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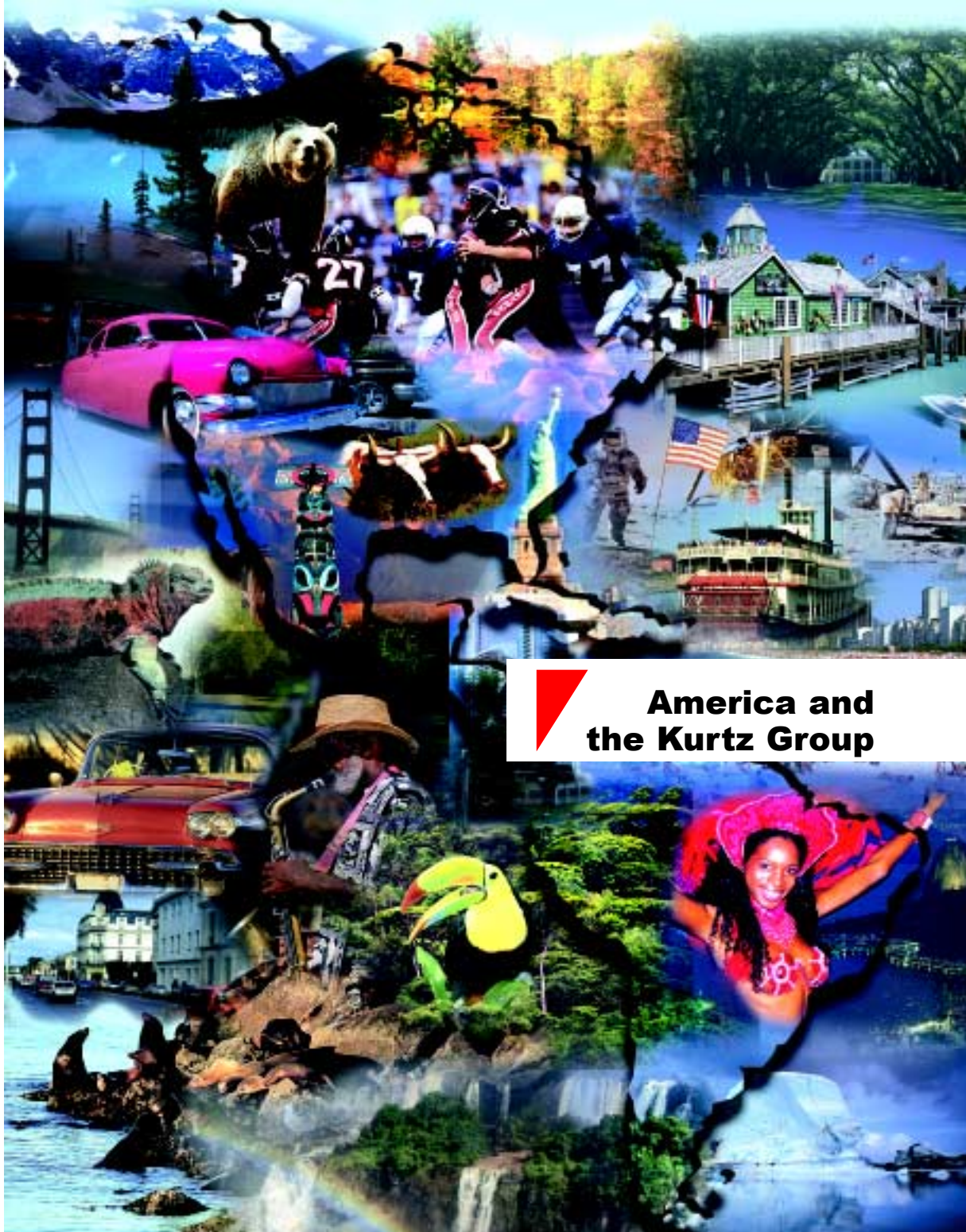
The customer and employee journal

**Feel the Power:
In-House Fair**

**Bed(-time)
stories**

**Selective
Soldering in
its true form**

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at Tiffany's**



**America and
the Kurtz Group**

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www.kurtz.info**

Just do it!



„Go West!“ was the motto of the pioneers who opened up the great expanses of the continent of America from its east to its west coasts. The pioneers' most important character traits were courage, adaptability and a talent for innovation. As a result, an economic system came into being which caused a vast expanse of the earth's surface to be designated „the land of unlimited possibilities“.

And how do things look today? The economy is in crisis, and not only in the land of unlimited possibilities. The forecasts coming from economic institutes all around the world are not good and there is no indication that a substantial recovery is around the corner. The world markets have been opened up, so the question the world economy now faces is: Quo vadis? Where do we go now?

The direction that things will take in the long run is not becoming any clearer with the passage of time. So all it seems possible to do is to wait in hope that the red light will change to green, preferably with a little arrow telling us whether to move to the right or to the left.

But why wait? Why not make a move now? The direction doesn't much matter as long as we bring things into motion rather than stagnating in a mood of resignation. Courage, adaptability, innovation – shouldn't

these be our mottos if we want to set things in motion and set the signs of the times for ourselves? This may seem to some to be a rather naïve disparagement of conventional economic theory, but isn't there something to be said for thinking anew about what the essential characteristics of pioneers actually are? It was only because people rolled up their sleeves and got the show on the road that there was growth and prosperity – and it will be no different in the future!

„Rolling up one's sleeves and getting on with the job“ is just what is going on all over the Kurtz Group at the moment. Of course, we have had to make certain adjustments in our various business sectors to allow for the partial recession affecting the economy as a whole. Cost-reduction measures and redundancies were inevitable. Discussions we had with staff members were always soberly objective in tone, which meant that we always came to mutually agreeable constructive solutions, and for this we offer our sincerest thanks to those concerned. On the other hand, we have also shown that our response to circumstances is not to be passive but to be proactive – reacting in a way that will be effective in promoting success. A positively paradigmatic example of this was the In-House Fair at our Kreuz-

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wertheim-Wiebelbach works. The fair owed its enormous success not only to the superb work done by all those involved in preparing it and carrying it through, but also to the contribution made by our esteemed customers. Your presence, dear customers, and your activities provided the stimulus that got our little economic motor running in top gear and made a reality of the fair's motto „Feel the Power“. And for this, once again, we offer you our warmest thanks.

„Just do it!“ This motto of a well-known American sports articles manufacturer provides us with the leitmotif for this edition of Kurtz News. Let's „just do it“, together with one another, getting things into motion with courage, adaptability and innovation. In Europe, Asia, Africa, Oceania, in America, the land of unlimited possibilities – wherever, „just do it“!

We wish all our customers and staff the peaceful and restorative Christmas season. We thank you for your collaboration over the past year and trust we will enjoy a successful year together in 2003.

Chris Kurtz
Basel Level Kurtz
W.V. Kurtz

The United States of America ... What a country!

Citizens of the United States have always been very proud of their country, and they can still boast that they are the strongest nation in the world. This is not only true on the military level – all the other statistics carry the same message. If one disregards the great crisis of the 30's, the USA has always had a growth economy with low rates of unemployment and inflation. One

(affecting over- and under-capacity) and product development (medicine, pharmaceuticals) the American economy enjoys a greater degree of flexibility. As was noted in Issue 17 (July 2000) of Kurtz News, the USA is a paradise for the service industries, a flourishing economy sector if there ever was one. Between 1994 and 2000 the economy experienced enormous



only has to consider the size of the country – two and a half times the surface area of Europe. Or in other words – if the US was as densely populated as Europe, it would have over a thousand million inhabitants; instead of which, its population is currently a „mere“ 260 million.

Per capita annual income is at present around \$ 35,000. In the fields of personnel

growth, there were no inflation rates of any significance and unemployment was constantly under 5%. In Wisconsin, the state where the KURTZ/ERSA branch offices are situated, the unemployment rate was even below 2%.



But at the same time, poor capital investments, poorly thought-out economic infrastructures and a sharp rise in health costs were leading to the present severe crisis. The recession which has not abated since the fourth quarter of 2000 is the worst to have hit the USA for over a decade.

What was it that actually went wrong? What was it that caused the breakdown of the technology industry, and with the „new market“, in America of all places, the „land of unlimited possibilities“? The debit and credit card business, combined with the generosity of the bank





regulations, had always ensured good money availability. Every second American is a shareholder. The biggest investors, however, are the government-regulated pensions funds (401K), which means that the professional stockbrokers are practically the only investors who really know anything about the companies whose shares are on the market. This is why the value of the shares in the USA is determined by trends in the quarterly figures.

The consequence of this was short-term strategy. The shareholders were not prepared to tolerate the sometimes unfavorable quarterly figures which long-term strategies were likely to bring about. Companies industriously continued their high productivity levels and filled



their warehouses to bursting. This led to an imbalance between (excessive) supply and demand, and this was what led to the breakdown. This is why the present trend is thus actually seen as a healthy corrective.

America's biggest business partners are Mexico (23%), Canada (14%) and Germany (4%). Naturally enough, the bad economic figures in Japan, Russia, Indonesia and Brazil also contribute to the generally poor economic climate. The construction industry market is strong, kept buoyant as it is by a low building interest rate, but even in this field there is still a noticeable downturn. In spite of all this, the USA is still among the leaders in fields such as petrol, steel, automobiles, air navigation, telecommunications, electronics, open-cast mining and consumer goods. Imports are almost 60% higher than exports – for comparison, Germany's export quota is over 60%.

As a great military power, the USA naturally bears a great responsibility. The current large-scale investments in the military field have led to a slight economic upturn, both in the USA and in Germany.

If leading economists are to be believed, then a definitive upturn can be expected at the end of the second quarter of 2003. In machine construction there may naturally be a delay until the third quarter. Travel enthusiasts among us will be aware that the current Euro/\$ relation is now turning the US back into a popular and attractively priced holiday destination.

The Kurtz Group in America



In May 2002, the official North American ERSA headquarters was moved to Plymouth, WI. This is a logical step for creating synergies within the Kurtz Group. Being located together benefits not only organization but also gives customers the opportunity to view the complete ERSA line of tools and machines and the KURTZ machine spectrum.

ERSA is further broken down into distributors and representatives, which is necessary for reaching customers when distributing over such a large area such as the US and Mexico.

In South America, ERSA has representative offices in Brazil, Argentina, and Chile, which also represents the Central American market. KURTZ also has a branch office in Joinville, Brazil, KURTZ South America Ltda., for more than ten years already.

KURTZ North America Inc. and ERSA Inc. already work for other German companies who wish to establish themselves in the US-market. They can make use of KURTZ's and ERSA's existing resources and infrastructure to enter the US-market with considerably reduced investments.

Ramona "home alone" in the USA ...



Hallo! My name is Ramona Malek and this year I passed my school-leaving exams from the business secondary school in Bestenheid, where I was selected to do a four-week internship at KURTZ North America Inc. (KNA) in Wisconsin. The whole operation was sponsored by KURTZ Wiebelbach in cooperation with the Business Juniors.

For the four-week period I was put up by an American family, including my „Daddy“, John, himself a KNA staff member. I also got a „little sister“, Kailey, and a „little brother“, Cody, not to mention a „mum“, Jill. There was always plenty going on in this family and no cause for boredom.

In the first week I drove into work with John and was given my first project – KURTZ and its competitors in North America. At the end of the week I was given my own car – a „German Volkswagen“, known to everyone as „Herbie“. The project assigned to me involved a great deal of research on the Internet and visits to two customers, which I made in my car. I found out more about the machines of certain competitors and familiarized myself with how a polystyrene block actually comes into being and how it is processed. This project kept me busy for two and a half weeks.

My next project was waiting for me as soon as I was finished – collating answers to a questionnaire addressed to 98 KNA customers, who were asked to fax back answers to ten questions. I received answers from 20 and had to chase down answers from the others by telephone. In the end I had over 30 sets of answers, and was considered to have done a good job.



Telephoning in English was, for my „boss“ at KNA, Sebastian Schmidt, a particularly important part of my activities. And he was insistent that I should do most of my project work entirely off my own bat, which, to be quite honest, didn't appeal to me at all to begin with. But to my surprise, I managed quite well in the end.

In my spare time I did a lot with my family and particularly with my „brother and sister“. The family was



very keen on shopping, which I also enjoyed. Family parties and a fitness studio were also key elements in my activities. On my last weekend I had the opportunity to get to know Chicago. That was a hectic experience, but also a lot of fun.

I enjoyed myself wherever I was - particularly in the family but also at work where I had a lot of friendly colleagues and made a number of good friends. So I would like to thank all those who did so much to make sure that I went away with good memories of my stay in Wisconsin. I am sure we will meet again sometime.

Bye, Ramona.



Feel the Power: 750 visitors at the Kurtz In-House-Fair in Wieblebach

This year our traditional in-house fair was held from **KURTZ** Thursday, October 10th to Saturday, October 12th at the Wieblebach machine factory. Along with the plastics trade fair K' in Düsseldorf and Plast in Milan, this event is now recognized as a key meeting point for the plastics-processing industry. Product innovations were presented, and the latest research results and technology in EPS, EPP and copolymer-processing were the subject of specialist lectures. A new feature was that this year KURTZ's in-house fair was coordinated with the foundry machine division in order to encourage the best



synergy effects. After all, especially in the automobile supply field, KURTZ has an excellent reputation for its achievement in aluminium low-pressure casting machines. V8 to V12 and R4 to R6 engine blocks and cylinder heads, for instance, are cast on KURTZ machines.

A glance at the attendance figures confirms the fact that the KURTZ in-house fair has now become an established tradition. More than 500 visitors from all over the world had registered for the three-day event. In years without large-scale inter-regional fairs for the plastics-processing industry, the KURTZ fair has gained widespread recognition as a platform for the whole family of companies involved in particle foam materials pro-

cessing. This year it was possible to make the fair even more attractive by timing it to coincide with the specialist SKZ conference EPS Particle Foam in Würzburg.

This year, the thematic focus of the specialist lectures at the house fair was „Energy“, with the latest research results in the field of shape mouldings production being presented with reference to topics including optimal works planning and fact-finding in relation to energy consumption causes in procedures and fields ranging from pre-foaming, transport and storage to steam, air and electricity.

As far as block processing was concerned, the focus was on just-in-time production and the revolutionary ProRob handling concept, the treatment of the subject being rounded off by presentations of the newest developments in cutting technology.

For those involved in foundry machine construction the lecture series was seen as a continuation of the dialogue which began at the information day on low-pressure casting. Light was shed on the areas in which KURTZ foundry machines are in operation, from rapid prototyping through to serial casting. Low-pressure casting technology and the related question of quality assurance was the topic of another key lecture.

As well as learning from the specialist lectures, visitors were also able to look at an interesting range of new products in the production hall:

Pre-expander VSD 100

This was the first time that this new pre-expander had been presented to a specialist public. In the product ranges on the market there had long been a gap for a pre-expander conceived specially

for exact densities with minimal deviations. This is above all of critical importance in helmet production. KURTZ's compact pre-expander VSD 100 is conceived for high densities, coloured raw materials with small batches and online-operation and is fitted out with highly economical steaming features.

Shape moulding machine K1121

This is not really a genuine new product, rather a case of diversification, a machine which was originally conceived for bath tub supports being adapted to allow for a new application, namely the production of laminated coverings. These can, it should be added, be produced up to a length of 2 m, and their extremely smooth surface make them very adaptable when used as decorative elements, as they can be painted in any colour.

ECO-LTH

This is not a case of a product, but of a process technology. The LTH-process was invented about ten years ago at KURTZ and facilitates enormous energy savings in the foaming process, but until now the accompanying rise in tool costs have prevented it from making its breakthrough. It was only really economical to



put it into practice in the case of high unit number. The new ECO-LTH technology has now made it possible to find a compromise between energy saving and tool costs which will appeal to every purse. This was demonstrated and proven in situ at the fair.

ProRob Panel-handling

There had already been a public demonstration at Alt-aussee in Austria of how an articulated-arm robot can be used to handle panels. In this fully automatic process the robot not only carries out the entire panel-handling including palletization, but also edge-machining. This combination of three different grippers is a new concept which has further extended the field of application commanded by these tools.

ProAxis - Contour-cutter

The ProAxis is a low-cost alternative to the OmniPro contour cutter and is an attractive machine in its own right – operator-friendly, well-constructed to a design which makes for easy access.

KDG 20 - Mill

This novel recycling mill for EPS has a capacity of 20 m³/h, operates with extremely low noise levels and – even more importantly – is absolutely dust-free.



AI low-pressure casting installation

Offering another example of the remarkably successful cooperation between KURTZ and KS ATAG, two aluminium low-pressure casting machines for R4 to R6 cylinder engine blocks were on display in the assembly hall.

Spare parts catalogue

Around 2,000 parts for pre-expanders, shape moulding machines and block moulds are listed in the new KURTZ spare parts catalogue. PDF-files facilitate a platform independent use.

The impressive range of exhibits and lectures notwithstanding, it was personal dialogue which was at the heart of the fair. This was promoted by a varied recreational program including a wine-tasting at the castle in Homburg, a relaxed evening at a historic mill restaurant in the Spessart Forest. But the programme highpoint was without a doubt provided by the Foyer party on the KURTZ premises featuring a thematic dinner and cocktail bar.

Feel the Power was the motto of this year's in-house fair, and the spirit of the motto was constantly and ubiquitously in evidence – in the core topic pervading the specialist lectures, in the high attendance figures, the extremely successful sales figures, and, last but not least, in the high level of motivation displayed by every single visitor and every single KURTZ staff member. Hardly any trade fair can have lived up to its chosen motto as unambiguously as this one did.



Low Pressure – High Quality 1st Low-pressure casting information day



group of enterprises on the market in this field is actually a very small one, with Mahle and Kolbenschmidt being among the pioneers of low-pressure casting, particularly in the automobile sector.

It was then the turn of the Aluminium Casting Division to give a more detailed technical presentation on

„Low Pressure – High Quality“ was the motto of the 1st KURTZ Low-Pressure Casting Information Day held at KURTZ Kreuzwertheim on Thursday, September 26th. The event had sparked the interest of around seventy customers, who were formally greeted on their arrival and given a short introduction to the work of the Kurtz Group. A lecture followed, given by Prof. Dr. Friedhelm Kahn, formerly on the teaching staff of Friedberg Technical College, which sketched the history and development of low-pressure casting, a history which goes as far back as 1910. It was particularly interesting to find that all the main characteristics of present-day low-pressure casting were already present in 1910 – a gas pressure-tight furnace with pressurized supply, crucible, rising tube and a mould mounted on top.

The KURTZ Foundry Machine Construction Division then demonstrated what a perfect process this in fact is, in all its various forms. At this point we became acutely aware that the

low-pressure casting. One point which was emphasized was the definite distinction between low-pressure casting and pressure die casting, particularly as far as the quality of the cast parts is concerned.

Simulation of the casting process is an extremely important tool, particularly in respect to „cast-friendly“ construction, and also has important implications for quality assurance. It is only possible to rise to these challenges with the use of CAE-

techniques such as finite elements analysis and casting technique simulation. Achim Schroth from MAGMA GmbH treated us to a highly vivid visual presentation of these procedures.

Having heard the theoretical expositions contained in the various presentations, the participants then had the opportunity to see them in practice in the course of a guided tour of the KURTZ works. As the company's activities include both an aluminium foundry and a foundry machine construction plant, staff see the process from both points of view, which makes KURTZ a high ideally competent partner to go to for advice on any problem relating to casting technology.

An opportunity for participants' impressions and thoughts to be put up for discussion was provided by a podium session, which Bernhard Kurtz brought to a close by expressing his satisfaction at the fact that the participants had had such a genuinely profitable day and thanking all those involved in the event. He concluded by wishing success to all present with the foundry greeting „Glück auf!“.



Bed(-time) stories

When automation of CNC-lathe machines is the problem at hand, then one of the most knocked-upon doors is that of the machine construction company FMB (Maschinenbaugesellschaft Faulbach). This is no longer just the case on FMB's home market in Germany; more and more lathe technicians in the USA have clearly been discovering the economic advantages of FMB's innovative bar-loading technology for themselves. In order to ensure that the heightened interest on the part of the Americans will result in more and more orders, the company has set up its own sales and service branch office in New Jersey.



FMB Maschinenbaugesellschaft GmbH is not simply reckoned to be one of the field's pioneers and its technological leaders; with around 14,500 loading magazines in operation the Faulbach firm can now claim to be a „big player“ in this many-faceted sector. They certainly consolidated this claim when they presented their new loading magazine FMB turbo 10-72. It can be implemented in a great variety of contexts and its casting bed construction guarantees the highest possible operational precision and exemplary absorption for bar diameters from 10-72 mm.

What is convincing about this new development is not just its very wide diameter range, but above all the fact that it has clear advantageous inner characteristics. In comparison with conventio-

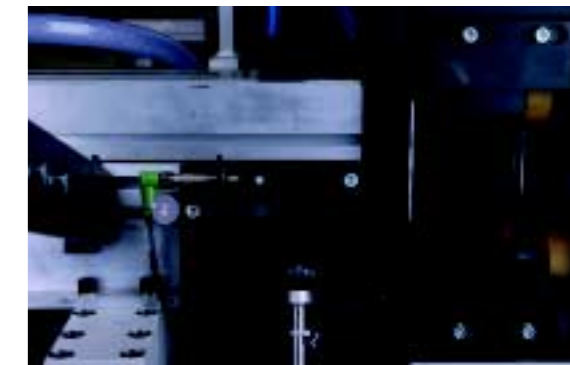
nal constructions, the grey cast iron machine bed of the FMB turbo 10-72 – supplied by the supply sector of the Kurtz Group, combines the highest operational quality with clear further improvements in respect of noise and vibration absorption.

A further feature is that the loading magazine's very high torsion-resistance means that materials with a greater range of different diameters can be processed without change of channel.

All this was achieved by close cooperation between FMB and KURTZ technicians with the foundry and machines factory business division not only on a low-cost model for the rational production of cast parts but also on keeping the machining of the cast bed to a minimum. The one-part models and the core-boxes were produced in the home model construction department. The core-boxes can be used for both bed lengths, minimizing production costs. Worries that the long bed right on the guiding rails would go out of shape after casting proved unjustified, and the machining allowance could thus be kept to a mere 5 mm.

The bed is shaped in cold resinous sand in the hand-moulding department. The gross weight of the 3200-support amounts to about 770 kg, that of the 4200-support to about 1200 kg. The production process inclusive of casting, dressing, sandblasting and undercoating takes three days, after which it is ready to be delivered.

The FMB turbo 10-72 is produced according to ST (servo-drive with cogged belts) and also according to the highly successful XT construction model. In



the XT series a high-precision linear drive pushes the material in at high speed, but without impact. This saves an enormous amount of time, raises productivity and results in space for an extra tool in the machine, not to mention the saving on wear and tear for the machine. Typically for FMB machines, the FMB turbo 10-72 is supplied for both 3200 mm and 4200 mm long material bars.

Loading and unloading can be effected in no time at all and without contortions. It is, for instance, very straightforward to put in the roller lunette for round material, and then to exchange it for guidance streams when there is a change to multi-edged material. The self-centring pneumatic gripping device guarantees reliable pulling up and away of material bars and left-over pieces. Last but not least, the segmented guidance channels running with oil (which have long since proved their worth in thousands of cases) are also quick and simple to change.



Foundry activities in the USA: 2002 Foundry of the Year



In May of 2001, Modern Casting Magazine wrote an article about the pressurized lost foam casting process the Mercury Castings Division of Mercury Marine, Fond du Lac, Wisconsin, had installed for the production of captive and commercial engine components. Now just a year and a half later, Modern Casting names Mercury Castings as their „2002 Foundry of the Year“.

A History Recap of Mercury Marine's Lost Foam Activity

In 1985, Mercury Castings built a R&D lost foam casting line capable of 12 flasks/hr to produce aluminum engine blocks and cylinder heads for its parent corporation's (Mercury Marine) inboard and outboard marine engines. The goal was to determine the feasibility of the lost foam process for full-scale production.

In 1988, Mercury Castings purchased a lost foam pattern development system from KURTZ North

America consisting of one KV 450 pre-expander and one specialized K 710 EPS molding machine. Over 15 years of production, this R&D line grew to account for 15% of the firm's overall casting production. The production lost foam patterns were supplied predominantly by one company in Canada.

That company uses Kurtz equipment for their lost foam pattern production needs. While Mercury Marine Castings developed proficiency in the design and manufacture of complex small engine components in lost foam, the foundry was presented with a new challenge in 2000 when Mercury Marine started to design a new 6-cylinder engine.

Based on the success Mercury Marine engineers had with designing the three-cylinder block and head in lost foam, the firm targeted the 6-cylinder for the process.

By designing for lost foam, this engine design could accommodate

hollow sections that could not be cored out in diecasting or semi-permanent mold.

With the new 6-cylinder engine on the horizon and the desire to solicit commercial business, a new lost foam facility capable of higher production volumes was required. The result is the „2002 Modern Casting Foundry of the Year“: A 2,000 m², \$10.7 million facility with a single lost foam casting line capable of 24 flasks/hr. which is projected to produce up to 7 million kg of casting per year.

In addition to the new facility, Mercury has brought on a second, local lost foam pattern production facility. This local manufacturer has teamed up with Mercury to teach them the art of lost foam pattern production. This local facility utilizes KURTZ equipment exclusively for Mercury Casting foam pattern needs: one KV 450, two K 813's and one K 710 with one K 1014 as potential use.

With the projected growth of the lost foam process at Mercury Casting, and the close working relationship KURTZ North America has with the lost foam pattern suppliers and Mercury Casting,

KURTZ will continue to be on the leading edge of the lost foam pattern production process.

*Information source:
Modern Casting – A publication of the American Foundry Society – August 2002*

From „Z“ to „A“ for America or Aalen

Anyone who is anyone in the magnesium field was among the firms ranging from Porsche in Zuffenhausen to Int. Magnesium Ass. from Washington, America who met at Aalen Technical College for the 10th Seminar for Magnesium Consumers 2002.

This seminar is held annually for a steadily increasing number of participants and is designed and organized by the EKZ (European Competence Centre) Metallguss FH Aalen. Once again, the seminar was attended by participants both from Germany and from abroad. On display were a wide range of goods from accessories and cast parts to production installations and products from the foundry sector. The list of participants made good reading, and could forgiveably be mistaken for KURTZ Foundry Machine Construction's references list. Among the subjects presented by the specialist lectures on the programme were the various casting processes involving magnesium alloys and the origins of special construction components for the automobile industry.

One lecture in particular gave information about the research project „MAGUS“ on gravity die casting with magnesium, concluded in June 2002 entitled. The project had been organized and coordinated by the Aalen Technical College, with the research and experiments being exclusively carried out on their own premises.

KURTZ joined the 11 other participants when the project was already in full swing in November 2001, making its own particular contribution in the form of a low pressure dosing control system for aluminium and magnesium. This control system was used in the carrying out of casting and dosing experiments using magnesium in gravity and low-pressure gravity die casting. A 30-kg crucible furnace was used to begin with, later replaced by a



crucible furnace with a capacity of 300 kg for magnesium. Once the official research project MAGUS had been brought to a close, a small team was formed on the initiative of the EKZ Metallguss FH Aalen to continue the project.

KURTZ's task is to use the low-pressure pressure and dosing controls in such a way that dosing can be carried out using low pressure on gravity dies and casting in low pressure dies.

Short-term goals have been set as follows:

- Mg centrifugal casting – Mg dosed with KURTZ low-pressure controls
- Mg-gravity die casting of various experimental and structural parts – Mg dosed with KURTZ low-pressure controls
- Mg-low-pressure gravity die casting with KURTZ low-pressure controls

Tasks were distributed as follows amongst our partners:

- EKZ Metallguss FH Aalen: Organizer and coordinator, they will make their facilities available for the project and will draw up the experiments and evaluations.
- MBS Senator: Will be responsible for the centrifugal casting installation.
- Hindenlang: Will be responsible for such furnace systems as are necessary, to the requisite quantity and specifications.

- W. Funk: As a result of their many years' experience in magnesium casting, chosen to be responsible for carrying out the casting experiments.
- KURTZ GmbH: Responsible for low-pressure pressure and dosing controls

If you should happen to have research projects in mind associated with a concrete application, please let us know, so that we can collaborate on tackling the problem.

All members of the team are grateful for tips, suggestions and new tasks. Further information from the contact person: Herr Hartmann
Tel: +49(0)9342/807-315



ICF: The North American EPS industry's biggest growth market

ICF is one of the fastest-growing new technologies in the North American construction industry. It was only implemented for a few thousand houses during the period from 1994 to 1998 but since then the figures have shot up. It is thought that the future will bring high growth rates, with figures reaching up to six digits.

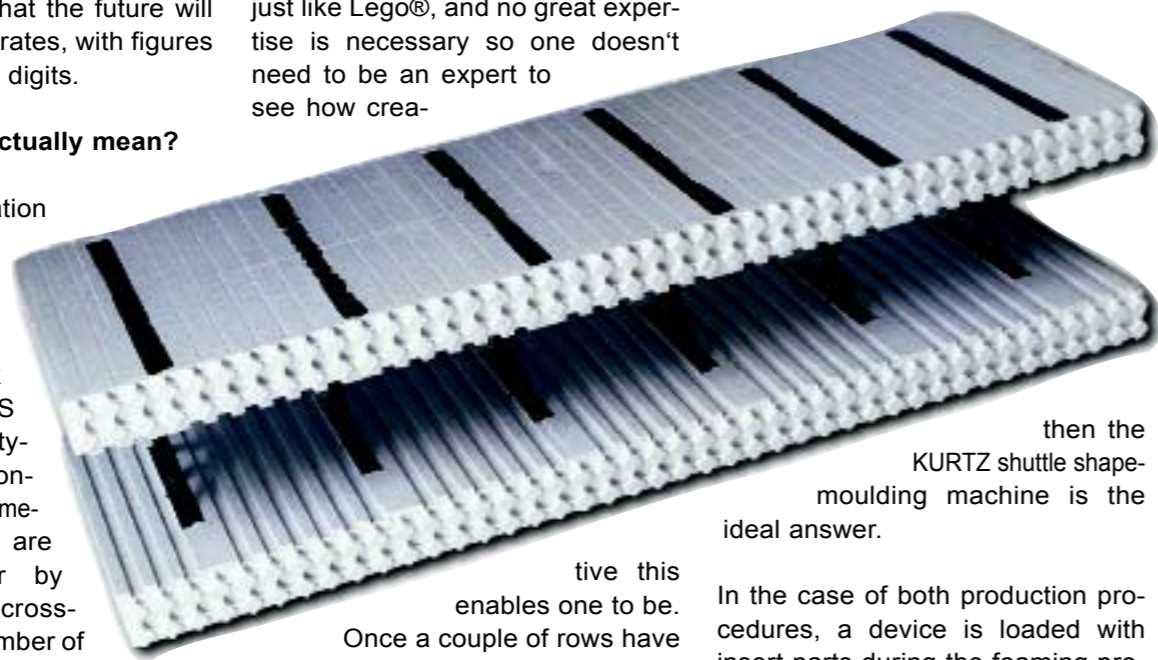
What does ICF actually mean?

The abbreviation stands for „Insulated Concrete Forms“, in other words two connected framework elements in EPS (expanded polystyrene) filled with concrete. The two framework elements are connected either by means of EPS-cross-pieces, or by a number of inserts made of injection-moulding material or metal. The system results in a house wall with a sandwich-like EPS-concrete-EPS construction.

It is not difficult to see what the advantages are. The use of EPS means that ICF-built houses have excellent heat and noise insulation. The use of concrete means that ICF-built houses are very robustly constructed; by contrast with the wood-built houses with which they are in immediate competition, they are furthermore capable of withstanding the constant hazard presented by hurricanes.

One further advantage should not be forgotten, namely the high level of flexibility in house design faci-

litated by ICF. The system opens up almost unlimited scope for the fantasy of the imaginative house-building enthusiast. The reason is inherent in the system itself. The ICF framework elements are put together on the construction site just like Lego®, and no great expertise is necessary so one doesn't need to be an expert to see how crea-



consumption guarantee economical production ideally suited to the industrial context.

If manufacturers are looking for high flexibility in the production of ICF elements and other mouldings,

then the KURTZ shuttle shape-moulding machine is the ideal answer.

In the case of both production procedures, a device is loaded with insert parts during the foaming process and then automatically transferred whole into the mould. This minimizes the interruption of the foaming process and guarantees the shortest possible overall cycle times.

What has KURTZ contributed to this whole process?

The over 40 North American ICF system manufacturers defined their priorities clearly from the outset, namely high quality achieved by the good welding together of the EPS framework elements, to reproducible levels of accuracy.

The shape moulding machine K 138 R was developed by KURTZ specially for the ICF industry and first exhibited at the plastics trade fair K'98 in Düsseldorf. Its very short cycle times and low energy



Cutting Line Technology – Process integrated block processing

Paramount in the minds of EPS molders today is the search for the right mix of systems to optimize material flow into and away from the factory. The technological solutions of the future are aimed at cost effective production and downstream EPS processing. This article reviews the technology evaluation process from a North American perspective.

Machine evaluation can be exhaustive – go ahead and explore new places while evaluating the machinery and your potential business partner.

On-site plant tours and machine demonstrations - a new perspective



Investment in new EPS processing equipment is no small task. Deciding for such a system has long lasting ramifications regarding future plant operations. Although the ultimate investment is physical machinery, the initial investment is „time“. Time is needed to review, judge, or compare possible vendors. One important criterion is the relationship of the support personnel who become active once the equipment is installed.

What better way to become more familiar with a prospective business partner than to view an existing installation of the same equipment being considered? The competitive nature between molders requires overseas visits to evaluate machi-

nery, which can make for a truly enjoyable experience.

- Higher throughput
- Greater repeatability
- Faster changeover times
- Better quality
- Reduced risk
- Lower personnel costs

While abroad, it becomes apparent to North Americans that European EPS molders use fewer employees. European Community regulations, calling for higher wages and economic incentives, increase the attractiveness of automation in EPS processing plants.

Conversely, in North America, areas exist with an abundance of „inexpensive labor“ while others exist with a shortage of qua-

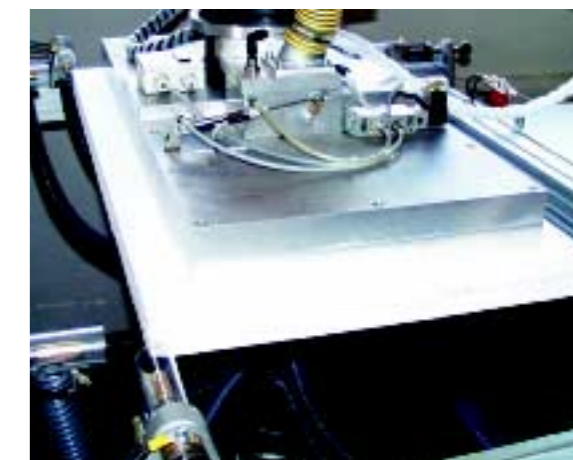
lified laborers. Investment in automation can benefit both areas.

Many molders see automation as necessary. Throughputs increase, injury risk reduces, and responsiveness to customers improves, which leads to „just in time“ block processing. Established, Windows-based, user-friendly programming allows you to efficiently plan an entire day's production.

A change in thinking – downstream processing

Considering greater production efficiencies, downstream „handling“ becomes a possibility with robotics, such as the KURTZ handling and processing equipment ProRob! The proven technology of robots, combined with correctly engineered tools and the application know-how of KURTZ makes it possible to exploit faster EPS processing speeds.

Now, do you expect that such an evaluation of today's technology can translate into results for your facility? Take a look at the EPS processing possibilities, and begin your adventure!



New Friendship



After everyone had „Felt the Power“ at the highly successful **KURTZ** KURTZ In-House Fair, representatives from KURTZ Far East and KURTZ North America made the journey to the Sunpor Factory in St. Poelten, Austria. Here the Sunpor representatives opened their house for the KURTZ representatives and were very gracious hosts.



Many hours of training and discussions made for a better understanding of the special raw materials, their use and processing capabilities. Thus, the KURTZ agencies around the world can answer questions concerning the special raw materials available, including brilliant colors, helmet material and other very special materials for special applications. The Sunpor people made it very clear that they are always on the ready to support the processing, testing and approvals of their raw materials the world over.

We know that our customers are looking for knowledgeable contacts to support their

value-added projects and increase the bottom line. The established relationships of the KURTZ Company makes it very easy for the customer to contact the Kurtz Group for now, an even greater range of products.

One initial and very successful project is the new compact pre-expander VSD 100 which was realised with the mutual know-how of

Sunpor as the raw material manufacturers and KURTZ as the machine manufacturers. The VSD 100 is an automatic, discontinuous pre-expander designed for processing EPS. With its 0.1 m³ gross volume and maximum of 0.5 bar operating pressure, the VSD 100 is the smallest pre-expander within the KURTZ product line. This machine is intended for use with smaller batch sizes, colored material, and especially for use with helmet production or with a direct pre-expanding approach.

The direct pre-expanding approach allows you to transport the pre-expanded material to the shape moulding machine filling tanks immediately after the pre-expanding process has been completed. This processing approach saves you time and space by eliminating the need for piping to the silos, material storage time, and the piping from the silos to the shape moulding machine. During the planning and production of this pre-expander, we placed importance on creating a compact, space-saving system. A machine such as the VSD100 allows processors to easily install such a pre-expanding system in existing EPS plants.



Quiet, Dust-free and Efficient!

For the first time ever, polystyrene-processing firms can **KURTZ** now crush their pre-broken EPS waste without any significant dust emission – with the slow-running KDG 20/40 granulator. As a result, it can in many instances be used without a de-dusting of the reground material.

The machine has the following features:

- low noise levels
- causes hardly any dirt in the vicinity of production
- highly servicing-friendly
- low space requirement

The slow-turning rotor shafts (27 rpm) and the rotor's small diameter mean that the material to be granulated is carried forward at a low speed. These factors, combined with the large sieving surfaces which allow the material to pass through

after only a few cycles in the granulator, are what makes it possible for the granulation of the pre-broken material to cause practically no dust and for the noise levels to be so low. All this combines to make follow-on installations such as for instance cyclone collectors, dust silos and compactors quite unnecessary.



Hinged outlet funnels swing downwards to make for easy sieve-changing and cleaning.

With its small rotor diameter, the installation is very economical on space and can also operate in normal production premises.



Could it be any more flexible?



Polystyrene processing firms have found that **KURTZ** ProRob handling systems have opened up completely new dimensions, and this not only in handling, but also in further stages of product processing.

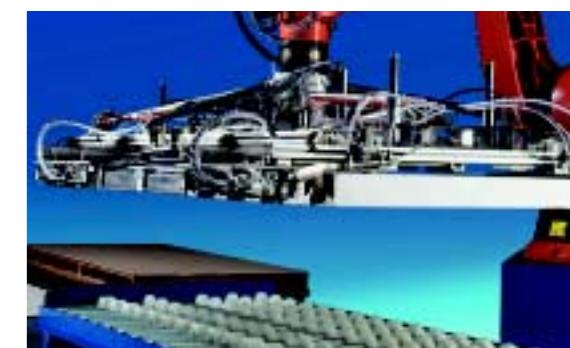
It is now possible to adapt products in the ProRob series to practically any handling application, thanks to the development of three new gripping systems:

Double gripper 200 - 500 mm / 950 - 1250 mm, up to 2 m in length
Gripping tool with automatic grip breadth adjustment for the reliable handling of packets by means of two pairs of steered gripping plates. Vertically arranged brush rows ensure a reliable grip. Separate fixing pins for extremely thin panels are an optional extra.

Combo-double-pin gripper 950 - 1250 mm, up to 2 m in length
An optional accessory to the above double gripper is a gripper for lifting and transporting wooden and other pallets.

Combo-suction-pin gripper 600 - 1250 mm, up to 3 m in length
Gripping tool for reliable handling of long polystyrene or mineral wool items and plaster boards, consisting of two pairs of gripping frames with integrated pneumatically steered gripping plates for lifting and transporting single panels, suction nests for lifting and transporting single panels and pallets, and a pallet gripper for lifting and transporting wooden pallets.

Vertically and horizontally arranged brush rows with the gripping plates ensure a reliable side grip. Fixing pins, put into action separately, ensure that thin panels do not fall out during transport.



Selective soldering in its true form

 Like all contract electronics manufacturing services (CEMS) companies, Celestica International strives to meet PCB assembly challenges brought about by new technologies and complex PCB designs. One of the more recent areas of process related interest within the industry is selective soldering.

In the past, Celestica has typically resorted to the use of selective pallets as used in conjunction with wave soldering equipment, hand soldering, the solder fountain and various types of semi-automated solder robots in an



effort to secure components in PCB assemblies that defy what could be termed „standard processing”.

Being the 4th largest contract electronics manufacturer in the world with 2001 sales in excess of US\$10 billion and manufacturing plants in 40 locations throughout America, Europe and Asia, it is imperative that we provide our customers with unsurpassed in terms of quality, flexibility and delivery.

Staying ahead of the curve in providing our end-user customers with the ultimate in soldering technology was becoming increasingly difficult with respect to the wave pallet process due to component clearance restrictions



and PCB density limitations. Ongoing maintenance of pallets was also a major headache. We reached the breaking point when our wave solder machine operators became overly frustrated by the daily round of „Rubik’s cube” they were forced to play regarding the shuffling of carts that housed the multitude of pallets on our production floor.

It was then that we began an extensive evaluation of selective soldering machines. It was hoped that we would find a piece of equipment capable of providing the ultimate in flexibility, reliability, performance and, of course, soldering quality. Our evaluation included on-site functional tests of machines as offered by 5 vendors that were located throughout America and Europe.

Upon completion of analyzing the pertinent information and defect data, we chose ERSA and their VERSAFLOW system as our partner in selective soldering technology. The VERSAFLOW exhibited all the qualities as outlined in the preceding paragraph. On the subject of flexibility, the fact that the VERSAFLOW has the ability to process extremely large (i.e. 500 x 600 mm) PCBs and utilizes a common programming platform across all models was a key factor in the final decision. In addition, ERSA offered superior worldwide technical support, a strong Engineering Department and had the largest

install base of selective soldering machines in North America.

Our shop floor experience has been extremely positive since installing two VERSAFLOW systems. The VERSAFLOW exceeds our demands for quality and flexibility due to its innovative design features. Its integrated fluxer verification system prevents operators from producing defective PCBs. The sustained top and bottom preheating offers improved joint quality and reduces production cycle times. The solder wave height sensor greatly improves consistency in the process. No longer must we rely on operator judgement with respect to the most critical parameter in a molten solder type operation.

The automatic pin chain/edge roller conveyor system provides the flexibility to process PCBs with or without the aid of pallets. That said, the design point of the VERSAFLOW is aimed



at completely eliminating the need for any form of dedicated, expensive tooling. The bottom-viewing camera allows us to verify machine setup in rapid fashion. Speed is, of course, a vital element where high-mix contract manufacturers are concerned.


We had a smooth and trouble-free startup when we installed our first VERSAFLOW due to the exceptional pre-install training that was offered by ERSA in their North American demo facility in Plymouth, Wisconsin. The fact that our operators, technicians and engineers were educated in and on the appropriate areas of the machine prior to its arrival allowed me to concentrate on alternate installation related tasks.

At this point, our Toronto, Canada plant has been reaping the benefits of owning VERSAFLOW for approximately 1.5 years. The experience has been rewarding. Product quality has been excellent. The machines have proved to be extremely reliable. As evidence of same, our maintenance personnel have forgotten much of their original training as they rarely need to service the equipment. In addition, our spare parts kit remains intact.

Many of our end-user customers are so delighted with the soldering quality yielded by the VERSAFLOW that they demand all their appropriate PCBs be directed through the VERSAFLOW as opposed to subjecting them to alternate „less appealing” processes. The VERSAFLOW defines the true meaning of selective soldering for Celestica and our end-user customers. Process Engineering made easy courtesy of ERSA’s VERSAFLOW.

Gary Dick
Process Engineering
Celestica International

In Luis’ tracks!

 The times are past when the names of countries such as Costa Rica, El Salvador, Venezuela, Bolivia, Peru and Colombia evoked sun, palm-trees and endless expanses of unspoiled nature. In all the cities of South and Central America, the most modern computer and communications technology, in the form of mobile phones, for instances, is nowadays a well-established part of everyday life. Mobile phones have become so common that in order to make the necessary repair facilities available, so-called „repair centers” have been set up, together forming



a quite independent service field in its own right. Market-leaders NOKIA, for instance, have a NokiaServiceCenter devoted exclusively to mobile phone servicing.

In 2001 Buenos Aires was the centre of operations, but now Bogota has taken over as the new headquarters, determining the standards and parameters for all the other Nokia-Centers in Central and South America. This reflects the fact that in servicing as in other areas, the aim is to achieve efficient and above all reproducible results throughout the whole continent.

There can be no better tool to achieve this than the ERSA Rework-Equipment. The IR Rework-Center and the placing systems of Series 500 and 550 are compact, reasonably priced, simple to operate and boast excellent soldering and desoldering results. In addition, with the Reflow-Process-Camera RPC 555 A and the IR soft-Process-Software,



there are no problems achieving optimal and reproducible processes. In addition to all these technical features, there is one further important component which we cannot ignore when talking about the reasons why Nokia decided in favour of using ERSA equipment:

Superb pre- and after-sales service provided by the ERSA Regional Sales Teams.

With the indefatigable Luis Lund leading the way, Chile-based ERSA has „conquered” the Nokia-Centers in Argentina, Bolivia, Peru, Ecuador, Colombia, Venezuela, Costa Rica and El Salvador. And the end is not yet in sight, as a number of further projects are already under way. If you wish to get an idea of ERSA’s current rework and inspection range, then information is available from the newly-published product catalogue or the brand new Demo-CD 4.0.



„Where the customer is king! – Customer service for ERSA tools“



This slogan was a fitting summary for the Service and Repair Seminar which ERSA's Soldering Tools and Inspection Systems Division put on at their home premises from July 1st to 4th this year.

The seminar brought together twenty participants from fourteen different countries, all of whom were there to get to know ERSA products in detail in the course of an intensive training seminar.

Participants got to grips with the products themselves. A great number of common problems were simulated, ranging from deficient software to purposely introduced mechanical or electrical failures. With the help of a „Service Manual for Rework and Inspection“ drawn up for the occasion, the participants were able to identify the source of the failure and put the problem right. Further material at their disposal included operation manuals,



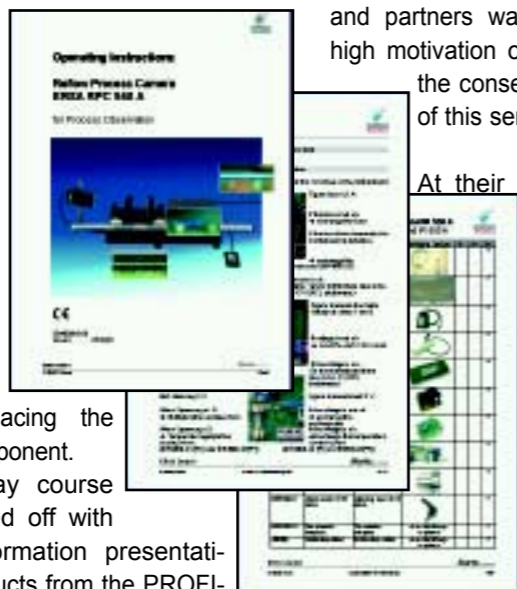
LINE and NEW DIMENSION ranges. Shortly after the seminar was over, the entire service documentation was sent off to the participants in digital form on a CD-ROM made for the occasion, enabling them to access information on the fields covered wherever they are whenever they need it.

ERSA's constant endeavour to raise product quality even further combines with sureness of touch with company products to provide a real guarantee of long-lasting satisfaction on the part of ERSA customers worldwide. This sureness of touch is thus fundamental to the company's economic prosperity. The fact that this prosperity brings considerable benefit to ERSA representatives and partners was the reason for the high motivation of the participants and the consequent overall success of this seminar.

At their next seminar, ERSA Product Managers Arndt Neues (Inspection) and Jörg Nolte (Rework) look forward to a similar number of participants from the rest of the world, so that they can be sure of giving satisfaction to even more ERSA customers.

failure search programmes and spare parts lists. And on the occasions when a participant couldn't manage on his own, then all that was needed was a word from an ERSA staff member to put him on the right track.

Once the participants had identified the problems and laid their hands on the right tool, then none of them experienced any serious trouble in replacing the „defect“ component. The four-day course was rounded off with service information presentations on products from the PROFI-



The general goal that the organizers of the course had set themselves was to give the participants that degree of specialised knowledge of the technicalities of ERSA products in the rework and inspection fields – some of which are highly complex articles – to enable them to offer customers speedy and direct support wherever needed, thereby reducing the freight and administrative costs otherwise shouldered by ERSA and their partners.

In specialized lectures, basic knowledge of reworking and inspection was imparted to the participants, some of whom were technically oriented and some sales oriented. The lecturers also emphasized how great was the importance of close cooperation for the benefit of all concerned. This was followed by concentrated work in groups of four – an approach to training also used in ERSA training courses abroad – in which the par-

Breakfast at Tiffany's!



When, a good 25 years ago now, Truman Capote's film Breakfast at Tiffany's was made, it brought the so-called Tiffany technique into the public eye. And when Richard Burton bought Elizabeth Taylor one of the world's most expensive diamonds at Tiffany's, the name became definitively synonymous with beauty and luxury. This technique of creating art works in glass has also become familiar to Europeans in the past two decades, attracting great numbers of devotees, who create Tiffany-lamps and objets d'art or at least become their proud possessors.

It was a certain zest for experimenting with the manufacture of radiantly coloured glass on the part of Louis Comfort Tiffany (1848-1933) which led to the development of opalescent glass, that iridescent lusted glass also commonly known as Tiffany glass.

This glass possessed a luminescent sheen and a magnificent play of colours which had been unimaginable before his time. He invented a vitrification process which, not using lead, involved a soldering process applied to a glass object rolled up in copper foil and in so doing he enriched the craft of glassmaking with an enduring and highly fertile technique. Thanks to the so-called Tiffany technique, it was now possible to make three-dimensional objects such as lamps and vases in glass, not to mention fine filigree glass pictures.

The greatest challenge to him was nevertheless that of developing a reliable

technique for soldering the pieces of glass rolled up in copper foil. The saying „Children pray while father solders“, while it was certainly not meant in all seriousness, nevertheless reminds us that for a long time successful soldering required a very high level of skill from the craftsman at work.

A further important point is that it is only possible to join the individual glass elements with decorative soldered seams if one can apply an intensive supply of heat while maintaining an overall constant temperature. The temperature furthermore influences the appearance of the seams, low temperatures leading to rounded bulging seams and high temperatures to fine flat seams. The use of industrially proven, electronically regulated soldering stations from ERSA made a significant contribution to making the

Tiffany technique considerably easier to implement. ERSA soldering stations have high performance levels, and as well as being very adaptable, also allow the user to increase the heat fast and with great precision. ERSA has collaborated with well-known artists to produce the best possible soldering tips for their purposes and the technique has been refined to such an extent that good results can quickly be achieved by hobby practitioners and absolute newcomers.

Successful glass artists such as Siebenlist, Kranich and Scheib have long been working with ERSA Tiffany-soldering tools.

Bernd Siebenlist, for instance, used ERSA tools when he broke the record for the world's biggest Tiffany lamp and produced the lamp which appears in the Guinness Book of Records with a diameter of 1.8 m and 3 m high.



Volker Kranich from Miltenberg produces impressive objects for situations in and on buildings. He was the artist who produced the glass domes on the Adlon and the Grand Hyatt Hotels in Berlin, the Bayerischer Hof in Munich and the Le Méridien in Budapest.

Hans G. Scheib is the author of the Werkstattbuch Tiffany published by the Augustus Verlag and is managing director of the well-known arts and crafts workshop Artisan Glasstudio.

Further information on the subject of Tiffany soldering can be obtained from the author of the present article, Guido Seifert, who can be contacted at ERSA GmbH at the following e-mail: sf.wvi@ersa.de



Given a dunking!

Normally speaking the staff at ERSA Galvanizing are the kindest and unselfish people you could wish to meet. They invest a high degree of care and patience into ensuring the exact measurements and constant high-quality ERSADUR refinement of the particularly long-lasting soldering and de-soldering tips named after this complicated procedure.

But now and then they have to let their hair down, and when this happens they look around for suitable victims who they can give a good dousing – just for the sake of tradition, it must be emphasized!

This time it was the turn of Michael Stier, who had in June brought his training as a galvanizer at ERSA to a successful conclusion and thus had no choice but to

submit to the requisite ritual appointed for the occasion. At the hands of the lads from the ERSA „Witches' Kitchen“, led by galvanizing technician Josef Wischer, he was given an unceremonious dunking in a bath of water to wash the last vestiges of his apprenticeship off his person. We wish Michael Stier much enjoyment in his new life as a galvanizer at ERSA Galvanizing.



Well done!

Trainees of ERSA GmbH successfully completed their apprenticeship and were rewarded with a small ceremony. Our picture shows from left to right: Evelyn Wiegand; Michael Stier; Jürgen Schmidt, the Kurtz Group's Training Coordinator; Martin Jaworski; Sven Züchner; Werner Grosch, Trainer for Commercial Trainees; Alexandra Klett and Rolf Prasse, Chairman of the ERSA Works Committee.



Twelve new trainees



We at Kurtz are particularly proud of our high trainee quota of over 10%; of the roughly 820 employees at the Kurtz enterprises in and around Wertheim, 84 are young people in training.

For Kurtz, the way to find increasing numbers of specialized staff is to

look to the up-and-coming generation of home-trained personnel. In September twelve trainees from a wide variety of trades and professions were given a warm welcome by Kurtz Group Training Coordinator Jürgen Schmidt as they embarked on a new phase in their careers. A short presentation gave them their first impression of the many facets and broad range of activities of the Kurtz Group.

As the company philosophy sets great store by loyalty to our immediate locality, we aim to attract young people from nearby to decide for a career at Kurtz.

Another sporting year in the Kurtz Group

This year the Kurtz Group once again took part in a number of sporting events in the Wertheim and Kreuzwertheim area. In addition to coming through with flying colours in the traditional Kaffelstein run put on by the TSV Kreuzwertheim, the presence of the Kurtz Group was also noted at the Cross-Country-Tour of the Wertheim Cycling Club and the Wertheimer Messelauf.

The fact that around 100 staff members participated at these events is a definite indication of the healthy state and continued growth of the Kurtz Group's sport sponsoring programme.



KURTZ's football „dream team“

Having fun was uppermost in the minds of the Hasloch Iron Foundry Works Team when they met up to play their maiden game. The game concerned was a friendly against team fielded by Georg Fischer + GF from Mettmann and took place on Saturday, October 19th, 2002. But a number of important preparations had to be made before the big day finally came. Once the team had been chosen, we trained a total of four times on grass at Hasloch. As ever, having fun and doing something for fun together in our spare time was what it was all about.

Once a team strip had been acquired and the last preparations had been made, the team set off for Mettmann, near Düsseldorf.

We were welcomed by the chairman of the works committee and the trainer of the GF-team and then given a guided tour of the Georg Fischer + GF foundry.

At lunch in the works canteen we had ample opportunity to discuss our impressions of what we had seen. After being shown our accommodation, we went on

to the football field. Our match took place in cold and wet conditions but it clearly aroused considerable local interest as we had a number of spectators. It soon transpired that the seasoned Georg Fischer + GF team was in quite a different league from the KURTZ works team and the former carried the day by 16 goals to 1.

Our defeat notwithstanding, we celebrated like good sportsmen with the opposing team when the match was over. We made a number of new friends over a glass or two of their traditional Altbier at a highly enjoyable evening meal where fun continued to be the order of the day.

The celebration went on into the early hours and we travelled back to Hasloch on Sunday morning.

Just playing football together, and the outing as a whole, have given a new dimension to the camaraderie that reigns at the works and we are determined to put up a better show when it comes to the return match.



Tees, sticks and rounds

The distinctive Austrian version of the better-known „curling“ - ice-stick-shooting, as it is known - is a sport which is spreading to more and more countries. One indication for the development of a worldwide interest in this fine sport is the fact that the Official Book of Rules has now been translated, in part or in whole, into more than ten different languages, including English, French, Italian, Finnish, Russian, Czech, Arabic and Hebrew.

Ice-stick-shooting is played on ice rinks in winter, and in summer on a variety of sports pitches, principally asphalt (for the details of how to create a pitch see guidelines of the International Ice-Stick-Shooting Federation).

The rink or pitch is 28 metres long from one extremity to the other. The target areas (three metres wide by six long) are marked out on the inside of these extremities, and the two 18m² target areas have a „tee“ in the middle, a moveable object made of hard rubber.

The stick which is „shot“ at the tee consists of a body attached to a shaft, and a winter or a summer sole. In the Styrian Salzkammergut, where I come from, it is the local tradition in winter to use sticks made of wood.



The competitive variants are as follows:

- The team match
- Target competition
- Distance competition
- Speed competition

In the case of a four-man team, each player has one stick, with which he has one shot per round.

Each game has six rounds and a round is considered over when both teams have had all their shots in a certain direction and the result has been established by the two team captains.

The sequence of the shots is as follows:

A player from the team chosen to start has the first shot. If the shot ends up in the target area then it is the opponents' turn to have a shot; if not, other members of the team shoot until one of them succeeds in placing the stick in the target area. Then the other team plays on, aiming to place one of their sticks in an optimum position in relation to the tee.

Points are given to the sticks as follows:

All the sticks of a given team which at the end of a round are nearer to the tee than the nearest of the opponents' sticks are awarded plus points. The first stick gets three plus points and every other stick two. The teams can also get minus points. The team which wins the round by virtue of having the higher number of points is awarded two „win-points“.

This may seem rather complicated, but once you have actually played the game the rules sink in quite quickly. More and more young people are joining our club in Bad Mitterndorf, which has made the post-game social with the old hands all the more interesting and fun to take part in.

Good stick-shooting!

Sincerely yours
Manfred Dattinger
KURTZ Altaussee



What the hell is kickboxing anyway?



A pair of hooligans going hammer and tongs for one another? No, very definitely not!

Kickboxing originated in America and is a modern martial art; like karate, tae kwon do, or kung fu, it is a form of unarmed combat for two contestants. Kickboxing was invented in response to the desire for a combative and competitive sport unifying the rules of all martial arts systems. The techniques involve physical contact with one's fighting partner. The blow is not stopped, but is carried through to impact.

Distinction is made between three kickboxing disciplines: semi-contact, light-contact and full-contact kickboxing. My discipline is semi-contact kickboxing which could be compared with fencing, with the difference that instead of a foil we use our hands and feet.

Every clean, powerful and well-controlled technique that is used to achieve even light impact on a permitted target area of the body is evaluated with points. For instance, fist to the head earns 1 point

and foot to the head 2 points. After each hit the fight is stopped and points are awarded.

Participants naturally wear a specially developed outfit to protect them against hits, which means that there are far fewer injuries than, for instance, in soccer. The explosive mixture of time-honoured foot techniques and the newly-introduced boxing technique makes this a particularly fast and varied sport, and consequently an extremely attractive spectator sport. The competitors are not only required to have a high degree of power, mobility, speed and fitness but also sharp eyesight so that they can react and act in a matter of split seconds. Self-discipline and ambition are two further essential ingredients of success, qualities which are also useful in everyday life. As a sales engineer with ERSÄ Soldering Tools and Inspection Systems, I find that kickboxing provides an ideal counterbalance to my everyday life at work.

Years of training have helped me to fight my way to the 3rd DAN (master's ranking) Black Belt in kickboxing. I furthermore have the 2nd DAN in tae kwon do and my sporting successes include the following:



- 1 x German national team champion
- 3 x German national champion
- 4 x Champion at the German International
- 4 x Germany Cup
- 1 x 2nd place in the European Championship
- 1 x 3rd place in the World Championship
- 1 x 3rd place in the European Championship



P.S. There is no doubt that success is sweet in any field of life. But one thing is certain – only defeat is character-building. Sincerely yours, Karl-Heinz Kohlbrenner

Positive impulses at the electronica!

130 Mio € turnover • 1000 employees



Contrary to ERSA's cautious optimism the electronica 2002 exceeded all expectations. Despite the difficult global economy, visitor numbers of the electronic industry's most important trade fair, which took place from 12th to 15th November, stayed virtually as high as in past years. The share of foreign visitors and customers was also very high, emphasising the fair's international character.

The electronica fair alternates with the productronica fair and is consequently held every two years in Munich. While ERSA exhibit their entire product range at the productronica, only the division „Inspection Systems“ participates in the electronica, as per the exhibition's programme.



The visitors of the ERSA stand showed very much interest, especially in the latest products of the inspection line, but also in the brand new ERSA Image DocEXP and ERSA ID View softwares. A further highlight was the process software ERSA IRsoft guaranteeing closed loop process control together with the RPC 550 A reflow process camera in the rework sector for the first time. Apart from the exhibits the newly released catalogue „Award Winning Rework & Inspection Solutions“ and the brand new multimedia Demo-CD 4.0 were also highly approved by the visitors.

The information package includes extensive information on the requirements and process solutions for modern electronics production and quality assurance and can be obtained from ERSA free of charge.

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