HEAT TRACE

The **Heat Tracing Authority™**

Heat Trace Limited.....

45 YEARS ON!

The History

When Neil Malone founded Heat Trace Limited in 1974, electric heat tracing was still in its formative years. In over four decades since then, it has developed into a significant industry based on quality principals.

Throughout this time, Heat Trace Limited has been at the forefront, deeply involved in the development of BS6351 - Electric Surface Heating, the first European standard published in 1982, through to IEC62086 - a harmonised World Standard launched in 2000 - now IEC60079-30.

From the start, Heat Trace Limited developed products and systems not only satisfying the new standards, but also meeting Heat Trace Limited's own corporate objectives of improving...

"safety, efficiency, reliability and performance".

These highly focused objectives have inspired a corporate culture within the company that remains to this day. The result has been a stream of innovative, patented products – both heating cables and control and monitoring equipment – that have seriously influenced the direction and focus of the heat tracing industry.

Heat Trace Limited's ground breaking "TraceIT" Heat Tracing System Design Software enables all engineers to quickly, accurately and competitively design and engineer heat tracing systems of the highest calibre. TraceIT emphasises safety, efficiency and low cost of ownership for the end user.

In 2014 Heat Trace Limited won the prestigous Queen's Award for Enterprise in the category of Innovation. This was in recognition of the continuing technological development in the field of semi-conductive polymer heating cables.

Today Heat Trace Limited is a global company providing complete heat tracing solutions. In addition to systems manufacture, services include consultancy, system design, installation and commissioning, project management, maintenance and training.

Heat Trace Limited has become .....

The **Heat Tracing Authority™**

HEAT TRACE

Safety • Efficiency • Reliability • Performance • System Life

Heat Trace Limited.....

Innovation

Heater Technology

Heat Trace Limited developed and patented the world's first cut-to-length parallel resistance heating cable in the 1970's. This was followed in the early 80's by 3 phase Longline series cables for heating long pipelines. Both of these heaters were based on foil conductor technology, a principle that remains within the company's product range today.

More recent developments include the patented AHT, the world's first mineral insulated, metal-sheathed cut-to-length parallel resistance cable for high temperatures or high power duties.

Today, Heat Trace Limited manufacture the widest range of heating cables, including what is now considered to be the world's largest range of self-regulating, semi-conductive heating cables, with voltages from 12 volts to 1000 volts, outputs up to 150W/metre and withstand temperatures of up to 300°C. With the self-regulating style of heater accounting for around 80% of the world market for heating cables, Heat Trace Limited are the world leaders in this technology.

Heat Trace Limited invests a significant proportion of its revenue into research and development, resulting in many new patents and innovative products and processes.

A recent investment in a purpose-built state of the art metal extrusion facility, installed at our Innovation and Technology Centre in Stockport, now improves our ability to extrude continuous lengths of metal sheathing on our range of heaters.

New product developments also include patented self-regulating heated tubes for the automotive and aerospace industries, as well as "Hotwat Pipe" an insulated and heated tubing for maintaining hot water distribution systems in residential, commercial and industrial buildings.

Control and Monitoring

From very early on Heat Trace Limited recognised the important link between control technology and the "safety, efficiency, reliability and performance" of heat tracing installations.

Today, Heat Trace Limited's range of electronic control and monitoring equipment extends from simple thermostats, to microprocessor controls capable of integration with full plant SCADA and DCS systems.

Innovation led technology has ensured that Heat Trace remains .....

The **Heat Tracing Authority™**

HEAT TRACE

Safety • Efficiency • Reliability • Performance • System Life

Heat Trace Limited.....

Research & Development

Research & Development

Heat Trace Limited's Research & Development team carry out fundamental research, new product developments, and application-specific testing. This includes evolutionary and revolutionary changes to constant power and self-regulating heaters, connection and termination methods, ancillary items, monitoring, power and control. Research is frequently carried out in collaboration with academic and industrial partners, including projects supported by organisations such as InnovateUK.

Fundamental Research:

- Polymer science and processing technology
- Metallurgy, metal/metal and metal/polymer interfaces
- New materials, composites research and characterisation

Product Developments:

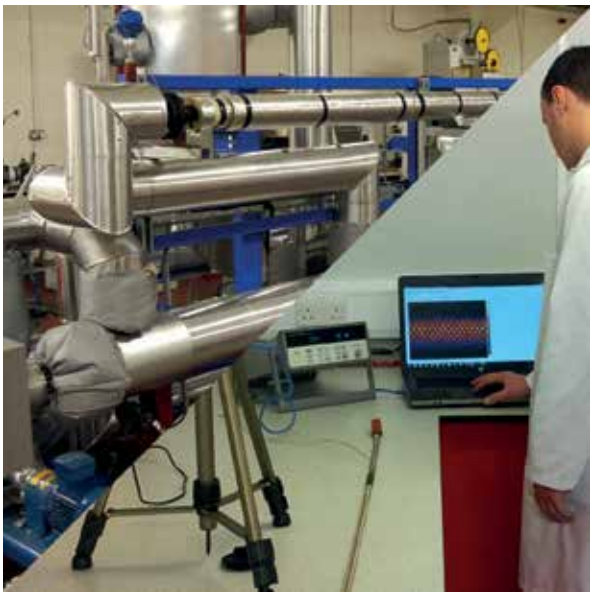
- New and improved designs, materials and manufacturing
- Constant-power heaters and Self-Regulating heating cables and devices
- Controls, connections, handling, monitoring and operational optimisation
- Bespoke products for specific clients or uses

Application Developments:

- Testing and reporting to a wide range of industry standards
- Application-specific testing for industrial, commercial, rail, automotive, aerospace, power generation and other market sectors
- Non-standard and bespoke testing programmes, according to customer requirements

We have fully equipped research and testing laboratories, including electronics development workshop, several cold test chambers, large-scale test rigs, accelerated ageing equipment and sophisticated thermal analysis capability.

The innovation culture within Heat Trace Limited results in the introduction of many new products and processes, which enable the company to maintain the technological lead for which Heat Trace Limited is known.



Quality Assurance

In addition to manufacturing products, a high quality Design and Engineering facility is available from a number of globally located design centres. Together with the manufacture of a complete and comprehensive product range, our worldwide installation and commissioning service enables us to offer complete, or partial turnkey projects.

System design and manufacture is carried out in accordance with all International Standards for electric heat tracing systems. Heat Trace Limited is a quality company in accordance with BS EN ISO 9001:2015 Quality Management System and EN ISO/IEC 80079-34:2018.

All products carry International Approvals, such as ATEX; IECEx; CSA; FM; EAC/TR-CU; DNV; CNEX and other approvals from accredited International Test Houses.

cml UKAS ISO 9001 QUALITY SYSTEM CERTIFICATION QMS12547

HEAT TRACE

Heat Trace Limited.....

Applications

INDUSTRIAL

Electric heat tracing

Industrial applications may be found in oil and petro-chemical plants, refineries, pharmaceutical production, power generation, water and waste treatment plants, food processing, plus many others.

Heat Trace Limited manufacture heat tracing systems for:

- Short or long pipelines
- Complex in-plant piping systems
- Above ground, buried, or sub-sea pipelines
- Externally or internally traced pipelines
- Safe or hazardous area installations
- Heated helidecks
- Tanks and vessels
- Hoppers
- Instrumentation and sample lines
- Instrument enclosures
- Temperature maintenance, or heat raising, to temperatures up to 600°C.

Steam heat tracing

Since the early 1900's, steam tracing has been the primary means of industrial heat tracing - even today 70% of all industrial heat tracing systems are in fact steam.

Where steam supplies are available, steam for heat tracing is considered to be "free" surplus energy. However, steam tracing of pipe work and vessels is generally inefficient and difficult to control, when compared with electric heat tracing systems. Furthermore, no energy can be considered free.

OFFSHORE

In the harsh offshore environment safety and reliability are of priority. Heat Trace Limited are able to supply high quality products and services to meet the demands of the industry. Some application solutions available include: flexible sub-sea heated pipelines, heated riser systems, topside pipeline heating (freeze protection and temperature maintenance), helicopter platform snow and ice prevention systems.

SPECIALIST APPLICATIONS

For above ground and buried long pipelines, where a limited number of power supplies are available, Heat Trace is able to provide a comprehensive range of special long pipe line heating systems. These use series resistance heaters and skin effect current tracing systems.

Other specialist applications include hopper heating modules for electrostatic precipitator hoppers, oilwell downhole heating systems, flexible sub-sea heated pipe system for off-shore use in deep sea oil and gas exploration and production applications. Also, in-shore applications for FPSO and tanker off-loading systems.

HEAT TRACE

Heat Trace Limited.....

Applications

TRANSPORTATION

The range of track and points heating systems is designed to meet the specialist standards required in the transportation industry. Heat Trace Limited's range of products has the reliability and durability required for all heating applications, including the heating of points systems, swing nose crossings, live contact rails, monorail system tracks, urban transit systems and tramway rails.

Heat Trace provide complete systems incorporating heaters, ancillary equipment and all the necessary control and weather monitoring systems.

Additional products have also been developed for door threshold heaters, pantograph shoe heaters, snow and ice prevention systems for platforms, walkways, access ramps, station canopies, under-floor heating for offices and waiting rooms, together with freeze protection systems for rolling stock water and fuel supplies.

COMMERCIAL

Commercial applications for heat tracing exist almost everywhere and systems may be found in domestic, municipal and institutional buildings; hospitals; nursing homes; office blocks; leisure complexes; educational establishments; etc.

Heat Trace can supply energy efficient systems for:

- Freeze protection of pipes/tanks
- Heating of hot water pipes
- Heated walls
- Roof and gutter heating for snow/ice prevention
- Snow/ice prevention on roads/ramps/walkways/ steps & access areas, etc.
- Heating fuel storage tanks

RESIDENTIAL

The brand 'HeatSafe' was launched to satisfy the heating requirements for residential applications.

The HeatSafe system comprises a complete range of safe, modular, easy-to-fit, heating and freeze protection solutions, designed by the customer to meet their own specific requirements. All systems are designed to be easily installed in residential and light commercial applications without the need for a professional installer, or electrician.

Employing multi-purpose, self-regulating heaters, incorporating Inherently Temperature Safe technology, the HeatSafe range is a low cost, affordable solution for the consumer. Systems can be designed and then purchased directly using a step-by-step on-line guide on the HeatSafe interactive e-commerce site at: http://www.heat-safe.com

Applications are available for pipe freeze protection; roof and gutter heating; snow and ice prevention on paths, steps and driveways; horticultural soil warming for seed and plant propagation; plus many others.

HEAT TRACE

Heat Trace Limited.....

Design & Engineering Services

A complete range of Design & Engineering Services are available - ensuring that all requirements of the client are satisfied.

Consultancy
From Concept through to Commissioning – Heat Trace Limited offers a full turnkey project capability, from the initial enquiry through site surveys to final client handover.

Design
All design work is carried out in accordance with ISO 9001 certification. Using TraceIT, Heat Tace's own state-of-the-art electric heat tracing design software, ensures that system design complies with the latest national and international standards for electrical heat tracing systems. Design centres are available in the UK, India and the Middle East.

Bespoke Software
Heat Trace's **TraceIT Design Software** empowers our partners be they customers, distributors or engineering houses to produce safe, reliable, competitive and detailed heat tracing system designs. Designs for frost protection, temperature maintenance and heat raising of pipes, tanks and vessels are all possible, calculating stabilised designs and temperature control requirements where appropriate. The completed design package can then be assembled and presented, either as a quotation or tender document for submittal to the client, all from within a single software package. **Evolution Web** is also available on the Heat Trace website and the **Evolution Mobile App** is available from Play Store. Both these versions can be used for heat loss calculations and product selection.

Commissioning
Our commissioning engineers will carry out final inspection and testing, ensuring system operation is in accordance with design specification, prior to handing over to the client.

Project Management
Dedicated Project Managers will ensure the smooth operation and completion of all major projects.

Maintenance
Annual Maintenance Contracts are available to ensure the system always remains at its optimum operating efficiency.

Personnel Training
Training in product knowledge, system design, installation and maintenance procedures can be provided, either on-site, or at one of our Affiliate/ Partner company premises. Alternatively, **ETHIC-GLOBAL** (the Electric Heat Tracing Industry Council) offers accreditation with E-Academy - Intended to provide an on-line resource for heat tracing education and learning. Basic & Advanced courses are available.

HEAT TRACE

WORLDWIDE REPRESENTATION

Heat Trace is represented throughout the world in over 50 countries. Our network of Affiliate Offices, Partner Companies, Distributors and Agents work both independently and jointly, with our Corporate Headquarters, resulting in an integrated team of heat tracing and surface heating specialists with a global capability.

For full details of overseas offices please contact
Heat Trace Limited directly.

HEAT TRACE

Heat Trace Limited, Mere's Edge, Chester Road, Helsby, Frodsham, Cheshire WA6 0DJ, England
Tel: +44 (0)1928 726 451 www.heat-trace.com

HTLCORP100 Nov 2022