HEAT TRACE ENTERS ITS 5TH DECADE AND WINS QUEEN'S AWARD!

In May 2014, Heat Trace Limited completes 40 years in business, therefore entering its fifth decade as an SME (Small and medium sized enterprise).

Depending on whose figures you believe, 60% of start-up companies cease to exist within the first year and less than 1 in 10 of the start-up companies survive the first 10 years

So, for Heat Trace, a start-up company in 1974, to have not just survived, but flourished, after 40 years, and under its original ownership, appears to be a one in a thousand accomplishment. Certainly, our longevity is something of which we are very proud. It is the result of an Innovation culture that has existed within Heat Trace throughout its life.

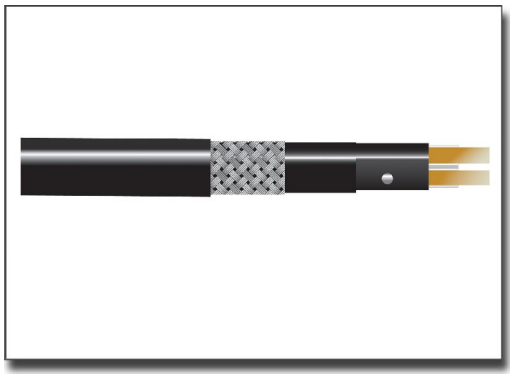
I am the last remaining member of the management team that carried the company through its formative years. Out of interest, I will review each decade separately to plot the evolution of Heat Trace!

1970's - The start-up decade.

Having previously acted as an agent for Hotfoil, a leading maker at that time, I quickly sensed that the product range was less than ideal. Like all heating cable makers of that time, Hotfoil manufactured only fixed length, series resistance heating tapes. Each cable was fitted with a cold lead for connection. Tapes were available in many different lengths, power outputs, voltages and temperature ratings – a range of hundreds of different heaters - clearly less than the ideal production model. Following a bust up with my boss, I founded Heat Trace and immediately started work!

On start-up, and with £300 borrowed from my mother, I formed the company, bought a car, and set up a desk in my bedroom. I fell out of bed in the morning, visited prospects in the afternoon, and designed heating systems in the evening. Again, I found that the product range was less than ideal, as every design was bespoke. It was apparent that a different form of heater was called for.

I conceptualised a parallel resistance, cut-to-length heating cable, and after meeting a man who could weave a heating element tape, we patented a zonal, constant power, cut-to-length heating cable. Unfortunately, my element weaving friend died, and I had to pick up the pieces. In 1976, I sold the company to an investor, who would finance the development of what became the world's first cut-to-length heating cable. I spent 3 years turning the concept into a product and we launched the cable by 1980.



The ‘80’s – a dynamic decade

In 1982, our investor retired, fortunately before our cable had become very successful, and I was able to buy the company back from him, by borrowing £40,000. We than entered a golden period for Heat Trace, at which point we became a truly Innovative company, which we remain today. A good team was assembled, the heating cable range rolled out, and the newly patented self-regulating PowerMatch controller enabled us to win numerous projects.

Towards the end of the decade, semi-conductive self-regulating heating cables were becoming the most popular generic type, because, not only could they be cut-to-length, but also were generally incapable of overheating, not relying on temperature controls. We recognised the need for such a product, but couldn’t afford the necessary investment at the time, to establish manufacture.

The ‘90’s – the LG years

Our Seoul office was contacted by LG Cable, a large Korean cable maker, who announced that they could make self-regulating heating cables. As they knew nothing about trace heating, they asked Heat Trace to market their cables. We were happy to accept the offer, until we discovered that their cables looked ok, but didn’t work!

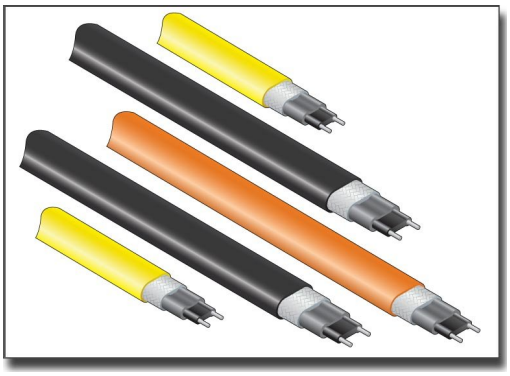
I enrolled the services of a former Raychem patentee, who, acting as a consultant, resolved the problems. During this period we were able to acquire a sense of the technology. Selling of the cables had started by the end of 1994. Sales grew nicely until 1998 when we encountered serious quality issues. Jason O’Connor, then a young engineer of promise, was despatched to Seoul, to determine and resolve the problems, and establish quality procedures. On his return to the UK 6 months later, by which time the problem had been resolved, he had developed a number of potential improvements and concepts which would prove invaluable in the future!

In 1999, by which time LG had acquired a minority shareholding in Heat Trace, they decided to sell their heating cable division to Tyco, intending Heat Trace to be part of the sale. Whoa there, not so quick! We recognised that, when freed from our LG partner, we were in the position to establish manufacture of our own self-regulating heating cables, and release into the world some of the new technology we’d been hoarding and honing!

We set ourselves the objective of ***‘Becoming the best’*** technically in our field over the next decade.

2000 - 2010 – becoming the best

Heat Trace Ltd produced its first self-regulating heating cables in the year 2000, starting with the low temperature thermoplastic types for freeze protection and similar aqueous applications, before graduating to higher temperature fluoropolymer types for temperature maintenance duties. By becoming expert in the compounding of the fluoropolymer formulations, we quickly developed technical advantages over our competitors, some of whom had been producing such products for 20 years longer than Heat Trace.

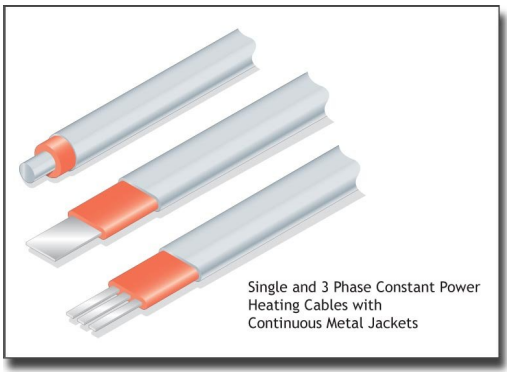


By 2005, outgrowing our Bredbury manufacturing plant, we moved 50km to a larger Helsby site, whilst at the same time acquiring our own Electron Beam for the irradiation of our thermoplastic self-regulating heating cables – we had previously sub-contracted this work.

The remainder of the decade was spent in further developing and extending our technical lead over the competition in the form of much higher temperature, power, and voltage capability in both self-regulating and constant power heating cables. By the end of the decade Heat Trace truly had become ***technically the best heating cable maker in the world.***

2011+ – expanding horizons

The current decade has seen the Helsby facility also outgrown. To relieve the pressure, in 2011 we re-opened the 'mothballed' Bredbury facility, as the Heat Trace Innovation and Technology Centre. The Research and Development team had grown, devouring 15% of Heat Trace's sales revenues, and required not only more space, but its own capital equipment, extrusion lines, test equipment and so on. The R & D team was joined by the Engineering team in re-populating Bredbury.



In addition to thermoplastic, fluoropolymer, and silicone rubber extruders, Bredbury has also been provided with a unique continuous metal extrusion line able to produce both profiles such as conductors and jackets, in materials such as copper, aluminium, brass, etc. This £1M investment has resulted in a much enhanced capability. Existing products can be metal jacketed for additional mechanical protection where applications dictate, cables can be provided in infinite lengths, and cables for hugely long pipelines can be completely produced in-house.

Heat Trace's Longline product, produced for more than 30 years, can now be provided for circuit lengths of up the 70km from a single electrical supply point, this being far beyond the capability of any competitor.

New products have been developed for applications such as oil well downhole and sub-sea pipeline heating, where extreme mechanical protection is needed, together with long circuits, and high temperature and power capability.

The Innovation culture within Heat Trace Ltd shows no tendency to slow – quite the reverse. The patent portfolio is 'full to bursting' with a number of very significant new products likely to see light of day in this and the next decade, in many markets not previously addressed by Heat Trace. **Such innovation has resulted in Heat Trace Ltd becoming one of just a handful of British companies receiving the Queen's Award for Enterprise in Innovation for 2014**!

So, whilst 40 years is a proud achievement, I can easily see forward to 50 years - I hope to remain around to see it! The second generation current management are young and vibrant and furthermore, we have the following generation of engineers in place. So with the correct nurturing, the long term future of Heat Trace Ltd seems assured.

Neil Malone

30 April 2014