



## **PIMA Charity Golf Day & Dinner 2005**



### **Winners are grinners**

President Mick Leabeater presenting the Ken York Memorial Trophy to this year's winning team from Concentric Asia Pacific Pty Ltd. The team consisted of Mark Hodder, Richard Melville, Russell Mapplebeck and Andrew Marcer. They won by 2.875 shots. Second place was the Burton Plastics/A Plus Plastics team of Nick Burton, Anthony Prior, Karl Zeilinski & Damian Prior. A further 0.5 shot behind in third place was the Internation Moulded Plastics team of John & Jack Degan, Kevin Scanes & Shane Miller. The Mixed Team event was won again this year by the Pitt Tooling team of Terry & Lyn Pitt and Neil & Lyn Schute. It has been suggested that if they keep this up maybe Pitt Tooling should donate the mixed team prize.



The real winners on the day were the Plastics Industry, the Day of Difference Foundation & the Burns Unit at Westmead Children's Hospital.

On what looked like being a day when the Sydney drought was going to break and in the absence of any wet weather plan, 115 lucky players hit off at Carnarvon Golf Club at Lidcombe. Fortunately the weather held, everyone finished without getting drowned and all had a great day. After some technical problems the presentation got underway and the large table full of prizes was distributed to the many winners of the various categories.

This was followed by the Dinner, speeches from Ron Delezio, Dr. John Harvey & former Olympian Mark Tonelli.

We would like to thank the following people for their help on the day, as well as behind the scenes:

Georgia Cable (MC, Photographer, Drinks Cart and a host of other jobs), Michelle Cook (Registration, Drinks Cart and anything else we asked of her), Pat Primmer (Drinks Cart) and Mick Leabeater (Drinks Cart) & Peter Stewart (Golf). Anyone who says that having Mick & Pat on the drinks carts is like putting the lunatics in charge of the asylum is being unkind. We must also acknowledge our sponsors who helped make the day a financial success.

They were: Diamond: ASP Plastics, Basell, Duromer Products, W & S Plastics. - Gold: Marplex & Primaplas. - Silver: Husky Injection Moulding Systems, Martogg & Co., R.E. Davison. - Sapphire: Amtrade International, International Moulded Plastics, Lidcombe TAFE, Precision Valve, R E Davison, Ramjet Tooling, Wellman Packaging, Isaac Yeshouroun. - Prize Sponsors: Wellman Packaging, C&C Plastics, Du Pont, Machinery Automation & Robotics, Lexmark and especially to Adept Insurance Brokers & Lumley Insurance for the generous Hole-in-One package.

We are still waiting for the last of the money pledged to come in but it appears that PIMA has raised close to \$20,000 on the day and, remember, all this goes to the Burns Unit. This will purchase a specific piece of equipment that Dr. John Harvey has requested that is needed to help in the treatment of the unit's patients.

## Boost for employers on unfair dismissals

Good news for businesses with more than 100 employees who want to avoid unfair dismissals claims.

John Howard is expected to go much further than expected in his workplace reform package to be unveiled today by boosting the exemption beyond small businesses with up to 20 workers to medium to large enterprises that account for more than 90 per cent of employers.

The probation for new employees will also rise from three to six months so employers have more time to [dismiss] non-performing workers with impunity.

The government will promote the changes to the unfair dismissal laws as a significant incentive for employers to hire more workers.

The new exemption level will deny the rights of most employees to seek redress if sacked and abolish up to half the workload of the AIRC in ruling on unfair dismissals.

*This is reprinted from 'Workstation' and The Australian Newspaper  
The editor wishes to thank Peter Mandavy from ASP Plastics Pty Ltd for submitting this article.*

## Trade Directory

Have you placed a FREE listing in the PIMA Trade Directory? You will find it attached to the PIMA website. Go to [www.pima.asn.au](http://www.pima.asn.au) and click on Trade Directory. If you have any problems contact Ralph Cable on (02) 9387 6610.

This directory has the potential to assist the industry with fast access to providers of goods and services to the industry but to improve this we need even more listings.

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## Plastics Pioneers vote to move administration to PIMA

At the May Luncheon it was proposed by President Mick Leabeater that the Plastics Pioneers move their administration responsibilities to PIMA.

It was also pointed out that PIMA has no desire to 'take over' the Pioneers.

This will have no effect on the structure of the Pioneers, they will still elect their own President, organize their own functions and set their own fee structure.

The main change will be that the financial burden will move from the shoulders of the Pioneers' President to those of PIMA.

PIMA will also be responsible for maintaining the mailing list, email list, issuing of Tax Invoices and maintaining a sub-account within the PIMA accounts. This will mean that subsequent President's of the Pioneers will not need to have access to the support of a formal office structure, he will be able to just contact PIMA to have various functions carried on his behalf. This should make it easier for more of the senior pioneers to take on the role of President.

## Important Diary Dates for 2005

Dinner Seminar	Tuesday	14/06/05
Dinner Seminar	Tuesday	9/08/05
Plastics Pioneers Lunch	Thursday	25/08/05
Dinner Seminar & AGM	Tuesday	11/10/05
Plastics Pioneers Lunch	Thursday	24/11/05

## Advertising & Contributions

Advertising is now available in the PIMA PRESS.  
Advertisements should be submitted as a WORD file  
Please contact Ralph Cable (Ph: 02 9387 6610 or [pima@pima.asn.au](mailto:pima@pima.asn.au) ) for more information.

Advertising rates are \$50 + GST for a quarter page.

**We still need articles to be contributed.** As PIMA PRESS is read by a large cross-section of the plastics industry articles do not need to be specific to Injection Moulding. Information on insurance, OH&S, raw materials, latest news on people and companies etc.



26-29 September 2005

## Australian Plastics Industry - the early days by Les Dalton (Part 2)

(This account is based on personal recollections and a manuscript by Austin Laughlin recording his researches of the Dalton and Nally ventures. The Australian Science and Technology Heritage Centre now hold the manuscript).

**Due to the length of this article it will be presented in installments. Part 1 was in the April PIMA PRESS**

### The backyarder

On the back veranda at 18 Philpott Street Marrickville Dalton set about making moulding powder in just small quantities. He had to learn the 'know-how' of two processes - making a thermosetting powder and moulding it into a solid infusible article. An engineer friend, John Walker, made him a brass mould for a small disc. Pressure would be applied with a car jack and heat would come from a bunsen burner. Occasionally he would take a day off from the brickyards to experiment. For this he had a convenient arrangement with his foreman, Roley Humphrey, but of course with no pay.

The phenol and formaldehyde came in gallon demijohns from Elliot Brothers in the city. For the alkali catalyst there was a tin of 'Greenbank' caustic soda on the kitchen shelf. The reaction was carried out in a cast iron vessel. He came to have the chemist's feel for the end point - a certain cloudiness in the reaction mixture. He would separate the lower resin layer and add a fine wood flour, separated from sawdust in a kitchen sieve. A small amount of stearic acid, obtained by grinding up a candle, was the mould lubricant. It was before the days of paraffin candles. The mixture was evaporated to give

a crumbly powder looking and smelling something like burnt leather. Moulding his test disc he determined the best conditions for making his resins. Dalton drew up plans for a factory, nothing more than a shed on a nearby vacant allotment. He needed an autoclave for his resin-making and a screw press to apply pressure to his button mould. A breast drill had to do for putting holes in the buttons. Six buttons were sewn on each card. He found a ready market in haberdashery shops among them one in Royal Arcade run by Miss Wallace.

His buttons were a nondescript colour. He sought unsuccessfully to produce colourless resins. In 1919 he wrote to the Advisory Council of Science and Industry seeking advice on his colour problem saying: "During the past 3 years ~ have been experimenting in the production of a white plastic mass for the moulding of various small articles. Among the many substances I have tried are included casein, viscose and bakelite. For easy working I selected bakelite and have succeeded in making and selling some buttons". The Council could offer no practical solution to his colour problem.

After the war ended plastics articles began flooding in from overseas. His plant was too small and inadequate to compete. He ceased moulding and turned to making laminated sheets and tubes used for radio parts.

### Coolite

By 1923 the prospects for his plastics began to look brighter. Wireless was beginning to make an impact. Control knobs were needed. There was also a general demand growing for knobs and handles. Still a backyarder, he moulded a range of small articles. He had located an engineer, named Dean, with a backyard workshop in Glebe, skilled enough to make the dies for this new industry.

Metters technical personnel became interested in the new heat resistant plastics, which they were reading about, for their kitchenware. Tom Begg alerted his firm to Dalton's experience with plastics. They approached him with an offer. He would have a suitable building and plastics plant within their factory precincts. They would meet the bill for raw material and labour. He would be paid £10 a week with a commission of one penny a pound for the moulding powder he made. His contract would be for five years.

...../4

### **The Early Days (cont.).**

Several years on their friendship became an important factor in Dalton advancing his aim to manufacture his plastics. Spence Dalton accepted the arrangement as quickly as he could with any show of independence. For the first time he would work in a proper factory with adequate facility and technical support to develop his plastics. By early 1924 Dalton was installed in his workshop at Metters. It held a medium sized autoclave, a small ball mill to pulverise sawdust and grind solid resin to a powder. Three redundant hand presses were obtained from elsewhere in the plant. The autoclave was fitted with the controls he had always wanted. To solve his teething problems he was given the help of a tradesman, Alec Taylor, who became a family friend. A toolmaker was assigned to make the steel moulds.

The first order from Metters was for knobs in three sizes. A workbook records the early modest output dated 28th April 1924. when only 28 knobs were pressed. Gradually production climbed until the output was measured in gross.

A name was coined- 'Coolite'. Metters were not particularly aware of the historic significance of their new product. They were aware of their pre-eminent position as iron founders and metal workers but not of assisting in the pioneering of the Australian plastics industry .Dalton had moulded commercial articles six years before working with Metters but his sales had been little more than token and certainly not very profitable.

His workbooks record varnishing wooden knobs and handles with phenolic resins and stoving them. They were, no doubt, from Metters remaining stocks of wooden handles. He compared the cost of moulded and varnished wooden handles. Very soon he was producing plastics mouldings exclusively. He continued his experiments with the phenol-formaldehyde condensation. and the composition of his powders. Many unknowns remained. The timing, temperature and pressure were crucial in the plastic mass taking the shape of the mould before it set hard. They were early days with much still to learn.

His five years with Metters began to run their course. Dalton contemplated once again 'going out on his own'. In 1928 he founded H Dalton and Company with other members of his family.

One afternoon, not long before departing Metters, Dalton received a note from the office telling him a gentleman was waiting to see him. He washed his hands, rolled down his sleeves, donned his coat, and made his way to the front office. There he was introduced to a man, who told him in halting English that his name was Lang -Doctor Norbet Lang of the University of Vienna. Beetle Elliott had brought him to Sydney to manufacture

phenolic moulding powders. They would collaborate when the Dalton factory in Redfern began operating its presses using moulding powders Lang made at Beetle-Elliot Ltd..

The thirties saw the number of moulding companies begin to grow. The Colonial Gas Company in Melbourne engaged English chemist, Sam Powell, to make Excelite phenolic moulding powder. In 1936 Dalton Chemical Company began producing phenolic moulding powders as well as coloured cast phenolic resins. **(To be continued in June edition)**

**Starting in the May PIMA PRESS this sort of space is available for advertising.**

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## Letter to the editor

### Advanced Diploma in Polymer Technology Award Night

*The following article was submitted anonymously by someone who has close connections with the Injection Moulding Industry.*

It was a pleasure to be part of the ceremony on the 17<sup>th</sup> May at Lidcombe TAFE, when 9 people received their award of Advanced Diploma in Polymer Technology.

For many, it was the culmination of years of study and application of good theory into practice. There was a significant level of industry support for the other trades presented on the night, it was a shame that there was no-one representing the plastic moulding fraternity.

I was not surprised, it is quite typical of the general environment of plastics in Australia. Many moulders are using processing techniques learnt 30 years ago, a lot are not willing to take on board current information.

A recent trip by me to a supplier revealed that no-one present could even call up a screen on their brand new high tech moulder, to show me the history of injection cushion. They tend not to work with toolmakers, often seeing them as 'the enemy', out to fleece them. I have known and worked with moulders who would rather give a customer bad advice, than walk away from a flawed project. During a recent survey of potential suppliers, I was not surprised to find a lack of commitment to training and development of future experts.

Similarly the majority of toolmakers I have met would not score employment in Germany, where the toolmaker is required to understand both the theory and practice of polymer behaviour, so as to correctly design the mould to optimise absolute control over the polymer during the filling and cooling phases. I have distributed to several toolmakers and designers a set of tables developed by Bayer on the layout and positioning of cooling channels. Many had no idea of the information, or otherwise considered it 'too hard' or 'the customer doesn't want to pay for it'. Some have no appreciation of the cost in moulding sprues and runners; as they say at TAFE, you can 'mould it twice, but sell it once'.

It gets much worse within TAFE, where toolmaking apprentices are taught nothing about polymer behaviour or mould design, focussing on metal cutting techniques. Austool, who represents toolmakers, have no apparent voice on the ITAB which defines the competency requirements for training. These same apprentices never get to visit the moulding facility within TAFE at Lidcombe, and have no formal exposure to the end user (customer). Of the 9 people receiving their awards last night, 3 came from a single OEM, several others had to pay for the courses from their pocket.

Unless the players realise that they need each other to survive, sit down and focus on a growth strategy, customers will continue to go to Asia. This is their time for their own industrial revolution and nothing will halt it.

Our future could be in high tech, medical, aerospace, low labour high value, maybe automotive, communications, and science that is far ahead of Asia's only advantage, low labour cost.

Anon. OEM engineer

*PIMA has been in touch with Lidcombe TAFE to inquire why we were not informed that the award night was to take place.*

The prize night was held last Tuesday and I apologise for not organising with you to have a PIMA representative there. This year we have had some major structural changes at TAFE and the sections we held our awards night with in the past are no longer part of our faculty, so we were invited at the last minute to join with another group of sections who had already organised their night. This meant that we were limited in what was available to us. Next year however we will change this and hopefully have some industry sponsored awards to go with the certificates and diplomas.

Regards  
Stephen Dawkins  
Lidcombe TAFE

***PIMA wishes to point out that when we have had advanced warning of these nights we have had a representative present and have donated an award. Hopefully next year we will be able to re-instate this tradition.***

*Maybe some of you readers might like to reply to some of the other points raised in this letter - Ed*

## Advantages of 3D Modelling

Quality plastic products are the foundation on which successful results are built and recent changes and advances in technology within the Plastic Moulding Industry has seen 2D and 3D computer aided design (CAD) become an important part of a successful plastic moulders' business, and a point of inquiry from our membership.

One of the leading companies in computer aided design and a strong supporter of our industry is MASCO Design Services Pty Ltd. With over 10 years' experience in providing quality 3D data to mould shops, tool rooms and engineering consultants Masco offers design services resulting in the most cost and time effective solution. A recent UK study has found that 45% of a group of companies surveyed are using 2D and 3D modelling techniques and three out of five of that group said that the adoption of solid modelling had increased productivity more than they had expected.

There are many benefits associated with the use of 3D modelling. Computer Aided Design advances product visualization and virtual manufacturing, which enable ongoing design refinements as concepts evolve. The benefit to users is to meet the absolute latest requirements of the customer without the need to retool. "Companies want to produce better parts faster and cheaper, and thus need to involve the supply chain early. SpinFire has reduced time to market for users by offering easy access to both 2D and 3D CAD data, together with fast communication," says Randy Ochs, CEO of Actify® Inc. about their SpinFire Professional line of product used for viewing, markup and sharing of CAD data.

MASCO can assist with expedient production of Rapid Prototypes. RP provides all the benefits of getting to market faster, but for the first time it is possible to create Proof-of-Concept samples to show customers before implementation, and create proto-production units before committing to manufacturing and tooling. Both of these steps can save extensive amounts of company resources and time. "There is a huge sales advantage in getting to market six or 12 months faster. I conservatively estimated a margin return of four to one in additional gross profit sales dollars versus the dollars invested in SLA and other rapid development techniques to accelerate this project from design through the short tool run." --Dave Selby, Chief Engineer of Cordless Products for Milwaukee Electric Tool, Milwaukee, Wisconsin.

3D CAD modelling can dramatically improve the appearance of a finished product via realistic rendering. This allows photo realistic images of the product under development to be launched during the prototype-to-pre-production stages for use in advanced promotional publications such as in-house newsletters or even the internet

3D modelling also enables mould flow analysis which will provide an insight into the quality of the product as well as the productivity level of the machine and helps to eliminate reject/seconds. These are valuable sources of information to the shop floor as they remove potential costly problem areas before committing to tooling hence customers save both time and money in the 'time to market' of their product. This explains the high usage of Computer Aided Design tools by plastic moulders in other countries.

Adoption of these tools is considered international best practice within the plastic moulding industry. The outsourcing of these services to companies such as MASCO Design Services Pty Ltd reduces costs and allows access to a greater variety of skills and technologies than most small-medium businesses can afford to maintain in-house. Many of MASCO Design's customers have saved time and money by utilizing these technologies.

MASCO Design Services Pty Ltd is actively involved with several industry organisations (Austool, TIFA etc) which help in the practical application of virtual manufacturing, concurrent engineering and collaboration. MASCO are also proud supports of PIMA. For more information on MASCO and the wide range of services they can offer your business visit:

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