

# impulse

**Issue 1/2013**

Employee and business partner magazine

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**Dear Reader,**



“Radical leadership” is the title of a new book by the German author Reinhold Sprenger, in which he gets to grips with root (lat. Radix) issues of management. One interesting aspect of the book is Sprenger’s claim that one of the core tasks of leadership lies in ensuring cooperation between employees – where this does not happen of its own accord. This in itself may be considered something of a controversial thesis. Why should cooperation not happen of its own accord? Wouldn’t the assumption be that people working towards a common cause in a company would work together? Why should inducing them to do so be the task of management?

Reinhold Sprenger does not dwell on the lack of team player capability on the part of individuals or on the task of drawing these individuals into the fold. Instead he turns his attention to those organizational rules which all too often create a systematic barrier to cooperation: such as the breakdown of a company into divisions and service centres which all compete with each other for budgets, human resources and success. Another example: ingeniously engineered target and incentive schemes which encourage individuals and groups to achieve their targets at the expense of others. And finally the pronounced tendency to quantify every division, every achievement and ultimately every individual in terms of cost, labelling them with price tags and key indicators. The irony here is that the transparency achieved to make this possible sometimes comes at a greater cost than any savings it generates. Quite apart from the sense of dissatisfaction generated by incessant internal haggling.

It is a pleasure to read such a clearly articulated exposé of something which is clearly felt and appreciated as a “real” problem – and this applies at Ensinger too. What I find particularly motivating about the book is the solution which Sprenger points us towards: Cooperation happens where people need each other because they want to do everything in their power to solve a common problem. Differing views and latent conflicts are forced to the background in the common task of achieving something of real value to customers-achievements which will be rewarded by customer appreciation, recognition and relief.

This type of relief has been in evidence among many of the Nufringen team of late, as we have succeeded in solving a problem which – in all honesty – we created for ourselves. Our relocation and commissioning of the new warehousing and shipping centre gave rise to a lot of difficulties, and frequent delivery delays were the result. We found ourselves having to apologise to a number of customers and we were very appreciative of their willingness to bear with us and cut us some very welcome slack. Because ultimately, the new centre is also an example of a jointly achieved solution which will pave the way for a superb delivery service for many years to come. And however daunting the problem may have seemed – in the end it helped to weld us together in a common cause.

With the very best regards,

A handwritten signature in blue ink that reads "K. Ensinger".

Klaus Ensinger

**Imprint**

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Ensinger is now able to manufacture semi-finished products in ISO Class 8-compliant cleanrooms, enabling it to conform to ever more stringent demands imposed by the medical technology and semiconductor industries. Ralf Dietrich (left) has implemented a number of his own ideas in the design of the new cleanroom suite.

## No chance for dust

*New clean rooms for extruding semi-finished products*

***Before a plastic material is approved for use in a medical technology application or in the electronics industry, it has to satisfy specific requirements. In both these sectors, it is imperative that the materials are virtually free of impurities. For this reason, Ensinger is manufacturing more and more product lines in cleanrooms. These include special compounds and machined finished parts as well as rods and plates made of high temperature-resistant plastics. Following completion of the extension to its Nufringen factory, the stock shapes division now benefits not only from new state-of-the-art logistics facilities but also a suite of six new cleanrooms.***

Since February, Ensinger has been extruding a part of its thermoplastic special products for the medical technology and semiconductor industries in the new extension. The cleanrooms are qualified to DIN EN ISO 14644-1 Class 8 or EU-GMP Class D. Working according to a three-zone cascade principle, the new facility represents the cutting edge in cleanroom technology.

There was no example anywhere in the world which could serve Ralf Dietrich as a guide for the construction of an extrusion line to cleanroom standards. The production

manager responsible for special-purpose products consequently had no option but to develop his own solutions for adjusting the principles of cleanroom technology to the demands of plastics production. He was able to rely on the support of his team and the Ensinger operating technicians. A number of external project partners were also involved. Specialist contractor BC Technology was commissioned to plan and execute the cleanroom technology for the project.

### Cleanroom categories

Cleanrooms are classified according to the degree of purity of the air. To define the relevant cleanroom class, the particle concentration in the atmosphere is measured, i.e. the number of dust particles, germs and other contaminants. While the pharmaceutical industry follows the EU-GMP guideline, for the semi-conductor industry ISO standard 14644-1 is authoritative.

An ISO Class 1-compliant cleanroom fulfils the most stringent standards. Here, a cubic metre of air may contain no more than ten particles with a maximum diameter of 0.1 microns.

## Theme

The two-storey cleanrooms are designed to keep the number of particles penetrating from the outside as low as possible. The air transported by the ventilation system into each room is first cleaned by multi-stage filtering. “The air-conditioning also serves to control and monitor other parameters such as temperature, air humidity and pressure”, explains Dietrich.

### Overpressure ventilation systems

To prevent the penetration of particles into the production space, Ensinger uses overpressure ventilation systems. The pure air passes into the cleanroom with minimal turbulence, and escapes through a vent on the opposite surface. The sensitive work areas and machines in particular have to be protected from contamination. In the central production room which houses the extruders, the air pressure is consequently maintained at a higher level than in the adjacent zones of the cleanroom suite. The overpressure ensures that dust can only flow out of the production area and not in the other direction.

### Double safety

The raw material lock on the working level above the cleanrooms operates according to the same cascade principle. To prevent plastic granulate coming into contact with particles from the ambient air, Ralf Dietrich arranged for additional laminar flow units to be installed here. The two zones of



Photo: RITtersand

the space within the air lock are separated by a sliding glass door. A displacement flow ensures that no dust is able to penetrate the area in which employees remove the sacks of granulate from their outer packaging. On the other side of the sliding door, in what is known as the glove box, the pressure of the exiting purified air is slightly higher. Operators filling the drying hopper slip their hands into permanently installed gloves which allow them reach through into the box.

## Special materials from the clean room

### Semiconductor manufacturing: Purity

Many steps of the semiconductor manufacturing process require handling components made of engineering plastics. In the production of test sockets, for example, several material advantages of high-performance plastics come to bear, such as their mechanical strength and a high dimension stability which is given over a wide temperature range.

Examples of semi-finished products, which Ensinger extrudes in a clean room for customers operating in the semiconductor industry:

- TECAPEEK CMF, a composite material with technical ceramic
- TECAPEEK TS for the next generation of test sockets

### Medicine / Pharmaceuticals: Physiological safeness

Biocompatibility is the prerequisite for the use of a plastic in medical devices or applications with direct tissue contact. Materials can be described as biocompatible which do not trigger any toxic or allergic reactions in the human body. The medical-technology areas of application for Ensinger's high-temperature polymers are many:

- Components made of TECAPEEK MT are used for endoscopes, pumps, housings, dialysis equipment and surgical tools.
- TECAPEEK CLASSIX™ has been designed for applications with up to 30 days of contact with blood and tissue. An extension of this period of up to 180 days is possible for short-term implants, e.g. in the dental field. [JF]

Esref Halil at the material lock. When filling the extrusion line, overpressure prevents plastic granulate coming into contact with particles from the ambient air.



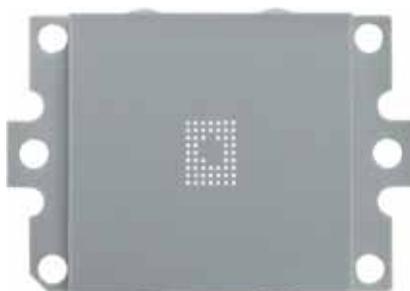
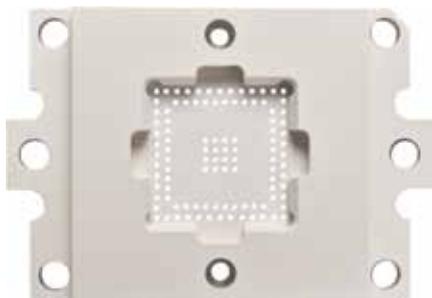
When designing a cleanroom, every detail has to be carefully considered to prevent any conceivable compromise to cleanliness. But the effort involved pays dividends, as Ralf Dietrich explains: “By maintaining constant and controlled processing conditions, Ensinger is able to guarantee that no foreign particles exceeding a defined limit gain access to the final product.”

**Where it goes from here**

Medical technology suppliers clearly bear a heavy weight of responsibility, as any non-conformance can impact directly on patient health. Plastic products manufactured by Ensinger for medical applications are consequently subject to strict quality assurance measures. The ever more stringent demands imposed by this industry are influenc-

ing not only production conditions, but also for instance the further processing of semi-finished products: plates, rods and tubes extruded to different dimensions are cut to customer order and subsequently cleaned in a cleanroom tent. Using an x-ray machine, employees are able to reliably trace cavities, purities and other inclusions.

Before shipment or temporary storage in the new high-bay warehouse, products destined for use in medical technology are wrapped in film and packaged. These last two process steps will also be performed in future in a cleanroom conforming to ISO Class 9 / EU-GMP Class D. Ralf Dietrich and his team will be able to commission the new further processing facility as soon as the end of August. [JF]



Test socket used for the manufacture of semiconductors. The starting materials TECAPEEK CMF (left) and TECAPEEK TS (right) have good machining properties.

## Strict protocol

### Ceremony at Windsor Castle

As already reported in the autumn edition, John Speirs has been honoured with an OBE (Order of the British Empire). This picture shows the ceremonious investiture held at Windsor Castle. The Prince of Wales paid tribute to John Speirs, on behalf of the Queen, for his services to “Advanced Material and Manufacturing in Wales.”

Although the protocol of the day was very strict, Speirs enjoyed the day at Windsor Castle, and the conversation with the heir to the throne of the United Kingdom. Prince Charles appeared to be very well informed about the personal achievements of the longstanding managing director of Ensinger Ltd.

John Speirs described the Prince as “down to earth”. It’s certainly a day Speirs will never forget: “I feel extremely honoured to have experienced it”. [JF]



## Youth research programme 2013

### Wilfried Ensinger Foundation supports scientists of tomorrow



Carolyn Köbele (12 years, on left) and Lisa Weiss (13, on right) have shown how the silver content of ancient coins can be determined by titration. With this project, the two pupils of the Nagold Otto-Hahn Grammar School were the

regional winners in the “Jugend forscht” 2013 competition. Carolyn and Lisa were also successful in the Baden-Wuerttemberg state contest: They achieved second place with the specialist subject “chemistry”.

This year’s record participation in the regional competition is also due to the activities of the Youth Research Centre in Schwarzwald-Schönbuch. The Wilfried Ensinger Foundation is one of the sponsors that have been supporting the club – which is resident in Nagold – for many years. In the Youth Research Centre, school pupils and trainees have the opportunity to carry out intensive experiments under the guidance of experienced professionals. The continuous support means that the young people are able to develop their enthusiasm beyond their initial interests for technical and scientific topics. [JF]

[www.wilfried-ensinger-stiftung.de](http://www.wilfried-ensinger-stiftung.de)

## A warm welcome ...

### Employees who have joined Ensinger:

#### Nufringen

##### Purchasing

Bianca Müller

##### Semi-finished products

Ivo Kusmic

Nicole Möß

Melanie Balkenhol

Birgit Neubauer

Oliver Renz

Thomas Stojan

Ronny Schöne

Mike Steininger

Tomislav Plesa

##### Industrial Profiles & Tubes

Markus Schilling

##### insulbar®

Toini Tacchi

##### Marketing

##### insulbar® / Thermix®

Marnie Röder

##### IT

Dr. Erwin Schuster

##### Factory canteen

Helga Röhm

##### Legal department

Angelika Eberwein

##### Raw Materials /

##### Compounds

Roland Krassin

Benjamin van Rijssen

##### Tool making

Andreas Schweikert

##### Ergenzingen

##### Injection moulding

Mariann Hornung

Viktor Ditte

#### Cham

##### insulbar®

Lina Friedlieb

Philipp Putz

Juliane Haimerl

Marco Gebhardt

Lukas Hupf

Lukas Müller

##### Cast Nylon

Michael Brunner

##### Machining

Josef Wagner

Sebastian Kropf

##### Ravensburg

##### Thermix®

Sarah Wolf

This year the following employees celebrate twenty-five years at Ensinger:

25

#### Nufringen

Martin Luzens

Ralph Pfeil

Sefik Guenduez

Walter Vetter

Natalie Hensger

Rainer Grzella

Mustafa Oezmemis

Hamdi Atak

Martin Lanig

Stefan Hackstuhl

Erdogan Kilinc

Ahmet Oezbek

#### Cham

Karl Späth

Gerlinde Spannfellner

Christian Wegerer

Uwe Heimerl

Agnes Schwarzfischer

Adelheid Daschner

Harald Jobst

#### Ergenzingen

Ellen Böckle

Zoran Cutura

Harald Behn

#### Anröchte

Michael Pinkerneil

40

#### Nufringen

Ibrahim Babaic, of the Industrial Profiles and Tubes division, joined the company in October 1973.

### New cases discovered

## Health Campaign: diabetes

There were 67 male and female employees who participated in the "Diabetes mellitus" early detection campaign held at the Nufringen and Ergenzingen plants. More than half of the participants were younger than 45 years of age. Although the statistical risk in this group is still quite low, the company doctor Dr. William Lechner discovered three new cases which were referred to their primary care physicians for further diagnostic investigation. In four other employees, blood glucose values were in the borderline range – in this case, it still makes sense to undergo regular check-ups.

Once again, this shows just how many adults suffer from diabetes without their quality of life being restricted from the beginning. Unfortunately, it is no longer possible to avoid the later consequences at this point in time. But those willing to adjust their lifestyle accordingly as recommended can reduce the risk of secondary diseases.

"This successful health campaign encourages me to offer other similar screening tests," says Dr. William Lechner. "The next campaign being planned is kidney tests. In addition, I will be offering skin cancer screening once again. So, keep your eyes open for the announcement on the notice board and why not take part!" [JF]

## Fundraising

### Trainees raise €5,210 for street children



Ensinger apprentices Joshua Götz (left) and Viktor Ditte (2nd from right) hand over a cheque for the money raised to Pastor Harald Rauch (right), the founder of the children's aid charity Christ for Asia. Madita Götz (2nd from left) volunteered at the charity's Philippine children's homes for several weeks.

Ensinger trainees' latest fundraising effort raised a record €5,210, which will go to the children's aid Christ for Asia (CFA) to support their work caring for Philippine street children.

Most of this money was raised from sales of Christmas gifts, including sets of classic party games, which the trainees made from stainless steel and plastic in the training workshop in Nufringen, and which proved particularly popular.

CFA has set up two children's homes in Cebu City, where 70 former street children are cared for and given a school education. A team from the charity also visits children in the city's deprived areas each day and distributes hot meals to them. [JF]

### Double accolade

Andreas Schweikert (centre) has been awarded the Wilfried Ensinger Prize. This comes in the wake of a commendation from the Chamber of Industry and Commerce, which Schweikert was awarded for his very good final examination results following his three-and-a-half-year traineeship.

The photograph shows Schweikert with Heinz Lehmann (left, responsible for industrial training in Nufringen), Wilfried Ensinger (2nd from left), Miriam Fiedler (2nd from right, Head of HR Development and Training) and Achim Lehmann (right, Head of Legal Affairs and Human Resources).



### Ensinger mourns the death of three long-standing colleagues

**Otto Sodemann** died unexpectedly on 7 January at the age of 63. He joined the company in July 1990, ultimately working as a building services electrician in the Technology Service Centre in Nufringen.

**Ludwig Zwicklbauer** died on 25 February at the age of 46, following a long, difficult illness. He had worked as a machinist in the Machined Parts division at Cham since January 2000.

**Steven Koltshak** died suddenly on 18 April, aged 52. From November 2000 he held the position of Group Controller in the Finance and Controlling Service Centre, responsible for the international companies of the Group.

Ensinger is mourning the loss of three committed and popular employees. Our colleagues send their sincere condolences to the families and loved ones of the deceased.

## Bone-sparing hip replacement

### *Implant made of plastics and ceramic material*

***Hip replacements are one of the most common operations in Germany. Not infrequently, the artificial joints need to be replaced after ten years. A novel implant made of plastics and ceramic materials will help prevent premature secondary procedures in future.***

Researchers at the Fraunhofer Institute for Production Engineering and Automation IPA in Stuttgart have developed a metal-free hip implant in collaboration with an international team. Ensinger is also one of the project partners: The prototype consisting of a carbon fibre-reinforced TECAPEEK CF30 MT acetabulum has been manufactured by injection moulding in Rottenburg-Ergenzingen.

The newly developed implants use the principle of surface replacement prosthesis. In this case, only a thin-walled shell is used to replace the articular surface. The hemispherical head made of ceramic and the acetabulum made of polymer materials are fixed in place in the femur and the cavity of the hip joint without cement. Thanks to the new material combination, the transmission of forces in the pelvic bone has a quite natural feeling. In addition, the loss of bone mass is significantly less than when using conventional implants, which have long shafts for fixation.

### ***Test with robots***

The high-strength, biocompatible polymer composite made of PEEK and carbon fibre is characterized by a high abrasive resistance: Scientists were able to confirm this in the first tests using a robot, whereby various movements such as walking and climbing stairs were simulated.

Meanwhile, preclinical studies have been completed. Final developments are planned in order to enter into clinical trials as soon as possible. *[JF]*

The new implant has a bone-like elasticity. Ensinger has manufactured prototypes for the hip socket made of carbon fibre-reinforced TECAPEEK.





Together the earthquake and tsunami of 11 March 2011 were one of the biggest natural disasters in Japanese history. The epicentre was off Japan's Pacific coast, some 370 kilometres North-East of Tokyo. Around 16,000 people were reported dead and several thousand are still missing. 375,000 buildings collapsed either partially or fully. 470,000 people needed to be housed in emergency accommodation in the days following the disaster. The earthquake triggered a string of catastrophic events at the Fukushima Nuclear Power Plant.

Since moving premises, Ensinger has finally been making headway again in Japan

## Tough times

by Masamori Ono

***Ensinger Japan was established in 1999, two years after the founding of the Group's Singapore subsidiary. The new sales office, located in the vast metropolis of Tokyo, was set up to give Ensinger a second foothold in Asia. But its path has not been an easy one – not least due to one of the biggest natural disasters in Japanese history.***

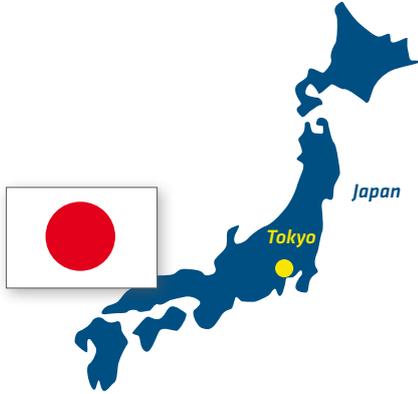
After the office was set up, Taizo Seto (now Head of Sales in Tokyo), together with Yonosuke Inoue, quickly succeeded in forging close links with the local semiconductor industry. For a number of years Ensinger Japan sold large volumes of high-performance plastics.

But unfavourable exchange rates and supply issues drove sales margins so low that the management in Germany even considered selling the business. In 2009 Ensinger's sales finally bottomed out in Japan, and its profitability also started to increase.

The situation continued to improve right up to early 2011, until, of course, the devastating earthquake and tsunami that struck the North-East of the country in March that year.

### ***The day of the quake***

On 11 March 2011, the weather was overcast in Tokyo. Suddenly, at ten to three, we noticed vibrations in the office, at first only slight, but nonetheless unmistakably there. These were followed by strong, persistent tremors. We were barely able to keep our feet because of the rapid side-to-side motion of the floor. We quickly crawled under our desks. The earthquake only lasted a few minutes, but it seemed like an eternity. When the tremors started to die down, we dashed for the exit. As we ran, we saw some of the neighbouring buildings rocking vigorously back and forward. We were afraid that they might collapse at any moment. For a while after the worst of the earthquake was over, we were stunned and could not comprehend what had happened.



**Locations**

We went back into the office and, looking out of the window, saw a lot of people running, apparently disorientated, through the streets. Many people did not know how to get home or what to do.

Luckily we still had an internet connection in our office. We used online text messaging and video services to find out what was going on in other parts of the country. We were shocked at the events on Japan's Pacific coast: the terrible tsunami had wreaked havoc on residential areas, swallowing up houses, cars and people. We were simply stunned at the awful scenes we saw. There were no underground or overground trains running. Two of our team members trekked home on foot, arriving at midnight, while three stayed in the office watching films downloaded from the internet, to keep themselves from falling asleep before morning.

**The aftermath**

We were shocked as we became aware of the full extent of the damage wreaked by this natural disaster – as we were when we learned that Taizo Seto's parents-in-law were also victims of the tsunami: their shop, located by the sea, had been destroyed.



One gate remains as a solitary reminder of Taizo Seto's parents-in-law's house.

11 March 2011 changed everything in Japan. Food and other everyday essentials disappeared from the shelves, and many raw materials became scarce. From one day to the next we were at the mercy of electricity shortages, and there was also a risk of radiation from the Fukushima Daiichi Nuclear Power Plant, which had been destroyed in the disaster. The lack of transportation and the fact that industrial production had come to a virtual halt in Japan had a very severe impact on our sales of semi-finished goods. →



**The Tokyo team**

"We are a very young, motivated team who, with the help of a clearly-defined strategy and structured processes, strive for the best possible results," says Masamori Ono (3rd from right). Ono, who wrote this article, joined Ensinger Japan in 2008 and is responsible for marketing and technology. Mayumi Tachibana (3rd from left) has been in the team for four years and is responsible for order-taking and purchasing. Senior Sales Manager Taizo Seto (far left) also plays a key role in the team. Yuko Kaji (centre) joined the company three years ago as an accountant, while Hiroshi Watanabe (2nd from left) joined one year ago as a new sales employee. Yohiaki Iida (right), at 20, is the youngest member of the team and works for the semi-finished product warehouse which is managed by Isamu Tokunaga (2nd from right).

"There's never any shortage of jokes and laughter here," says Masamori Ono. "If you ever get the chance to visit Tokyo, do get in touch and drop by at our office!" [JF]

**A bumpy road**

In late 2011, Japan's economy was still in recession. A whole year had passed since Ensinger Japan first started looking for a new logistics site. At that time no one in the team had guessed how long and tortuous the road to finding a new site would be.

Time was so short that we even viewed stockrooms at the weekends. On one Saturday in January we looked at more than 10 different premises. The location and price of one particular building appeared attractive at first, but ultimately we rejected it for logistical reasons and because of the age of the building. In another instance the logistics centre itself seemed perfect, but it was very expensive and we were not able to reach an acceptable agreement with the owner.

**Success at last**

It was the start of the winter before we identified another potentially suitable site. We received a promising offer from the established logistics company Suzuyo, and decided to thoroughly analyse this potential investment. Johannes Veygel, responsible for international logistics projects in Ensinger's Stock Shapes division, assessed the

investment favourably overall, and the contract was concluded. In March 2012 we moved our products into the new stockrooms. The new premises provide excellent working conditions. They have an attractive common area – the "TECA Café" – and the design of the furniture ties in with Ensinger's corporate design.

The stock area spans a total of 450 square metres. The extra space and new shelving means we can offer a cut-to-size service for our semi-finished products. Johannes Veygel and Constantin Pauli from Nufringen helped to make this possible by providing training. We would also like to thank John Speirs, Paul David and our other colleagues in Wales. Our sales of semi-finished products continue today to benefit from all the experience that Ensinger Ltd. pass on to us.

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## *Subsidiary in the growth market of India*

Ensinger India, founded a year ago, has moved into office facilities based in the industrial centre of Pune. Mr. Saubh Singhal is responsible for the sales of semi-finished engineering products in India. It will be his job to further develop the customer base of contacts to clients. Mechanical engineering, aerospace and the medical device technology in particular are emerging branches of industry, which have an increasing demand for engineering plastics.

**Address:**

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R.K Plaza, Survey No. 206/3  
Plot No. 17, Lohgaon, Viman Nagar  
411 014, Pune, India  
[www.ensinger.in](http://www.ensinger.in)



## Tested for migration

### Semi-finished products in accordance with EU Regulation 10/2011

Semi-finished plastic materials used in the food industry have to comply with the requirements of the latest European Regulation (EU) no. 10/2011. This Regulation is aimed at excluding any toxic effects which could arise as a result of interaction between food substances and plastics. Ensinger has restructured its portfolio of semi-finished engineering plastic products for the food industry and performed migration testing on a multitude of its stock shapes range. In order to guarantee seamless traceability, customers are provided with an extensive data package along with their stock shapes. The focal element of this data package is an order-specific declaration of compliance as outlined by 10/2011.



As the test results are based on specific standard test methods, the time and expense of creating other declarations of conformity can be reduced significantly. Producers of pre-manufactured components used with food processing equipment, for example, are able to take advantage of this: they now only need to pass on the conformity data from their subcontractors and complete it with their own data. [JF]

The semi-finished Ensinger material TECAFORM AH complies with the (EU) 10/2011 standard. The pictured components are used by Marel for meat, fish and poultry processing equipment.



**FDA conformity (raw materials)**  
Tested on semi-finished product:  
1935/2004/EG  
10/2011/EC  
2023/2006/EG (GMP)

## TECAMID 6 ID blue

### Detectable material for production plant

The food processing industry must constantly ensure that no impurities get into the final product. The detection of foreign bodies, therefore, plays an important role in the production process.

Enginger is now expanding its range of special plastics for the food industry with the semi-finished product "TECAMID 6 ID blue". As with other semi-finished materials in this range (TECAFORM AH ID and TECAPEEK ID blue), the new polyamide product is also equipped with a detectable filler. If a component made of this material should be damaged during the production process, the fragments can be promptly detected with metal detectors as part of the standardised process control. [JF]

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BAU 2013 trade fair

## Leading-edge products

by Marnie Röder, Head of Marketing Building Products

**The BAU trade fair is one of the most important international exhibitions for architecture, materials and systems. It addresses everyone involved in the planning, building and design process, from engineers and architects to housing-industry representatives and project developers. Therefore, it was also a must for Ensinger to exhibit the building product lines insulbar® and Thermix® in Munich.**

### **Rapid prototyping makes customer ideas more tangible**

Visitors were very interested in the rapid prototyping process with which insulbar® sample profiles can be produced in volume production quality within a few days. The procedure ensures a high level of construction safety and reduces the development time and costs for the customer.

### **Insulating profiles made of bio-based polyamide**

The insulbar® division also presented the resource-saving new development TECATHERM® blue. These insulating profiles consist of polyamide PA 610, which is for the most part made from castor oil, a renewable resource. The bio-based content is 62 per cent. In the case of glass fibre reinforced profiles (PA 610 GF25), the bio-based content is still 54 per cent.

### **Coated with highly reflective Low-E film**

As a further highlight of the trade fair, Ensinger presented the innovative Low-E film TECAFOIL 12 ε 3, which reflects thermal radiation in window frames, thereby reducing energy losses. Ensinger is thus offering its customers the opportunity to optimise existing systems thermo-technically without additional development and tooling costs.

### **Ready punched profiles in volume quality**

With immediate effect, Ensinger can provide profiles with perforations for drainage, mounting or pressure equalisation. Eliminating the subsequent punching step at the processing company, this modification saves time and money and ensures high quality.

### **Coating insulbar® profiles in the composite**

In order to achieve an even better result when powder coating insulbar® profiles in the composite, Ensinger offers customers several options. This includes an adhesive temperature resistant film that can be removed without leaving any residue after the painting process. In this way, it protects the profile surface from paint application. Likewise, it is just as easy to remove a clip cover profile attached

to the insulating bar after the coating process. Other variations are the use of dust blasting and the Ensinger material TECATHERM ESP.

### **The new warm-edge spacer**

Visitors were also equally interested in the new generation of warm-edge spacers Thermix® TX.N® plus. The new product range offers – in addition to very good thermo-technical properties, tangible energy savings and high quality – a whole range of other benefits, not only to convince builders, renovators and designers, but especially insulating glass manufacturers. With optimised construction methods and the use of new material combinations, Ensinger's engineers have made the product more dimensionally stable. The new “warm-edge” spacer is extremely rigid, yet still very flexible – which is an advantage for further processing and accelerates the production process.

The overall outcome of the trade fair can be considered very positive. Despite some adverse weather conditions with snow-covered roads and hundreds of flight cancellations, we were able to increase the number of visitors to our booth yet again.



The Ensinger exhibition team (left to right): Christian Helfert, Matthias Rothfuss, Susann-Marie Aubele, Frank Killinger, Lothar Meyer, Klaus Gerstmayr, Silke Weinmann. Lothar Meyer retired in March. As head of the Building Products Division for more than ten years, he held overall responsibility for both the Thermix® and insulbar® product lines.

## The energy-efficient office

by Karolin Blaich, Environment, Health & Safety management

When Ensinger introduced its energy management system, it focused primarily on production, where consumption is highest. However, many staff in administration also began to wonder how they could help save energy at their own workstation.

As a prelude to a new series of impulse, here are some practical energy-saving tips, some of which you may find useful in your own home.

### Energy-awareness at work – a few tips

#### 1. Turn the light off

An office workstation needs to be bright enough. A minimum illumination level of 500 Lux is needed. On very cloudy days, the value is twice as high at a workstation positioned by the window. When more artificial light is required, for example during the winter, you should ensure you turn the light off when you no longer need it. However, not all light bulbs tolerate being repeatedly switched on and off. In the case of fluorescent light fittings in particular, this can significantly reduce the life of the bulb.

#### 2. Use the right bulb size

When selecting a light bulb, don't simply look at the illumination level and the cost, but also consider the light output and the life of the bulb. What is the best type of light bulb? There is no standard answer to this question, since it all depends what it is to be used for.

#### 3. Setting your screen to standby

Not everyone works on their PC for eight hours a day. Your screen is frequently left on while you are at a meeting or out at lunch. It takes time to power your computer up and down every time. So what should you do? We wouldn't recommend activating the screen saver, because in this mode, the PC uses around the same amount of energy as during normal operation. Modern computers can be set to shut down the screen after a defined period of inactivity. When you press a key or move the mouse, the monitor will spring back to life in a fraction of a second. You can set the standby settings under Power Options in the Control Panel. However, you should refer to the IT department first, because there may be problems with certain network options in standby mode.

#### 4. Switch off appliances

Printers and other electrical appliances have automatic standby functions. Optimising office energy efficiency in this way makes good sense on a day-to-day basis. However, when you leave the office after work or go away on holiday, it is better to switch the appliance off completely.

#### 5. Not too warm and not too cold

On cold winter days, everyone appreciates having the heating on at work, because people generally feel colder when they are working in a seated position. But there is no need to work in a hothouse environment when there is ice and snow outside. In the summer, set the air conditioning at a reasonable temperature. The air temperature in the office should not fall below 20°C, and should not exceed 26°C in summer.

#### 6. Ventilate properly

When the window is left open all day, the room will cool down more. The energy consumption of the heating system varies. When a room is ventilated intermittently, air is exchanged without much heat being lost.



Karolin Blaich, Energy Management Commissioner

