The Contract Heat Treatment Association Newsletter
HOTLINE
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Inside . . .

CHTA Secretariat

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The Contract Heat Treatment Association is not responsible for the statements made or opinions expressed by contributors to *Hotline*.

CHTA is affiliated to:

Surface Engineering Association

Metal theft: we are not alone!

POLICE'S HIGHEST PRIORITY NEXT TO TERRORISM

Members will be aware that your Secretariat has been logging metal thefts from CHTA companies with the objective of encouraging action, from an apt authority, on a growing national problem. Numerous reports have been received attesting to the fact that, despite enhanced security, thieves with an apparent insight into target materials are becoming increasingly brazen. Respondents wonder what steps are being taken to regulate those scrap dealers with an alleged "cash-in-hand/no-questions-asked" culture.

Armed with a summary of the extent of recent thefts from members, CHTA Chairman Paul Handley raised the issue, in conjunction with the Surface Engineering Association's CEO Dave Elliott (who has been collecting equivalent data from other SEA constituent members) at an SEA meeting at the House of Lords in May.

A subsequent response from Defra (in July) noted the much wider scope of the problem (metal thefts from railways, electrical installations, buildings, other businesses, homes, etc). Defra reported that the British Transport Police (BTP) are on the case and indicated that a review of the Scrap Metal Dealers Act, looking at enforcement issues, is in progress. The Association of Chief Police Officers has also formed a working group to focus on metal theft.

National and local newspaper headlines in August evidenced that BTP are taking their task very seriously:

- **"Crackdown on the metal thieves who are stripping Britain bare"** (*The Sunday Telegraph*)
- **"Metal theft police raid scrap yards"** (*Express & Star,* Wolverhampton)
- **"Police hold 34 in metal theft blitz"** (*Express & Star,* Wolverhampton)

The Sunday Telegraph quoted BTP's Assistant Chief Constable as saying: "Next to terrorism, this is our top priority. Those involved can expect us to use every means to target them. This is a problem affecting the whole country and any industry that uses metal or cabling is being hit. There are some very organised individuals involved, who are linked to other types of serious crime".

The *Express & Star* reveals that, between April and June this year, there were 761 metal thefts and burglaries across the Black Country – an increase of 112% on the same period last year. Figures released show that eight people were arrested in Wolverhampton, 12 in Walsall, eight in Dudley and six in Sandwell in the first ten days of the police's "Operation Steel" (!) crackdown which began in early August.

Ironically, one of the drivers (along with soaring metal prices), cited by the *Telegraph* for the theft of "millions of pounds worth of metal across Britain every week", is the "high demand in countries struggling to find enough materials to keep their booming manufacturing industries supplied"!

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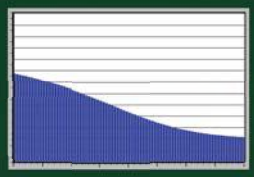

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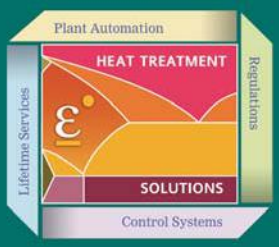

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Climate Change Agreements: a progress report

SEA's **Dave Elliott summarises relevant results from Defra's latest CCA target period assessment (Milestone 3, 2006), the first reporting performance by the heat treatment sector.*

RESULTS AT THE THIRD MILESTONE

Environment Minister Phil Woolas finally reported our sector CCA performance to Parliament on 26th July this year. He said: "Climate Change Agreements are working – securing a saving of 16.4million tonnes of carbon dioxide last year. We have seen continued improvement across all sectors in Climate Change Agreements, with nearly all facilities having their Climate Change Levy discounts renewed. Businesses have found more opportunities to improve energy efficiency and they should be congratulated on their commitment and innovation to meet and go beyond a challenging set of targets".

At the same time, Defra also published its annual report to Parliament on the UK Climate Change Programme, which is available at:

- *www.defra.gov.uk/environment/climatechange/uk/ukccp/index.htm*

For the surface engineering sector IPPC eligibility scheme (SEA1), our adjusted target for target period 3 was a total of 3,697,848,889kWh (primary) and our actual performance was 3,629,489,042kWh (primary). Therefore we met our target and all facilities that reported correctly have been recertified.

For the heat treatment sector energy intensity eligibility scheme (SEA2), our adjusted target for target period 3 was a total of 666,829,146kWh (primary) and our actual performance was 630,617,772kWh (primary). Again, therefore, we met our target and all facilities that reported correctly have been recertified.

The actual savings achieved in target period 3 by the two agreements are detailed in the accompanying table. Full details of all the results can be downloaded at:

- *www.defra.gov.uk/environment/climatechange/uk/business/ccl/results.htm*

**SEA administers CCAs on behalf of CHTA members.*

Savings achieved in target period 3

Sector	*Absolute saving $ktCO_2$/year	**Relative saving $ktCO_2$/year
Surface Engineering	91	108
Heat Treatment	5	9

**Absolute targets/savings deal only with the energy consumed by the participating facility in terms of kWh. They do not take into account any variations in levels of production throughput.*
***Relative targets/savings are measured in terms of kWh/some measure of production, thus allowing for increased energy consumption with increased production throughput.*

HEAT TREATMENT SECTOR PERFORMANCE IN DETAIL

The heat treatment sector had a target of a 1% reduction in energy consumption for Milestone 3, the first year of reporting, after allowing for adjustments for changes in production levels. However, the actual savings achieved were 7.13% and this is somewhat worrying, as it could lead to the future targets being tightened and made even more difficult to achieve.

An analysis of the individual performance of the 50 sites in the agreement yielded some very interesting information:

- 14 sites exceeded their targets and 'ring-fenced' the excess. The total of this over-performance amounted to 6.2$ktCO_2$.
- 16 sites failed to meet their targets and entered into emissions trading to make up for this. The total of this under-performance amounted to 5.2$ktCO_2$.
- Of the remaining 20 sites, 13 either just missed their targets or slightly over-achieved; so what happened to the other seven sites?
- Two of them made adjusted savings in excess of 50%, which is staggering but, on closer inspection of the figures, this was entirely down to an enormous increase in production throughput. If these two sites are taken out of the equation, then the sector as a whole would have failed to meet its target. That would have been extremely very bad news for the sites that failed to meet their targets and decided not to enter emissions trading to make up for the shortfall.

CCAs – THE FUTURE

So what does the future hold for the heat treatment sector Climate Change Agreement? Well, the next Milestone reporting period runs from 1st October 2007 through until 30th September 2008. After this, we will report the data to Defra who will then carry out a 'target review' to assess whether the future sector targets are still reasonable.

If they deem that the future targets are satisfactory, then everyone in the scheme will retain their existing targets as shown in schedule 2 of their PP3.02 underlying agreement. However, if Defra and their advisors conclude that the targets are not reasonable, then we have to start negotiating and finally agree on a sector target. Once the overall sector target is agreed, we then have to decide how to adjust the targets of all of the individual participants in the scheme. This can get quite complicated, as you can imagine. There is an appeals process should participants not agree with the adjusted targets, but hopefully it will not come to this.

Defra's annual report to Parliament and third target-period results were published in July.

Please be aware that we are currently developing an energy-saving tool-kit with the help of funding from The Carbon Trust and will be holding an Energy Project Implementation Day specifically for heat treatment companies on 25th October this year. Details appear on page 7 of this issue of *Hotline*.

Spread the word by proclaiming your CHTA membership

For use on company letterheads, literature, websites and advertisements, members can download CHTA's logo from the Members Area of the Association's website.

Moving forward on degreasing

***Keith Laing** (TTI Group) provides a heat treater's view as the compliance deadline for solvent degreasing approaches.*

The Solvent Emissions Directive (SED) deadline of October 31st is nearly upon us! The article written by Ian Lucas of Virotec (*Hotline* 104, June 2006) covered very thoroughly the current status of solvent degreasing and provided many useful facts for heat treaters regarding compliance with the restrictions of the upcoming SED regulations. However, all heat treaters have had to make their own decisions on which way forward is best for them, based on their own knowledge of the market they work in, the cleaning requirements of components from that market, and the wide choice of degreasing media available nowadays.

THE HISTORY

In simple terms, since the reclassification of trichloroethylene to R45 (category 2 carcinogen) in 2002, the particular impact on heat treaters has been one of restricting the use of trichloroethylene, our industry's standard solvent degreaser.

Most, if not all, companies involved in heat treatment use solvents to degrease parts prior to and after processing. The favoured solvent by far is trichloroethylene because of its outstanding performance as a degreaser. Simple and fast to use, it provides consistent dry and stain-free parts.

Aqueous degreasers are also widely employed in the industry, primarily for post-quench washing. Relatively cheap to buy and run and simple to operate, these are very effective degreasers but they do have some limitations when compared with solvent vapour degreasing. Therefore we still need the latter option.

In an ideal world, parts would be delivered to heat treaters in an already-degreased condition ready for treatment. Whilst some of our customers do this, the vast majority do not, so there will always be a requirement to clean and degrease parts. However much we all dream of Utopia, we know that, as heat treaters, we will always have to provide facilities to degrease, whether prior to or post treatment.

It is worth reiterating the very wide range of cleaning options available to us nowadays, such as aqueous-based washes, hydrocarbon and brominated solvents, alcohols, biochemical solutions, perchloroethylene (risk phrase R40 classification or category 3 carcinogen) and methylene chloride. So there are plenty of alternatives available.

Indeed many of the aforementioned cleaning solutions have been developed as a direct result of the solvents banned following the Montreal Protocol. In 1987, the protocol implemented a scheduled phase-out of chemicals that deplete the ozone layer (ODCs). Two common cleaning solvents affected by this protocol were Freon 113, a solvent used extensively in cleaning electronics, and 111 trichloroethane which was widely employed in removing greases and oils. Following the banning of 111 trichloroethane, trichloroethylene was widely adopted and has been in use since.

THE QUESTION

However, the question for heat treaters now is: with what can we replace existing trichloroethylene cleaning?

In most cases, the answer can be simple: continue using trichloroethylene but in hermetically-sealed systems. There are a number of reasons in favour of this apparently straightforward solution:

- continuity of cleaning;
- experience with trichloroethylene;
- cleaning requirements;
- trichloroethylene is not banned.

The most important of the reasons listed here is the cleaning requirement.

Since 1999, when the solvent emissions directive set down control of emissions from hazardous air pollutants (HAPs) or volatile organic compounds (VOCs), there has been much confusion (dare I say panic), both within the heat treatment industry and within companies themselves, on what needs to be done and which path to take. Part of this dilemma was the knowledge that whatever was required was undoubtedly going to have a large cost implication.

So-called "drop-in" replacements for trichloroethylene were sought and, although claims were made about alternative solvents, it soon became clear that none of our existing equipment would satisfy the 2007 legislation with alternatives such as n-propyl-bromide. It also became clear, but perhaps took a little longer to realise, that, in actual fact, trichloroethylene was not going to be banned and is unlikely ever to be outlawed as it stands today.

Once we had established that (a) there was no easy 'drop-in' replacement for trichloroethylene and (b) our cleaning systems would need upgrading or replacing if we wanted to continue to use trichloroethylene, we at last had a sense of direction. The vast majority of trichloroethylene cleaning systems in use were open-topped.

We were also very aware that although other solvents could perhaps be used in existing cleaning systems, with a little modification (such as the temperature controls), they themselves could also be subject to reclassification. Any decisions made would need to bear that in mind. Take for example, 111 trichloroethane; this was banned from October 2000 because it contributed to the hole in the ozone layer. Its "safe" replacement – trichloroethylene – was itself re-classified in 2002 to a category 2 carcinogen (risk phrase R45 – may cause cancer) despite previous assurances from suppliers.

THE REVIEW OF CLEANING

Back in 2002, TTI Group set up a project team to review the effectiveness and costs of component cleaning systems. This included a full examination of all existing systems and possible alternatives and the assessment of the future costs and regulation of available systems. It concluded that, for heat treatments such as nitriding and vacuum processing, where the effectiveness of pre-treatment cleaning is of paramount importance, the only cleaning process that satisfied all of the criteria is solvent degreasing.

The selection criteria simply focussed on:

a) Does the degreasing system have the capability to clean the range of oils required?
b) Does the degreasing system have the capability to clean the range of components required?

Point (b) included basic questions such as: "do, and indeed can, the parts to be cleaned be rotated or tumbled during drying?". There were other factors which came into play, such as cost and level of maintenance required; these were considered for each process at each site and for the range of parts requiring degreasing.

The outcome of the review panel was a recommendation to continue to operate with trichloroethylene, but in totally-enclosed systems. The initial capital costs were high but, once such a system was filled, operating costs would be low and, equally as important, continuity of cleaning would be maintained. We felt that although other cleaning processes complied with many of the criteria, none of them ticked all the boxes, as trichloroethylene does. Factors such as longer cleaning time, inadequate drying of parts, higher operating costs and capital cost were considered.

The new legislation also gave solvent users a choice of subscribing to either plant emission limits or a year-on-year solvent reduction scheme, the latter being particularly demanding to achieve, especially with older kit.

Hot aqueous wash system.

THE SOLUTION

In order to meet the requirements of the SED and European VOC, and with the emission limits being almost impossible to achieve with older existing technology, hermetically-sealed solvent cleaning systems were an attractive option, if not necessarily the cheapest. Using hermetically-sealed systems means there are virtually zero emissions and therefore zero loss of solvent: i.e. the system effectively needs only to be filled once. This has a large impact on operating cost; in monetary terms, the annual consumption of trichloroethylene is cut to 20%.

After the cleaning requirement for each site was reviewed, decisions were made to purchase hermetically-sealed cleaning systems suitable for either trichloroethylene or perchloroethylene. Some sites used the review to get rid of solvent cleaning and replace with hot aqueous washing systems. These decisions were all based on the specific requirements of the plant.

Employed in the heat treatment industry for years, aqueous cleaners provide environmentally-safe systems but not all oil types are adequately removed when using them. In fact, it is worth noting that even the holy grail of trichloroethylene will not clean non-mineral or inorganic water-based oils effectively; therefore, in some cases, it was decided to have both aqueous and solvent degreasing available on site. This depended entirely on the cleaning requirement.

In the EVT hermetically-sealed solvent degreasing system adopted, multiple filtration and oil distillation keeps the solvent free from contamination. Carbon adsorption and solvent concentration controlled to less than 1g/m^2 guarantees compliance with SED and European VOC requirements, while additional features, such as vacuum distillation, vertical parts movement and activated carbon filter systems, are easily integrated into the system if required. The EVT range also includes fluid management facilities that can be interconnected with the *SAFE-TAINER*™ system provided by SAFECHEM, a subsidiary of The Dow Chemical Company.

This *SAFE-TAINER* system comprises two separate containers each with a standard drum inside, one for fresh and one for used solvent. With the steel container protecting the drum from damage or spills, the *SAFE-TAINER* system is both integrally bunded and portable, ensuring safe and simple on-site storage and transfer. With a few simple connections, fresh and waste solvent transfer is easily and safely achieved within a virtually sealed system.

By installing a hermetically-sealed solvent degreaser from EVT in combination with the closed-loop SAFE-TAINER system, TTI is benefiting from the high-quality cleaning performance of chlorinated solvents used in a safe and sustainable manner – thereby complying with legislative requirements and contributing significantly to care of the environment.

Hermetically-sealed trichloroethylene cleaning system.

THE LEGISLATION

Trichloroethylene is not banned but its use is regulated. Indeed, it is unlikely that chlorinated solvents will be banned. Providing they are used in compliance with the new legislation, we can continue cleaning as before.

The 31st October deadline is highlighted at the beginning of this article. As with all deadlines, it initially appeared to be a long time away but clarifying exactly what the legislation will mean or what options are available takes time. As the deadline draws nearer, we eventually make decisions and take actions which have been put off.

One thing heat treaters must do before the deadline is to apply for a pollution prevention control (PPC) permit from their local authority. TTI do have the legislative side well covered and have even received praise from local authorities for our early and proactive approach to the application process. Nonetheless, there can be delays in issuing the PPC permit, largely down to LA resources. It is acceptable to purchase and install new solvent degreasing machines after October of course, but you have to carry out notification and crack on with the permit application simultaneously.

In respect of choosing perchloroethylene over trichloroethylene, perchloroethylene is a safer substance in H&S terms, will become relatively cheaper as the price of trichloroethylene continues to increase, and is generally easier to get a permit for than trichloroethylene, because of its lower risk rating.

SUMMARY

In summary, the decision as to what degreasing system is required by heat treaters really boils down to what cleaning is required on incoming parts for the processes carried out at any particular site.

The legislation and subsequent internal degreasing review have forced us into looking at the way we degrease, what we degrease, the equipment we have and to think overall about degreasing. It has been a positive step forward.

TTI, like most other heat treatment companies, have settled on using aqueous washes or hermetically-sealed trichloroethylene/perchloroethylene systems. Some sites have changed from using trichloroethylene to aqueous systems due to the nature of the business. Other plants which have operated for years using trichloroethylene solvent continue to do so, but in a safer and environmentally-friendly manner. The hermetically-sealed cleaning systems in which we have invested (with their own integral solvent scrubbing devices) not only reduce the emissions from VOCs but are also more energy efficient and lower solvent consumption drastically.

I suspect this scenario will be largely replicated throughout the heat treatment sector. The legislation has pushed us all to review our cleaning methods to meet the SED and, in doing so, improve processes and equipment.

Of course, the additional cost to the heat treatment business is not insignificant and, like the rising energy costs, has an impact on our industry.

LATEST NEWS

A new European charter aims to phase out the sale of trichloroethylene for ***open*** *metal-cleaning systems by the end of 2010. For details, see page 12.*

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Improving energy efficiency through Energy Project Implementation

CHTA WORKSHOP ON OCTOBER 25TH

CHTA members will be aware, from e-mails circulated by the Secretariat earlier this year, that SEA, in conjunction its Energy Management Services partner Briar Associates, has obtained significant funding from The Carbon Trust (Networks Initiative) to run a programme of Energy Project Implementation (EPI). The aim is to focus SEA members' attention, by sector, on the cost-saving opportunities of installing equipment for improving site energy efficiency.

Through Briar Associates, SEA has instigated a number of site visits to constituent members in order to highlight areas where energy savings can be realised. Phil Brewerton of Briar tells *Hotline*: "We would like to thank those SEA-affiliated companies (including CHTA members) who have contributed to help ensure that the most relevant energy-efficiency projects are included for each sector."

By late September, every SEA member will have received, by post, a free self-help 'tool-kit' with a sector-specific summary of energy-saving opportunities for: heat treatment processes; paint and powder coating; metal finishing.

One barrier to EPI is capital availability. The Carbon Trust can provide interest-free non-secured loans for the installation of energy-efficient equipment for qualifying SMEs*. Each 'tool-kit' contains a loan application form and technical documentation to support the loan. A sector-specific checklist helps to establish the highest priority energy-saving projects at a site.

CHTA members are being invited to a free-of-charge heat-treatment-specific *Energy Project Implementation Workshop* on **25th October** at SEA. There, Briar Associates, supported by personnel from The Carbon Trust with loan expertise, will present the 'tool-kits' and give detailed assistance to SMEs* in applying for a loan. Delegates to the sessions are being requested to bring along gas and electricity data for their chosen energy-saving project.

**The EU State Aid definition of an SME is a company with:*

- *Less than 250 employees.*
- *Less than €50m turnover (approximately £35m) or less than €43m assets (approximately £30m).*
- *No controlling interest more than 25% by a non-SME (i.e. if it is part of a larger organisation).*

CHTA AGM

Traditionally, the Association's Annual General Meeting has been staged in the weeks leading up to Christmas. Sadly, attendance at the last AGM on December 14th 2006 was disappointing.

In order to encourage greater member participation, CHTA's Management Committee has examined the proposal of holding the AGM at a more convenient time of year and at an easily-accessible venue with added interest. Accordingly, May 8th 2008 will see the event taking place at the National Motorcycle Museum, Solihull.

Because CHTA's Articles of Association state that "*not more than 15 months shall elapse between the date of one AGM and the next*", it is necessary to call an AGM in the interim period. As this will only be a brief "nominal" meeting to fulfil a legal requirement, it has been scheduled to precede the CHTA *Energy Project Implementation Workshop* on **October 25th** this year.

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The Contract Heat Treatment Association

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BODYCOTE ACQUIRES NITRUVID

Bodycote International plc has announced the acquisition of Nitruvid S.A. from Ascometal S.A., a member of the Russian-owned SeverStal Group.

Nitruvid operates from three plants located in Paris, Saint-Etienne and Metz and has annual sales of €6.7million. Founded in 1985, it has patented a number of renowned plasma-assisted nitriding processes, especially for stainless steel applications. One of the most notable techniques offered is a process which dramatically enhances the life expectancy of control rods used in nuclear reactors.

Other processes available include the nitriding of titanium and superalloys, low-pressure carburising and ion implantation. These processes are used in a number of high-profile industries, such as automotive, aerospace, medical, oil/gas and power generation, and complement many existing Bodycote proprietary processes including *Kolsterising,* which is also used in the surface hardening of stainless steels. The Nitruvid website *www.nitruvid.com* (shortly to be available in English) provides further details of the technologies offered.

With its worldwide network of over 300 facilities, Bodycote intends to transfer Nitruvid's expertise across Europe, America and the emerging markets to provide its broad customer base with state-of-the-art solutions. Details of Bodycote services can be found at *www.bodycote.com*.

TECVAC'S £500,000 EXTENSION

Tecvac Ltd has extended production space at its Swavesey site by 44% in order to provide new capacity for aerospace-sector work, PVD/CVD research, machine building and vacuum brazing.

The new facilities, representing an investment of more than £500,000, include component cleaning lines, vacuum brazing, sub-assembly and a 400ft^2 controlled-environment area to support PVD/CVD processing, sub-assembly work and multi-layer coating of flying parts and aerospace engine components.

These coatings, which include a variety of physical vapour deposition (PVD) and chemical vapour deposition (CVD) coatings, cover many different titanium-based formulations, as well as diamond-like carbons (DLC) and pure metallic thin films.

Applications of Tecvac's thin-film technology include highly-stressed turbine blades, engine bearings operating at speeds of up to 20,000rpm, and heavily-loaded undercarriage bearings for the latest long-haul high-capacity airliners. Other aerospace applications include

Checking precision components, PVD-coated with TiN, in the new controlled-environment area at Tecvac.

moving surfaces within flying control and trim actuators, and sacrificial thin-film surfaces within emergency and main power systems.

Tecvac's thin-film coatings also include *Nitron O*, a coating specially designed for titanium alloys which imparts a nitrided diffusion zone beneath a PVD surface coating.

Says Tecvac director Peter Carpenter: "As the requirements of quality within Nadcap and other aerospace approvals become even more stringent, the controlled assembly and inspection function is becoming a critical part of our service for the aerospace sector.

"The new controlled-environment facilities also support Tecvac's processes for biomedical surfaces for biotechnology. Medical devices require very high levels of cleanliness prior to coating to ensure the 100%-perfect coatings that are required for most biomedical applications. This is a growing market as the coatings considerably increase the life expectancy of artificial joints and implants."

Other support facilities in the new extension include a fully-equipped robot-operated ultrasonic cleaning line, featuring optional pre-wash and inert gas drying facilities that are integral with the controlled-environment area to ensure that no contamination occurs between cleaning and coating.

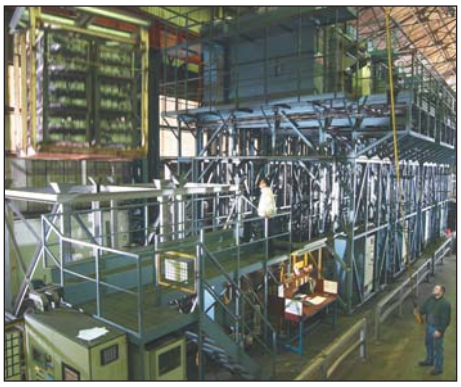
INVESTING IN ALUMINIUM HEAT TREATMENT

Alloy Heat Treatment (*aht*) are investing a further £130,000 in the expansion of their specialist aluminium heat treatment services. Already the leading subcontract specialists in the UK for aerospace, automotive and advanced engineering, they are adding another "rapid-quenching" oven, giving them even greater capacity in the treatment of high-integrity aluminium-alloy components.

The company invested in a completely new rapid-quenching plant, incorporating four ovens, only three years ago. Now automotive components for some of the world's most famous marques are heat treated at the plant in Dudley, as are high-performance components for leading names in aerospace and defence.

The latest investment brings the total number of ovens that the company operates to 22. They can handle single loads from a few kilograms up to 2.5 tonnes, and can quench up to 1.8m^3 of working volume in less than 10 seconds. This level of performance, along with fast turnaround and increased capacity, reinforces *aht*'s position as market leader.

"We uniquely specialise in just treating aluminium alloys, which gives us a distinct advantage," commented Adrian Church from *aht*. "Whenever someone is looking for exacting specification, or is trying to overcome a particular challenge in aluminium, they tend to beat a path to our door – they know that we will come up with the solution."



Part of the new plant at Alloy Heat Treatment.

The company's depth of experience and technical expertise has been a key factor in helping it to deliver a total service package to its clients. Recent investment has also broadened out the services it is now able to offer.

On site, there are straightening and aluminium shot-blasting facilities, as well as a specialist dye-penetrant inspection service, so that the company can provide a total heat treatment package "under one roof."

Components, which otherwise would be transported between separate service providers, are now only making a single trip, maximising economies of scale and reducing road miles.

NEW PEOPLE AT MME

CHTA-member Meltham Mills Engineering recently announced the appointment of Alan Hirst as Heat Treatment Consultant. Alan has a lifetime's experience in heat treatment / metallurgy at JI Case and the 600 Group. Terry Clarke has also joined as Heat Treatment Manager after a long career at Eaton Transmissions in Manchester.

MME are also pleased that their next generation of heat treatment expertise is progressing exceptionally well, with Jason Beaumont recently awarded National Technician of the Year by the Institute of Materials, Minerals and Mining at Grosvenor House, after gaining top marks in his MPI examinations. The Institute makes two awards each year to students who are currently training or have recently completed training to become materials or minerals technologists.

BODYCOTE STRENGTHENS ASIAN HEAT TREATMENT PRESENCE

Bodycote International plc acquired Chinese heat treatment company Ningbo Jiangdong Ruidahong Heat Treatment Co. Limited in June. This is the second company the group has added to its Chinese heat treatments division as part of its strategy to expand heat treatment operations in emerging economies.

RHT operates from two facilities in the Yangtze River Delta, approximately 300km south of Shanghai and the existing Wuxi heat treatment centre.

Founded by Mr Zhou Wen Yong and Mr Hong Bo in 1998, the company provides protective-atmosphere heat treatment services and associated testing support to local businesses who supply a number of leading Western-based OEMs in the automotive, power tools and agricultural sectors.

Existing local management will continue to guide operations and a major local customer has entered into a three-year strategic outsourcing agreement with the business. Sales in 2006 were £2million.

Bodycote intends to grow its business in China by adding at least one new location every year as part of a five-year strategic plan.

NEW MEMBERS

CHTA welcomes two new members:

Gloucester Heat Treatment Ltd, Unit 7, The Venture Business Centre, Madleaze Road, Gloucester GL1 5SJ. Tel: 01452 526434/307300; fax: 01452 303680; e-mail: *heat-treat@ghtl.co.uk*; web: *www.ghtl.co.uk*; contact: Steve Wells, Managing Director.

Zotic Ltd, 26-30 Highgate Square, Highgate, Birmingham B12 0DU. Tel: 0121 440 3130; fax: 0121 440 6646; e-mail: *enquiries@zotic.co.uk*; contact: John Blee, Managing Director.

MEMBER PROFILE

Gloucester Heat Treatment Ltd

Managing Director Steve Wells outlines the activities of CHTA's new member.

Having been a member of the Wolfson Heat Treatment Centre for many years, Gloucester Heat Treatment Limited (GHTL) is very proud to have been invited to join the Contract Heat Treatment Association as well. We thought it was high time to participate in this prestigious organisation, whose reputation is second to none, and look forward to a long and healthy relationship.

GHTL was founded in 1983, its roots stemming from ICI Cassel Heat Treatment Service in the early seventies and, later, British Heat Treatments. GHTL finds itself on the same trading estate, in the heart of the city of Gloucester where, since 1989, we have occupied a purpose-designed 10,000ft^2 unit, just 200m from the original site of our predecessors.

We have held the ISO quality standard since 1990; this registration has now evolved into BS EN 9100:2003, AS9100 rev B, ISO 9001:2000 and we're assessed in accordance with AS9104 for the scope of heat treatment of ferrous and non-ferrous materials. In January 2006, this enabled us to achieve Nadcap approval for heat treatment to AS7102, an accreditation of which we are extremely proud.

Using controlled-atmosphere, salt-bath and air furnaces, our processes (detailed at *www.ghtl.co.uk*) include annealing, normalising, carburising, carbonitriding, nitriding, ferritic nitrocarburising, hardening, tempering and stress relieving, as well as aluminium heat treatment. We also offer metallurgical laboratory facilities which provide a full range of destructive and non-destructive testing.

On July 20th this year, when the rains battered most of the country, Gloucestershire suffered badly. We found ourselves under some four inches of what we will call water, although the textured consistency would have you describe it somewhat differently. The flash flood disappeared as quickly as it hit, but left us with a massive clean-up and drying-out operation.

How to start such a recovery operation, without water and electricity, was just another challenge thrown in our faces. We had power restored within two days and, within a week, we were back on line. With water being pumped up to our header tanks, we limped through the next week until the normal water supply was restored.

In our case, the saying "all's well that ends well" is very true. We are again fully functional and providing our customers with the first-class service to which they have become accustomed over the years. Now that we're installed on *www.chta.co.uk*, we look forward to a flood of new customers!

LETTER TO THE EDITOR

Spanish scam sussed

Sir - Following a recent incident within our company, it may be helpful for fellow CHTA members to note the following and beware.

An invoice was received in the post from an organisation named "European City Guide", based in Valencia, Spain, for €987.00 (669.32 GBP). It quoted a date as the order reference. Not recognising this "supplier", we asked for a copy of the order. A document was then received which suggested that we had ordered an insertion in their publication *European City Guide* Edition IX; it was signed by a senior member of our management team with a company stamp.

After numerous phone calls in which they turned very aggressive, with legal threats etc, it was obvious that this was suspicious. We searched the Internet to find that ECG are operating illegally and are subject to closedown by some European countries. A website, *www.stopecg.org*, explains how they operate and we were probably a victim of an electronic cut-and-paste exercise. We still do not know where they obtained the signature and company stamp from!

We have now put the documents into the appropriate file.

John Craddock, HHT (Midlands) Ltd

ADVERTISER PROFILE

Datapaq Limited

Founded in 1984, Hotline *advertiser Datapaq is today the industry leader for in-process temperature measurement and analysis systems, providing manufacturing companies around the world with key information on the effectiveness of their furnaces, ovens and kilns. Marketing Manager Judith Bilinski outlines the company's development . . .*

In twenty years, Datapaq products have improved and expanded enormously from their original designs. The first Datapaq systems were for the paint-curing industry but, these days, Datapaq systems can profile in a wide range of niche markets from high-temperature/long-duration processes, in the kiln and furnace industries, to rotomoulding oven processes and even deep-fat-fryer cooking processes.

Today there are thousands of Datapaq systems being used around the world. Bodycote, Pratt & Whitney, GE (USA), Alcoa Europe, Firth Rixson Ltd and many others utilise a Datapaq system for their temperature monitoring and analysis needs.

In 1985, we introduced the *Oven Tracker* to the finishing market. It is now the industry standard. In 1988, Datapaq added the *Kiln Tracker* for ceramic manufacturers. Datapaq entered the surface mount industry with the *Reflow Tracker* in 1989. Datapaq's tremendous success in the finishing industry enabled the company to introduce these new systems with confidence. Both products were received enthusiastically and the past years have shown continuous growth.

In 1991, Datapaq unveiled the *Furnace Tracker*, which instantly became the industry leader for product measurement in high-temperature processes. Datapaq further expanded in 2003 and developed the *Food Tracker* for the food-processing industry.

The state-of-the-art *Oven Tracker XL* system was launched in 1997. This is a system with more flexibility, more memory, and greater adaptability than the previous industry standard. In 1998, telemetry systems were added. Innovative thermal barriers and an extremely versatile data logger enhanced the *Furnace Tracker* line in 1999, again lifting the standards of the entire industry. Low-cost systems for job shops were also introduced.

To become the leader, Datapaq has produced, and will continue to produce, systems that are the most durable, accurate, and easiest to use in the world. No one combines highly-accurate data loggers, rugged thermal barriers and analytical software better.

Twenty years has also seen a huge geographical expansion for the company. From the original offices in the UK and USA, Datapaq now has main offices in Germany, Shanghai and Shenzhen, China, plus a network of over one hundred agents worldwide.

To find out how a Datapaq system can help optimise your process and to download our free demonstration software, take a look at our website: *www.datapaq.com*.

Diary

October 1-3 2007
CONTROLLED ATMOSPHERE ALUMINIUM BRAZING SEMINAR
Erie, PA, USA
www.secowarwick.com/seminar/seminar.html

October 2-3 2007
NORTHERN MANUFACTURING EXHIBITION
Sheffield, England
www.industry.co.uk

October 3 2007
BIFCA Technical Series:
BURNER TECHNOLOGY & SELECTION
West Bromwich, England
www.bifca.org.uk

October 3-4 2007
PRINCIPLES OF PROPER VACUUM FURNACE MAINTENANCE
Anaheim, California, USA
www.asminternational.org/vacuum07

October 7-10 2007
GEAR EXPO 2007
Detroit, Michigan, USA
International AGMA event includes SME seminar on "Effective Heat Treating and Hardening of Gears": *www.gearexpo.com / www.sme.org/gears*

October 9 2007
REACH – HOW WILL THE EC REGULATORY FRAMEWORK FOR CHEMICALS AFFECT THE SURFACE FINISHING INDUSTRIES – BOTH SUPPLIERS & USERS OF CHEMICALS
Birmingham, England
IMF symposium:
www.uk-finishing.org.uk/imf_events.htm

October 10-12 2007
63RD HÄRTEREI-KOLLOQUIUM
Wiesbaden, Germany
German-language heat treatment conference and exhibition: *www.awt-online.org*

October 15-17 2007
EURO PM2007
Toulouse, France
Congress and exhibition: *www.epma.com/pm2007*

October 15-18 2007
VACUUM COATING AND PLASMA SURFACE TECHNOLOGY
Dresden, Germany
Trade fair and conference:
www.efds.org/V2007.pdf

October 16-18 2007
UNDERSTANDING HEAT TREATMENT
Birmingham, England
72nd repeat of Wolfson's well-established course. Details from Derek Close, Wolfson Heat Treatment Centre, Federation House, 10 Vyse Street, Birmingham B18 6LT (tel: 0121 237 1122; fax: 0121 237 1124; e-mail: derek.close@sea.org.uk; *www.sea.org.uk/whtc*

October 16-18 2007
MATERIALICA 2007
Munich, Germany
www.materialica.com

October 17-18 2007
MANUFACTURER LIVE 2007
Coventry, England
www.themanufacturer.com/live

October 22-23 2007
INTERNATIONAL SYMPOSIUM ON ADVANCES IN SURFACE HARDENING OF STAINLESS STEELS
Cleveland, Ohio, USA
Sponsored by ASM Heat Treating Society and Case Western Reserve University:
www.asminternational.org/surface

October 22-25 2007
ALUMINIUM PROCESS FURNACE SEMINAR
Meadville, PA, USA
www.secowarwick.com/seminar/seminar.html

October 25 2007
CHTA ENERGY PROJECT IMPLEMENTATION WORKSHOP/ CHTA AGM*
Birmingham, England
See page 7

October 30 – November 2 2007
16TH IFHTSE CONGRESS
Brisbane, Australia
www.materialsaustralia.com.au/IFHTSE2007

November 1 2007
CHTA PUBLICITY SUBCOMMITTEE*
Birmingham, England

November 6-8 2007
SURFACE WORLD
Birmingham, England
Surface finishing exhibition:
www.surfaceworldshow.com

November 7-8 2007
MANUFACTURING TECHNOLOGY IRELAND
Dublin, Eire
www.industry.co.uk

November 15 2007
CHTA MANAGEMENT COMMITTEE*
Birmingham, England

November 20-21 2007
BIFCA Technical Series:
ENERGY-EFFICIENT DESIGN AND OPERATION OF INDUSTRIAL FURNACES
West Bromwich, England
www.bifca.org.uk

November 22 2007
BIFCA Technical Series:
IMPROVING FURNACE OPERATION AND DESIGN THROUGH THE USE OF THERMAL MODELLING
West Bromwich, England
www.bifca.org.uk

November 27-28 2007
QUALITY ASSURANCE IN HEAT TREATMENT PLANTS
Jihlava, Czech Republic
www.asociacetz.cz / www.ecosond.cz

January 31 2008
CHTA PUBLICITY SUBCOMMITTEE*
Birmingham, England

February 6-7 2008
SOUTHERN MANUFACTURING & ELECTRONICS EXHIBITION
Thorpe Park, Surrey, England
www.industry.co.uk

February 7 2008
CHTA MANAGEMENT COMMITTEE*
Birmingham, England

March 19 2008
BIFCA INDUSTRY SAFETY & STANDARDS SEMINAR
West Bromwich, England
www.bifca.org.uk

March 31- April 4 2008
THERMIC 2008
Paris, France
France's thermal processing exhibition is one of ten trade shows at *Industrie Paris 2008*:
www.industrie-expo.com

May 1 2008
CHTA PUBLICITY SUBCOMMITTEE*
Birmingham, England

May 7-9 2008
INNOVATION IN HEAT TREATMENT FOR INDUSTRIAL COMPETITIVENESS
Verona, Italy
www.aimnet.it/echt2008.htm

May 8 2008
CHTA AGM / CHTA MANAGEMENT COMMITTEE*
Solihull, England

May 14 2008
BIFCA Technical Series:
IMPROVING FURNACE OPERATION AND DESIGN THROUGH THE USE OF THERMAL MODELLING
West Bromwich, England
www.bifca.org.uk

May 25-28 2008
2ND INTERNATIONAL CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING OF TOOLS AND DIES
Bled, Slovenia
www.imt.si/icht/

June 11-13 2008
A3TS 2008
Tours, France
This 36th Congress on Heat Treatment and Surface Engineering combines a conference and an exhibition:
www.attt.org

July 14-20 2008
FARNBOROUGH INTERNATIONAL AIRSHOW
Farnborough, England
www.farnborough.com

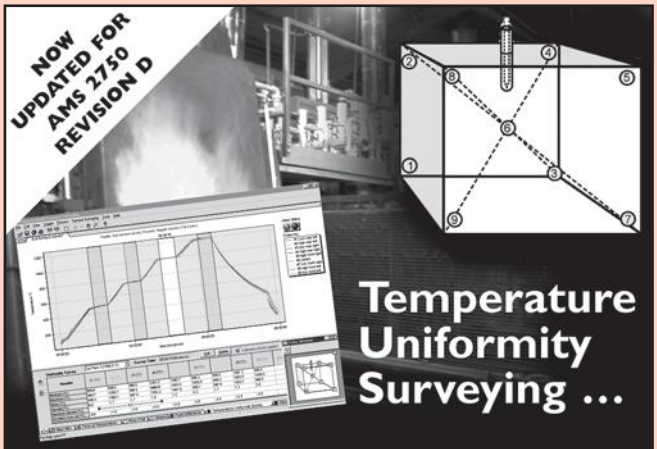
July 31 2008
CHTA PUBLICITY SUBCOMMITTEE*
Birmingham, England

August 7 2008
CHTA MANAGEMENT COMMITTEE*
Birmingham, England

September 17-19 2008
2ND INTERNATIONAL CONFERENCE ON DISTORTION ENGINEERING
Bremen, Germany
English-language event:
www.distortion-engineering.de/IDE2008

September 23-25 2008
ALUMINIUM 2008
Essen, Germany
7th world trade fair: *www.aluminium2008.com*

**Members wishing issues to be raised at CHTA meetings should notify CHTA's Secretary at mail@chta.co.uk.*



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HEALTH/SAFETY/ENVIRONMENT

REACH

Within forthcoming REACH (Registration, Evaluation and Authorisation of Chemicals) European Community regulation, companies will have to register, with suppliers, the uses to which their chemicals are put.

A symposium (9th October at the Birmingham Medical Institute), organised by SEA's sister organisation, the Institute of Metal Finishing, will address the implications under the snappy title: *REACH – how will the EC regulatory framework for chemicals affect the surface finishing industries – both suppliers and users of chemicals*. Details of the event can be found at *www.uk-finishing.org.uk/imf_events.htm*.

Meantime, information about REACH (overviewed in the Summer 07 edition of SEA's *Watchword*) can be found at: *http://ec.europa.eu/environment/chemicals/reach/reach_intro.htm*.

NEW CHARTER FOR SAFE USE OF TRICHLOROETHYLENE IN METAL CLEANING

In a recently-agreed European Chlorinated Solvents Association charter, signatories undertake to phase out sales of trichloroethylene for open metal-cleaning systems by the end of 2010.

The three European trichloroethylene producers, Dow Europe, INEOS Chlor and Chimcomplex Borzesti (Romania), have signed a product stewardship charter aimed at ensuring safe use of this chlorinated solvent in metal-cleaning applications. The charter commits signatories to selling trichloroethylene only to end-users with enclosed equipment, thus minimising workplace exposure. This will ensure adequate control of the risks in this application identified in the EU Risk Assessment.

In line with the chemical industry's *Responsible Care®* initiative, signatories agree to phase out sales of trichloroethylene for open metal-cleaning systems no later than 31 December 2010. This is intended to safeguard its long-term sustainable use in closed systems.

The charter – developed by the European Chlorinated Solvent Association (ECSA), which is part of Euro Chlor – continues the European chlorinated solvent sector's commitment to best product stewardship practices along the entire supply chain. It has been presented to the European Commission as a follow-up to an action plan put forward in December 2006.

ECSA will now work to identify companies that plan to import trichloroethylene into the EU, via the REACH registration process, and strongly encourage them to sign the charter.

For further details, see: *http://www.eurochlor.org/news/detail/index.asp?id=232&npage=1&category=25*

Market Movements

ANALYSIS OF QUESTIONNAIRE REPLIES RELATING TO 31 CHTA MEMBER SITES

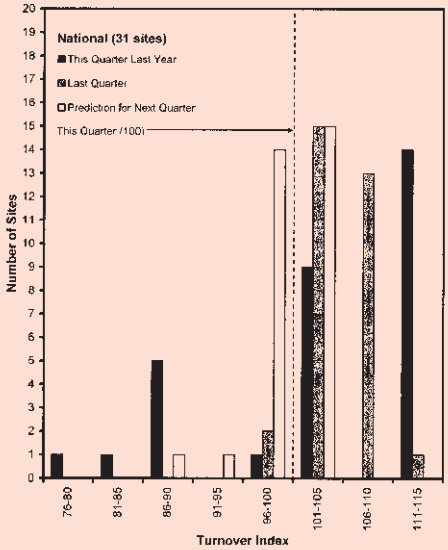
"THIS QUARTER" =

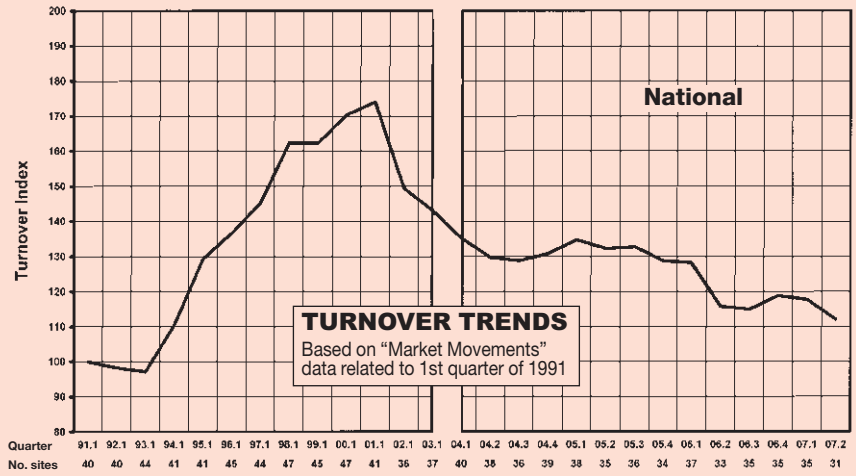
1 APRIL – 30 JUNE 2007

= TURNOVER INDEX 100

National

OVERALL ANALYSIS (31 SITES)	Mean index
This quarter last year	103.3
Last quarter	105.0
Predicted next quarter	101.6





NON-HAZARDOUS WASTE

There's an October deadline for a new environmental regulation arising out of a Europe-wide requirement.

Currently the producer is required to segregate hazardous waste from non-hazardous wastes and all hazardous wastes must be pre-treated before being deposited at landfill. From 30th October this year, all *non-hazardous* waste must also be pre-treated before landfill disposal; non-hazardous liquid wastes will be banned completely. The necessary records of how waste producers pre-treat their waste become part of the Duty of Care documentation.

These requirements stem from the Landfill Directive, which aims to reduce reliance on landfill as a waste management option and minimise the environmental impact of landfill sites. To meet this aim, it is important that waste producers find better ways to manage their waste.

Envirowise expects these new requirements to treat non-hazardous waste will be another useful driver for resource efficiency (*www.envirowise.gov.uk/eu070606*). For example, treatment can be as little as sorting the waste, and it can be done by a waste management company or waste transfer site.

To help prepare for 30th October, the Environment Agency has issued new guidance, briefing notes and fact sheets to help businesses know what they should be doing. Further information can be obtained at *www.environment-agency.gov.uk*.

STATESIDE STATS

NORTH-AMERICAN HEAT TREAT SALES FLAT IN FIRST HALF YEAR

Participating members in the Metal Treating Institute's Monthly Sales Statistics Program recorded sales of $444.0million for the first six months of 2007, a slight increase of 0.1% over 2006 sales for this period of $443.6million.

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