Nov 2013

TEST PERIOD: 45 Days

REPORTED SAVINGS:

11.91%

LOCAL COUNCIL - MUSEUM

The performance of EndoTherm™ was trialled by a local council at a late Georgian house with Victorian extensions which has been a museum since the early 1980s.

Equipped with a Concorde 40kW CXA Boiler system and 14 double radiators, the museum had a system capacity of 400L and a annual usage of 93.134kWh. EndoTherm™ was installed in November 2013.

Comparisons, before and after installation of gas usage identified a saving of 11.91% due to EndoTherm™. This represented an excellent saving for a listed building where more intrusive energy saving measures were not viable.

KEY INFORMATION

INSTALL DATE: Jan 2013

TEST PERIOD: 10 Months

REPORTED SAVINGS:

17.9%

SPORTS & LEISURE CENTRE

EndoTherm™ was installed at a large sports & leisure centre between January and April 2013. The centre had a heating system of 2 x Ideal Viceroy GT boilers serving a capacity of 10,000 litres of water.

Not all the gas consumed was used in the heating of the centre. 50,000kW of energy per month was used in an external circuit to heat the swimming pool and was subtracted from the total usage to identify gas used specifically in the heating of the building.

The addition of EndoTherm™ to the centre's heating system has saved an average of 17.9% over the 10 month test period.

KEY INFORMATION

INSTALL DATE: Nov 2013

TEST PERIOD: 2 Months

REPORTED SAVINGS:

15.67%

HOUSING ASSOCIATION

EndoTherm™ was installed at the head offices of a large housing association in the North West of England. The office has a heating system that includes a 70kW boiler, 15 radiators and an indirect hot water calorifier. With a system volume of 450L, EndoTherm™ was installed at the start of November 2013.

Direct comparisons of the usage between 2012/13 and 2013/14 identified an uncompensated saving of 26.9% or 15.67% when factoring in degree days.

EndoTherm™ Independent Studies



Enertek International are a renowned R&D company providing independent and cutting edge testing facilities to the gas, oil, renewable and electrical appliance industries.

The EndoTherm™ solution was tested in a controlled gas fired central heating system at the Enertek International Research Establishment during December 2013.

Direct comparison tests with and without the recommended concentration of EndoTherm™ additive in the system water indicate that the gas consumption of the boiler in the heating system can be reduced by up to 15%.

'This empirical evidence indicates that the additional of EndoTherm™ can significantly reduce gas consumption and therefore CO₂ emissions.' - Enertek International Ltd, Jan 2014.



The University of Central Lancashire has a number of internationally recognised research centres that provide access to the universities expertise of staff, students, graduates and outstanding facilities. The performance of Endo Enterprises (UK) Ltd's EndoTherm™ solution was tested by UCLAN at the Burnley Campus workshops in November 2013.

The recorded gas consumption for the two tests were compared and the results indicated that the solution containing EndoTherm™ consumed 10.4% less gas than the test containing only water solution to reach the pre-determined set point.



Tomorrows Air Solutions are the most experienced manufacturer of heating equipment in the UK, offering independent advice and service to the restoration industry. Tomorrows Air Solutions created a sealed test chamber in which heat exchangers, moving 500m³ of air every hour aimed to heat a wooden block to a core temperature of 50°C.

Results showed that water dosed with EndoTherm™ used 23.7% less energy to raise the temperature of the block when compared with water alone.

Meadowhead Consultancy Ltd.

The Meadowhead Consultancy has over three decades of experience in providing consultancy and testing services to the United Kingdom water treatment industry.

Tests on the corrosive nature of EndoTherm™ was conducted using a Buildcert test rig over 14 days in both hard and soft waters. Both metals and seal materials showed less corrosion in EndoTherm™ dosed systems then compared with untreated hard and soft water.

This test backed-up an on-going study carried out at a local college. An inspection of the heating system after 21 months confirmed that the system was in excellent condition and there was no deterioration whatsoever in the Buderus boiler aluminium heat exchanger, or in the copper pipework of the system.

In addition, the energy saving characteristics of EndoTherm™ that had been evident in the initial trial period, were maintained throughout the extended 21 month trial period.

EndoTherm™ FAQs

HOW MUCH ENDOTHERM™ DO I NEED?

Domestically 500ml per 100 litres of heating system volume. Simply put a 10-12 single radiator home requires 500ml. Commercially 1 litre per 100 litres of system volume. Experts from Endo Enterprises can calculate exactly how much EndoTherm™ will be required.

DOES ENDOTHERM™ WORK IN ANY HEATING SYSTEM?

Yes, any heating system where a boiler is used to heat water EndoTherm™ will work.

HOW LONG DOES ENDOTHERM™ LAST?

EndoTherm™ will remain in a closed central heating system without any deterioration of energy savings for at least 3 years, according to independent tests.

HOW DO I INSTALL ENDOTHERM™?

EndoTherm™ can be added to a system using a feed and expansion tank or via a partially drained radiator. Full installation instructions are available on request.

DOES ENDOTHERM™ DAMAGE MY HEATING EQUIPMENT?

Extensive testing has been carried out and EndoTherm™ has been proven to have no corrosive or damaging effects on the materials found within heating systems.

IS ENDOTHERM™ DANGEROUS?

EndoTherm™ is not dangerous to the touch. It has been classified as a mild irritant but carries no hazardous threat.

SHOULD ENDOTHERM™ BE APPLIED TO A CLEAN OR EXISTING FILLED SYSTEM?

EndoTherm™ will work in any existing system whether “clean” or “dirty”. It is recommended that systems are flushed before the installation of EndoTherm™ to maximise energy savings.

CAN ENDOTHERM™ WORK IN CONJUNCTION WITH AN INHIBITOR?

EndoTherm™ compliments inhibitor products. This applies to systems already dosed with an inhibitor and systems where an inhibitor is introduced after EndoTherm™ has been installed. EndoTherm has some inhibitor properties itself and functions alongside inhibitors without issue.



EndoTherm™

SOME TESTIMONIALS

"The trial of EndoTherm™ at our head office has demonstrated a saving of 33% compared with the same period last year. Consideration is now being given to implementing this technology into a larger site such as the Town Hall"

- Cabinet Member: Public Health and Housing

"EndoTherm™ was installed into a low secure inpatient service for men and women suffering from enduring mental illness and personality disorders in South Wales. Within days the temperature in the home had noticeably increased. Our maintenance department had to lower the setting on the boiler to compensate. At the end of the month our gas consumption was 15.6% lower than the same month last year adjusted with degree days. Obviously we are very pleased with this result"

- Director, South Wales healthcare group

"My average gas bill has gone down from £102 to £75 per month since EndoTherm™ was installed. Its amazing how something so simple has made such a difference to my monthly heating bills."

- Domestic installation, Cheshire



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**ENDO
ENTERPRISES**

ADVANCED WATER TREATMENT SOLUTIONS

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ItDoesTheJob.com HQ is Carlton House. Built in 1735 in Leytonstone, East London and was originally part of a terrace of three houses. It is classified as a Grade II listed building and of significant architectural interest. Most of our products and solutions are installed here.

We are continually transforming Carlton House, preserving the original fabric of the building whilst maximising energy-efficiency and minimising running costs. We've restored, reduced, reused and recycled alongside implementing imaginative products and solutions without which it would be expensive and cumbersome to run.

Now our HQ, Carlton House has gradually become an example of how simple and practical it is to sustain a lower energy lifestyle– and save money!

