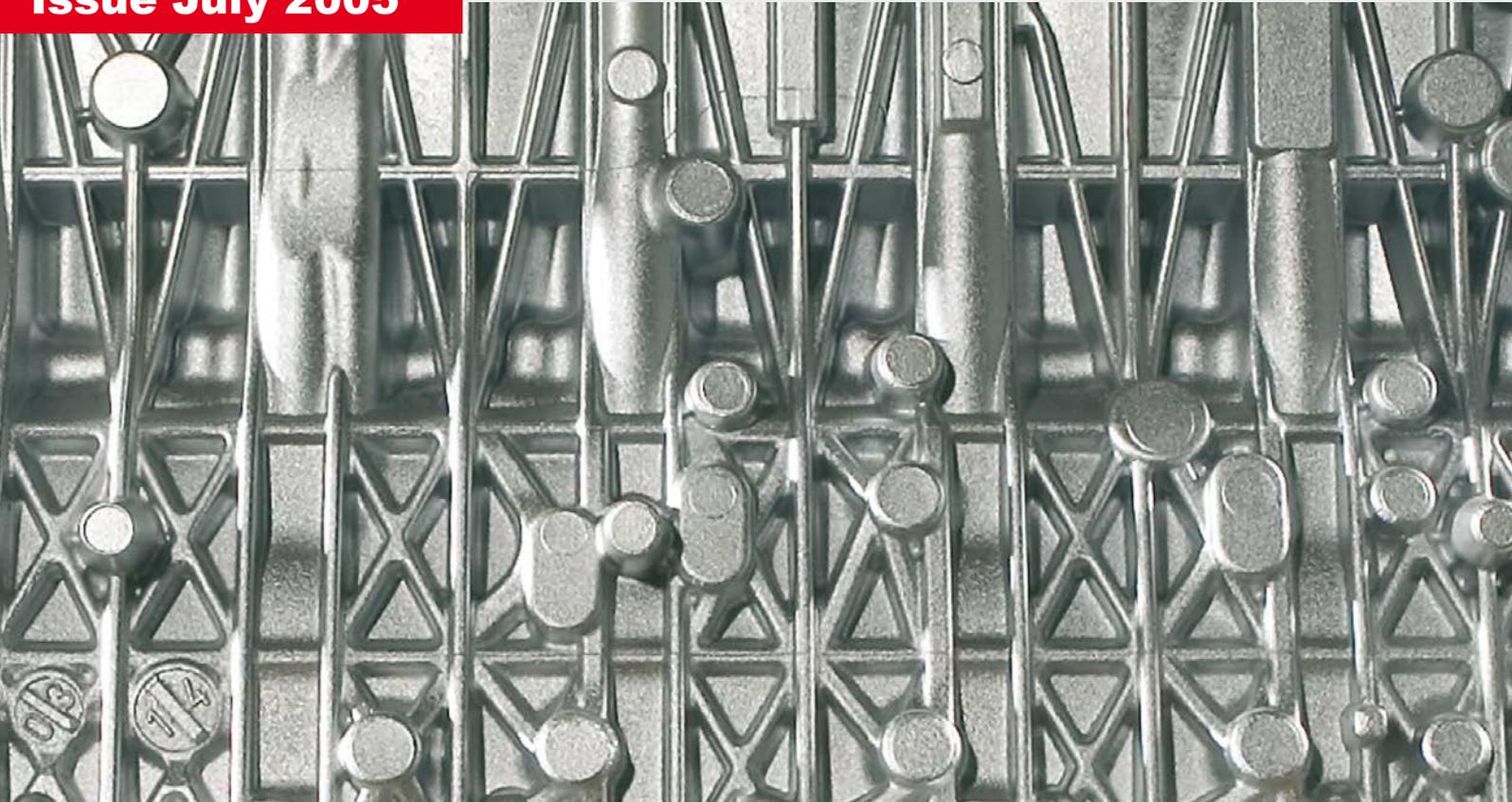


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KURTZ increases customer service

www.kurtz.info

www.kurtz.de

www.ersa.de

EDITORIAL

New ideas of the editorial board

*In 26 issues of **Kurtz News**, the customer and employee journal, we have been following developments at the Kurtz Group going back far beyond the last decade.*

As the company grew in size, so too did the scope of **Kurtz News**. Further communication options such as the Internet have joined it, but in no way minimize the attractiveness of this print media.

With this, the 27th issue of **Kurtz News** we have spiced up the presentation with the intention of making **Kurtz News** even more informative. We have incorporated the experience gained in discussions with customers and staff, so from now on, the leitmotif of **Kurtz News** will be topicality.

Internally we have re-structured the editorial board and we would like to take this opportunity to thank all staff, present and future, for their journalistic work. It is done in an exemplary manner, generally in addition to their normal day's work in the company and often enough at home in the evenings.

Kurtz News has set itself the task of being a journal for customers and employees.

For that reason, we will be placing the section of the journal relating to staff at the centre of our magazine. In this way we wish to clearly demonstrate that our magazine is intended to have both an inward and an outward effect.

The structure of the articles is so conceived that they tempt the expert to find out more. Naming the author makes it easier for the reader to establish contact. Non-specialists will find further interesting and wide-ranging information on the highly-innovative and diverse activities in the Kurtz Group.

In addition to the highlights mentioned on the cover, we will also be looking at themes of general interest in this magazine. How, for example, was it possible for MBW to go from turning the first sod to the topping-out ceremony within just six weeks? Why did the initiative "Art and Culture at Kurtz" specifically choose an Italian artist?

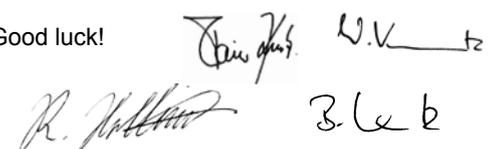
Why do long-serving cast iron and modern aluminium share a common future potential and how is this presented at an in-house exhibition in October almost as an internal industrial fair combined with the character of an "Oktoberfest". Among those attending will be the experts from particle foam processing who will be drawing attention to new concepts in the area of service with maintenance contracts and teleservice. The topic of quality is also dealt with in the following articles: The striving for a railway authorities' licence at MBW in accordance with DIN 6700, the article about the new machine for measuring coordinates which documents a considerable step forward in the reproducibility of our products. With the IR 650 A, ERSA is presenting a new rework-system which can considerably enhance the quality of the product at our customers. Environmental protection is also an issue in which ERSA will be setting new trends in reflow-soldering with a new generation of machines.

With **Kurtz News**, you can take a look twice a year behind the scenes of the Kurtz Group. We are sure that it will provide you with lots of helpful suggestions and solutions for your everyday business.

We are pleased to welcome Dr.-Ing. Rolf Hallstein as Managing Director Technology on our Management Board. As well as for Corporate Technology, he will be responsible for the business area of Particle Foam Machines in the KURTZ GmbH. We wish Dr.-Ing. Hallstein success and satisfied customers.

With this latest issue of **Kurtz News** we wish you a relaxing read with hopefully pleasant summer temperatures.

Good luck!





*Dipl.-Kfm. Bernhard Kurtz, Dipl.-Ing. Walter Kurtz,
Dipl.-Ing. Rainer Kurtz, Dr.-Ing. Rolf Hallstein*



Managing Director Ewald Garrecht, Prime Contractor Dip.-Ing. Gert Riedel and Dipl.-Kfm. Bernhard Kurtz are looking forward to the formal opening in autumn.

New construction in the open countryside: The new MBW GmbH production and administration facilities in Wertheim are built at record speed.

Topping off ceremony after just six weeks

Kurtz Group expands in Wertheim

The speed at which MBW Metallbearbeitung Wertheim GmbH has developed in the nine years since the foundation of the company in 1996 is presently being reflected in the construction of the new company headquarters.

By Nils Brennecke

The move to a modern, spacious production facility is the logical consequence of the positive results of the past few years. Just six weeks from the turning of the first sod in mid-March, the topping off ceremony at the beginning of May gave an indication of the dimensions in which the company tends to commence production from August in the Reinhardshof Industrial Park in Wertheim. The Kurtz Group with its subsidiary company MBW GmbH which, as the largest supplier in the region, manufactures finished components in steel, stainless steel

and aluminium, invested around 4.2 million euro in its new domicile.

The contract for the construction of two new production halls (4,500 m²) and the administrative building (900 m²) on the 20,000 m² site went to Riedel Bau AG from Schweinfurt. In a short ceremony, Gert Riedel, Chairman of the Board of Riedel Bau AG, particularly highlighted the smooth cooperation with Kurtz Holding. As a high-tech company, MBW GmbH employs around 100 staff and most recently achieved a turnover for the year of 10 million euro.

Individual precision parts from metal are produced at the Wertheim and Baidersdorf sites or, at the customer's request, ready-installed complete systems.

In addition to ERSA GmbH which is also a member of the Kurtz Group, customers include companies from the region such as ATG, Vermop and Woerner. At national level too, MBW has long made a name for itself with an established customer base which includes such well-known companies as LOEWE, SIEMENS and Würth Elektronik.

White side meets black

KURTZ In-House Fair from 27 to 29 October

By Dipl.-Ing. Walter Kurtz

In-house fairs already have a long tradition in the particle foam machines sector in the Kurtz Group.

They have developed into a get-together for the branch, and our customers and prospective customers, particularly from the European countries, are pleased to avail of the opportunity to have a look at new developments and new applications practically under production conditions.

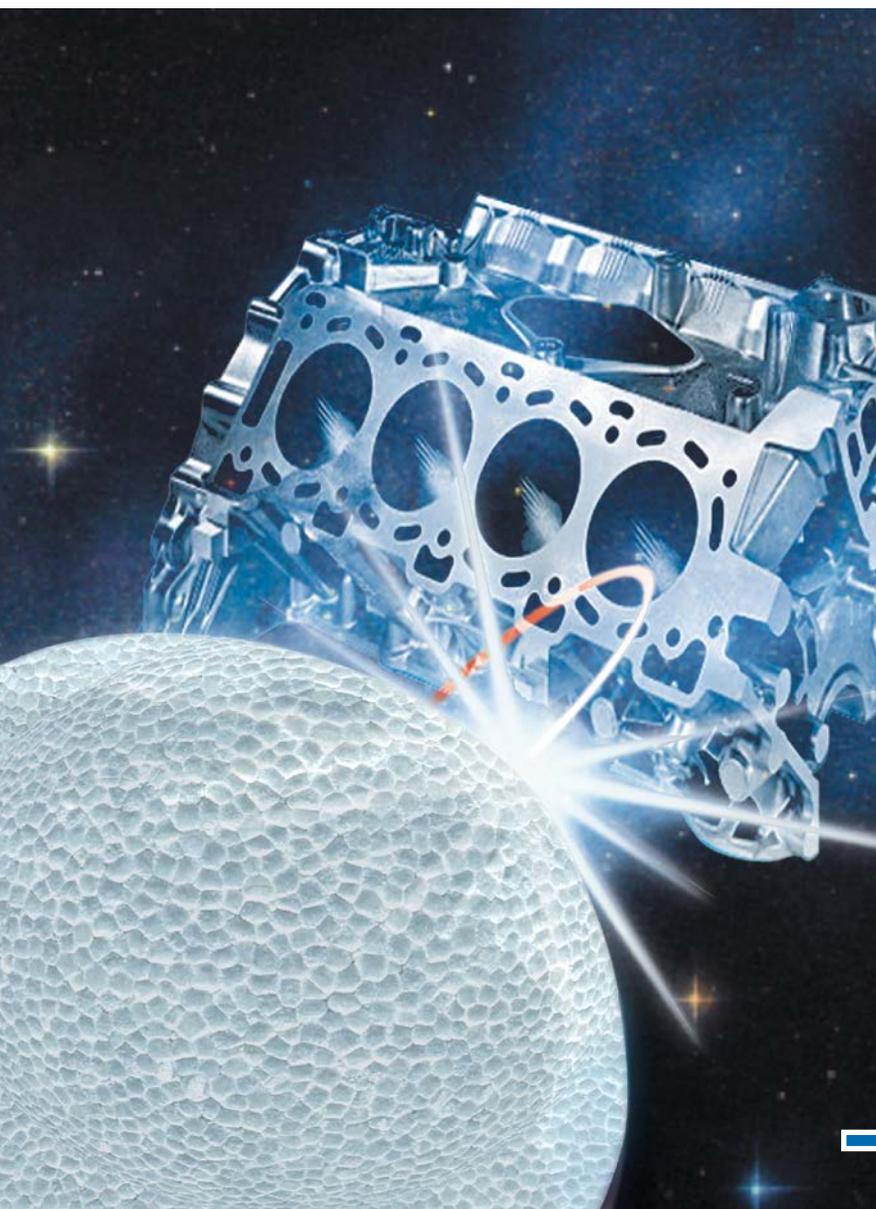
In contrast to other fairs in which exhibitors present themselves within the circle of their competitors, the visitors here can take the time to discuss specific projects, to reconsider planned reorganization in their own plants and to visit the lecture events running in parallel. These lectures also serve as a welcome opportunity for the younger staff of our customers to deepen their specialist knowledge as one can see from the intensive discussions after the individual lectures.

This year, for the first time, three business areas have come together to organise a joint in-house fair which each can intensively use for their own purposes. So in the areas of foundry machines and foundries there are points of overlapping and contact in the area of lost foam. *The white side, the foam side, can directly exchange views with the black side, the foundry sector.* Under the familiar motto "From Foundryman for Foundrymen" different machines and their areas of application are presented, but in addition – practically as an industrial fair for casters – products are on show which are otherwise rarely seen and explanations available on what is particularly important in their manufacture. In this way, the two departments can present their comprehensive service from the idea of the dimensioning of a cast iron item to the gravity die cast for the customer.

With the services, design consultation, selection of casting process, gravity die design, gravity die construction, moulding of the gravity die and dimensioning of the necessary machinery, the full range can be presented to the visitors. An extensive fringe programme such as a visit to „Art and Culture at Kurtz“, a trip to the Factory Outlet Centre near Wertheim or a tour of the Wertheim Museums. Food and beverages are available throughout the day in an Oktoberfest environment, and evenings are spent together discussing the events and enjoying the entertainment in the pleasant atmosphere of Homburg Castle or during what has become the legendary Foyer Party in the administrative building of Kurtz Headquarters in Wiebelbach.

Already we have received numerous acceptance notes for the in-house fair. So quickly reserve yourself a place from 27 to 29 October.

Innovation is fun - The KURTZ In-House-Fair offers innovative technology, know-how transfer and the matching surroundings for good discussions



The artist.



Giving shape to life

– Paola Princivalli Conti

exhibits in the Kurtz Industry Gallery

Large number of visitors during the gallery opening in the administrative building of Kurtz Holding.



Her work with a variety of materials and in particular their treatment with fire simply pre-destined her for an exhibition in the Kurtz Industry Gallery. On show in the foyer of the administrative building, her works were by no means foreign bodies but rather demonstrated further similarities between art and engineering. After all, the artist and the engineer are both faced with the same task, to specifically develop, retain and market uniqueness.

Jean Anouilh once unconsciously gave this partnership of corporation and cultural self-image the definition of this joint platform as, with the idea of linking the elements of art with the process of permanent construction, he phrased it thus: „The object of art is to give life a shape.“

The many visitors to the administrative building regret that the two-month exhibition is already over as they found art to be one of the themes which lent itself to easing the opening phase of the negotiations they were conducting.

In response to the question “What next?” we are only saying this much: With Art and Culture, Kurtz will be presenting a non-European artist and will be much more closely involved than has been the case to date. Watch this space!

By Dipl.-Ing. Walter Kurtz

With the presentation of the works of the Italian artist Paola Princivalli Conti, Kurtz has succeeded in maintaining the quality of the last exhibition held on the occasion of the jubilee celebrations.

Ms. Princivalli Conti was born in Umbria and grew up in Naples. She lives alternately in Rome and on the Amalfi coast which is also where she had her first major exhibition with archaic and heavy metals as well as with fabric.

From 1977 to 1989 she painted in her mountain home in the small village of Labro outside Rom, where she also ran her own gallery. Among other things, she created woven fabrics and combined them with other materials to produce works of art. Since 1982 she has been exhibiting in the Roman gallery „Oro de Tempo“. She first attracted attention in Germany in 1996 with a highly-acclaimed exhibition.

The joy of casting

Low-pressure casting systems from KURTZ

Light weight - strong performance.

This is the motto which applies to the two new diesel engines from BMW.

Both the crankcase for the new V8 and that for the six-cylinder inline diesel engines are produced on KURTZ low-pressure casting systems.

„Low pressure casting machine for crankcase for six cylinder diesel engine, dimensions: 4 x 4 x 6 m, weight: 16.7 tons“



The designers at KURTZ GmbH had to adapt the casting machine to the new mould concept. The mould, to be more precise the contour-shaping part, was to be replaced as a complete unit in less time than up to now. One part of the solution was a specific, transportable mould changer, which can be used with all machines of this type.

The centring elements on the changer are identical with those in the machine. To couple the media, quick couplings were installed, both single and also multi-couplings. In this way, the replacement times for a mould were considerably reduced.

A further challenge was installing the large number of cooling media in such a way that the machine is nevertheless tidy, clearly arranged and accessible.

To design the machine in a maintenance-friendly way, valve blocks and wiring boxes were added with easy access.

These practice-orientated claims had to be adapted to the tight space situation. In the meantime, KURTZ has supplied five newly designed low-pressure casting plants to BMW and will be delivering four more this year.

By Lothar Hartmann

Whereas the *V8 crankcase is cast in low-pressure sand casting*, the light metal casting shop in the BMW factory at Landshut stakes on the *low-pressure die casting process for the six-cylinder engine*.

Innovation, technology and process quality are important factors for BMW. This is also reflected in the development of the two new types of engine: Up to now, both crankcases have been cast in grey cast iron, but in the new types, aluminium is being used for the first time in the world for high-performance diesel engines. The same applies for the requirements which BMW have made of the new

machine and mould concept, in particular with a view to heating and cooling, accessibility as well as replaceability of the mould. But the greatest challenge was the schedule: the first machine had to be designed, produced and assembled within only six and a half months.

The mould was integrated into the machine on the KURTZ premises with the objective of optimum installation of the connection lines for heating and cooling. In addition, all the moving functions were to be put into operation „cold“, with the result that the time on site with BMW could be reduced.

Services around casting

KURTZ as a partner for our customers

By Dipl.-Ing. (FH) Ulrich Munz

Increasingly, within the framework of global-sourcing, the German foundry industry is confronted with prices from the so-called low-wage countries. While this is not a new development but rather one which has been observed since the 90's, the dynamics of the displacement process have evidently taken on a new dimension: *Our customers are increasingly forced to purchase at the lowest possible cost, in order to remain competitive at international level.* In addition, price increases in raw materials and fuel are influencing the operating results of the foundries, and in fact first insolvencies have already been reported even from the Czech Republic.

What are the factors in favour of the low-wage countries?

Price: When the customer is looking for the cheapest offer and is able to weigh up the factors quality, risk, availability, safety, logistics and service

What are the location factors still in Germany's favour?

Automation:	High level of automation with low labour cost factor
Quality:	High quality standards for the product
Risk:	High level of project complexity / vertical range of manufacture
Logistics:	Moderate to low required quantities
Safety:	Communication and availability
Innovation:	New materials and processes
Service:	Development cooperation and advisory service

These are the factors in favour of KURTZ:

Adaptability is the key! KURTZ's aim is to build bridges and present itself as a system supplier with a holistic range. From product development to the various materials and processes and on to the pre-assembled component.

Specifically, this means that KURTZ in the German location offers high-quality products, innovative materials and composite casting processes:

In the area of low-pressure casting, for example aluminium foam-composite cast parts, aluminium ceramic cast materials with a high wear resistance and high-strength AlCu4 alloys. In the area of grey and nodular castings, KURTZ offers an alternative to cast steel with economical ADI grades, as well as with tubular-steel composite casting solutions in the high-pressure area.

„Made in Germany“ – It pays off!



KURTZ sees itself as a partner who develops cast parts in cooperation with its customers which, from the initial product idea to the ultimate process-pressure production, meet the demands for functionality and optimum economy. Three foundries at KURTZ manufacture sophisticated mechanical engineering components as well as motor, gear unit and chassis frame parts, and vacuum and hydraulic castings.

KURTZ regularly offers specialist lectures at its customers. Our in-house lectures too meet with enormous interest. Topics for which we issue invitations:

Aluminium foam composite cast parts in machinery and motor vehicle construction:

Very light, high distortion-proofing, high energy and sound absorption potential

Aluminium ceramic cast materials (MMC) for example in brake disks and gear unit parts:

Very high wear resistance with low weight and E-Module > 100 Mpa

Modified AlCu4 alloys as an alternative to nodular casting:

High-strength aluminium alloys with surprising expansion behaviour

Low-pressure technology as distinct from gravity and pressure casting:

The LP process allows the materials described above to be ideally presented

Optimised quality assurance

Wenzel coordinate measurement machine put into operation



No chance for dimensional tolerances: Wenzel LH 1512 supports the production at KURTZ

The base plate, tie-bar and sleeve of the system are made of a dark natural hard rock. In this way, the thermal situation can be kept identical in all axes and the measurement precision kept at 3.7 µm in all dimensions. Naturally, the coordinate measurement machine is kept in an air-conditioned room.

In addition, it has online temperature compensation in each axis and two temperature sensors for the workpiece, in order to be able to compensate differing temperature levels between the machine and the component electronically.

The measurement software has a modular design and excels thanks to a logical and simple user guidance, which is supported by self-explanatory diagrams. CAD models can be processed via defined interfaces, with the result that the recording efforts can be reduced.



Above all in cast parts, the geometries are becoming more and more complicated, with the result that the components can only be sensibly checked with a coordinate measurement machine. To do justice to this task, a new coordinate measurement machine from the firm of Wenzel has been put into operation at KURTZ.

When the machine design was decided upon, special attention was paid to the fact that the measurement machine can be flexibly used for the various applications and tasks in the Kurtz Group.

Alongside milled and lathed parts, welded constructions and cast parts, sheet metal parts can also be measured. This shows once more that synergies are recognised and made consistent use of in the Kurtz Group. Incidentally the sheets for the machine panelling of the Wenzel machines come from MBW GmbH.

Thanks to the new coordinate measurement machine, effective and simultaneously precise work by quality assurance in the KURTZ Group can be guaranteed also in future.

The type LH 1512 portal machine has pre-tensed air bearing elements ensuring wear-free and easy-movement operation in all the axes. The measurement range of this machine is 1,500 mm in the X axis, 2,500 mm in the Y axis and can reach 1,200 mm in the Z axis.

The demand for increasingly tighter measurement tolerances and compliance with shape and position tolerances by components presupposes precise processing on modern machines.

By Dipl.-Ing. Reinhard Greiwe



Certified welding...



...for even greater customer satisfaction.

DIN 6700-2:

The „Railway Authorities' Licence“
for MBW GmbH has come through

The focus is on innovation and healthy expansion at

MBW Metallbearbeitung Wertheim GmbH (see also Page 3).

One area in which this particularly applies is welding technology.



By Dipl.-Ing. Alexander Schmidt

For this reason, detailed work went into ensuring that the DIN 6700-2 weld standard, generally known as the „Railway Authorities' Licence“, was achieved for the parts class C2. The welding of joints and connections on components is still among the main manufacturing processes in sheet metal forming.

The demands made on the quality of welded joints are, as a rule, extremely high. The trick of achieving this while still ensuring a high level of cost effectiveness can only be pulled off when planning, execution and inspection of welding work are carried out by the appropriate specialized staff, from the initial design to the final polish. Only in this way is it possible to ensure a constantly reproducible quality in serial parts.

For this reason, staff receive constant further training in the area of welding technology. MBW GmbH employs welding engineers, welding experts and qualified welders. Within the 6700-2 Norm, five classes (C1 to C5) are defined, depending on the safety significance of the parts, with C1 having the highest safety significance. With the C2 Class, parts with a high safety significance such as free-standing equipment boxes, underfloor containers or roof superstructures may be welded.

On this basis, MBW GmbH is able to further strengthen relations with existing customers from the area of rail transportation technology. And of course this qualification is also of advantage for more conventional welding work.

Aluminium foam ready for series production

A light material with many talents about to break through

For a number of years, a lot of research and development has been done on the subject of aluminium foam. However, publications and colloquia have concerned themselves more with academic analysis under laboratory conditions.

By Dipl.-Ing. (FH) Ulrich Munz

In our branch, the central and frequently asked question is: when will this technology be available in series at last?

This question results from the outstanding properties which aluminium foam can offer constructors:

- very light (density 0.25 g/cm³)
- very rigid (same deflection as full aluminium with ¼ the thickness)
- isotropic (inner property independent of the direction)
- energy-absorbent (more than 50 per cent deformation until increase of compressive strain)
- sound-absorbent
- non-combustible and non-toxic
- recyclable

Whereas express trains have been provided with crash elements of aluminium foam composite cast parts in Japan for years, our developers are still hesitant. One reason for this is that there is not yet a model of calculation for foam produced by metallurgy with a closed surface – with regard to the uncontrollable pore sizes in the interior.

But the approach to the solution is relatively simple: one takes an available, relatively homogeneously structured foam with open outer porosity, surrounds it with an alloy of defined properties. The result: a calculable composite cast construction. The metal shrinks into the outer structure of the foam core „mechanically clawed“, the spherical geometries of core and cast part can be freely selected.

In this composite casting process, the constructors have all aluminium cast alloys at their disposal. Alongside standard alloys, highly rigid AlCu4, self-hardening or aluminium ceramic MMC alloys with a high resistance to wear and an E module of 120 Mpa.

This procedure has already been impressively implemented in series:

Aluminium foam with many talents reduces vibrations drastically.



Support beam for spinning machines

The beam construction used up to now acted as a holder for eight bobbins at a speed of 16,000 RPM in a frequency range of 0-320 Hz. Problem: resonance.

The aluminium foam composite construction now permits a resonance-free speed of 21,000 RPM at 0-370 Hz, the vibration amplitude has been reduced by 60 per cent.

Turntables for mechanical engineering

The construction up to now in clocking turntables resulted in a weight of 780 kg. With the aluminium foam composite construction, it was reduced to 420 kg with identical rigidity.

As this method has been tested and is available, it should assert itself against the other aluminium foam methods in a short time. The field of application is widespread for motor vehicle, aircraft and mechanical engineering:

- reduction of weight in moving components
- reinforcement of systems
- vibration dampers
- fire-protection parts
- crash absorbers

Our designers have been asked to do justice to the demands of the future with „lightness“. We casters are pleased to support them with word and deed by design consultancy.

Successful professional start in the Kurtz Group

Trainees achieve top grades and join permanent staff

By Sabine Hörner and Jürgen Schmidt

A ceremony in early April marked the qualification of 25 trainees of the Kurtz Group. A particularly pleasing fact: It was possible to take on all the newly-qualified trainees on a permanent basis.

In addition, four students of the BA Mosbach also completed their training in the Kurtz Group.



“For years, the Kurtz Group has been training an above-average number of apprentices, in fact it is even in excess of the ratio demanded at public level, “ said the Head of the Central Personnel Division, Dipl.-Kfm. Günther Bartschat, during the ceremony. “We will be taking on 25 new apprentices in the autumn”, he continued. With the current 83 apprentices, the proportion of trainees in the company has remained constantly above 10% for years.

The former trainees and the management are particularly proud of the examination results: “These are the best results we have had in a long time. It confirms for us the rightness of our internal training concept, said Günther Bartschat with obvious delight.

At present, the Kurtz Group has a wide-ranging spectrum of apprenticeships encompassing a total of 16 training professions: From industrial mechanic to Graduate Engineer (BA).

Furthermore, the cross-company training system permits a very early look at the various segments in the business, which makes the subsequent job start considerably easier.

Bartschat said a special word of thanks to the trainers and youth representatives as well as the members of the Works Council whose great dedication and cooperative teamwork made the superior level of training in the Kurtz Group possible.

Girl power in the training workshop „Girls’ Day“ 2005

Nine pupils of the Secondary School and the Matthias Grünewald

Grammar School from Wertheim in Baden-Württemberg spent

a day in April in the training workshop of KURTZ GmbH.

The Kurtz Group took part in the nationwide “Girls’ Day” for the second time. The event gives girls the opportunity to take a look at life inside the plant and to gain practical experience in what might be considered “untypical” jobs for girls. They diligently got on with marking, centre punching, filing, drilling, turning, milling and polishing.

And were ably and not unwillingly assisted by the trainees who were pleased to offer information based on their own apprenticeship experience. Despite lots of “fun” on “Girl’s Day” at Kurtz, opinions are still divided on the typical male professions: On the one hand they were found to be “just too strenuous, too exhausting, too dirty and too noisy” and what are considered typical female professions are still seen as preferable. On the other hand, the girls were surprised that filing and drilling were not actually as difficult as they initially thought. Some girls, however, felt encouraged in their inclination to apply for a technical profession.

At the end of the day, each of the girls was able to take home a work-piece they had made themselves.



Hammering, drilling, filing: Wertheim students visited the KURTZ training workshop

Congratulations

Jubilees in the Kurtz Group

ERSA

Marking 10 years of employment with the company: Wolfram Kuhn, Georg König, Joachim Brönnner, Hermann Rauch, Jochen Schreck, Christian Schwab, Markus Cziganiek, Lothar Schwab, Nicole Hammerich, Christian Kempf, Wolfgang Artl and Fred Kronmüller.
A fifteen-year jubilee was celebrated by

Erwin Geiger, Richard Kreßmann, Wilfried Bechtel, Klaus Schmid, Reinhold Peichl, Rudolf Seiffer and Waltraud Meixner.
And the following have been with ERSA for 20 years: Gerd Baumann, Dieter Häfner, Stefan Völker, Herbert Kuhnert and Gerhard Dümig.
Staff members who can look back on 25

years with the company are Rudi Geier, Paul Kurock, Elvira Dinkel, Wolfgang Rüppel, Andreas Dressler and Gerhard Lutz. The occasion of "30 years with ERSA" was marked by Rolf Prasse and Lydia Meissner. "Front-runner " is Beate Gaßner, who has been working for ERSA for 35 years.



Kurtz:

Managing Director Dipl.-Ing. **Walter Kurtz**, Chairman of the Managing Board Dipl.-Ing. **Rainer Kurtz**, the jubilees of 25 years with Kurtz **Ernst Albert** and **Joachim Baader**, Chairman of the Kurtz Work Council **Joachim Kraft** and Managing Director Dipl.-Kfm. **Bernhard Kurtz**.



MBW: Managing Director Dipl.-Kfm. **Bernhard Kurtz**, **Mike Gongoll** (10), **Hans-Dieter Schulz** (15), **Holger Gey** (10), **Jürgen Gerhardt** (10) and Managing Director **Ewald Garrecht**.

MGM: Marking 35 years with MGM GmbH in Mannheim was **Klaus Eberwein**.





Herbert Wiegand

By Herbert Wiegand

Last year I treated myself to a Christmas present of a PC with a DVD drive. One of the first films I watched was the 1998 Hollywood masterpiece "Armageddon", produced by Jerry Bruckheimer, with Bruce Willis, Ben Affleck and Liv Tylor in the leads. As a trained fitter working in the final assembly of shape moulding machines at KURTZ, I am particularly interested in the make-up of film props and their technical details.

The bomb sent to destroy the asteroid threatening the world quickly attracted my attention. Especially when I noticed a part very familiar to me from my daily assembly work: The pressure regulator from KURTZ! Six of them were mounted on the bomb. Of course they were no longer serving their original purpose but were just intended to make the bomb look even more dangerous. When I showed my discovery to my colleagues, they – just like me - were proud to see that KURTZ products have even made it as far as Hollywood.

A Regulator goes to Hollywood

„Armageddon“ with genuine Kurtz props

Remark from the management:

It is particularly pleasing to find that staff identify so closely with their work that even when "off duty" and quasi under the Christmas tree they recognize products they deal with daily even when these are being used under completely different conditions. A possible explanation for this unusual incident could look like this:

In the early 80s, KURTZ supplied an EPS processor in Los Angeles with a series of shape moulding machines, which he operated alongside with his main business of block moulding. In the last few years, shortly before the turn of the millennium – around the same time as the production of the film – the processor discontinued production of moulded parts. Around this time, too, he made numerous blocks for prop masters working in the film industry. It is possible that one of these prop masters bought the machines and that these regulators made their way onto the bomb in the course of the recycling of individual parts.

And in this context we might mention that our foundry in Mannheim has also served as the scene for one of the popular German "Tatort" detective films. But we have no plans for turning our activities in the film branch into a core business ... Walter Kurtz

Information about Qualified Professions:

Kurtz exhibits at the Vocational Academy, Mosbach Berufssakademie

This year too, the Mosbach Vocational Academy in the Neckar-Odenwald Administrative District once again opened its doors to provide information on the training opportunities and requirements of the dual-approach intensive course of studies at the state-recognized Academy of Studies

By Corinna Schwab

A total of 79 exhibitors, some of them operating internationally, made for an exhibitor record. Over 1,000 visitors attended the event. As it has been doing for a number of years, Kurtz Holding GmbH & Co presented itself at the event and attracted considerable interest as a training company operating internationally. As well as presenting the Kurtz Group, the primary focus was on establishing contact with interested pupils.

The stand was manned throughout by both current and former BA students from the Kurtz Group who were able to report at first hand on their experience to date.

In addition to information on the courses offered within the Kurtz Group, **mechanical engineering, industrial technology, mechatronics and information technology**, the interest centred in particular on the exhibited engine block and a miniature casting machine.

The **dual studies** at a vocational academy are marked by a **short** and **efficient course** lasting just three years and close links to practice. A three-month theory phase in the Mosbach Vocational Academy is followed by a practical phase in the plant of the same duration, in which the course content already covered can be dealt with in more depth in a practical environment.



First contacts: Kurtz presents itself to the interested public at BA Mosbach

During this phase, students familiarise themselves with internal working processes and can establish contact with colleagues and customers.

The Kurtz Group has recognised the advantages offered by a dual course of studies of this kind. At present, seven trainees are studying at the Mosbach Vocational Academy.

The Director of Training responsible for the technical courses, Klaus Baumann, and the BA students of the Kurtz Group involved on the stand were able to look back on a highly successful day and are now hoping for a large number of interesting applications.



Kurtz employee Karl Lenz

With a fanfare and a twirl of the banners

Amateur historical fanfare trumpet ensemble

One man's stamp collection is another man's tennis. Four staff members of the Kurtz Group at the Kreuzwertheim site have a hobby which, while it is not all that popular, is no less demanding:

They are active participants in an historical fanfare trumpet ensemble.

By Fred Strauß

Historical fanfare trumpet ensembles which attract considerable attention well beyond national boundaries often boast a proud history going back to the darkest Middle Ages.

Fanfare trumpet ensembles are committed to reviving the tradition of this proud guild of Medieval field trumpeters and military drummers and fostering old German fanfare trumpet music. Dressed in splendid uniforms, they are an impressive sight as they delight the public with their music and the twirling of the brightly-coloured flags at festivals and processions. The fanfare trumpet ensemble „Fränkische Herolde“, Dertingen, was founded in 1956. The club can boast 54 active members, among them the above-mentioned staff of the Kurtz Group: Karl Lenz, Helmut and Sascha Kratschmann as banner twirlers and Sabine Hörner on the fanfare trumpet. Not all flags are suitable for the tradition twirling of the standard banner. The banners have a short shaft and are generally grasped directly below the fabric. This is the only way of holding the flag which allows it to be twirled between upper arm and hand.

In order to counteract the imbalance caused by the fabric itself when the banner is being swung, the end of the shaft was, and still is, loaded with lead. This shifts the centre of gravity to the edge of the fabric, making an ideal grip possible.

These fanfares are what are known as E flat fanfares, pure notes played without valves or keys. The notes are produced exclusively with the breath, which causes the lips to vibrate. The mouthpiece of the fanfare trumpet transmits the lip vibrations to the instrument. As only very few original pieces of music have survived, each ensemble is anxious to rehearse its own compositions or those of other composers. So too are the „Fränkische Herolde“ from Dertingen:

Over 20 marches, eight concert pieces and many further pieces of music have been written for various special occasions. These compositions are the basis for today's success. The fanfare trumpet ensemble was German Vice Champion once and last year was able to take the title of State Champion in Baden-Württemberg for the 10th time.

Hobby historical fanfare trumpet ensemble: Kurtz employee Sabine Hörner commits herself to reviving old traditions.



ERSA IR 550 A plus

upgrade kit: Rework-Tuning - the best improved even further

*IR 550 A plus upgrade kit – Ask for our information flyer and upgrade your existing systems inexpensively.
Contact: info@ersa.de*

With the new upgrade kit, IR 550 A users have the possibility of extending the range of performance of their ERSA rework system and thus of being equipped for demanding lead-free applications.

The third-generation upgrade kit contains three decisive technical innovations:

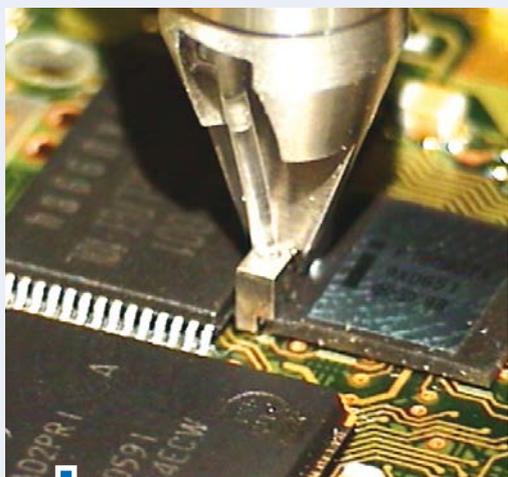
DynamicIR, double true closed loop control with IntelligentIRS and AccuTC temperature measurement as with our flagship, the ERSA IR 650 A system (see page 18).



The benefits at a glance:

- Increased performance by 100% more under-heat
- Increased flexibility thanks to changed, flat peak zone
- Increased security thanks to automatic overheating limit

Innovative upgrade kit enables flip-chip inspection also for ERSASCOPE 1 users



ERSASCOPE 1 users can now retrofit their systems with the innovative, new ERSASCOPE 2 optic. *The scope of performance contains three differing inspection heads, which distinctly increase the performance and capability of the ERSASCOPE 1.* A 90-degree optic provides images of hidden soldering points of BGA components and their sub-types in the customary quality.

The further development of the 0-degree optic provides high-contrast images in a top view inspection and provides enlargements of up to 350 times with outstanding illumination.

With the revolutionary 90-degree flip-chip head, we have managed for the first time to obtain meaningful image information of solder connections with gap sizes < 0.025 mm. With the development of the ERSASCOPE 2, ERSA takes account of the increased demands resulting from new technologies and also higher packing and insertion densities.

The source of light, the ergonomic tripod, light periphery and optic carrier have been completely revised, in order to guarantee outstanding light management and optimum image quality.

ERSASCOPE 2 optic now available to upgrade ERSASCOPE 1.

Just ask for our information flyer or go online. www.ersa.de

The benefits of the upgrade kit at a glance:

- Higher image resolution
- High-performance source of light
- Quick-replacement optical heads
- Revolutionary flip-chip optic
- Optimum light management

Protect the environment with lead-free solders

Manufacturers and customers benefit from the EU directive

With effect of 1 July, 2006, the WEEE and ROHS come into force in the EU states.

The objective of these directives is banning heavy metals with a burden on the environment from the supply chain.

By Bernd Schenker



De facto all that this means is the **ban of electronic products with solders containing lead**. But this also affects the manufacturers' obligation to take products (Electronic Scrap Directive) with solders containing lead back free of charge and to attend to their recycling.

Both products produced inside the scope of application in the EU and also those imported there are meant. For electronic products, the new state of legislation means a lot of displeasure and uncertainty to start with after it had become clear that this meant a far-reaching change of established processes and, above all, is connected with enormous costs. Quite often, one heard voices calling the lead-free technique anti-innovative or even an economic inhibition factor.

In the end, not inconsiderable additional costs, which cannot be passed off to the final consumer, result from the substitution of solder containing lead. On the other hand, very many leading companies quickly came to terms with the new situation and additionally recognised new chances, above all the Japanese consumer goods manufacturers. They recognised that new markets result with the quick change to environmentally beneficial products.

Nature protection as a matter of course: ERSA is way ahead of the EU directives

Strong sensitivity with regard to environmental and nature protection exists above all with European consumers.

Who buys a product that has an environmentally damaging image if there are also alternatives, which do not even cost any more?

As a result, numerous market-leaders have brought the introduction of the lead-free process forward to this year, in order to create a competitive advantage. The greatest challenge was with the manufacturers of circuit boards, components, solders and soldering systems.

As a leading manufacturer of soldering systems, ERSA was directly affected by this new regulation. As most machines on the market were not compatible with the new lead-free solders and the processes connected with them, it was a question of developing new systems doing justice to the increased requirements in a short period of time.

The essential difference between solders containing lead and lead-free ones is the higher melting point and the changed metallurgical properties of the new alloys.

In wave soldering systems, the following focal points crystallise:

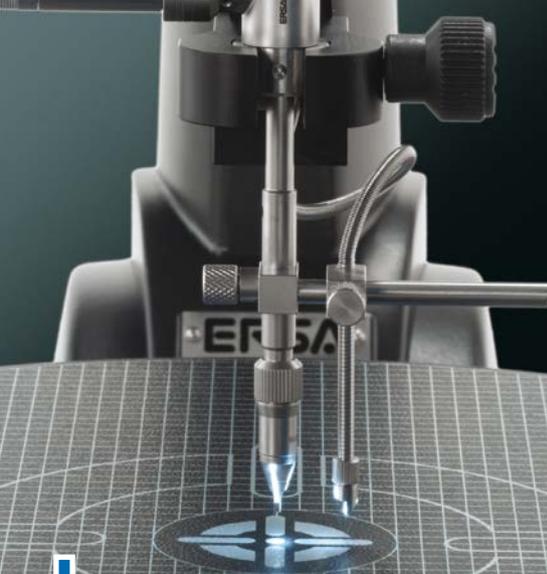
Compatibility of the solder module with the lead-free solders. As a rule, these are tin/silver/copper alloys, which have a high affinity to customary stainless steel or cast crucibles. After only a short time, these are attacked by lead-free solders, which leads to partial alloying, even going as far as leaks.

Higher thermal load of all functional elements of the machines, as the melting point of lead-free solders is 30 – 40 degrees higher than in tin/lead alloys. This has consequences for the life expectancy and the service life of the machines.

Changed flow properties of the lead-free solders lead to increased bridge formation and thus to a worse solder quality if the solder wave is not modified.

As a result of the higher melting points, the oxide formation in the solder crucible and, consequently, the consumption of solder increase. This is critical above all because lead-free solders are about two to three times more expensive than alloys containing lead.





ERSA as an innovation motor.

Within less than two years, ERSA developed *new wave solder modules* doing justice to these requirements and put them on the market with great success. Instead of the stainless steel crucibles used up to now, ERSA now stakes on enamelled solder modules and on a new diffusion process for the treatment of the surfaces of solder nozzles and pump units, called ERSA L2C (Long Life Coating). These new developments are absolutely resistant against lead-free solders and enable the users to make a safe start into the lead-free era. Practically all operators of soldering systems have retrofitted their machines with new modules or even decided to buy new machines in the meantime.

Particular demand existed for soldering machines with nitrogen covers in the solder module considerably reducing the oxide formation of the solder and thus leading to a drastic reduction of the consumption costs.

In the area of *reflow technique* (convection systems for the processing of SMT components), the focus of attention was the development of new machines with absolutely homogeneous heat transmission within the process tunnel with the lowest possible solder temperature and a high degree of reproducibility. Although work is done at higher melting points (217 instead of 179 degrees) with lead-free solder pastes, the components still may not exceed the maximum temperature of 240 degrees valid up to now. This means halving the process window compared with the current process.

The result was the *HOTFLOW 2 series*, a completely new generation of machines, which excels above all through a heat transmission technique particularly gentle on the material and a high degree of parameterisation ability. In less than two years, ERSA was able to place more than 300 units of these machines on the market.

ERSA quickly recognised that the change to the new processes automatically means new aspects in quality assurance.

ERSA reacted quickly and put an extremely helpful instrument for inspection and analysis of soldered components on the market, the new *ERSASCOPE 2 optical inspection system*. Even for classical product groups such as solder stations or repair systems, the lead-free technique resulted in new additional requirements for technologically high-quality systems. Here, ERSA was able to make complete use of its entire technical know-how and obtain an enormous competitive advantage. ERSA is the only company in the world to be an important provider in all areas of soldering: manual soldering, wave soldering, reflow soldering, repair soldering, selective soldering and inspection. All we can say is that lead-free soldering technique turned out to be an innovation impulse and triggered a minor technical revolution in electronics production.

There are a lot of winners:

On the one hand, there are the machine and system suppliers, whose products have developed enormously thanks to the high requirements and triggered a real boom in orders. On the other hand, there are the users who have been provided with new, highly modern systems and thus have been able to increase their quality as well. Looking at it globally, the environment is naturally the great winner, as there is no longer any burden by heavy metals from electronic production.

Dates & News

Lead-free retrofits available for ERSA wave and selective soldering machines

ERSA offers lead-free retrofit sets for Versaflow selective soldering machines and all common wave soldering machines with LM8 and LM9 solder pots. Detailed information and offers are available by telephone: +49-9342-800-230.

ERSA know-how seminars in September

Cost-oriented production and the highest quality are indispensable when it comes to retaining a competitive edge. Know-how and staff qualification are the key to success. We support our customers with training courses and workshops centred around lead-free soldering. Detailed seminar documentation is available from barbara.grimm@ersa.de

New lead-free technology seminar in autumn

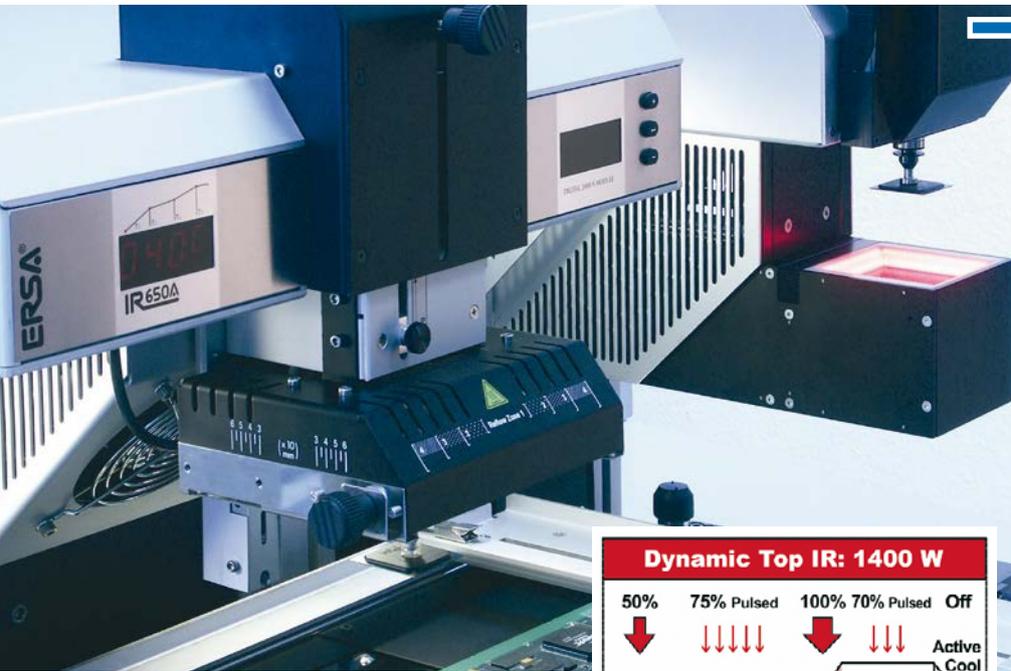
In response to the overwhelming interest in our lead-free technology seminar in May of this year, we will be offering a further event on this topic in October. Please request an invitation in good time from barbara.grimm@ersa.de

Invitation to Productronica

From 15 to 18 November, ERSA will be exhibiting innovative new products at Productronica, the most important international trade fair in Munich. We look forward to welcoming you to Hall A3, Stand 578. www.productronica.de

ERSA IR 650 A

Revolutionary high-end rework technology
for the lead-free age



ERSA IR 650 A – Innovative rework technology for large boards and high-end applications

By Angelika Uehlein

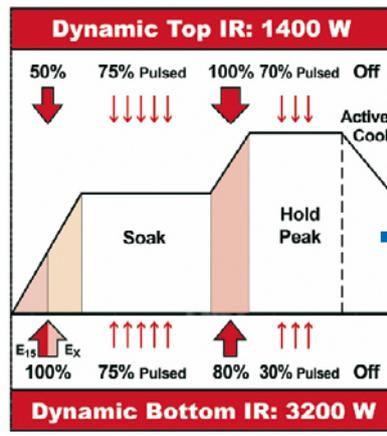
The new *ERSA IR 650 A is the latest member of the renowned rework platform* which is successful all over the world. The newcomer has been specifically developed for complex lead-free rework applications on high-mass, large format boards. The board size, 460 x 560 mm, is a real innovation, making use of the tried and tested ERSA IR rework technology possible for a completely new group of users. The IR 650 A represents the third system generation and provides three revolutionary technological innovations compared with its prize-winning, patented predecessors: DynamicIR, Multi True Closed Loop Control and IntelligentIRS.

DynamicIR

Real-time temperature regulation of board and components is the key to a safe lead-free process.

The ERSA IR 650 A faces up to this challenge with a unique and completely new concept.

The secure and tested IR heating technology with medium-wave radiators ensures even distribution of heat to the component and the top and the bottom of the board.

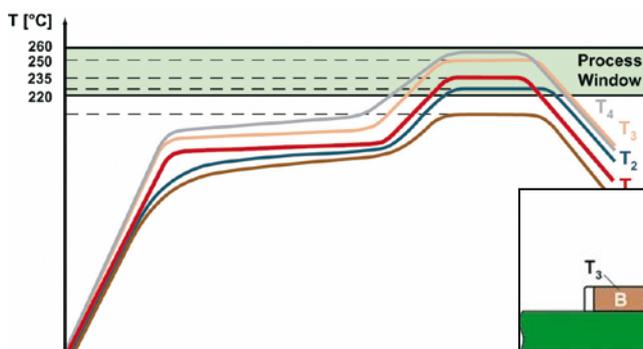


ERSA DynamicIR heating principle

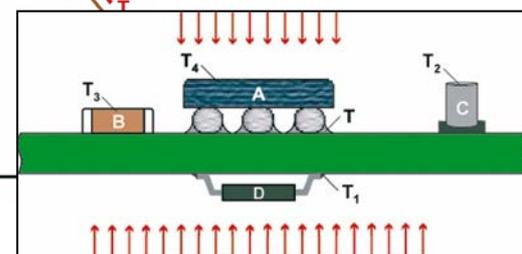
five on the bottom. Depending on the board size, the thermal mass and the component size (the range going from high-poled, wired component shapes via all BGA derivatives right down to special components such as plugs or pedestals up to a size of 60 x 120 mm), the DynamicIR technology ensures the necessary heating energy at the right place at the right time. Component and board are thus precisely in the defined temperature profile. In combination with a flexible design of the profile, this technology achieves minimum DeltaT within the components.

Higher working temperature and smaller process windows make lead-free rework processes a genuine challenge.

The risk of overheating for neighbouring components or those on the rear is very high. This is why the real time temperature regulation of the ERSA system is an important strategic benefit. Soldering or de-soldering right down to active component cooling are done fully automatically in a closed loop (True Closed Loop Control).



True Loop Control.



ERSA Multi True Closed Loop Control guarantees process safety

True Closed Loop Control means that the real-time temperature of the component is detected by the patented, contact-free IRS infrared sensor. This temperature is then used to control the heating system or for active component cooling.

The new kind of IntelligentIRS has a component table and a component-specific IRS calibration, thus enabling

even more exact temperature measurement. The DynamicIR heating technology can optionally be controlled via the IRS sensor or an arbitrary thermo-element, thus ensuring perfect temperature profiles at any time.

Multi True Closed Loop Control is based on this principle and provides up to four further thermo-elements.

The allocation of temperature limits prevents overheating of components arranged next to or behind one another. Thanks to this lead-free safe-heat principle, it is practically impossible to work outside the defined process window.

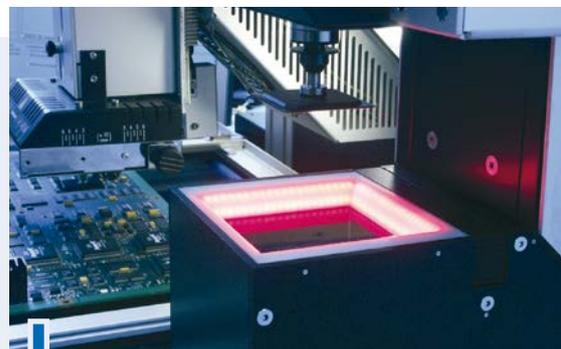
In this way, the rework success is guaranteed from the outset.

Component placing, reflow process camera and IRSoft supplement the system

The highly precise placement system of the latest generation processes a wide range of components from 1 x 1 to 60 x 60 mm, provides a high degree of automation and an outstanding repeating accuracy (+/- 0.010 mm).

300 x enlargements of the motor zoom camera permit precise alignment of the component

connections to the landing areas or visualisation of the molten solder on the smallest of components thanks to the highly controllable LED circular lighting system. The new version of the user-friendly IRSoft control and documentation software provides the user interface for the IR / PL 650 A system, monitors the soldering processes and is used for extensive process documentation.



ERSA placement module PL 650A with auto pick & place function for outstanding repeating accuracy (+/-0.010 mm)



Request our latest rework catalogue: info@ersa.de
Online download: www.ersa.de

ERSA sets new standards

Lead-free reflow soldering with the HOTFLOW 2/12

With the reflow high-performance furnaces of the HOTFLOW 2 series, ERSA sets standards in the branch. Maximum heating performance, maximum flexibility, best machine availability rates and minimum MTTR (mean time to repair) are the self-imposed demands made of the system concept.

The HOTFLOW 2/12 provides up to 1.7 m of heating and 0.8 m of cooling distance on a process length of almost 2.5 m. *With twelve heating and two cooling zones*, which can be controlled separately, the user achieves high flexibility in the design of the section. *Precise zone separation and homogeneous temperature distribution* guarantee optimum soldering results with a low DeltaT.

Tight budgets have a massive influence on investment decisions nowadays. ERSA has recognised this. With the HOTFLOW 2/12, the company offers a standard system, which can match up to the high-end systems with regard to temperature management, flexibility and throughput, but has been produced with a well-dosed cost control. The HOTFLOW 2/12 excels with an outstanding price/performance ratio and perfectly supplements the range of products matching the HOTFLOW 2/24, 2/20 and 2/14 ASP high end systems. The series is immediately available.



HOTFLOW 2/12 -
Basic model of the successful series

BRONZE SILVER

The “Olympic” Service Contracts from Kurtz GOLD

*The service team of KURTZ North America Inc. offers its customers in the **particle foam machines and soldering and inspection systems** area a unique service: “Olympic” service contracts.*



By John Floryance

The principle is simple. No matter whether you are dealing with older plants and equipment or with the constantly-increasing demands on production – the KURTZ Service Contracts offer reliable support within the production processes.

The primary guarantee for these service measures is the highly-qualified KURTZ service engineer, who, for example during commissioning of a newly-installed machine, is on site to provide advice and the benefits of his experience when questions crop up.

The Bronze, Silver and Gold Programme extends over a fixed period. For example one week is made up of three working days plus two travel days. Travel expenses, etc. are included in the fee. The advantage for the customer: He is the one to decide how many days are to be booked in a KURTZ “all-round” package. And of course the service contracts are renewable annually.

Bronze	1 week
Silver	2 week
Gold	4 week

Experience clearly shows that the improved planability of this necessary service visit allows greater operating efficiency. For instance, a customer with a service contract is able to obtain on-site, hand-on training from a KURTZ service engineer directly at his KURTZ production equipment.

This scheduled approach to service visits results in an improvement in machinery maintenance and work processes and to a distinctly “can-do” attitude towards addressing day-to-day issues. Furthermore, within this system, KURTZ helps customers to stock critical service items as part of their on-site spare parts inventory.

The frequency with which the service engineer is called out to deal with emergencies, either in person or on the telephone, is significantly reduced. In order to ensure maximum benefit for the customer, the individual visits are agreed well in advance. Spare parts are shipped in good time, specific training measures prepared and the anticipated maintenance work listed so that everyone involved on both sides is fully briefed before the visit begins.



Simple operation with user-friendly software: Error elimination by mouse click.

No magic: Foam Wizard KURTZ software optimises EPS processing

By Dipl.-Ing. (BA) Marco Pacius

The „Foam Wizard“ software product is the latest development by KURTZ for customers from the field of EPS processing. The software comprises two modules which accelerate the commissioning of new moulds and help to reduce setting errors.

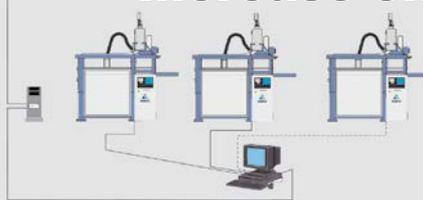
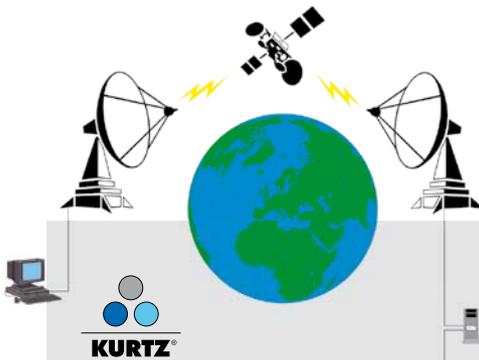
The first module supports the operator in setting up new moulds. Step by step, the user is guided through the easy-to-operate programme. To start with, he must determine a basic recipe for his case of application. Then, the database loads a matching machine setting in the background. Before a moulded part can finally be produced, three distinct, mould-dependent positions must be moved to (support is supplied by the practical online documentation).

In this, the machine setter is given brief descriptions, sorted by process steps, of errors which have possibly occurred (badly filled part, part with subsequent swelling etc.) and is again supported with image material in the online help. When the matching error has been identified, the Foam Wizard suggests a number of machine parameters or maintenance measures which can reduce and remedy the defect. By acceptance of the suggestions and a subsequent production cycle, new test parts are generated. These can be adapted to the necessary quality step by step.

The second module is used for remedying the most frequent errors.

Increase efficiency, save costs

KURTZ teleservice is service via the Internet



By Wolfgang Gasperl and Dipl.-Ing. Martin Bauer

The demands made on machine availability are constantly increasing in the area of particle foam processing. “Just-in-time” delivery demands made to our customers means that the question of expensive storage capacity for the final product does not even arise. As a result, however, it is becoming ever more vital that machine downtimes are dealt with efficiently. The KURTZ service organisation solves this task with a customer and cost-oriented approach using the most modern information and communication media. This service strategy is practically implemented with the use of the teleservice. Technical problems can be located without the time-consuming and costly call-out of a service engineer. This contributes to the speedy finding of efficient solutions so that machinery

can resume production as quickly as possible. When alterations of the machine programme are to be made in order to create additional production possibilities or permit user-support when application-related problems arise, data and programmes can be transmitted via Internet or telephone line, installed and put into operation.

Machine failure in the USA - Europe helps immediately

KURTZ Altaussee GmbH for example was informed by an American processor that his cutting plant was no longer working. Teleservice revealed that the complete control programme, the NC programme for the remote wire adjustment and also all user data were lost and that furthermore the control indicated a battery malfunction.

When asked the customer confirmed that the indication asking for an exchange of the battery had been shown for some time already but had not been answered so far. Via teleservice all programmes and data from the KURTZ archive were transmitted and installed in the plant's control and the customer was able to resume production after approx. 6 hours. Without the possibility of teleservice the trip of a service engineer to the US would have been necessary with all the delay and costs involved, as there was also no expert of the control manufacturer available near the customer's location. This example shows that complex processing plants for particle foam materials can run faster and more efficiently with the assistance of the teleservice. In the future, KURTZ intends to further extend the use of this fascinating instrument and thus secure the advantages of modern communication technology for the benefits of its customers.

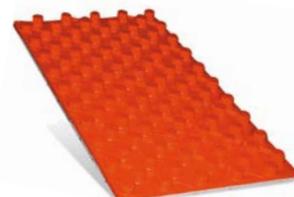
Floor heating panels of EPS

Skin moulding technology from KURTZ provides new prospects

In construction of residential buildings, there is often advertising for the generation of a feel-well climate in your home through the use of floor heating.



Three-step transfer moulding machine for the production of nopped EPS panels with two densities and sound absorption function.



By Dipl.-Ing. (FH) Uwe Ackermann

The benefits of floor heating with regard to use of the room and ability of combining them with alternative sources of heat open up new fields of application.

Extension of these fields of application and also competition amongst system providers have led to an enormous range of products in the recent years. One of the most important laying systems for the fixing of the heating channels of floor heating are „nopped panels“ made of EPS. The market share is around 60 per cent with a rising trend.

Generally, a nopped EPS panel consists of one raw material density. Optionally, nopped panels are also offered with two raw material densities, a high density (approx. 30 g/l) being used for nop stability and a low density (approx. 13 g/l) to create an impact sound insulation function.

As protection against absorption of moisture by the EPS panel and to increase the nop stability further, coating with a film is also possible. A thermoformed film can be pressed on subsequently or a film section can be plastified in the moulding machine to be drawn across the nopped panel.

For each case of application in question, KURTZ provides an optimum solution matching the requirements of panel design, manufacturing process and productivity. One production variant for a start on the market is the standard machine K1015, with which production of a nopped panel with one raw material density is possible. Thanks to the option of the „skin moulding“ technology, the nopped panels are coated with a film. Alternatively a special handling system is used to insert impact sound absorption panels from block production before the actual foaming process, which results in a high-quality floor heating panel with two densities.

The advantage of this system is the unproblematic usability of the automated shape moulding machine for further applications from the EPS area, in particular for mouldings with film coating.

For a long-term process, the machine type K 1016 TV3 from transfer technology is a useful option. The production process of a high-end nopped EPS panel with two raw material densities and an impact sound absorption function with this machine type is divided into three steps:

foaming of the high density in station I

foaming of the low density in station II

impact sound absorption pressing and pressing on of a thermoformed film in station III

The advantage of this production variant is to be found in very short cycle times and thus in a higher yield.



KURTZ Altaussee develops innovative special solution for bottle handling

Smart Pro-Rob solution

Lightweight for bottle handling

By Dipl.-Ing. Bernward Bruns

KURTZ Altaussee GmbH has now succeeded in developing gripper applications for industrial areas outside of its usual customer structure.

For example a high-performance special solution has been designed for a major manufacturer of bottle handling plants.

This gripping tool is installed on a robot with a max. 350 kg carrying power and is used for handling plastic water bottles.

The special challenge for the development department in Altaussee was the fact that

they were dealing with eight bottles each weighing 21 kg which were to be lifted over a width of 2,550 mm. Customer specifications demanded that the gripping tool's own weight had to be below 140 kg. And this is how it works: Empty bottles are taken from the transport racks by vacuum suction cups and then passed along a conveyer belt to the refilling plant. A second belt running directly in front carries the newly-filled bottles which have to be lifted vertically by the robot and placed in the racks.

By using a special aluminium welding construction it was possible to reduce the gripper weight to significantly below the specified level. This in turn meant that it is no longer necessary to load the robot with counterweights. In this way, higher operating speeds can be realised, permitting the handling of 4,000 bottles (= more than 8 tons) per hour. Of course construction tasks of this kind demand FE (finite elements) calculations in order to keep both the material stress and the distortion within a "tolerable range".

Recipe for success in China

The KURTZ Zhuhai machine

By Michael Chan

The design concept of the KURTZ Zhuhai machine, a moulding machine for the packaging industry, is marked by simplicity. As well as a high quality standard, guaranteed by typical KURTZ technology it even permits adaptation of the mould system common in China.

At the same time, the cost advantages in China are exploited so that the machine can be supplied at an affordable price.

"Affordable" still means that the KURTZ machine is four or five times more expensive than those from other local competitors in this market. The reason is simple: At KURTZ Zhuhai we no longer speak of competition between KURTZ and the other machinery manufacturers, rather it is competition between quality, performance and service, on the one hand, and the price on the other.

Our aim in Zhuhai, as in all other KURTZ locations around the world, is to make every effort to cater to the budgets of our customers without ever deviating from our own high standards. Because, at the end of the day, the decisive factor for the success of a company is economical production costs. In this context, purchase prices are only a minor factor. Our customers have understood this fact.

Today, the customers of KURTZ Zhuhai include Chinese processors from Inner Mongolia, Guangdong (south), Shanghai (east) and the western Sichuan Province. We are currently involved in final negotiations for numerous further machines. 95% of our business partners are new customers at KURTZ.



The KURTZ Zhuhai team in China.

145 Mio € Turnover • 1050 Employees

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