

Making the Most of Experience

Most people within a company fit within one of two groups – those that are okay about being ‘the face’ of the company and those who prefer to work in the background getting the job done.

When the guys in the Machine Shop were told they were going to be featured in this issue of Celsius they all, without exception, turned tail and ran. As you can imagine getting their photo taken required quite a bit of bribery and coercion!

However the editors of Celsius persevered in order to highlight the experience and capabilities of the team and expand your understanding of their service offering.

For years, the machine shop existed in the shadow of the heat-treating plant, but with ever increasing volumes of work, the decision was eventually made to bring the facility ‘in from the cold’ so to speak.

Consequently, the Machine shop is now in a new purpose built facility and staffed by a total of 19 skilled people, led by John Baird the Operations Manager.

“We believe the most important thing we can offer our customers is our experience

and expertise. Of the nineteen-team members, five have a combined total of 121 years of service with the company. Brian Thompson, our production manager has 37 years, Lindsay Thomas, workshop foreman 27 years, Warren Gates, CNC programmer / machinist 27 years, Grant Shepperd, CNC programmer / machinist 15 years and Dennis Scotting, customer services 15 years,” says John.

“Obviously the expertise and knowledge these people have is exceptional and, let’s face it, you can have the fanciest equipment in the world but without the expertise of your people you won’t get very far.”

“The team pride themselves on consistently delivering products and services that meet the needs of customers who don’t have a machine shop. With the Heat Treatment side of the business having so many machine shops as valued customers, our goal is not to set ourselves up in direct competition but to be able to offer a complete machining service to those clients whose products require machining and who don’t already have access to a suitable machine shop. We provide for both jobbing and production machining.



The Machine Shop Team

The workshop currently has a range of CNC lathes and machining centres, as well as a significant grinding capability. We are of course continually upgrading our equipment in order to increase both capacity and productivity.”

Tracking a Needle in a Haystack

Every day hundreds of components come into our heat treatment plant and hundreds leave. To even the trained eye many look almost identical and it’s vital that we keep track of every single one throughout the heat treatment process. How do we do it... simple... by digitally photographing all components and assigning a barcode we are able to track where something is at any point in the heat-treatment process.

A ‘Job Traveller’ is generated for all work, which enables the heat-treater to see at a glance what the component looks like, what process is required, what the hardness requirements are, and who the work is for.



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Technical / Metallurgical:	Adam Walmsley & Ivan Mitchell	
Machine Shop:	Dennis Scotting Brian Thompson John Baird	Estimates & Quotations Production Operations
General:	Steve Askew Kathy Williams Elaine Folau	Quality Co-ordinator Receptionist Accounts Receivable

Celsius

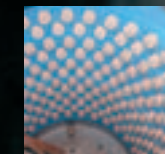
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The Key to Longevity

What makes a company succeed in the long term? Why do some businesses experience phenomenal start-up growth and then fail to thrive? Why do loyal customers take their business elsewhere?

Obviously the answers to these questions can be incredibly complex, however at Heat Treatments we believe that the fundamental answer lies in the relationships you build with your customers and the extent to which you are prepared to re-invest in your business.

It’s about getting to know your customers’ needs, and then being prepared to make financial commitments based on long-term rather than short-term results. Having been in business for 58 years, survived many ups and downs of the economy and watched companies come and go, we believe we’re on to something.

Consequently the underlying theme of this issue is what we believe to be the key to our longevity – reinvestment and the development of long-term customer relationships, and of course our staff. Specifically we profile one of our major customer’s Independent Extrusions (Inex) and give their perspective on what we do for them. We outline our re-investment philosophy, highlight the expertise in our machine shop and leave you with a few pointers on hot work tooling materials.

Fergus Thomson
General Manager

As stated in the first edition of Celsius the aim of this publication is to raise your awareness of the products and services we offer and to demystify the whole heat treatment process. What better way to do that than through the eyes of a customer! Consequently in this and subsequent issues of Celsius we will be profiling a customer and the work we do with them.

Celsius
CUSTOMER
PROFILE

Customer Profile: INEX



Independent Extrusions, or Inex as it is known, is an acknowledged leader in the aluminium extrusion industry. Established in Hamilton as a privately owned joint venture in 1997, production commenced in 1998 with a 7" SACK 1800 tonne extrusion press and production was focussed on the window and door extrusion markets.

In response to growing demand from the New Zealand and Australian market, the business entered a new growth phase in 2003 with the commissioning of a new 8" Danieli Breda press. With its vast technical capability and a pushing force of 2400 tonne, the plant's capacity stepped up to over 14,000 tonnes. As a result Inex has moved further into the window and door extrusion market and has increased its market share of the building, transport and marine sectors in both New Zealand and Australia.

The company's relationship with Heat Treatments began almost at its inception thanks to Brian Tindale, Works Manager and co-founder of the business. Through his involvement in other companies in the aluminium manufacturing industry, Brian had come into contact with a number of people from Heat Treatments. On setting up Inex it was only natural to call on these same people for assistance with the heat-treating of the extrusion dies used in the Inex presses.

"At Inex we believe our success centres around delivering an exceptional product and exceeding our customers expectations. We achieve this through our greatest assets – our people and our technology. However the role our suppliers' plays cannot be underestimated either. We need them to be part of the team, to understand our business and to take an active role in helping us to deliver exceptional products and services," says Brian.

"Heat Treatments is a prime example as we need them to provide us with a superior nitriding service as it's vital that the extrusion dies are hardened properly. If they aren't we can end up using more aluminium than required and extrude reject products. It's critical that

the process is performed to meet our particular requirements and so quality control is a vital part of the service Heat Treatments offers us."

"We work closely with the team in the Heat Treatments lab, and in particular with Ivan Mitchell who has a wealth of knowledge and experience. They perform analysis for us on the dies and have worked with us to try to locate the source of any problems that have arisen. For example we recently had a situation where a die kept failing. We thought it was to do with the nitriding process and had Heat Treatments run a complete analysis. This failed to uncover the problem and to ascertain whether or not it was Heat Treatments nitriding process we even went to an alternative supplier. The interesting thing was no one could pinpoint the problem and thankfully it hasn't occurred again. What is important though was the lengths to which Heat Treatments were prepared to go to try and identify the problem," concludes Brian.

The relationship between Inex and Heat Treatments has been successful because of a willingness to work together to achieve mutually beneficial goals. For example it was through Inex that Heat Treatments established its relationship with Nitrex, the company that supplies nitriding technology. This introduction enabled Heat Treatments to expand our service offering and reputation in this area.

The foundation of the relationship is one of mutual respect and a genuine commitment to the philosophy of delivering a superior product and service.

Heat Treatments would like to take this opportunity of thanking Brian Tindale and the team at Inex for their support over the years.



□ The Danieli Breda Press

Did you know...

- **We breed longevity at Heat Treatments... Trevor Edmondson (featured in our first issue) just completed 38 years of exceptional service and has finally decided to retire. Chasing Trevor's long service record is Brian Thompson, production manager in the machine shop. Brian is in his 37th year as a member of the Heat Treatment team.**
- **We have our own pick-up and delivery service for customers in the greater Auckland region. Call us on 621 0020 for details.**
- **Our telephone and fax numbers changed some time ago and the grace period for the old numbers has almost run out. Our new numbers are Tel (09) 621 0020, Fax (09) 621 0019.**

□ Front cover and left: xxxx

A Recipe for Success: Hot Work Applications

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Hot work is generally defined as a swarf-less shaping operation as there is no cutting, drilling or machining of the metal. The material is 'formed' through either an extrusion, forging or casting process.

Hot work tooling generally requires one or more of the following properties:

- Thermal shock resistance

- Toughness
- Hot compressive strength
- Temper resistance
- Hot wear resistance

The following table is a guide of materials and processes to choose for common hotwork applications:

HOTWORK TOOLING		
Application	Main Properties Required	Suggested Material & Heat Treatment
Non ferrous forging tooling	Temper resistance, thermal cycling, compressive strength	H13 H&T* to 48/50HRc
Non ferrous die casting tooling	Temper resistance, thermal cycling, compressive strength	H13 H&T* to 45/50HRc
Hot punching (steel)	Temper resistance, wear resistance, compressive strength	M2 H&T* to 60/62HRc
Extrusion tooling (non ferrous)	Temper resistance, wear resistance, toughness	H13 H&T* to 48/50HRc and nitrided
Plastic extruder smear head	Temper resistance, wear resistance, toughness	H13 H&T* to 48/50HRc and nitrided

* H&T = harden and temper

A Commitment to Re-investment

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Most businesses get caught between the desire to maximise shareholder returns in the short term and the need to find ways of increasing customer satisfaction in the long term. Reinvestment in capital purchases can often be viewed negatively if the return on investment only hits the bottom line a considerable time after the initial outlay. Consequently businesses enter a catch 22 situation. On one hand they identify with the need to invest in new technology in order to stay competitive and to meet the future needs of their customers. And on the other they are keen to maximise the returns to shareholders in the short term by restricting capital expenditure.

What has always underpinned Heat Treatments business philosophy, and what we believe is responsible for our longevity in the market, has been our commitment to always providing the best technology we are able to for the job at hand. This practice began with founder W D McGregor when he first manufactured Forced Air circulating furnaces. It has continued with the development of Sealed Quench carburising and hardening technology, the introduction of our Vacuum hardening furnaces and, of course, investment in arguably the best Gas Nitriding (Nitreg) technology available, to name just a few.

Today we've got no less than four significant projects underway including a new Nitriding furnace, a Shaker Hearth, a Sealed Quench Carburising Furnace, and the almost complete Cryogenic Chamber. And of

course re-investment is not just restricted to new plant as we are continually reviewing, maintaining and upgrading our existing equipment to ensure that it continues to perform efficiently and effectively.

Re-investment is obviously important to us, however it would not actually be possible without the continued loyalty and support of our customer base. Over the years our customers have grown with us and supported our efforts to deliver new and improved services. We even have a number of customers that have been with us since the original days of Heat Treatments Limited and we would like to pay tribute to their continued loyalty.

Obviously we put great value on these relationships and our goal will be to go on as before. Continually looking for new and improved ways of delivering the services our customers need and refusing to be caught in the trap of putting short-term returns above the best solution which in the end provide the long-term gains.



□ New nitriding machine being built.



□ The new Cryogenic Chamber

News Flash!!!

Please use our new telephone and facsimile numbers:

Telephone (09) 621 0020

Facsimile (09) 621 0019