Kurtz ...NEWS

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The customer and employee journal

GEO FOAM

EPS blocks guarantee a save & sturdy foundation – even on sand!

New large core-making shop:
KURTZ foundries ready for take-off

ERSA HOTFLOW 3:
With power reserves where others conk out

Rebuild programme:
As good as new! –
Modernisation as a success factor for machines

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We are a family

Editorial

Even in these difficult times, the customers of the Kurtz Group expect fast reactions and optimum value-for-money, paired with long-standing experience and innovative ideas. As overall market volumes are set to shrink for an incalculable period, these demands can only be met with slimmed-down structures in the Kurtz Group.

This is where the advantages of Kurtz as a family-owned company really come into their own. Together with the Advisory Board, the shareholders and managing directors have decided that a streamlining process must take place within the Kurtz Group, one which also includes the top management. As a consequence, the following changes came into effect on 1 July 2009:

Walter and Bernhard Kurtz are resigning as Managing Directors of Kurtz Holding GmbH & Co. Beteiligungs KG and from all operative responsibility. Both gentlemen will remain available to the company as Advisory Council Members and in a consultative capacity, so that the wealth of experience they have accumulated will remain at our disposal for our future assignments.

In the Wiebelbach Engineering Works, the business segments Particle Foam Machines and Foundry Machines will be merged to the business segment Engineering under the management of Mr. Uwe Rothaug.

The entire administration, including finances, central purchasing, IT services and human resources will be the responsibility of the new CFO of the Kurtz Group, Mr. Thomas Mühleck, as the new Managing Director of Kurtz Holding.

Mr. Rainer Kurtz remains responsible for the organisation and communication of the Kurtz Group as Chairman of the Management Board and also bears responsibility for the operative management of the business segment ELECTRONICS (ERSA). In addition, he assumes responsibility of the business segment METALS with the foundries and sheet metal engineering.

Thomas Mühleck new CFO

As of 1 July 2009, Thomas Mühleck took up his position as CFO of Kurtz Holding GmbH & Co. Beteiligungs KG. Thomas Mühleck is a Diplom-Betriebswirt (FH), holder of a degree in business administration. On 1 August 1994 he began working as marketing assistant in ERSA GmbH. Since that time, Mr. Thomas Mühleck has worked his way through many stations in the Kurtz Group, lastly being responsible for the company communications, the central department Purchasing and Logistics as well as the commercial management of the foundries. Thomas Mühleck is 40 years of age and married with one child.

We wish the youngest member of our Group Management Board every success in the management of our finances.

from left to right: Thomas Mühleck, Bernhard Kurtz, Rainer Kurtz, Uwe Rothaug and Walter Kurtz

Walter Kurtz becomes Advisory Council Member

Walter Kurtz took up employment with the Kurtz Group on 1 January 1974.
As a Diplom-Ingenieur, holder of a degree in ferrous metallurgy, specialising in foundry engineering, his initial assignments were special themes in the area of iron casting. Even during his studies, he assumed the site management for the new sand processing plant and the new fettling shop. Thereafter, Walter Kurtz dedicated himself more and more to the diversification of the machine building factory into the segment of particle foam machines which had begun a short time previously. Here he saw the opportunity to develop KURTZ to the worldwide leading manufacturer offering the complete processing range.

The main focus of his work lay in the development of a global distribution organisation for this product segment. Walter Kurtz has probably covered more air miles than any Foreign Minister of the Federal Republic of Germany. Almost all the customers of the Particle Foam Machines segment are known to him personally and many of them have benefited at one time or another from his good ideas or advice on improving their moulding production. Successful sales allowed the company to build the new machine factory in Wiebelbach in 1985 and to take over Wieser Maschinenbau in Austria in 1990. A major factor in the market penetration was the service and engineering available on site which is so important to the customer. This led to the setting up of further sales and service bases and production facilities in the USA and China, which were further indications of the successful development of KURTZ to world market leader. In addition to his operative activities as Managing Director, Walter Kurtz also committed himself to association work as a member of the Advisory Board of the VDI (association of German engineers) Materials Engineering section, the Board of the Business Group for Plastics and Rubber Machinery in the VDMA (German machine builders association) as well as the Industrieverband Hartschaum (industrial association for rigid foam materials) and the EPP-Forum e.V.. His experience will continue to be called upon in the future in new developments and the definition of product and market strategies. Also his work in the different associations will be continued.

As of 1 July 2009, Walter Kurtz moved from the Management Board to the Advisory Board of the Kurtz Group.

New Advisory Council Member: Bernhard Kurtz

Bernhard Kurtz began working for the Kurtz Group on 1 July 1980.
As a Diplom-Kaufmann, a holder of a degree in business management, he took over the management of the iron foundry from Otto Kurtz. Under his guidance, the company diversified into aluminium casting, non-ferrous metal casting and sheet metal engineering. In the almost 30 years of his management activity, the segments he looked after, lastly merged to the business sector METALS, displayed considerable growth rates across the board.

With the consistent orientation towards high-end niche products in the foundry area as well as in sheet metal engineering, accompanied by major investments in environmental protection, the conversion to medium-frequency smelting in iron casting, which is still modern today, as well as the expansion of low-pressure casting in aluminium, a broad product range achieved a high level of customer loyalty. This concept very quickly found recognition in the area of sheet metal engineering and facilitated the building of a new production facility with the highest degree of automation. On this solid foundation, the METALS segment will continue to be a recognised partner as a supplier to our customers in the future too.
During his membership of the Executive Committee of DGV (Deutscher Gießereiverband) and as a long-term Member of the Board of the foundry associations DGV (Deutscher Gießereiverband) and GDM (Gesamtverband Deutscher Metallgießereien e.V.) the long aspired fusion of the associations DGV, GDM and VDG (Verein Deutscher Gießereifachleute e.V.) to a federal association for the German foundry industry, the BDG (Bundesverband der Deutschen Gießereiindustrie) was successfully implemented.

As of 1 July 2009, Bernhard Kurtz moved from the Management Board to the Advisory Board of the Kurtz Group.

Certified environmental protection

By Dr. Helmut Diehm

In the Kurtz Group, environmental protection has a long tradition. No wonder, as the geographical origin of the Kurtz Group goes back to the water of the Hasloch River. But environmental protection is in focus not only with a view to resource management and processes, but also products. For example, one can think of the development of the series of particularly energy-saving shape moulding machines. But this aspect was also included in the development of the latest soldering systems and tools, just as it has been the case in the latest generation of foundry systems.

In the meantime, water has relinquished its over-dimensional position in favour of electricity, but it still plays a role in the process. The iron foundry in Hasloch currently works with three induction furnaces. It must be clear to everyone that an economical use of electricity as a source of energy must be a requirement of commercial reason.

But many other process steps in the iron foundry and also in other areas of business have environmental relevance.

For various reasons, many business partners for their part are interested in us running an environmental management system and also proving its capability.

This is why we audited and further improved our existing environmental management system last year. It was now a question of subjecting the result to an independent assessment. As the iron foundry in Hasloch represents the biggest challenge for this subject, we decided to have it certified according to the international standard ISO 14001. The idea was that if the system survives the challenge, we can then roll it out to other business areas of the Kurtz Group without any problems.

The certification process took place in two phases. The first phase at the end of February had the focal point on evaluating whether it even makes sense to subject the organisation to the further procedure. After this had been assessed positively, the second phase was implemented at the beginning of April.

As the second phase was also able to confirm a good environmental management system and its implementation all told, we are pleased to have received the confirmation by the renowned certification company EQ ZERT.

In the medium term, extension of such a confirmation to the entire KURTZ GmbH and further companies in the group is being aimed for.

Foundries
in the Kurtz Group ready for take-off

By Thomas Mühleck

The iron and aluminium foundries of KURTZ GmbH have, of course, also been hit hard by the most serious crisis in post-war history. However, the rise in orders received in recent months proves that business in this segment is on the upturn once again and that, after a phase of consolidation, the market is slowly but visibly reviving.

At KURTZ, we have made good use of this “breathing space “ which followed the boom years and undertaken new investments and process optimization to allow us to respond even better to customer wishes and withstand growing price pressure. The new management structure with Graziano Sammati as Managing Director – whose complete command of the business was learned from scratch – as well as Raimund Strub as Plant Manager of the aluminium foundry and Horst Ostrowski as Plant Manager of the iron foundry, and the associated open, honest and consistent management style has been very well received by customers.

In the aluminium foundry, productivity has been increased through the consistent increase of the reproducibility of the product quality. In addition, the teams have been restructured and synergies within the company group are being used more extensively. Furthermore, there has been increasing success in winning interesting new projects in low-pressure casting, an area with high growth potential.

In the iron foundry, investments in a new large core-making shop made it possible to increase the output of large hand-moulded parts and improve the quality of the cores. Optimization in the compositions of melt have led to significant quality improvements, particularly in uniformity.

A major step was taken in process stability with the purchase of new spectral analysis equipment. The iron foundry is also active in the area of environmental protection. The conducting of an environmental audit and the commissioning of a differential current regulator represent major contributions in this area.

As system suppliers for pre-finished moulded parts, both sectors can call on a comprehensive network of suppliers in processing and finishing, a shortage of resources is no longer a relevant topic.

Restructuring provides the benefit of “one face to the customer“, through the amalgamation of the administrative area of the two foundries in the order centre.

With all these measures, KURTZ has set the course for long-term, profitable growth and both customers and suppliers can rest assured that they have a stable business partner in KURTZ.

New core making shop at the KURTZ Iron Foundry in Hasloch

Fresh breeze for your technology

... is an advertising slogan of the firm of Rexxon GmbH in Kiel.

By Alexander Schmidt

Rexxon is a subsidiary of Flensburger Fahrzeugbau GmbH (FGG).

Originally founded by a merger of highly qualified specialists in rail-bound vehicle engineering, Rexxon GmbH now claims to be securing leading competitive positions in the areas of air-conditioning systems, safety technology, drive engineering, specific technical solutions for general vehicle and machine constructions and others.

Rexxon is in particular well known for first-class solutions in the demanding field of mobile air-conditioning technology for rail-bound and special vehicles.

Rexxon sees itself as a service company implementing projects by order of its customers in the aforementioned areas, with not only pure development, but also electrical engineering and mechanical production forming part of the range of services. Rexxon products are in use internationally, providing not only technical quality and outstanding processing, but also added value such as remote diagnosis and maintenance planning by data transmission.

It is a matter of course that Rexxon stakes on business partners with similarly high quality claims in the implementation of customers‘ requirements.

One of these business partners is MBW Metallbearbeitung Wertheim GmbH, from whom Rexxon purchases high-quality air-conditioning casings, mainly of aluminium incl. surface coating.

As many of the parts are delivered to the field of rail-bound vehicles, welding registration pursuant to DIN EN 15085-2 (welding of rail-bound vehicles and parts of vehicles, formerly DIN 6700-2) is indispensable. MBW has also gained years of experience in this field in the meantime.

Air-conditioning casings
with highest quality requirements for rail-bound vehicles, manufactured by MBW

High voltage meets low pressure

ALUMINIUM LAUFEN AG

By Christoph Hartmann

The company Aluminium Laufen AG in the Swiss Canton Basel-Landschaft runs its own aluminium foundry since 1928, mainly casting into permanent moulds with the gravity pour process. In 1970, the foundry added low pressure permanent mould to its casting capabilities and continued to build up this department in the following years.

A further cornerstone product of Aluminium Laufen AG is the sector of semi-finished products, which are produced in an extrusion press. In this process, presses with a closing force up to 4,000 tons are utilised.

Based on the continuously increasing casting volumes and quality requirements for parts up to 90 kg for the high voltage casting supply industry, Aluminium Laufen AG contacted the foundry machine division of KURTZ to discuss ways to achieve their goals.

The advantages of the freely-programmable control system, the precise pressure control and the numerous possibilities to observe the exact casting process convinced Aluminium Laufen AG to invest in their first KURTZ low pressure casting machine, type AL13-13SR, in 2006. An additional selling point of this project was the flexibility of KURTZ, who were able to meet the requests of the customer to deliver a machine that is specially configured to cast specific parts with specific process needs.

The technical features on this machine include:

- machine base plate area 1,300x1,300 mm
- vertical stroke 2,385 mm
- shuttle low pressure furnace with vertical stroke, 1,000 kg capacity
- 8 core pulls
- adjustable casting catcher to remove castings

After commissioning the first machine in mid 2007, we received the good news from Aluminum Laufen AG regarding the order of their second KURTZ machine, which was delivered at the end of 2008. We look forward to continuing this positive and close cooperation between our companies.

ERSA POWERFLOW

SMA extends manufacturing capacity

Stefan Wurster did a follow-up with Lothar Weix, Head of THT Manufacturing at SMA

PCB crossing the dynamic preheating zone

SMA Solar Technology AG in Niestetal operates around the world. It develops and sells solar power inverters, a central component in every solar power system.

A photo-voltaic system is only as good as its solar power inverter. It converts direct current (DC) generated by the solar modules into alternating current (AC) compatible with the power grid. Intelligent system engineering is playing an increasingly important role in this process. The solar power inverters, which are controlled by micro-processors, ensure proper network integration of the solar system and monitor the system functions.

SMA has collected an especially large amount of system expertise which ensures the optimal use of solar technology in large scale systems that focus on energy-efficiency.

For the SMA Group, with approx. 3,000 employees, the photo-voltaic sector will continue to be a growth market well into the future. For this reason, a new production facility with over 18,000 m^2 floor space went into operation at the Niestetal location at the beginning of 2009. This significantly expanded the SMT and THT manufacturing capacity within the electronics manufacturing department.

In this area, very complex high performance assemblies with a large number of leaded components, compared to current standards, are produced. In addition to the two existing production lines, a third THT production line was created

for the new factory. One specific challenge was the additional integration of two **AOI** systems (**A**utomatic **O**ptical **I**nspection) into the line.

Furthermore, a new proprietary soldering frame design needed to be taken into account. This was quite a complex challenge since as far as anyone in the company knew, no THT wave soldering line with integrated AOI systems has so far been realised anywhere in the world.

At first, the highest priority was to select a suitable wave soldering system. In this case, the POWERFLOW N_2 from ERSA quickly convinced the decision makers at SMA that it was technically superior to the products of the other providers.

The usage-optimized nitrogen supply and fluxer adjustment options, individually adjustable solder nozzle heights as well as the very user-friendly software were just a few of the features that made the difference. The excellent soldering results produced by the POWERFLOW during diverse soldering trials stood out in creating a positive overall image for SMA.

Another task required was the coordination of the entire project. This included juggling five different companies: the contractor SMA, the suppliers of the AOI systems and the soldering frames, as well the company providing transport including outward transfers, and then ERSA.

ERSA took over the coordination of the overall project, which functioned smoothly right up to the preliminary acceptance of the line.

Finally, February 16, 2009 was the day when the line was delivered to SMA and put it into operation.

After gaining initial production experience with this new line, SMA reports simply the following: We made the right choice!

ERSA i-CON

On path to world champion

By Tilo Keller

Patrick Haldi, fourth-year apprentice, represents Switzerland at the WorldSkills Championship in Calgary, Canada.

This Ascom apprentice first had to make it through the preliminary competitions for the Swiss championship in June of last year before being able to get the chance at the gold in St. Gallen. During the five days of the competition, challenging tasks needed to be accomplished under very tight time restrictions. This year, not only was it required to solder a circuit board assembly, but also a small robot had to be programmed and put into operation.

Patrick Haldi: “We had to develop and construct the hardware and software and then put it all into operation. We also had to check the electronic switches for errors and resolve them.”

Soldering is one of the most important tasks for the electrician.

The company Bleuel Electronic AG, ERSA’s general agency in Switzerland, provided a professional ERSA solder station to the potential champion for use during the competition.

Haldi commented: “Yesterday, I received the ERSA *i*-CON with a variety of soldering tips, and tested them thoroughly today. It is better than I could have hoped for, and it is a huge step above a normal solder station. Thank you again for this great device!”

Currently, Patrick Haldi is intensively preparing for the championship in Canada. The entire ERSA team, especially the colleagues at Bleuel, who sponsored the *i*-CON solder station, wishes him total success. His chances are obviously very good.

Power engineering

Printer provides power

By Stefan Wurster

BLOCK Transformatoren-Elektronik GmbH & Co. KG provides a complete range of innovative interface products to the power grid. BLOCK is considered one of the top European companies in this field of technology. From research and development through production to certification – all BLOCK products are manufactured "in-house". Whether a single item or a large series, BLOCK can produce what is needed at a reasonable price and at short notice. More than half of the products are custom-made solutions.

Since the company was founded in 1939, BLOCK has developed into an electrical engineering company operating around the world, and has become a leading manufacturer of transformers, power supplies and electric filters with an annual revenue of over 60 million Euros. More than 600 employees in Germany, Belgium, France, Denmark, Great Britain and the USA develop, produce and sell standardized products as well as special solutions for the international market. As a DIN EN ISO 9001:2000 certified company, BLOCK is prepared for the future. Week after week, the company releases high performance and energy-efficient products to its customers through its large development centre and accredited EMC test laboratory.

In addition to qualified transformers, Block also develops and manufactures synchronized switching power supply units and general electronic devices in ever increasing numbers. The increased use of on-board microcontrollers satisfies the requirements for these power electronics. This forward-looking technology can only be realized through the use of high-precision manufacturing equipment.

For the application of solder pastes onto the electronic assemblies, BLOCK has decided to use the ERSA printer VERSAPRINT S1.

The analysis of competing systems on the market steered BLOCK – from the point of view of laboratory technology, quality management, production engineering as well as operative production – to an unanimous vote for the ERSA VERSAPRINT S1.

The most important reasons for this were as follows:

- Its very solid, robust engineering that promises a high level of long-term stability
- The elaborate drive and tensioning design that provides precisely-defined initial positions at any step in production
- Short set-up times
- Total 2D inspection using the integrated camera system
- Good accessibility to all operational elements such as the monitor, keyboard, placement templates, template cleaning system, etc.
- Well-developed and user-friendly software
- And the expertise proven by many years of cooperation with ERSA, the resulting trust and the excellent support

The integration of the ERSA template printer VERSAPRINT S1 into the SMD line occurred smoothly. The personnel were able to achieve excellent results very quickly with this system.

The employees at BLOCK are looking forward to continue the open and trusting collaboration.

ERSA HOTFLOW

With power reserves where others conk out!

By Eberhard Schmauch & Stefan Wurster

from left to right: Eberhard Schmauch, Managing Director LTi Electronics GmbH, and Howard Little, Process Engineer

LTi Electronics is a manufacturer of electronic equipment and assemblies for the automation industry, for medical engineering, for the climate control and ventilation industry, and for regenerative power engineering.

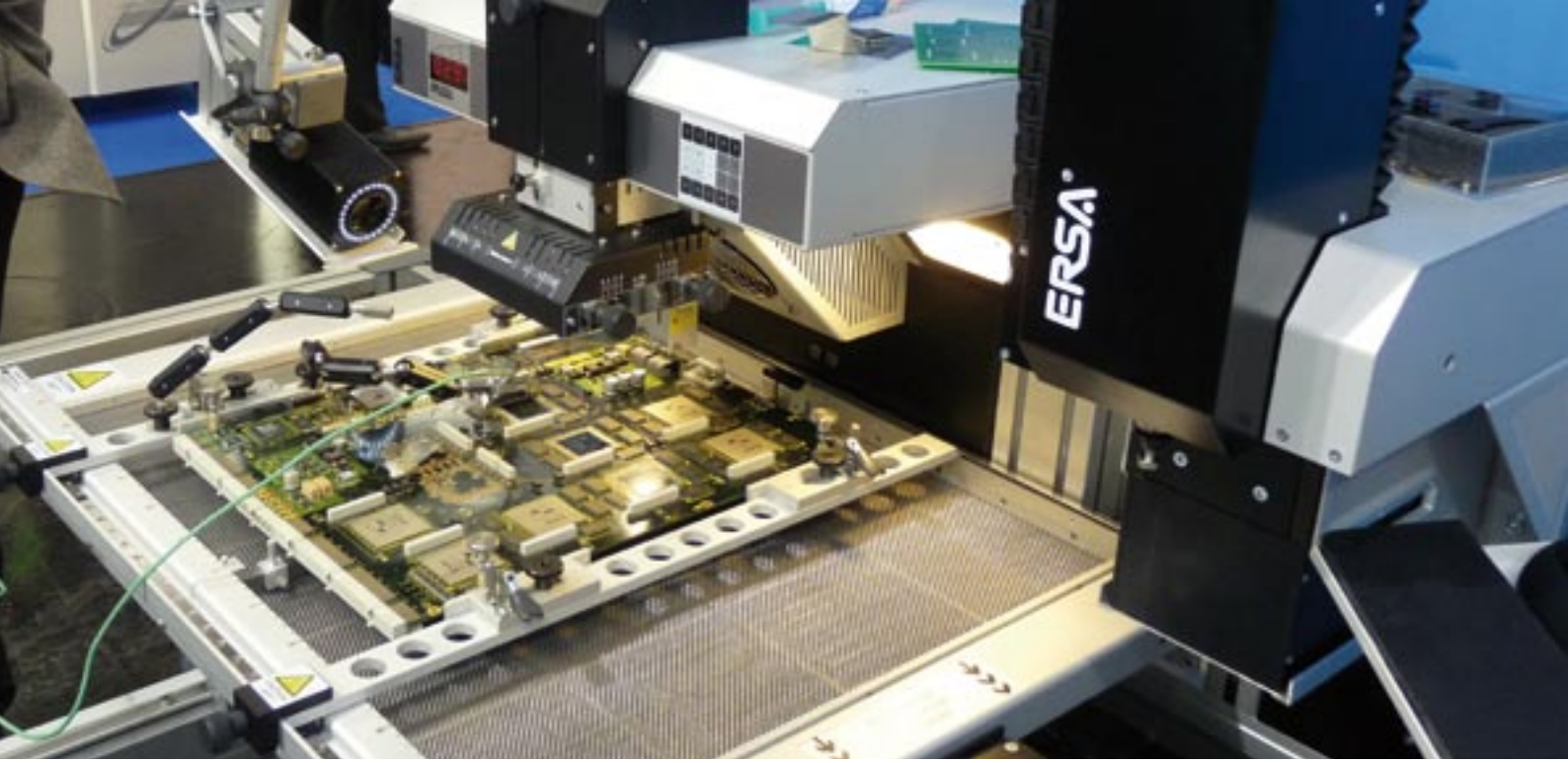
For the production of the corresponding electronic assemblies this means a high product mix with most different requirements concerning the soldering equipment. The mix ranges from the most simple circuits and control boards right through to high performance assemblies. These latter assemblies are equipped with fine pitch components positioned on multilayer PCB's with heavy copper inner layers and require the highest heating capacity with exact dosing during the soldering process. Since usually the number of components on these assemblies is not very high, also the pick-and-place process requires a high clock rate in the production line.

Therefore, LTi required an additional SMD line that can process the high performance assemblies with a high clock rate. Siemens Pick-and-Place units were selected for assembling the boards. To assist in the process of selecting the vendor of choice for the reflow system, four possible suppliers were visited. Using complex test assemblies, the equipment was evaluated on its ability to produce, as gently as possible, quality solder joints.

One manufacture was not able to solder the assemblies; two others had to push their machines to the limit in order to achieve acceptable soldering results.

The only machine that was able to provide good soldering results after only the second run and at only 60 per cent performance capacity was the ERSA HOTFLOW 3/20. Furthermore, the HOTFLOW operated with the lowest soldering temperature and was therefore extremely gentle with the components.

After a year in dual and triple shift operation, the evaluation criteria have proven themselves under strenuous real-life conditions. The soldering quality is exceptional, and the machine can be adjusted to an extremely exact level, so that each individual assembly is soldered at its optimum profile.



ERSA IR/PL 650 XL

The flexible power house for large circuit boards

By Angelika Kattinger

The IR/PL 650 XL Rework System is ERSA's flagship product when it comes to repair soldering on oversized circuit boards. The principal of "The larger the circuit board, the more difficult it is to process it" still applies to rework users. Since large circuit boards are very expensive, reworking them poses a significant economic risk. If a rework procedure fails, the circuit board may be destroyed thereby resulting in a high loss in material costs and subsequent orders.

With over 5,000 IR Rework Systems sold, ERSA is considered one of the "big boys" in the industry. One of the largest EMC providers supported ERSA in the development of a rework system for large circuit boards, which can be used to reliably take care of even the most difficult tasks. ERSA has just introduced the IR/PL 650 XL at both the "APEX" in Las Vegas and the "SMT" in Nuremberg. It can be used to quickly and reliably process circuit board sizes of up to approx. 500 x 625 mm. Since it uses 8,000 W of medium wave IR radiation, it has one of the best performing lower heating elements currently on the market. The overall performance of the system is 9,200 W! Such especially high performance upper and lower heating elements are required for large circuit boards, especially for those thicker than 3 mm. This prevents the circuit boards from warping or bending during the reworking process.

Five heating zones on the underside and four on the top make it possible to adjust the heat energy for each zone individually in order to create optimal re-heating conditions. In addition to size and performance, the position of the circuit board on the lower heating element is an important factor. The PCB IR/PL 650 XL table has been completely redeveloped so that the entire board is exposed to the heating surface. It does not matter where the component to be repaired is placed on the board. The entire circuit board is pre-warmed uniformly.

The design of the PCB table can be optimally adjusted to any circuit board geometry. The upper and lower support rails can simply be slid in and quickly adapted to the rework task to be done.

The PCB table has a 45° flip-top mechanism. It can be opened while holding a tensioned circuit board, thereby allowing convenient access to the bottom side of the circuit board. This makes it easy for the operator to do tasks such as attaching a temperature gauge on the underside, positioning support pins or applying protective film to heat-sensitive components.

The circuit board cooling system for the IR 650 XL has also been completely redesigned, since higher cooling performance is required for large circuit boards.

Summary: The investment into rework equipment, developed for large-format circuit boards and the most difficult rework applications, quickly pays for itself by reducing rework scrap. The ERSA IR/PL 650 XL is the flexible power house for processing large circuit boards.

ERSA Multi-TC

puts plastics back into shape

By Hubert Reiners

A new welding process provides new options for the professional repair of thermoplastic plastics. Especially parts made of PE and PP that cannot or only with great difficulty be processed with adhesives can be repaired and processed.

In many cases, repairs can be carried out without having to dismantle the part. This saves money and makes it possible to offer the customer an attractive price for repair. No foreign material is used in welding plastic. Of course, only parts from melting (thermoplastic) plastics can be welded. This novel and cost-saving principle opens a wide range of application and new business possibilities.

It is easy to learn and does not require special training. In contrast to traditional hot air techniques, heat transmission occurs through direct surface contact. Welding can be done in the direct proximity of heat-sensitive parts (e.g., cables, textiles, etc.).

The advantage of this lies in applying a specific dose of heat directly at the spot where it is needed. No uncontrolled heat transfer occurs on large surfaces, because otherwise a slight distortion in the parts being welded could occur. Another benefit is that local distortions and even dents and holes occurring on the surfaces are prevented. The surfaces in the environment do not need to be freed of the effects of hot air. Furthermore, the colour of the surfaces in the environment is not changed. Layers of oxide on the welding wire and other parts normally do not need to be removed before work can begin.

The high heating speed of the welding iron allows work to proceed quickly. When a thermocouple is used to exactly control the temperature near the active welding line on the tip, there is no danger of the material overheating.

Even foam plastic can be welded due to the low temperature range available. It is has become much easier to weld problematic plastics with water-absorbing characteristics (e.g., ABS, PC, PA).

It is the ideal method for all repairs in which tears as well as small to large holes need to be removed.

Yes we can! – Open House at KURTZ North America

By Sebastian Schmidt

At the end of March KURTZ North America opened its doors to 160 members of the moulder's associations AFPR and EPSMA, to business partners and the local leadership who all raved about the manufacturing site.

The employees proudly showed the positive changes the 5S method's implementation brought to the company.

In addition KURTZ North America presented the first 1418A shape moulding machine for the US market, a CK Teknik recycling unit and different machines in various stages of the successful rebuild programme.

Customers were also interested in the new separable B-Jet filler programme with its user-friendly design.

Many attendees had the opportunity to learn more about the diversity of the Kurtz Group as they walked through the demo room seeing different equipment from our extensive ERSA Product Line.

An enjoyable evening with excellent German food made the event perfect.

One of the highlights of the evening was the keynote speaker, a well known US Economist, who offered his interesting view on today's economy.

In these challenging times this Open House was a great opportunity for the Kurtz Group to demonstrate its strength, technology advantages and partnership to all attendees.

Geo Foam – EPS
The hidden champion

By Walter Kurtz

Inspired by an article which appeared in the „Engineering and Engines“ section of the “Frankfurter Allgemeine Zeitung” (FAZ) on November 18, 2008, about the construction of the Golden Ears Bridge in Vancouver, the idea of also concerning ourselves with the term Geo Foam in “Kurtz ...NEWS” was born.

Styropor®, a trade name of BASF, was invented in 1949 and has been victorious without any interruptions ever since. It has proven its worth as a cushioning material in packaging and also as an insulating material against heat and cold. Its low weight and at the same time high stability also represent additional benefits.

All these positive properties of EPS (expandable polystyrene), which is the technical term for Styropor®, were combined in 1972 when it was used in road construction for the first time in Norway under the management of the Norwegian “Road Research Laboratory” for the Flom Bridge near Oslo. The participants at an EPS Conference in Japan in 1996 were given an intact sample of this material used in 1972. The approach ramp to the bridge is still in use and not only in Japan, but also in the Netherlands, South France, Canada, the USA and Germany, thousands upon thousands of cubic metres of EPS blocks are used in road construction every year. Wherever the soil is bad and thus only conditionally load-bearing, EPS blocks are laid, covered with a foil and a subsequent thin layer of earth. The road surface is then layered on top of it.

Precisely this construction was also selected in Vancouver for the Golden Ears Bridge in the approaches termed “ramps”. Quote from the FAZ:

“The soil in the area of the embankments is as soft as toothpaste. In the course of millennia, the water masses of the Fraser River have deposited “flood” clays on the layers of sands and slurry reaching about 100 metres down into the depths, permeated by various organic elements (peat). It is hardly possible to place heavy loads on this mud, as a “conventional” ramp positioned as a trial has shown. After about one year, the test construction had penetrated into the underground by almost one metre. This made it clear that compression damage could only be avoided with the EPS lightweight construction method.”

With about 70,000 cubic metres of Styropor® integrated, this is one of the largest applications of Geo Foam world-wide. But if Vancouver is too far away from you, remember during the next transmission of a Formula 1 race from the Chinese Grand Prix that the race track in Shanghai also only became possible thanks to Styropor® and Geo Foam.

The most modern EPS processing facility in Northern Europe

By Harald Seidenfuß

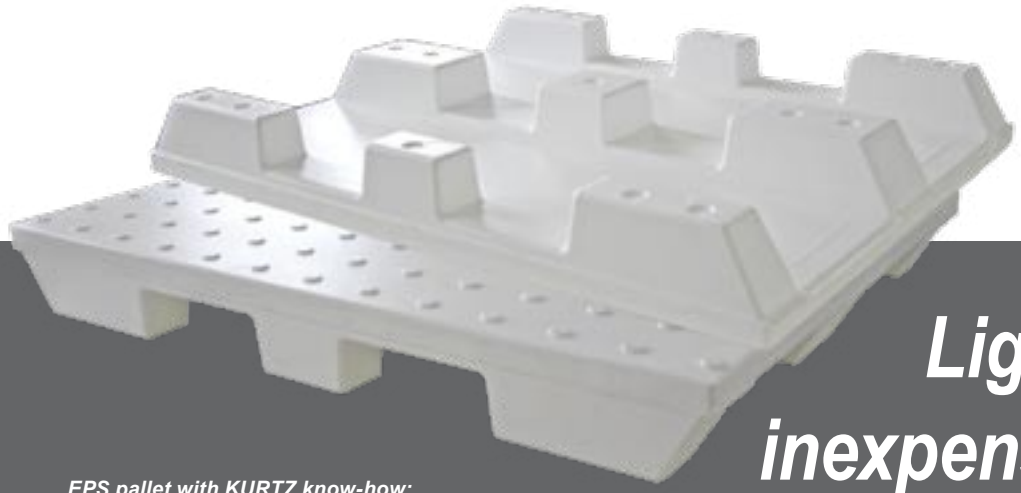
As a result of a fire, the complete shape moulding production at SCA Packaging in Urshult, Sweden, was destroyed. It was then a question of building a completely new factory as quickly as possible, in order to restore the ability to deliver by 100 per cent. With KURTZ, they found the correct partner.

A very intensive cooperation in the selection of machines, production of layout, installation of piping, vacuum and silo system as well as assembly and commissioning of the machines was necessary.

The outcome: The most modern EPS processing facility in Northern Europe was put into operation in good time!

It has been provided with two discontinuously operating pre-expanders and twelve shape moulding machines of the latest generations Top-Line and MP-Line. In the selection of these machines, very great importance was placed on quick mould change times and low energy consumption figures with simultaneously maximum productivity and machine availability. The shape moulding machines supplied have all been provided with automatic removing devices to achieve a high degree of automation.

An intensive training of the employees on site ensured that the benefits of the modern technology were made use of quickly. SCA Packaging is now proud of being able to produce with quicker cycle times and lower energy consumption and has thus been equipped for the future in the best way possible!



Lightweight, inexpensive & flexible:

KURTZ EPS pallet with allround film coating

EPS pallet with KURTZ know-how:
Foaming and allround film coating in only one process.
Only 3.5 kg in weight for a load capacity of 1,000 kg.

By Peter Lehmann

Today EPS pallets with film coating are a sensible alternative to all conventional pallets made of timber, pressboard or by injection moulding. They combine a number of positive properties in only one product and in particular air freight can no longer be imagined without them.

Alongside the great savings in weight of up to 15 kg per pallet, simple cleaning with water, easy handling without the risk of injuries and the additional cushioning and insulation properties, the resistance to abrasion necessary for air transport is also guaranteed.

Specifically for the production of these pallets, KURTZ has developed a unique manufacturing process permitting production of the complete pallet in only one machine. There are multitudes of benefits!

In all other processes, the film is laminated onto the EPS core, which has already been produced and is cold, in a separate lamination process by means of infrared heating. This film coating is done in two steps, with complicated trimming of the protruding film being necessary after each step.

The finished EPS pallet is then „vacuum-packed“, but not “glued”. The rigidity for the dynamic strain is purely achieved via the thickness of the PS films.

However, KURTZ pallets are produced in sandwich construction, comprising an EPS core and PS film coating on all sides. After the EPS core has been foamed and when the mould is still hot, the core is directly covered with film and welded with its entire surface by means of steam.

The resulting firm connection between EPS core and film allows the pallet to withstand great loads. A trimming of protruding films is normally not necessary. Compared with other EPS pallets, up to 2.5 kg of film per pallet can be saved with the same dynamic load-bearing capacity!

In addition, the KURTZ EPS pallet is extremely interesting as it distinguishes itself in direct comparison with all other competitive products due to the currently lowest manufacturing costs.

For the 1,200 x 1,000 mm pallet sizes, ISO certifications for 500 kg and 1,000 kg dynamic load were obtained.

As a result of varied experience, KURTZ is in a position to develop tailor-made pallets according to most different customer requirements. Supported by the partner “DMT produktentwicklung AG”, the pallet is constructed, its use simulated and, if need be, optimised - even before it goes into production. If required, certification of the finished pallets can take place.

Contact KURTZ with your project and you will be given the pallet made to measure for your applications!

PRODUCT LAUNCH
Wiebelbach - 15./16. October

Not only "loads of beer"

on the PLAST'09 in Milan

EPS pallet with 72 beer crates, exhibited at PLAST 2009 in Milan

By Uwe Ackermann

End of March saw KURTZ's participation in the important plastics trade fair "PLAST'09" in Milan, Italy.

In spite of the present worldwide crisis and the caution of the investors the approx. 1,500 exhibitors were able to welcome around 55,000 visitors. 65 per cent of the visitors were Italians and 35 per cent came from 114 further countries and here mainly from Europe, Africa, South America as well as the Near and Middle East.

Again the KURTZ booth offered a wide range of exhibits, information and innovations. Apart from the two shape moulding machines K 813 HP MP and 1418A also the data monitoring system for supply media D-Log, several types of the separable filler generation B-Jet and information centres for ICFs (Insulating Concrete Forms made of EPS) and the KURTZ EPS pallet presented the visitors with plenty of information. For the very first time a shape moulding machine with an electro-hydraulic "Hybrid Drive" was presented to the global public. The visitors were especially interested in both the extraordinarily fast drive and positioning movements and the very low noise emission.

This drive concept allows for a 15 to 20 per cent increase in productivity and at the same time helps to reduce the electric drive energy by 50 per cent.

The focus of attention was the 880 kg load of beer crates for an EPS pallet. The load was visually proved with a hand lift truck including a weighing device. Another advantage of the pallet is its suitability for shelf storage.

With application examples and videos the visiting public was informed in details about the production of ICFs (Insulating Concrete Forms) with KURTZ shape moulding machines and the implementation of this construction system.

The new A-Line is pressing on!

By Peter Lehmann

With the development of the new A-Line series, a maximum-flexibility machine with the greatest energy efficiency is being introduced to the EPS processing market.

With the increase in energy costs around the globe, cost-efficient production is becoming ever more important for the EPS processor. The different processes involved in the production of EPS shape mouldings such as the ECO LTH, the vacuum and the monoblock technology, all developed by KURTZ, provide the basis.

The new A-Line series offers the possibility of using these processes depending on the batch size of the order. As a result, manufacturing costs and cycle times can be decisively influenced by the appropriate choice of process.

With this completely newly developed machine concept, the steam chambers are no longer a fixed part of the mould closing unit. Instead they are individually sized according to the dimensions of the shape mouldings and can be changed quickly and simply as a complete unit. As a result, not only different steam chamber sizes but also the various mould systems of other machine manufacturers can be adapted without difficulty.

With the attachment of the steam chambers onto the press frames on the fixed and moving side, the energy supply is automatically connected.

The introduction and presentation of the new A-Line series is planned for late autumn of this year.

Never change a running system!?

KURTZ Touch-Screen Panel

All relevant process data can be seen & modified

By Christoph Hartmann

Even today, many companies adhere to this motto, which is probably as old as the industry itself. By working according to this principle, many companies are losing the ability to optimise their processes to become more profitable. Sooner or later, companies who do not focus on improving their processes or becoming more efficient will lose business to their competitors who are implementing such improvement measures.

Mahle König in Rankweil, Austria, produces cylinders and cylinder heads in the low pressure casting process for well-known producers of motorcycles and snowmobiles. They also cast pistons in the gravity pouring process.

Recently, Mahle König decided to take measures to upgrade their technology by retrofitting their existing five low pressure casting machines with KURTZ low pressure control systems and KURTZ machine control systems. Furthermore, KURTZ installed new cooling circuits controlled via time and/or temperature. The retrofit process was streamlined through efforts made by both Mahle König and KURTZ to agree upon a detailed list of tasks based on a defined timeline. Through such cooperation, it was possible to keep the production downtime to a minimum during the retrofitting process.

In order to test the effectiveness of the new control system, Mahle König selected a casting, which had a high scrap rate with the previous control system, to compare. After the casting passed through post-casting processes such as heat treatment, cleaning and machining, it was determined that the scrape rate was considerably reduced.

The most relevant process steps and data are available to view and modify via the KURTZ touch screen control panel. Mahle König was able to utilise this information to improve on their previous casting process steps and to even reduce cycle times.

By improving upon the two most important factors in a foundry, scrap rate and cycle time, this retrofit project has proven to be a huge success.

As good as new!

Modernisation as a success factor for machines

Even very old machines can be turned into highly-productive shape moulding machines with a rebuild measure. With a healthy basic substance of the machine frame the work involved is justifiable.

This shows the thoroughly solid construction of KURTZ shape moulding machine, as after many years of production they can still be of excellent service.

By Lutz Böse

The replacement of technically-outdated components and the enhancement with modern further developments update machines to state of the art. Specifically adjusted details can often set an existing machine on the path to new levels of success. Hardware or software updates can bridge the period to the next major investment in an expedient and economical way.

Among other benefits, the modernisation of a machine leads to an increase in productivity and improved energy efficiency. An additional advantage for the machine operator is to be found in significantly reduced costs and faster implementation compared to a new purchase.

Within the framework of their after-sales services, KURTZ and ERSA offer the modernisation of machines as a retrofit or rebuild measure. Many retrofit measures can be carried out in the context of an extended service directly on site.

Measures:

- Increase of product performance
- Adaptation to current health and safety norms and environmental standards
- Replacement of outdated assembly groups
- Upgrades of automation engineering
- Adaptation for inclusion of the machine in altered production lines.
- Efficiency increase through savings in energy and media.

Benefits of retrofit measures:

- Little or no need for staff training
- No new, and consequently lengthy, approval process
- Short implementation time
- Short down times
- Reliability of spare part availability
- Greater operating comfort
- Increased availability

Due to the complexity of the task, rebuilds generally require the dismantling of the machine. At present, these “general overhauls” are being carried out to an increasing extent both in Germany and in the USA at KURTZ and ERSA North America.

The aims of a rebuild measure can be compared with those of a retrofit measure, but with the added benefit that the machine is returned to a nearly-new condition and upon completion of the work is delivered with a corresponding quality certificate and guarantee.

The time required and the costs of a rebuild naturally exceed those of a retrofit measure. Therefore our service personnel check the matrix of the machine exactly and consult with our customers on the expense warranted by the planned use of the machine.

It is our ambition to recommend to the customer the solution tailored specifically to his requirements.

Kurtz ...NEWS

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