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## CHTA Secretariat

Items for inclusion in *Hotline* and enquiries about CHTA activities should be addressed to:

**Contract Heat Treatment Association**  
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Alan J. Hick B.Sc., C. Eng., FIMMM

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



CHTA is affiliated to the Surface Engineering Association

# 'Unfair' Energy Contracts – help needed



*SEA's Dave Elliott seeks the assistance of CHTA members in an attempt to reduce energy costs.*

With wholesale energy prices falling, it appears that many energy providers are taking steps to 'protect' their income by introducing a range of 'extra' charges/conditions.

At SEA's recent House of Lords Briefing Luncheon (attended by CHTA Chairman Richard Burslem and Vice-Chairman Paul Handley), peers and MPs thought that it would be possible to get a select committee to conduct an enquiry into energy contracts, to see if UK businesses were being unfairly treated and disadvantaged by the apparent lack of competition.

What I now need is some 'hard' evidence to present to the peers and MPs so that

they can get things moving when they return from their summer break. So, if you believe that your energy provider (current or previous) has imposed or attempted to impose terms and conditions, changes to pricing structures and financial penalties (take or pay) that could be considered to be unfair, or discourage the reduction of energy use in general, then please let me have the details.

All information supplied will be kept confidential and will only be forwarded to the peers and MPs with your express permission. I think that this is an excellent opportunity for the sector to 'flex its muscles' and, hopefully, reduce energy costs across the industry.

*The requested evidence should be sent to Dave Elliott, Chief Executive, Surface Engineering Association, BJGF Federation, Federation House, 10 Vyse Street, Birmingham B18 6LT (tel: 0121 237 1123; e-mail: Dave.Elliott@sea.org.uk; fax: 0121 237 1124).*



**CHTA member Tamworth Heat Treatment Ltd has consolidated its former three factory units into one new site.** For details, see page 6.



## Ask the Expert

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Most UK heat treaters have developed sophisticated systems for efficient order management. From a recent issue of *Industrial Heating*, **Kevin Pludeman** (Cornerstone Systems, Inc.) records what one of our American counterparts is doing to meet today's demands, using his company's Visual Shop software...

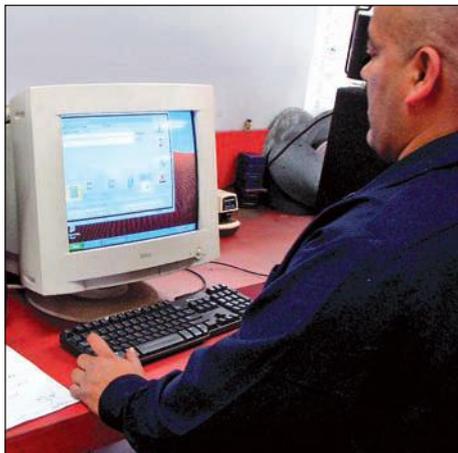
## Heat Treater Uses Technology as Blueprint to Efficiency

Metallurgical Processing, Inc. (MPI) in New Britain, Conn., has been providing heat-treating services since 1957. These include vacuum and aluminum heat treating, carburizing, plug and press quenching, plasma nitriding, brazing and PVD coatings.

Aerospace-industry parts are some of a wide variety processed by MPI. Over the years they have built their reputation by providing high-quality heat-treating services combined with strong relationships with their customers.

The equipment and software available today allow MPI to run a very lean, efficient operation. A well-designed software system assures maximum utilization of equipment and labor. "We wanted to increase our productivity without having a large capital outlay for new equipment," said Elena Ritoli, president. "We looked at several software packages that could help us run our business more efficiently, but most of them did not fit with what we do. We chose *Visual Shop* because it was a comprehensive package that fits our business model."

In 1997, MPI began using *Visual Shop*, and over the last 12 years they have continued to improve their productivity and efficiency by utilizing more features in the software package. Terry Chadwick, quality assurance manager, stated, "*Visual Shop* encompasses our whole operation. It is flexible, which allows us to make it fit our ever-changing operation." *Visual Shop* is designed to handle all aspects of the heat-treatment business including quotes, order entry, generating shop-floor travelers, shipping, invoicing and more.



Erick Morales enters the hardness results into Visual Shop.

### Order Entry

MPI will often receive repeat orders for the same part. They keep a record of every part that has been brought in for processing, and as they receive new shipments of these same parts, a new shop-floor traveler can be generated after entering just a few key pieces of information such as order quantities and due date. Shop-floor travelers can be easily generated for unique parts as well, based on material type.

This streamlined order-entry method is done through the use of process masters. MPI has created a large library of process masters that contain all the different types of processing performed in the plant. Process masters are processing blueprints that contain detailed step-by-step instructions and any inspection requirements. Process masters are assigned to individual part numbers or to a material type and are easily updated when a process change arises.

### Scheduling

After an order is entered, it is released to the shop floor. However, order processing is not necessarily in a first-in, first-out schedule. To maximize return on investment, MPI's 30 furnaces need to be run at peak capacity. Additionally, delivery guarantees made to the customer will affect the scheduling of furnace loads.

Production managers Minh Duong and Frank Medina use a scheduling module that allows them to schedule exactly what parts will run in the furnace and when. In the scheduling report, the parts are grouped by furnace cycle and material, which allows the managers some flexibility to add additional orders in the load if space allows. All this helps to assure that the furnace capacity is maximized and that the parts will be delivered to the customers on time.

### Tracking

Any heat treater would like to know the location of any given part at any time. MPI processes hundreds of orders per day, and monitoring all those orders can be a major challenge. Barcode scanning has been a huge help for tracking orders and parts.

Each order can be scanned in and out of any process step. This information provides the real-time location for any order on the floor. "I don't even have to leave my desk. I can find the answers



Phil Grant scans an order into the furnace.

while I'm talking to the customer. It's a world of difference for customer service," said Dennis Perry, customer service manager. Kris Lang, sales manager, can access this information while visiting a customer's factory.

As part of the tracking system, inspection results can also be entered right at the inspector's workstation. These results are then printed on the certification, producing a much cleaner customer report. Additionally, the certification results can be quickly pulled up at any time in *Visual Shop*.

To further improve on efficiency and data collection, MPI will be updating their tracking system to use *Visual Shop*'s radio frequency identification (RFID) tracking capabilities. This RFID system allows jobs to be automatically logged into an area or piece of equipment, rather than requiring an operator to perform a barcode-scan operation.

### Furnace Operation

Presently, all manual furnace-control systems are being updated to computerized versions from Super Systems, Inc. (SSI). Scanning the shop-floor traveler allows the correct recipe to automatically upload to the furnace controller. "Works very nice," said Phil Grant, furnace operator. "Makes my job a lot easier."

A big reason for choosing SSI is that their controllers seamlessly link with *Visual Shop*. A furnace chart can easily be pulled up at any time from any computer that is running *Visual Shop*. This is especially useful for providing charts along with the shipments. Whenever a certification is printed in *Visual Shop*, the furnace chart will also print if it's required. Gone are the days of shuffling through rolls of paper charts trying to find the exact cycle.

### Production Optimization

Perhaps even more useful than the real-time location information is the abundance of reports that can be generated from the tracking data. These reports can be used to accurately measure performance from all aspects of the operation. Here are some of the common reports:

- On-Time Delivery and Turnaround reports are used to continually improve delivery times.
- A Profitability report can be run on the furnaces. MPI typically runs this report for each furnace. It will show a list of all the jobs that ran for the specified time period, the total part quantity and weight, total time the furnace was running, the time the furnace was not running (gap time) and whether they are making or losing money on the job. This report is great for monitoring overall furnace utilization and job-by-job profitability, which can determine if price adjustments need to be made for future orders of a part.
- A Rush list that prioritizes the jobs is distributed throughout the plant. It can be changed at any time to accommodate changing production needs throughout the day.
- The Backlog list that shows all orders sorted by customer is used to determine the Rush list.

### Customer Communications

In addition to its internal use, every morning a Backlog list is generated for each customer and is e-mailed directly to them with the press of a button. After reviewing their list, customers may request priority changes of their own. The Rush list will be adjusted to accommodate this priority change.

For those customers using the available part pick-up and delivery services, a Shipping report is e-mailed before each delivery. It contains a list of all jobs that will be delivered, which allows the customer to prepare their production schedule in anticipation of the incoming parts.

These and other regularly e-mailed reports are key to creating solid customer relationships. It is a win-win situation because the customers like having the information without needing to request it, and it takes almost no effort to generate and send the reports. After an e-mail distribution list is set up for a customer, nearly any of the 100-plus reports in *Visual Shop* can be sent by the press of a button.

### Quality Assurance

A good quality monitoring and reporting system is essential for running a lean operation and satisfying customer needs. One example of a useful tool is the Reject report, which can be analyzed to see if process masters need to be changed.

Stuart Sherman, quality director, said, "Quality systems today require that information within a system be compiled in such a way as to make reporting and trending of historical data simple. The reports created by the *CSI Visual Shop* system allow trends to be easily identified."

### Quotations / Invoicing / A.R.

The business financial information is also streamlined through *Visual Shop*.

Quotations can be created and automatically e-mailed to a customer. For repeat orders, pricing is already assigned to the part, and that pricing can automatically be used for new quotations. For new parts not based on a quote, pricing can be assigned based on process, material or part dimensions.

During order entry, the system automatically checks to see if the part is quoted and that all the necessary pricing information is automatically pulled in. This allows the invoices, which are sent directly to customers via *Visual Shop's* e-mail utility, to be automatically generated after orders are shipped.

As payments come in, the information is recorded in *Visual Shop's* A.R. module, which can generate many reports. Statements can be sent to customers as a notification of what has been paid and what is still open. If a customer falls too far behind on payments, *Visual Shop* will not allow any quotations or orders to be entered for them.



Elena Ritoli, president, and Dennis Perry, customer service manager, review the previous day's production reports

### Signature and Remote P.O. Capture

MPI has several trucks that are used for part pick-up and delivery. The drivers use PDAs running *Visual Truck* to manage the routes. *Visual Truck* contains a list of all the shipping tickets, and the driver collects the customer's signature right on the device just like UPS or FedEx. This signature can then be displayed in *Visual Shop's* proof-of-delivery document in case a customer requests it for an invoice.

Additionally, *Visual Truck* also allows a P.O. to be captured during part pickup. The P.O. is automatically transmitted back

## Industrial Heating

THE INTERNATIONAL JOURNAL OF THERMAL TECHNOLOGY

This article first appeared in the April 2009 issue of the USA's Industrial Heating magazine and is reproduced here with the kind permission of the publishers. For a monthly copy or digital delivery of this international journal, CHTA members should sign up on the website at [www.industrialheating.com](http://www.industrialheating.com).

to the plant, which allows the order to be entered and the travelers generated before the parts arrive at the plant. Sherman said, "This gives us a huge edge on scheduling."

### Document Archiving

Every heat treater has some type of system for storing records and documents, and quality-system watchdogs such as Nadcap, ISO or QS usually influence it. Some records must be kept for 40 years or more. The storage space required to contain paper copies of all these documents is enormous, and the time spent filing is vast as well.

MPI has implemented *Visual Shop's* digital archiving system, *Visual Archive*. "Visual Archive makes filing so easy. All we have to do is put the documents in the scanner and they're automatically filed," Chadwick said. "We can do searches by order number, P.O., part number or pretty much anything else. We find our documents instantly."

### Blueprint to Efficiency

MPI strives to use the technological tools available in its *Visual Shop* heat-treating software package to the fullest. In doing so, they are able to run a lean operation and fulfill their mission statement: "Our Mission is to ... Perform metal treating and surface-enhancement solutions, which provide quality, delivery and value to our customers, focusing on education and technology through 100% team effort." If history is an indicator of future trends, you can expect MPI to be on the front lines of new technology as it becomes available.

**For more information:** Contact Marshall Handelsman, president of Cornerstone Systems, Inc., 820 E. Terra Cotta Avenue, Suite 156, Crystal Lake, IL 60014; tel: 800-275-4274; e-mail: [sales@ask4csi.com](mailto:sales@ask4csi.com); web: [www.ask4csi.com](http://www.ask4csi.com). Mr. Handelsman, who has been developing software for the heat-treating industry since the 1970s, founded CSI in 1993. His experience went into the development of *Visual Shop*, which was initially released in 1997 and currently has over 300 installations in seven countries.

# Why bother working to make a living?



*Some thoughts from CHTA Chairman Richard Burslem (Wallwork Heat Treatment Ltd) on frustrating diversions from our core-business activities.*

As we all struggle to make ends meet during these uncertain economic times, and watch as some regular customers go into administration or insolvency (indeed the same fate has befallen some fellow heat treaters), I'm sure some of you, like me, wake up in the morning and ask yourself "What's it all about?"

When your business needs your undivided attention, you get diverted by dealing with people who decide not to work and live off us like leeches. Some or all of these examples may be familiar to you.

## The metal thief

These people have become much more brazen and cunning over the years. We have had one successful and two failed attempts to steal metal from us by thieves, wearing overalls or hazard jacket, calmly walking into the factory during the day and then leaving by a fire exit which they leave slightly open. There is then no problem coming back at night, even with a fully-staffed factory, and trying to steal either customers' goods or our fixtures. We alarmed the doors after the first event.

We have had an argument with a man trying to steal metal from the recycling skip. He reasoned that, as it was going for recycling, it was no longer our property and he would take it off our hands! It was only when we suggested the police may take a different view, and we should call them, that he reluctantly gave up.

This is not as bad as at the premises of an unfortunate customer where the thieves convinced the company's fork lift truck driver to load their vehicle with the company's metal goods and then drove off. The prize for downright cheek has to be at a neighbouring factory where the thieves not only convinced the fork lift truck driver to do the loading, but onto the neighbour's own lorry, which the thieves then took as well!

The police seem not to take these crimes too seriously. Nobody is hurt, the victim is usually a business with insurance and, quite frankly, the chance of finding the stolen metal is slight and of making a successful prosecution remote. It is up to us all to secure, guard and be vigilant.

## Where there's blame ... Part 1

In our town centre, the small army of dodgy-looking clipboard holders who approach you half-heartedly with the words "any accidents, trips or falls in the last three years?" has disappeared. They have been replaced by serious-looking people with computers and headphones inside the shopping centre. These people are testing for 'industrial deafness'.

I have a great deal of sympathy for people who lose their hearing; it must be awful to live in a world of silence or, with industrial deafness, to lose clarity of hearing. What I object to, however, is trying to defend a claim against our business for someone who was here for a matter of months some 20 years ago and employed as a delivery driver!

The amount of time and effort wasted is remarkable and, of course, there is only one winner: the lawyers who are generating this sinister work. Insurance premiums rise as the insurers find it more economic to pay out than defend, and the insured gets another black mark and becomes less attractive to insure.

Apart from detailed record-keeping of employees, training provision, noise surveys, health and safety meetings followed by a prompt defence of these spurious claims, there is little else to be done. What is wrong is the growth of the blame culture coupled with 'no-win-no-fee' law.

## Where there's blame ... Part 2

Heat treatment shops are quiet in comparison to many production environments and, whilst there are some people who genuinely have industrial deafness caused by many years of working in a noisy factory without any ear protection, the 'crash-for-cash' driver is always just a criminal.

How this works is that two cars stage an emergency stop so that an innocent vehicle drives into the rear of one of them. It is most easily achieved on an urban dual-carriageway, with the victim being a lorry. The lorry will have a longer breaking distance than the car but, more importantly, has a very high probability of being properly insured. Car one overtakes the lorry, pulls in front of it and slows down a little to minimise risk of injury. Car two overtakes the lorry and, at the point of just having overtaken car one, suddenly turns left from the outside lane down a side street. Car one slams on the brakes as a result, hoping that the lorry makes contact with it.

We have been victims of this dangerous scam twice and it has been attempted on our lorries on numerous occasions. After

the bump, details are exchanged and as time goes by, the number of passengers in car one mysteriously increases and the slightly damaged car becomes a write-off! Plenty of photos are the remedy if you should have the misfortune to be victimised by these criminals. We have had a claim against us for a written-off car that wasn't the one that we hit; the criminals forgot to count the doors on their fake car and whilst our photo of the accident showed a two-door car, their written-off one had four. I am pleased to say these criminals were successfully prosecuted for fraud.



*Several Wallwork transport vehicles have been subject to crash-for-cash incidents.*

The other claim was made by a man who said he was the driver of the car but was actually the passenger. Our photo showed he wasn't the driver nor was there any evidence of the extra two passengers claimed for. Our driver also managed to get a photo of the car which caused the 'accident' (car two), another useful piece of evidence.

Having had so much experience of these attacks, our drivers now sense when they are being set up for a crash-for-cash and slow down or even stop well before the event.

With such non-productive opportunistic diversions piled on top of all the health and safety regulations, onerous quality standards, fluctuating energy prices and lack of commitment from government, it's a wonder anybody wants to stay in manufacturing. But would we really want a job as a lawyer, insurance underwriter etc? No, of course not!

## Need more copies of Hotline?

Currently, one copy of *Hotline* is sent to each CHTA member's chief executive and, where appropriate, to one person at each of a member's additional sites. It occurs to us that members might appreciate regular extra copies for wider circulation within their organisations (or further afield). If this is the case, please contact CHTA's Secretariat.

# Diary

**October 6 2009**  
**INTRODUCTION TO HEAT TREATMENT**  
 Rotherham, England [www.namtec.co.uk](http://www.namtec.co.uk)

**October 7 2009**  
 BIFCA Technical Series:  
**BURNER TECHNOLOGY & SELECTION**  
 West Bromwich, England [www.bifca.org.uk](http://www.bifca.org.uk)

**October 7-9 2009**  
**65TH HÄRTEREI-KOLLOQUIUM**  
 Wiesbaden, Germany  
 German-language heat treatment conference and exhibition: [www.awt-online.org](http://www.awt-online.org)

**October 13-14 2009**  
**HEAT TREATMENT FOR HEAT TREATMENT PROFESSIONALS**  
 Rotherham, England [www.namtec.co.uk](http://www.namtec.co.uk)

**October 20-22 2009**  
**UNDERSTANDING HEAT TREATMENT**  
 Birmingham, England  
 74th repeat of Wolfson's well-established course. Details from Derek Close, Wolfson Heat Treatment Centre, Federation House, 10 Vyse Street, Birmingham B18 6LT ([www.sea.org.uk/whtc](http://www.sea.org.uk/whtc); tel: 0121 237 1122; e-mail: [derek.close@sea.org.uk](mailto:derek.close@sea.org.uk); fax: 0121 237 1124)

**October 26-28 2009**  
**FURNACES AND ATMOSPHERES FOR TODAY'S TECHNOLOGY SEMINAR**  
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[www.secowarwick.com/seminar/seminar.html](http://www.secowarwick.com/seminar/seminar.html)

**October 27-29 2009**  
**SURFACE WORLD 2009**  
 Birmingham, England [www.surfaceworldshow.com](http://www.surfaceworldshow.com)

**October 27-30 2009**  
**4TH ASIAN CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING**  
 Beijing, China [www.chts.org.cn/4achtse](http://www.chts.org.cn/4achtse)

**October 29 2009**  
**CHTA PUBLICITY SUBCOMMITTEE\***  
 Birmingham, England

**November 10-11 2009**  
 BIFCA Technical Series:  
**ENERGY-EFFICIENT DESIGN & OPERATION OF INDUSTRIAL FURNACES**  
 West Bromwich, England [www.bifca.org.uk](http://www.bifca.org.uk)

**November 12 2009** BIFCA Technical Series:  
**IMPROVING FURNACE OPERATION AND DESIGN THROUGH THE USE OF THERMAL MODELLING**  
 West Bromwich, England [www.bifca.org.uk](http://www.bifca.org.uk)

**November 12 2009**  
**CHTA MANAGEMENT COMMITTEE\***  
 Birmingham, England

**November 12-13 2009**  
**INTRODUCTION TO PYROMETRY**  
 Birmingham, England [www.equalearn.com](http://www.equalearn.com)

**November 25 2009**  
 BIFCA Technical Series:  
**FURNACE AND BURNER CONTROLS**  
 West Bromwich, England [www.bifca.org.uk](http://www.bifca.org.uk)

**December 1-3 2009**  
**1ST MEDITERRANEAN CONFERENCE ON HEAT TREATMENT AND SURFACE ENGINEERING**  
 Sharm El-Sheikh, Egypt [www.ehts-eg.org](http://www.ehts-eg.org)

*\*Members wishing issues to be raised at CHTA meetings should notify CHTA's Secretary at [mail@chta.co.uk](mailto:mail@chta.co.uk).*

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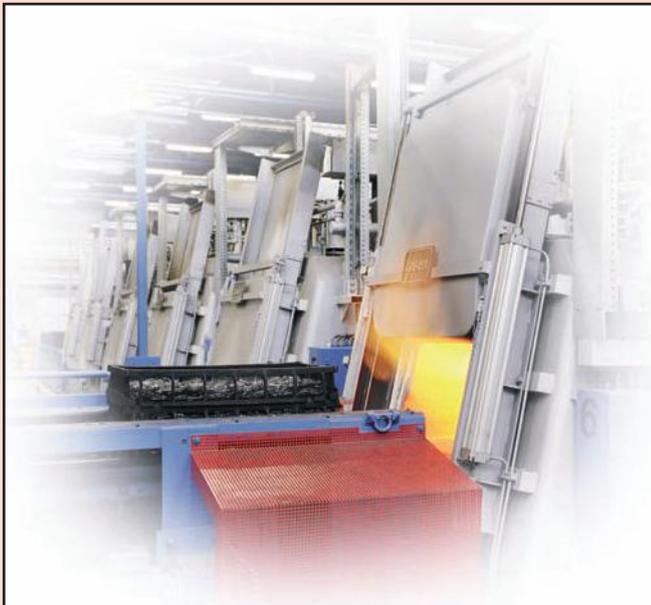
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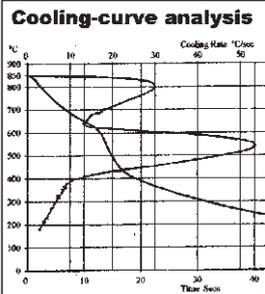
**THT CONSOLIDATE**

Tamworth Heat Treatment (THT) have consolidated their previous three factory units into one larger unit of 20,000ft<sup>2</sup> on the same Amington Industrial Estate in Tamworth. The equipment move was carried out over a period of five months to ensure the minimum disruption to production. As one furnace was relocated and recommissioned, so the next was being decommissioned, ready to be moved. This necessitated the utilities being available at both the new site and the existing sites. Thus expenditure was incurred for a new electrical power supply and distribution network, water cooling systems and nitrogen /process gases supply network. During this time, seven vacuum furnaces, two plasma-nitriding furnaces, five air-tempering furnaces, five salt-bath furnaces and all the associated equipment were uplifted and relocated in the new premises. The project involved a great deal of planning but was successfully completed by the end of June this year. Customers of THT will gain benefits in improved communication and delivery performance. THT's employees will see the benefits of a stronger team ethic on the shop floor, with greater involvement in production planning and improved job satisfaction. The benefits of the improved efficiencies and energy savings will soon be evident in the cash flow of the business, an area that is under pressure for nearly everyone in engineering and manufacturing in this period of recession. Managing Director Alan Whitehouse said: "THT made the decision and commitment to the move in July 2008 knowing it would involve significant cash expenditure but not knowing a major downturn of business was looming. However, the company feels that it is better placed after the reorganisation to survive a recession and now looks forward to the upturn – whenever that might be".

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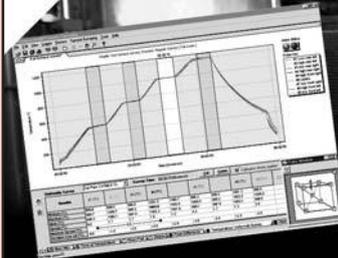
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# Problems of communication?

Hotline Editor  
**Alan J. Hick** wonders if customers now specify contract heat treatment more sensibly.



Precisely 35 years ago, at a Metals Society conference in Birmingham, a talk entitled "Problems of Communication in Commercial Heat Treatment" was presented, on behalf of CHTA, by Don Pool (Express Treatments Ltd). Subsequently published as a classic article in the 1974.3 edition of *Heat Treatment of Metals*, it explored the time-wasting confusion created by inadequate or misleading information supplied to contract heat treaters by their customers. Citing numerous examples, the author concluded with a plea for more understanding and consultation, from designers and manufacturers, and for greater clarity and consideration from those responsible for specifying and subcontracting heat treatment.

Accordingly, these were the aims fostered by CHTA's series of *Datasheets for Non-heat-treaters*, published, in layman's terms, in 1996 (and still downloadable from [www.chta.co.uk](http://www.chta.co.uk) by clicking on "Specifying Heat Treatment").

Has the situation improved, since the days when scant instructions were sometimes submitted "on the back of a cigarette packet", and do most customers now specify contract heat treatment more intelligently in the internet age? A member customer's recent request to "please harden glass hard", with no steel type or specific hardness requirement indicated, suggests that the answer to this question might be in the negative, at least in some instances!

What do CHTA members think? Has the decline in metallurgical knowledge out



Assembling the correct information on a drawing or specification at the start is, in my opinion, the first and most vital stage in a line of communication which must ultimately end with the heat treater". So said Don Pool in his 1974 article in which he recommended involvement of the heat treater's expertise at an early stage.

# Market Movements

ANALYSIS OF QUESTIONNAIRE REPLIES RELATING TO 30 CHTA MEMBER SITES

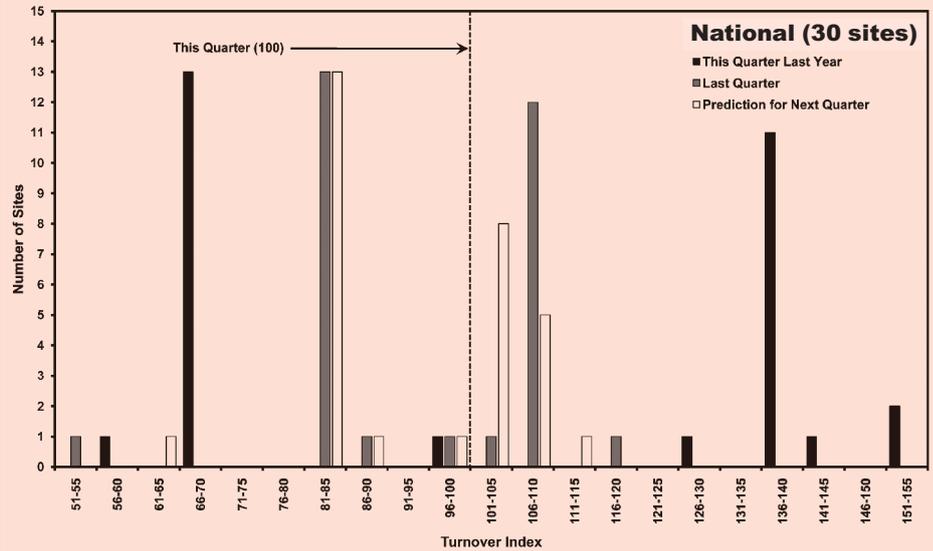
"THIS QUARTER" =

**1 APRIL –  
30 JUNE 2009**

= **TURNOVER INDEX 100**

**OVERALL ANALYSIS  
(30 SITES)**

	Mean index
This quarter last year	<b>104.7</b>
Last quarter	<b>95.5</b>
Predicted next quarter	<b>95.0</b>



there in the general engineering industry exacerbated the communication problem? Do modern computer-generated component drawings take account of the need for appropriate heat treatment information satisfactorily? Do customer specs still fail to heed the guidelines enshrined in the *CHTA Datasheets for Non-heat-treaters*? Do you still encounter customer orders/specifications that are uninformed, off-beam or just downright bizarre? If so, let us have examples to publish (anonymously) in a light-hearted "Would-you-believe-it?" or (as our Chairman suggests) "Hotline Howlers" column.

Please address your comments and/or "howler" examples to [mail@chta.co.uk](mailto:mail@chta.co.uk).

## STATESIDE STATS

### HALF-YEAR NORTH-AMERICAN SALES DOWN 28.6%

CHTA counterparts participating in the Metal Treating Institute's Monthly Sales Statistics Program reported heat-treating sales of \$318.5million for the first half of 2009, a decline of 28.6% from the \$446.4million posted for the same period in 2008.

June billings reached \$48.7million, a drop of 34.4% compared with June 2008's \$74.3million. The latest report indicates that July sales totalled \$45.7million, down 36.6% on July 2008 when billings amounted to \$72.1million.