impulse
ENSINGER
ASK. THINK. SUCCEED.
www.ensinger-online.com
Issue 3/2003

10 Years ENSINGER s.r.o. in the Czech Republic

Festive ceremony with many guests

Exactly ten years ago, in May 1993, the managing director at that time, Wilfried Ensinger, established a company branch in the Czech Republic.
A short time after the fall of the Iron Curtain, ENSINGER used the potential of eastern Europe to make technical plastics known in a country that had belonged to the communist states for decades.
"Esro", as it is lovingly called by German speaking colleagues, is the nickname for the abbreviation of "ENSINGER s.r.o.".

Klaus Ensinger, Wilfried Ensinger, Martha Ensinger, Richard Sulko and mayor of Dobrany, Jaroslav Sykora.

On Friday, May 23rd 2003, the tenth anniversary was celebrated together with all employees and their families. Senior managing director, Wilfried Ensinger and his wife Martha as well as managing director Klaus Ensinger did not let anything stop them from travelling to the Czech Republic to take part in the celebrations. Guests from Cham were also welcomed.
The festival programme was varied: After the official welcoming and the introduction of employees there was a guided tour through the plant. Following the celebration, the party went on a sightseeing tour of the city with the mayor of Dobrany, Jaroslaw Sykora, and finally they attended a concert in the Saint Veit's Church and a painting exhibition by the Czech artist Ota Janecek.
With so many cultural impressions, the climax of this day, rich with experiences, was a reception in the "Blue Star" where Richard Sulko, managing director of ENSINGER s.r.o., summed up the last ten successful years. He also mentioned the popular public vote concerning the Czech Republic joining into the European community as a very important political issue. "It is really interesting, that, exactly one decade after the foundation of our company, we will return to the European confederation," says the Esro manager.

On behalf of the staff, Sulko took the opportunity to thank married couple Václav Hoblik and Zdenka Hoblikova Hobliková – since the early success of the company at the outset was certainly the result of their hard work. Sulko also mentioned other employees and their support since joining the company in 1994: Milos Strunc and Josef Sneberk. In 1995 the central core was completed, since Jaromir Habart, Jiri Kestner, Martin Hruda and Radek Soukup joined ENSINGER. Today, ENSINGER Czech has a proud number of 38 employees.
In his speech, global ENSINGER managing director, Klaus Ensinger, spoke about the historical connections between the two nations, Germany and the Czech Republic, and about the return to normality with a good neighbourly relationship.
Finally, the warm and cold buffet was opened for the eighty guests and the informal part of the evening began. Together with a variety of delicacies, a real Bohemian anniversary cake was the culinary highlight of the evening. With Bohemian and international accordion music, and with dance, the celebration came to an end too soon.
It was a very nice day and the Esro team is already looking forward to the twentieth anniversary.

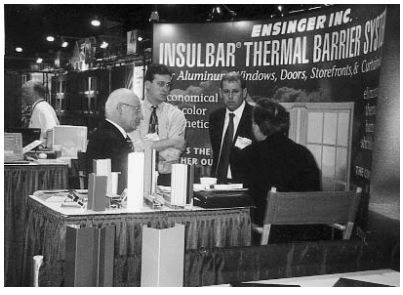
Guided tour through the company: The Esro team presents the development of the company over the last 10 years on the spot.

In this issue:

insulbar® and Thermix®

At trade fairs in the USA and in Italy

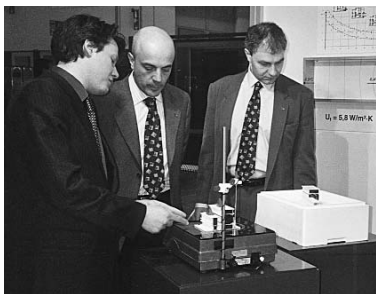
GlassBuild in Atlanta
On March 12, the green light was given to the 1st "Glassbuild" 2003 in Atlanta, Georgia, USA. For the first time, this new trade fair offered the opportunity for ENSINGER to present and introduce their all-embracing product range for glass to the North American glass, window and door industry.
Over three days, more than 400 companies displayed their goods on more than 1,500 stands to make this event the biggest in the history of the National Glass Association NGA.



The ENSINGER Inc. insulbar® stand

ENSINGER Inc. appeared at this mass meeting with a typical American "showcase", supported by the crew from Nufringen and Ravensburg. The team advised interested visitors about the ENSINGER products, insulbar® and Thermix®. The brand name "insulbar®" is very well known in the USA and discussions with customers were both positive and promising.
So far, ENSINGER Inc. has been operating in the Northern American insulbar® market completely independently. At the trade fair it was also decided to bring together world wide ENSINGER profiles and the Building Products Division to enhance their techniques and effectiveness in the market. This should enable ENSINGER to achieve greater efficiency and success, and improve the information flow.

SaieDue 2003 in Bologna
"New living trends" – for five days, this topic fired the audience in Bologna. More than 117,000 visitors attended the international trade fair for building systems and building elements – and for the first time ENSINGER also joined the group of exhibitors.
Employees of the Building Products Division from Nufringen and Ravensburg together with colleagues from ENSINGER Italy presented the insulbar® and Thermix® product lines on the newly designed ENSINGER stand.
The team decoratively displayed stock from the Product Unit around the topic "Thermal insulation in frames and glass" in gleaming showcases. After all, they had to highlight themselves positively among more than 1,500 exhibitors. ENSINGER received praise for the light and open stand from customers and visitors alike. A very positive reception was given to the vivid representation of insulbar® development with exhibits, diagrams and experiments. Many people stayed to watch for some time. Other highlights were the computer stations with an insulbar® version of the demo programme WinUw by Sommer Informatik. This programme illustrates the Uw-Value-Calculation for aluminium systems with different versions of insulbar® profiles and in comparison to versions with and without Thermix®. Within the context of intensive discussions with customers, the Building Products Division was able to establish very promising contacts. Visitors as well as stand staff will have pleasant memories of a successful presentation and outstanding Italian hospitality.



The chocolate experiment: Chocolate, separated by insulbar® profiles from a +35 °C hotplate, melts if the profiles have a low size. A larger size (triple tubula insulbar® with very thin walls) prevents from melting, since that way a better thermal insulation can be achieved.

impulse ENSINGER
ASK. THINK. SUCCEED.

Editorial

Engineering plastics: Short history with high future potential

Dear reader,

200 years ago, on May 12th, 1803, Justus Liebig was born in Darmstadt. The young boy's interest in chemical topics was awakened in his father's workshop and, at the age of 17, he began his studies in chemistry. At 19 years of age, he completed his doctoral thesis on „the relationship between mineral and plant chemistry".
On the recommendation of Alexander von Humboldt, Justus Liebig was appointed professor at Gießen in 1824 at the age of 21.
One of his many and outstanding efforts was the development of a simple procedure to determine carbon and hydrogen in organic compounds. So, Liebig became the founder of organic chemistry.

2003 is the year of chemistry. On page 5 in this issue of „impulse", you will find an article about this. Compared to the 200-year existence of organic chemistry, plastic sciences are still in their infancy. Less than 80 years have passed since Hermann Staudinger published his idea that plastics consist of large molecules which themselves are composed from numerous small molecules. His theory met with a lack of understanding. His peers were sceptical, like zoologists would be if they were told somewhere in Africa an elephant was found who was 1500 feet long and 300 feet high.
Staudinger's research results were acknowledged only after decades. Our products, technical plastics, found commercial acceptance after the Second World War.
In 1958, the commercial production of polyamides started. After its most well-known application in nylon stockings, PA 6 became the most important plastic for stressed machine parts. The industrial production of POM followed. POM has now exceeded polyamide by far in some applications. Modern high performance plastics are younger than most: PPS was introduced in the early 70s and PEEK, for many of our customers the most important material, achieved considerable success only in the 80s.
Nowadays, technical plastics are used in practically all areas. Mechanical, physical and chemical properties make their usage advantageous – not only to save costs. Due to the enormous variety it is not that easy to track down the highest potentials. In discussion with our customers we were able to follow diverse developments with commercial success – against the general trend.
This pioneer characteristic is what we demand from our own company and what we want to support with our customers. Even in economically difficult times we are convinced that technical plastics have a high future potential and can grow faster than the economy for a long time. In this case, growth means the transfer of unexploited potentials. That's what we believe in and what we work for. Often, it is a long time before we can notice our efforts bearing fruit. Without his pioneering spirit, no-one would be interested in Justus Liebig today – and organic chemistry would not celebrate its 200th anniversary.

Yours

Roland Reber

P.S.: The following example of the variety of applications for technical plastics may make you smile: ENSINGER Brazil supports a customer with rods made from a special material. The customer always wants the goods to be delivered in November. Not bad, our branch manager marvelled, when the customer was discovered to be a Samba School – the school's President thanked him in front of 1,500 "sambistas" and explained, that ENSINGER provides the only drum sticks that really sounds the Brazilian Carnival sound and harmony.

Intra-oral camera: Modern techniques for easy use

Medical application of anti-microbial plastic

Nowadays, dentists cannot do without an intraoral camera in their practice since it provides essential information for patients. Beside being user-friendly and having various functions, dentists particularly emphasise the clarity of the pictures. These convince patients at a glance, making treatment more transparent and in turn improving the dialogue between doctor and patient.
The dental camera (see picture) provides overview pictures, intraoral and macro pictures. The camera head of this medical instrument is equipped with high-quality, objective and light-emitting diodes that have a long life time. An integrated LED-light brings about an even brighter light.
For the 25 mm long and 15 mm wide LED head, the antibacterial and medically approved ENSINGER-plastic TECAPEEK MT AM blue (see infobox) is used.
TECAPEEK is basically hydrolysis resistant. This specially modified plastic also corresponds to biocompatibility demands and due to its anti-microbial properties it is generally suitable for medical technology. According to the manufacturer, the small size of the camera head facilitates access even to areas in the mouth that are normally difficult to reach.
The plastic part was produced by the ENSINGER Machining Unit in Cham. The smooth surface is free of edges and hollows. Thus, the instrument can easily be disinfected.

The head of the camera is produced from TECAPEEK MT AM blue.

AgION™ is the anti-microbial class of materials by ENSINGER that have the effect of preventing the growth and migration of bacteria, yeasts, moulds and fungi, thus contributing to protection from infections and food poisoning. The core of the ENSINGER anti-microbial plastics is the AgION™ antimicrobial agent. This compound is based on a patented dosage system that emits silver ions in a controlled fashion so that both high and long-term effectiveness are assured.

The compound can be used under almost any conceivable manufacturing, processing and application conditions. It can thus be compounded into any plastic in addition to the usual additives such as fibre reinforcement, pigments or stabilisers, without the risk of thermal or toxic damage.

The cleaning, disinfectant and sterilisation methods that are typical for the sector can still be used without causing any problems. Even the usual manufacturing and processing methods such as extrusion, die-casting and milling do not impair the effectiveness of the anti-microbial plastics.

The compound has passed the ISO 10993-1 biocompatibility tests, an important prerequisite for the certification of medical implants.

All ENSINGER plastics that are suitable for medical and food technology can have the anti-microbial compound added to them.

LuK clutch release system with components made from ENSINGER plastics

Lightweight construction with

In cars and commercial vehicles, the connection between pedal and clutch, the clutch release system, relies almost exclusively on hydraulics. In Europe, since 1995, these „hydraulic release systems" have been attracting a steadily increasing share of the market. At present, their further development is concentrated on cost reduction, for example by the use of plastic materials instead of metal.
Furthermore, the transition to plastic allows technical and economic integration of additional functions, as for example vibration damping.
For the clutch manufacturer "LuK" in Bühl, at the foothills of the Black Forest, the ENSINGER Injection Moulding division produces plastic components for hydraulic release systems. Among other things, the clutch master cylinder and its housing are made from ENSINGER engineering plastics to replacement metals.
The housing of the first and subsequent hydraulic clutch master cylinders that transform the pedal force into hydraulic pressure were made from metal. Further development was sometimes costly and expensive.
With consistent further advancement, and in close co-operation with ENSINGER, LuK managed to introduce master cylinders made from plastic and thus to exploit the potentials of this material: The number of individual parts were reduced to about half the original number. The decreasing number of parts also reduces the error-potential.
Reliable plastic liner sheets are better produced from suitable material combinations and glass-fibre reinforced thermoplastics replaced the metal piston rod.
The ENSINGER engineering plastic, TECAMID GF 35, was used in this application. Its chemical resistance to brake fluid and other substances used in the engine is outstanding. Furthermore, the material has a high density and a reliable heat and wear resistance.
In this way, the producer was able to do without costly metals and furthermore, with the use of plastic, the light-weight construction has improved efficiency.
ENSINGER produces other components for hydraulic clutch release systems, for example piston rods and vent bolts from TECAMID 66 GF 35 or piston cramp from TECATRON GF 40.
ENSINGER also participates in other new developments of the LuK company. System parts are produced in Brazil where they can provide the best delivery to LuK locations in South America.

Master cylinder with plastic components.

impulse ENSINGER
ASK. THINK. SUCCEED.

Anniversaries in Cham: Five times ten years experience in plastics

In April, five people celebrated their 10th anniversary at ENSINGER in Cham. The employees had decided on a professional future in the field of technical plastics in April 1993. The Company is especially pleased with this kind of loyalty, which is something of a rarity these days. Company management congratulated the five employees with an informal get-together at which they reviewed the past.

Photo: Andreas Alsfasser congratulates Alfred Lohnert, Peter Sponfeldner, Angelika Stumpf, Christian Breu and Stephan Sack. Karl-Heinz Daiminger, Wilhelm Lugert and Stefan Griesbeck endorse the words of thanks and look forward to further co-operation with the ENSINGER stalwarts!

Successful training completion in Nufringen

Employment guaranteed

Ready for working life: Once again, the ENSINGER trainees have completed their apprenticeships with above average results. In their examinations, Dirk Strauss (2. f. r.), who was trained to be a process mechanic and Marcel Rau (2. f. l.), a tool mechanic, both received grade A.
Emanuel Christian (r.), a tool mechanic, also completed his training with a good result. We are glad that we can employ the two tool mechanics in the tooling unit in Nufringen. And we are also pleased that Dirk Strauss has found his area of responsibility as a process mechanic in the semi-finished products division in the field of tool maintenance and repair.

All our best wishes go to the three young employees and to a successful future at ENSINGER!

Career days in Cham region

Pupils inform themselves at ENSINGER

Once again in 2003, the ENSINGER branch in Bavaria actively took part in the career days event in the Cham region. Max Langlechner, manager of industrial training, presented the possibilities and perspectives of ENSINGER apprenticeships to almost 60 pupils. They also gained an insight into the apprentices' training workshop and production.
28 young persons who were particularly interested in the company, recently completed a practical scholarship, some as part of their education, some during their spare time. "This was and is always a good opportunity to see if the dream job is real or if the dream and reality have nothing in common," says Langlechner. "On the other hand, many of our employees actually made their first contact with ENSINGER during a practical scholarship."
ENSINGER not only participated in the career days with events inside the factory, the company also sent trainees out to visit a school. They gave reasons for their decision for jobs, about everyday working life and about job applications and, last but not least, they gave valuable tips to the pupils about what they have to take into account in their own search for a job.
Furthermore, this year, Max Langlechner who is the trainee manager and Markus Philippi, personnel clerk, also gave a presentation on working and applying for work at ENSINGER.
As in previous years, the Cham career days were a very successful event for the company – and also for their possible future employees.

Welcome

A hearty welcome from ENSINGER to the new employees who have joined our team since April 2003.

Nufringen

Traudel Schmidt	Further Processing Worker, Injection Moulded Products Division
Steffen Zipperer	Temporary Worker, Service Centre Quality Assurance
Onur Tat	Machine Setter, Injection Moulded Products Division
Miroslav Mahecic	Tool Mechanic, Tooling
Oliver Burkhardt	Sales Co-ordinator, Semi-Finished Products Division
Jochen Weyershäuser	Marketing Specialist, Building Products Division

Cham

Rosemarie Fischer	Cleaner

We wish you all a successful future at ENSINGER!

Factory visit

Students of plastic technology from Rosenheim visit ENSINGER

Recently, almost 50 polymer technology students from the University of Applied Sciences at Rosenheim made a trip to different companies in the region around Stuttgart, including ENSINGER in Nufringen. Four professors accompanied the group. Endeavouring to offer practical training, teaching staff at the University attach great value to the fact that students have the chance to see working procedures in practice before they enter the workplace, and that they learn about the different ways in which to use their knowledge.
The connection between ENSINGER and the University has existed for some time. It was established by ENSINGER employee Martin Bauer, who once had studied there himself and who is still in regular contact with teaching staff and students.
At first, Peter Bongardt from the Technical Marketing Department introduced the company, then, Uwe Lerner from the Building Products Division explained the use and production of thermal insulating profiles. Next, Frank Richter commented on raw materials and their compounds. During the factory tour, the students got an insight into different production areas. Finally, the former Rosenheim student, Martin Bauer, took the chance to show his working place in the Injection Moulding department to the group.

Uwe Lerner informs the students about building profiles.

"ENSINGER is always interested in close co-operation with teaching and research, since students of today will be the employees, customers and users of tomorrow," personnel clerk Arnt Stumpf sums up. "Thanks to the flexibility of indi vidual product units we can honestly say that the event was a real success."

More than 130 pupils visit the company

Fifth ENSINGER company fair for schools

On 8th April, ENSINGER held its fifth annual company fair for schools. The company introduced itself to interested school classes from the surrounding area. It gave over 130 pupils an opportunity to gather information about the many facetted training programmes at ENSINGER GmbH. For example, many of them were unaware that a plastics producer fabricates objects for everyday life, such as trackball bodies for PC mice or parts for car jacks.
To begin with, the ENSINGER GmbH training video was presented, giving the pupils a broad view of the various jobs for which training is offered. The trainers then presented the specific job in more detail. They were pleased to answer any questions that arose in detail and, finally, there was a guided tour of the company.
"It is very important that young people not only decide on the right apprenticeship but also that they find the right surroundings. With this kind of exhibition, we offer future trainees the possibility to examine for themselves, whether our company is suitable for them," says Arnt Stumpf, personnel clerk.
Future school leavers can apply for apprenticeships including; industrial clerk, process mechanic or tool mechanic. Depending on the training syllabus and the trainees' performance and results, the apprenticeship lasts from two to three and a half years.
In previous years, the fair has been very well received and it has become an established occasion in the ENSINGER calendar of events.

An ENSINGER trainee demonstrates the work of a tool mechanic.

impulse ENSINGER
ASK. THINK. SUCCEED.

Meetings of the workforces in Cham and Nufringen

Canteen committee established

The salad buffet that the canteen committee had initiated is already very successful.

In Cham and in Nufringen, at the end of May and beginning of June, this year's meetings of the workforce took place to inform employees about the past and the following financial year. As in previous years, the rooms were filled to capacity.

At both locations, the chairs of the works committee, Ilona Brodt and Franz Schönberger, reported on the work of the first united ENSINGER works committee during the last year. Basic training for the ten new members was mentioned as well as the establishment of a canteen committee whose first project was the introduction of a salad buffet – which is well received by the staff.

From the annual report, employees could gather that the new works committee is working well together and that initial difficulties were eliminated. They were now heading in one direction.

Managing directors Klaus Ensinger and Dr. Roland Reber reported that ENSINGER did not remain untouched by the economic situation of the last year. Their prospects for the future were nevertheless confident.

Security manager Rolf DeLenardis advised in Nufringen on the growing number of first aid persons – more than 70 people have such a function. According to Franz Schönberger, ENSINGER Cham can rely on 64 first aid persons.

In Nufringen, the new representatives for the trainees, Nicole Ebner and Christian Herrmann introduced themselves to the ENSINGER-staff and gave their annual reports. In Cham, trainee representative, Anja Trinkerl, took on this task.

In Nufringen, Wilfried Ensinger and his wife Martha were present. The company founder addressed the employees with some final and motivating words.

In Cham, the location manager Andreas Alsfasser spoke a few welcome words to his employees.

ENSINGER co-operates with small and medium-sized businesses

New programme for employees' qualifications

In years of strong economic growth, many companies put their emphasis almost exclusively on the search for suitable manpower and less on the qualifications of their employees. Since the economy is not experiencing an upturn at the moment, it is only necessary to take on new employees to replace natural wastage. Thus, "employee qualifications" become more important in order to provide flexibility for present and future tasks. But both – personnel development and personnel marketing – will remain necessary. Small and medium-size enterprises have to take on over proportional efforts.

With this in mind ENSINGER has, since April, been participating in "pemanet", "Personnel development and marketing in a network", which is a partnership of small and medium businesses in the region.

Technical universities and associations related to education are the organisers of the activities. The association gets financial support from the European Social Fund and from "Südwestmetall".

The companies that take part get financial reductions for seminars in fields that would not be profitable for them. The seminar contents cover topics ranging from "public speaking" and "presentation techniques" to "time and self management" together with other management topics.

ENSINGER is currently in a very good position. In times of upswing, employee qualifications were not neglected. With the creation of the "ENSINGER Academy", the company has already taken a big step forward. This is to be developed in partnership with similar companies and educational institutions, so that employees and groups at all levels get and maintain the qualifications that are necessary for existing tasks.

This year, ENSINGER has taken responsibility for compiling the academy programme for 2003/2004.

To remain a high quality employer in the job market is as important for ENSINGER as the qualification is to the employee. Nowadays, it is important to find high quality employees for the few positions that have to be filled during a year. For this, employees have to be familiar with the name "ENSINGER". Pemanet provides a very good solution with the support of ENSINGER and other companies by representing them at recruitment and school fairs.

You get more information about pemanet at www.pe-manet.de.

Donation for children who suffer from cancer and victims of crime

As in previous years, trainees from Cham have made a donation in favour of two social projects. The young people sold plastic cutting boards they had made on their own in the ENSINGER workshop. We have already reported a similar project by the Nufringen trainees.

The proceeds of 2,500 Euro were divided up for two projects: The self-help group for children who suffer from cancer in Cham got a sum of 1,500 Euro. The donation was given to Anna Schneider who looks after the group. She accompanies and advises parents with sick children, has talks with them and organises events.

The "Weiße Ring" whose task is to support victims of crime and to prevent criminal offences got a sum of 1,000 Euro. Mr. Winter received the donation. He spoke about the activities of the group that was initiated by TV presenter Eduard Zimmermann in 1976. The "Weiße Ring" helps crime victims and their families at times when they most urgently need it: Directly after the crime. He regards himself as spokesman for the damaged and publicly campaigns for the improvement of the legal and social situation for persons effected.

The cheques were recently presented at ENSINGER.

Mr. Winter gets the donation for the organization "Weißer Ring".

Pepper vs tomato or fish vs lamb

An ENSINGER employee does the cooking

He had given up hope but suddenly it appeared in the post box after all: The invitation for "cooking duel" on the private TV station "Vox". For three years, Sieghard Bäuerlein, ENSINGER employee and enthusiastic amateur chef, had waited for this letter. On April 1st, the show started: chosen from 40 competitors, he was ready to provide proof of his culinary skills on TV.

As an amateur actor in different theatre groups, he is already used to appearances in front of large audiences, but nevertheless he was a bit nervous. The lively Swabian had learned his cooking skills with his mother. As a member of a crowd of 14 brothers and sisters, he had many opportunities to watch the lady of the house cooking. Also in the "Cooking Duel" he did not have to cook alone. Here, two teams met, Team Pepper and Team Tomato. In each team there is an amateur cook and a professional cook. The amateur cook has to buy the ingredients before the recording and gives them during the show to his partner who has to invent a creation

Britta von Lojewski is enthusiastic about Bäuerlein's cooking skills.

out of the food. Both teams have 15 minutes to conjure up a menu, that convinces a jury of three of their skills – since finally there is something to win.

Presenter Britta von Lojewski gives the start signal and both teams begin. Team Tomato serves lamb with purée from white beans, Team Pepper serves Fish! Will the jury decide in favour of Pepper or Tomato, fish or lamb? Who will get the top prize? After five minutes, the jury has tasted both dishes and has a unanimous opinion: The lamb by Team Tomato wins over the fish by Team Pepper. For our cooking artist Bäuerlein, this means, that he can pack his bags for two persons and leave for the island, Juist.

Will he have his apron in his luggage?

For questions and suggestions please send an email to impulse@de.ensinger-online.com

impulse ENSINGER
ASK. THINK. SUCCEED.

The impulse-Interview

Questions to Dr. Edmund Zenker and Walter Wagner

The ENSINGER TECARIM and PA 6 / PA 12 cast units were recently amalgamated and re-structured in the Custom Cast Division.
Doris Wölfle has met the two division managers Walter Wagner and Dr. Edmund Zenker for an interview.

Mr. Zenker, Mr. Wagner, why was the decision made to put your two product units, TECARIM and PA 6/PA 12 cast, together?

From the technical point of view, in both fields liquid monomer basic components are cast into a form and subsequently react. In a reactive moulding procedure, they are processed into semi-finished and moulded parts. Similar processes and raw materials are used. In future, the main emphasis should be on applications for customer specific moulded parts – and therefore many years of experience of both ENSINGER fields can run together.

It has been evident for some time, that both fields are active and succeed in similar markets and customer segments. Hence, it makes sense to offer these customers the whole ENSINGER range of cast materials from one source - instead of individually and independently familiarising and positioning the products in the market. We want to make use of existing synergies from sales and technology and we want to offer the optimum material and production choice to our customers.

How does this change affect the ENSINGER structure? What does it mean for customers?

The whole sales and marketing activities for the Custom Cast Divison are now concentrated in Cham and the technical concerns are organized from Linz. In future, customers will have only one contact person in Cham for their questions, quotations and for order processing. This will make communication for customers easy. The whole know how of the product unit will be at the disposal of the customers and they won't have to change between independent suppliers in Cham and Linz.

Previously, we had to spend a great deal of time on the road – but with the newly arranged responsibilities we will be able to plan our journeys more effectively.

Which industrial branches do you supply?

In particular, parts with extreme wall thickness variations or heavy weight for applications that are used under extreme circumstances are the focus of our interest. In detail, these are for example support plate assemblies and rope pulleys in cast polyamide with bearings for mobile cranes. Other examples include sliding and guide elements for telescope booms, heavily loaded plastic parts for cable cars, ski lifts and snow ploughs; parts in machines for cleaning and filling bottles, in waste water treatment, in transport applications, in engineering and in equipment casing with high impact loads.

What aims have you set yourselves for this area?

Worldwide, ENSINGER is the only supplier of three reactive cast methods PA 6, PA 12 and Nyrim (TECARIM) in one company. Our aim is to establish in the market a technically sound range of cast parts with attractive prices.

Which previous cast projects are you especially proud of?

We are especially proud of a motor cover for a mobile fire service pump made from TECARIM – since the fire service accepts only the best and most reliable components.

The development of a two-component cast process in the field of PA 6 G with the aim of producing a part, e.g. a pulley, with different material properties was also something really special.

Can you profit from the variety of the ENSINGER product units and service centres?

There is a very direct line of contact with our machined parts division. Here, our cast parts are mechanically machined, if necessary. Furthermore, we profit from the direct network of our various product units and service centres – whether e.g. from information from the sales department or technical marketing or from publications in technical literature.

Why does it make sense to use plastics in contrast to metal? What is special about it?

Particularly for heavy constructions, the weight of the parts is very important – and with plastics you can achieve enormous savings. Furthermore, plastics – in an appropriate formula – have a certain elasticity which is an advantage when compared with metals. Also, as far as wear properties are concerned, plastics can be superior to metals. Additionally, a design with no restrictions can be realized with plastics much better than with metals.

Why are these parts cast and not machined out of semi-finished products?

The production of cast parts is always interesting when the quantity required is too high for machining and thus uneconomical. Cast parts are also to be taken into consideration when the required wall thickness is so big that it cannot be produced by injection moulding any more.

Where do you see the future of the Custom Cast Division?

We see the future in a sensible rounding off of the ENSINGER "total package" – especially for part numbers that move between machining and injection moulding.

In the market, we regard ourselves as supplier of system solutions, that are individually shaped for specific customer demands. Customers can benefit from our complete programme of different materials and procedures in order to obtain competitive advantages for themselves.

Gentlemen, thank you very much for the interview!

Field specific know-how for ENSINGER customers

Individual seminars on plastics

ENSINGER has added a training course to the company's range of customer services. The seminars about elastomers take place at individually determined dates at ENSINGER in Nufringen. Gerhard Lichtenberger from the Technical Marketing Department is the manager of the project, lecturers are the Technical Advisors and ENSINGER application engineers Peter Bongardt and Frank Kirchner.
According to time and the main focus of their interest, customers can chose between one- and two-day-courses. The seminars provide extensive knowledge in theory and practice about the structure and application of plastics.
Modules are easily varied and adapted to the demands and background knowledge of the participants, for example

- Basic knowledge about plastics
- Properties of plastics
- Production and working of plastics
- Material specific applications
- Adhesive bonding of elastomers.

Furthermore, ENSINGER offers so called "field specific management modules", e.g. about "Applications in Medical Technology" or "Plastics in Packaging Techniques" – because field specific knowledge is necessary to effectively support customers in these areas.
"Our goal is to make qualified and content users and loyal customers out of our buyers. Since the mere purchase of plastics is not enough. The whole use is only accessible to the applier when he is sufficiently familiar with it," says Lichtenberger.
ENSINGER seminars have the ability to impart knowledge and skills for the best possible use of products made from plastics – to those on whose capability in the handling of the products, the use depends.

For further information, please contact Gerhard Lichtenberger, email g.lichtenberger@de.ensinger-online.com – or by phone under 00 49 70 32 819 141.

The ENSINGER seminars take place in small groups.

Interesting things for the "Year of Chemistry"

(Part 2)

Great names and milestones from the polymer industry

- In 1839, **Charles Goodyear** accidentally found out that rubber can be transferred into a stable and weather resistant material without losing its flexibility. In that way, he produced a new converted natural material. The hard rubber that had been developed, was solid and elastic over a wide temperature range.
Unfortunately, he missed having the procedure he called **vulcanization** patented in time and so others made it first – he died in 1860 and was deeply in debt.

- **Celluloid** was the first plastic in the world, its development was the beginning of the polymer industry. The legendary impetus was a competition in the year 1869, where a new material was searched for. Expensive ivory from billiard balls were to be replaced with it. The **Hyatt Brothers** took part in this competition. They treated cellulose nitrate, or gun cotton with alcohol and camphor. What they got was a hard, shiny material that could be moulded when hot.
Cheap and uniform in consistency, this new material did indeed replace ivory in billiard balls. Unfortunately, the Hyatts did not win the announced sum of 10,000 US dollars, but their experiments with cellulose nitrate led to the birth of celluloid.
Celluloid also replaced horn in combs, found wide use in housewares, and was made into the first flexible photographic film.
A disadvantage was the flammability of the material. The film industry suffered from this dangerous material property: From time to time, cinematic films were overheated in projectors and even caused cinema fires.

- In 1887, **Count Hilaire de Chardonnet** created a related product when he learned to spin cellulose nitrate into Chardonnet silk, the first synthetic fibre to enter production and a forerunner of rayon, nylon, and Dacron.
Chardonnet started to develop artificial silk when a silk moth disease brought the silk production to a standstill. Chardonnet's wife allegedly was the first person who wore a ball dress made with the new fibre.
Celluloid and Chardonnet silk were polymers that were created by modification of natural polymers.

- The first truly synthetic polymer did not come along until 1909, when American inventor
Leo Baekeland treated phenol or carbolic acid, with the preservative formaldehyde under heat and pressure. His product, **Bakelite**, was hard, immune to harsh chemicals, electrically insulating, and heat resistant-characteristics that made it useful for a myriad of household goods and electrical parts. Soon Bakelite was being used to make tools, machines, and cookware.

Do you also know an interesting story or anecdote about plastics? Send an email to impulse@de.ensinger-online.com

impulse
ENSINGER
ASK. THINK. SUCCEED.

ENSINGER Brazil

More than five years growth – and no end in sight

The Brazil ENSINGER team.

In 1997, ENSINGER found a branch in Brazil. After half a decade, Sergio Bica Jr., General Manager from ENSINGER Brazil, sums up the first years:

„More than five years ago the first container containing high performance plastics arrived in Brazil and a small team started working in a country which is known more for carnival, nice beaches and Caipirinha than for a strong and well-developed economy.

Many stories from these early days still make us laugh when it's Friday evening and we drink some beer to celebrate the end of the week. For example the story from the machine operator who had a problem with POM rods and became outraged about the material behaving like a human being: In the morning working well and in the afternoon starting to lag – and this just because he did not know POM well enough and did not heat-treat it properly during machining.

ENSINGER started extruding basic profiles from very basic engineering plastics. Soon after, the company added a cast plant – unique in South America – and recently we bought state-of-the-art injection moulding machines. Now, we are capable of providing our customers with our full line of engineering plastics solutions locally. This new capability enhances our presence in the high tech market niche and paves the way for our growth within South America. Last year, with ISO 9000-2000 certification, our quality system received its recognition award, allowing us to trade in markets which were previously unavailable.

Today we have 28 people within the organisation. With the main offices and production plant in Sao Leopoldo, on the southernmost state of Brazil and a customer support office in Sao Paulo state, where more than 50% of Brazilian GDP is generated, ENSINGER is geographically in the best position to support all customers within the South American region.

In fact, today, ENSINGER plastics can be seen at 41,000 ft inside airplanes, as well as in the 3000 ft depth of the Ocean as in oil drilling equipment. They can also be seen in 300°C glass plants and in minus 120°C cold test chambers, in radiation cleaning operations and in HCL vapour pumps .

A huge step forward for a company that five years ago was just a small team of hardworking people, trying to teach the market the benefits of POM against PP and PA 6.

With solutions tailored to suit specific customers needs, ENSINGER in Brazil is starting to co-ordinate operations within key countries in South America, where the same situation found years ago in Brazil is the norm: we are now implementing the way we are there also. Ask, Think, Succeed: a real motto that plays it's role in our operation.

It all started small, we were keen to provide the market with decent quality products. Right now, some years on and ENSINGER has become a successful and expanding branch, being the number one in POM, PTFE, PEEK, PVDF and other high performance plastics – and still growing."

Winter boots for street children

Donation supports Caritas Spes Ukraine

As we already mentioned in one of the last issues of impulse, last year, ENSINGER decided to support social projects instead of giving gifts to employees and customers. One of the projects is the campaign "Winter boots for street children", initiated by Stanislaw Szyrokoradiuk, Bishop of Kiev.

In February, the Suffragan Bishop and President of Caritas Spes Ukraine bought 750 pairs of winter boots from resources donated by ENSINGER.

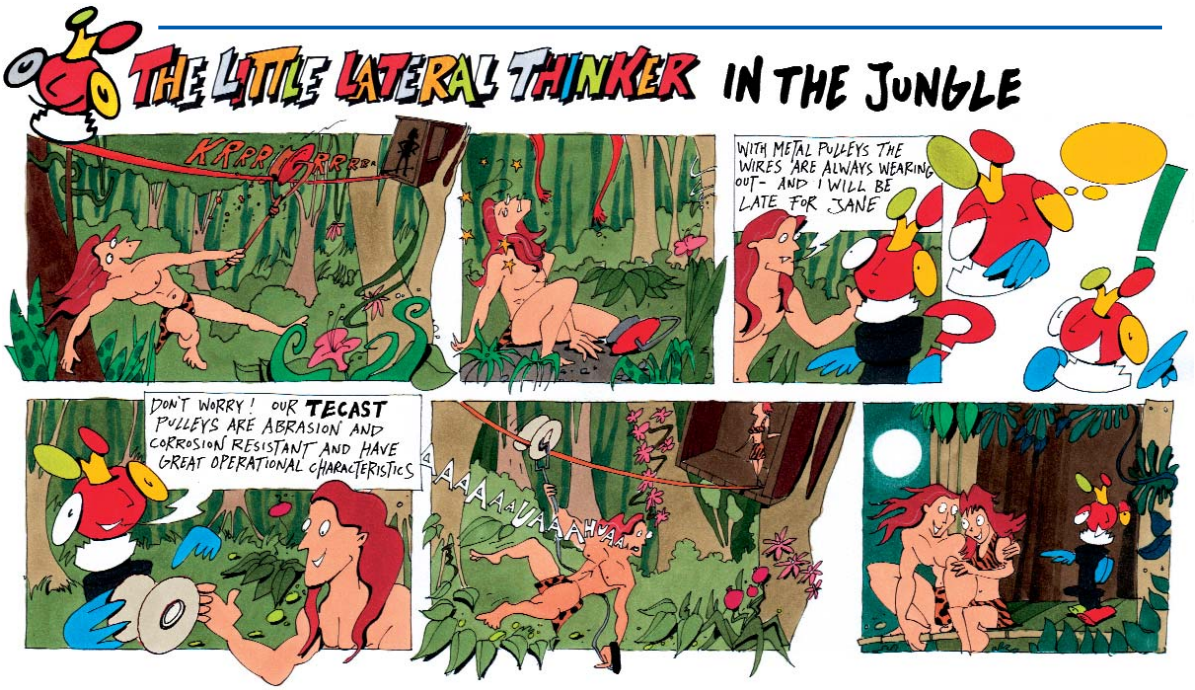
The boots were given to orphans and street urchins who especially suffered from the cold in the Ukrainian winter. They were distributed in several cities in the Ukraine: Kiew, Kamianets-Podilsky, Khmelnitsk and Zhytomir.

With great personal commitment, Bishop Stanislav cares for the children in orphanages and holiday villages that he founded. In recovery and rehabilitation courses, children in particular from contaminated regions around Czernobyl who suffer from mental and physical wounds are "pepped up" annually for 5 weeks.

In 2000 and 2001 more than 5,000 children were cared for in the centres – this means more than 2,500 children each year.

Martha Ensinger is in personal contact with Bishop Szyrokoradiuk and did not hesitate to support his campaign with the donation for Caritas Spes. "Spes means hope. And this is what we want to convey. Warm boots just seem to be like a drop in the ocean – but how can a street urchin survive winter in the Ukraine without boots?" answered Martha Ensinger when she was asked for her motive for this contribution.

Bishop Szyrokoradiuk and „his" children in the orphanage in Zhytomir.



Impressum

Newsletter of ENSINGER GmbH
Rudolf-Diesel-Str. 8, 71154 Nufringen,
Tel. 0 70 32/8 19-0, Fax -100,
info@ensinger-online.com,
Internet: www.ensinger-online.com

Editor: Klaus Ensinger, Dr. Roland Reber

Editorial team: Doris Wölfle, Petra Kalf, Markus Philippi, Karl-Heinz Ruhe, Jochen Skarke, Arnt Stumpf, Rosemarie Zangl

Production: Druckerei Maier, Rottenburg/N.