

OTTO

International edition

pro

fil

The magazine of OTTO-CHEMIE for trade, commerce and industry



3rd

FORWARDS: BACK TO OLD VALUES.

Guidelines for people, society and business.

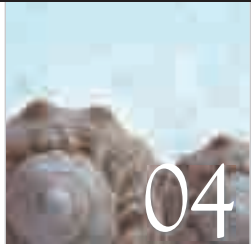
REVOLUTION RATHER THAN FRAMES.

How wood-glass composite elements are changing the building world.

MOTHER NATURE. FATHER PROGRESS.

Silicon, silicate, silicone and other members of the family.

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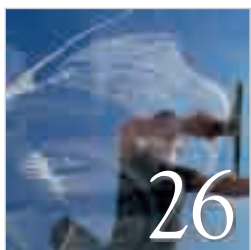


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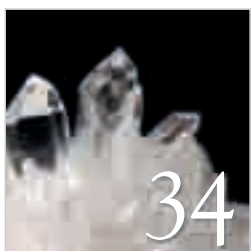


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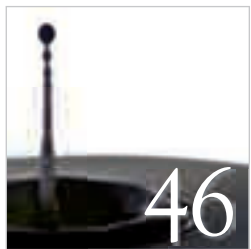
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Publisher: Hermann Otto GmbH, 83413 Fridolfing, GERMANY, Tel. 0049-8684-908-0, info@otto-chemie.de, www.otto-chemie.com

Editorial team: Dr. Volker Weidmann, Gisela Bechmann, Günther Weinbacher, Frank Bechmann, Sebastian Terner

Conception, editorial, design: WMW Werbeagentur, Airing

Images: DuraPact, Flickr, Fotolia, Hasenkopf, iStockphoto, ITN Baatz, Mauritius, Tzuri Gueta

Printing: F&W Mediencenter, Kienberg, GERMANY **Item number:** 9999883

Everything has to change for things to stay as they are.



The future poses great challenges for mankind. Dramatic climate changes, increasingly scarce fossil fuel resources and global economic turbulences demand a new era of sustainability. It often takes drastic impulses to change the general way of thinking and thus pave the way for farsighted action. OTTO already makes a small, but not insignificant, contribution to this thanks to values, which have proved successful since the company was founded, and innovative products with a future beyond today. You can find out how we do this by reading the interesting background articles and the very practical examples of their implementation in this issue of OTTOprofil. We hope you will find it entertaining! Kind regards from the editorial team.

Forwards: back to old

values.

Guidelines for people, society
and business.



The crisis has brought it to light. The dream of unlimited economic growth is collapsing like a house of cards.

This puts paid to illusions which only became possible because of – to put it simply and clearly – greed, stupidity and short term thinking. This tempted many to grossly infringe what seemed to be generally accepted interpersonal rules.

However, tax fraud, bribery scandals and espionage affairs are merely the manifest symptoms of a system the basic values of which are now being questioned. At last a discussion has been launched about which values are to apply to each individual, a functioning society and ultimately to the economy and its grave crisis, which has put the topic on the agenda.

This is a discussion which also concerns OTTO. It ultimately confirms the company ethics according to which OTTO has naturally always acted and which has always been characterised by responsibility for humankind and the environment, customers, employees and neighbours.

However, anyone who concerns themselves with values as crash barriers on the way to personal happiness and economic success, would do well to first take a closer look at the extremely exciting history of ethics and morals.





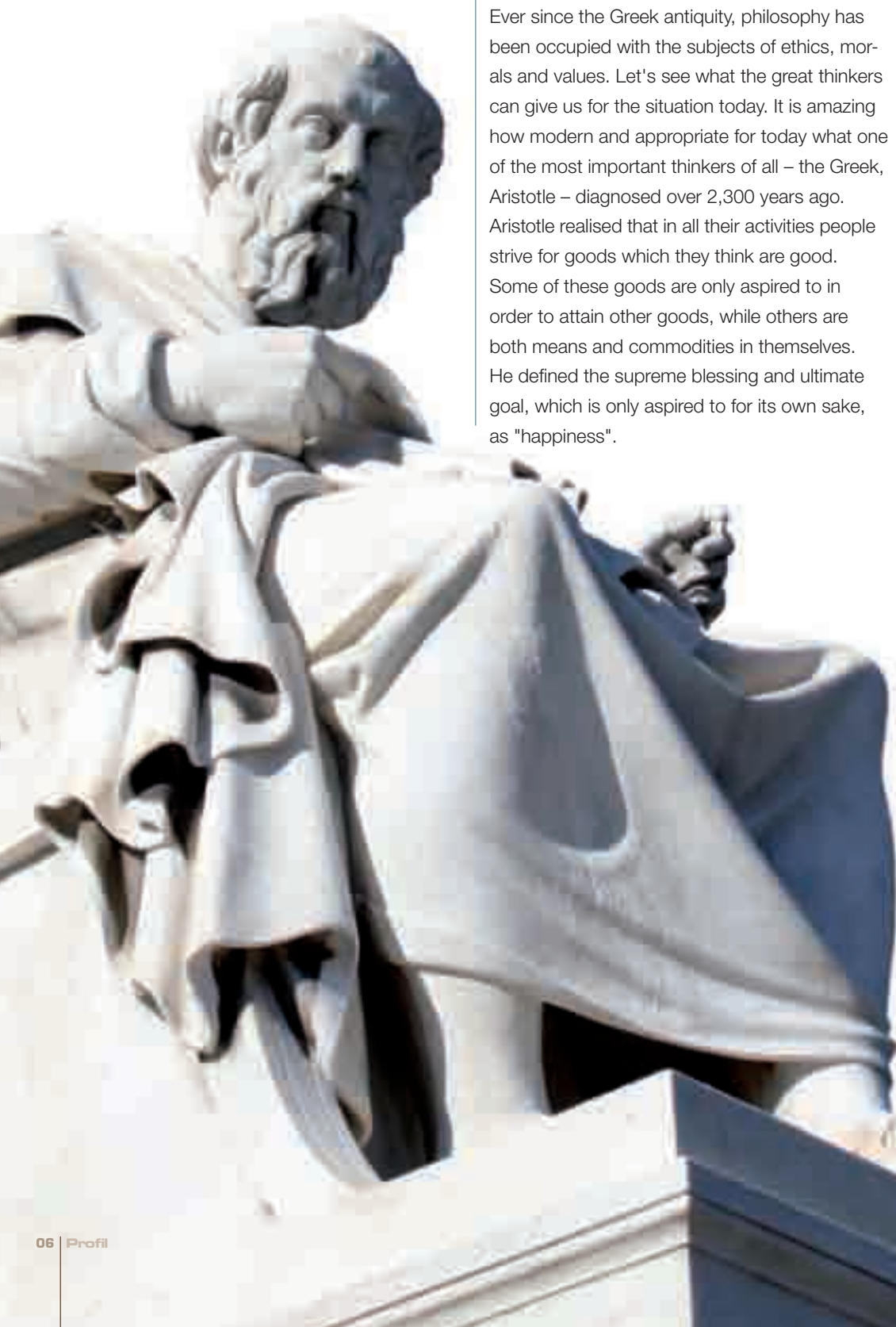
Advice about life from Aristotle, Kant and Co.

Ever since the Greek antiquity, philosophy has been occupied with the subjects of ethics, morals and values. Let's see what the great thinkers can give us for the situation today. It is amazing how modern and appropriate for today what one of the most important thinkers of all – the Greek, Aristotle – diagnosed over 2,300 years ago. Aristotle realised that in all their activities people strive for goods which they think are good. Some of these goods are only aspired to in order to attain other goods, while others are both means and commodities in themselves. He defined the supreme blessing and ultimate goal, which is only aspired to for its own sake, as "happiness".

No matter if it is a fast car, a happy relationship, lots of money or a satisfying job: happiness always tops everything, although the interim goals may differ greatly. And sometimes people have different views about whether the goal they aspire to really is happiness.

The search for happiness.

According to Aristotle, it is important to be able to achieve a balance between reason on the one hand, and feelings and desires on the other, in order to attain happiness. And this brings us to the moral values, which the great Greek philosopher terms "disposition", which alternates between the poles of reason and emotion. It is best if these are instilled in young people through their upbringing and by means of acclimatisation. For example, courage: a lack of courage is cowardliness, and too much of it constitutes foolhardiness – somewhere in between is just right. Another example would be sensitivity, which ranges somewhere between shamelessness and timidity. Aristotle regards active use of the intellectual virtues (at least cleverness) – and of the disposition – as being essential elements of happiness. At the same time he also considers physical things, desire and pleasure to be conditions which are helpful – or indeed necessary – in order to find happiness. So we use such things as wealth, friends and power as ways and means of attaining happiness. If some of these are lacking, such as when we are lonely or poor, happiness is marred.



"**Enjoy** your business during the day, but only **do such**, that at night we can **sleep** peacefully!"

Motto of the entrepreneurial family Buddenbrook in the novel of the same name by Thomas Mann (1875–1955), for which he won the Nobel Prize for Literature.



The categorical imperative or: thinking beyond the horizon.

A second important philosopher who might enrich today's discussion about values with his ideas is Immanuel Kant (1724–1804). He was one of the most distinguished philosophers in the western world and with his work he heralded the beginning of modern philosophy.

His probably most famous sentence is the categorical imperative: "Act only according to that maxim (principle), whereby you can at the same time will that it should become a universal law".

With this sentence Kant had found a way of providing people with a value system beyond religions or ideologies, which places reason above all else. "Act as you wish that all others would also do." – this means: it is not the theory which is important, but how one acts in compliance with it. And: one should reconsider ones actions and their consequences. Imagine what the consequences would be if people in general adopted our own behaviour? However, it is evident that far too many have either no knowledge of Kant or have not acted according to him.





Managers between power and ethics.

Back to today. Were the wrong values responsible for all of us getting stuck in the crisis? And are such concepts as morals or ethics appropriate in a company? Businesses do not exist on an alien planet known as the economy. They are part of society and are influenced by it, as well as having a significant influence on it. Businesses are managed by people and they are shaped by the work people do. People who strive for personal happiness in the Aristotelian sense. Therefore, in the way they act companies cannot disassociate themselves from the rest of society, from the private lives of each individual or from the community.



Profit maximisation at all costs?

Each company sees itself called to create economic value without thereby trespassing on the moral concepts of society whose ultimate moral principles are defined in laws. For some employees this is a contradiction, which ultimately led to profit maximisation being declared to be the supreme principle, without any thought to ethical concerns. Short-term success was declared to be the goal and was no longer seen as the consequence of economic value creation and business action. Volkswagen and Siemens have gone through painful experiences with the consequences of misinterpretation of company objectives by senior management, and they were pilloried for it. Now they are trying to gain control of such undesirable developments by means of so-called compliance systems to steer and control the employees so that they behave correctly (which should really be matter of fact). Of all companies, Porsche AG showed that there is another way. Porsche indeed refused subsidies for its factory in Leipzig because it considered them unseemly for a manufacturer of luxury cars. In order to put across the ethical principles, according to which the company has always acted, to every single employee, OTTO has decided to define its values even more clearly for day-to-day work in the form of a policy within the context of a comprehensive management initiative.



Stumbling blocks: short-term, and linear thinking.

There are two other factors which unite morally correct action and economic success despite their apparent contrariness. One is: sustainability. The question behind it is: what is the long-term impact of my actions? If for example I supply a business partner with poor quality because it costs me less, although in the short term I raise my profit, I run the risk of losing a potential regular customer and may even ruin my reputation. The solution: to think in terms of sustainability. Sustainability is a term which originally comes from forest management where it is customary to think in 100-year cycles. This means harvesting trees which were planted by foresters from the past generation and planting trees which one will no longer be able to harvest. This long-term thinking, and the prudence it brings forth, is characteristic for the behaviour of a respectable business person and also lends stability even if the economy is subject to short-term fluctuations.



Business management is more than cause and effect.

The second factor is consideration of the impact of one's actions not just in the short term but also long term and in all different directions. When one thinks cybernetically, i.e. if one thinks in networks beyond the level of simple cause and effect, one perceives developments and processes to which one would not normally have given any consideration. If people had thought cybernetically who work at headquarters of the big corporations, for example, they would have been able to recognise many consequences of the financial crisis. However, to them the short-term and one-sided quarterly figures were evidently more important. The interesting aspect of networked thinking is that it ultimately leads to ethically correct action, i.e. to considerate conduct. Here is a simple example: if I treat my employees fairly instead of regarding them merely as a cost factor, they are friendly to customers. Friendly customers buy more and raise the turnover. Furthermore, the employees then tell their friends about their jobs and thus boost the company's good reputation; and this in turn reaches the customers' ears. This leads to feedback and reinforcement processes, which can develop positively or negatively.



Which values create values?

Apart from its moralistic components of course the concept of value also has – or indeed primarily has – an economic meaning. Such wonderful words as "Value Added Tax" or "Value Creation" are just two examples of this. However, business and the economy is less about creating values than it is about profit maximisation. However, many managers do not grasp that success in business is a consequence of acting correctly and not the supreme goal. If short-term profit becomes the sole objective of a company, and moral values such as fairness, humanity or honesty fall by the wayside, there are many reasons for it. Frequently it is simply because a company feels that it is first and foremost committed to its shareholders or outside investors and not to its customers.



It is the customer who counts.

As long ago as 2001 Fredmund Malik, Economics Professor at the elite university of St. Gallen, warned about worshipping the value of a company as the supreme goal of business activity. He pleaded in favour of focusing on raising the value of the products for the customers as the objective, rather than on increasing the value of the company. After all, only companies with satisfied customers were able to prevail on the market in the long run. Many family-run businesses, which – like OTTO – are definitely not committed to shareholders or to the exclusive well-being of individual persons, show that it is exactly this value creation principle for the benefit of the customer, which is successful and benefits the company. Numerous such small and medium-sized businesses have worked their way to leading positions on the global markets in this way. In many cases it is just niches, which they occupy and very few know the names of these "hidden champions". But their common recipe for success is that they create real values for their customers. ■

„There is **almost nothing** in this **world** that somebody else **could not make less well** and sell a little **cheaper**, and those who **only go by price**, justifiably become **prey** to such wheeling and dealing. ... The common law of business prohibits **us from receiving high value for little money**. If you **accept the cheapest offer** you have to take the **risk** of having to **add something to it**. And if you do that, then you have **enough money** to afford something **better**.“

John Ruskin (1819–1900)

Solar plant donated to the Pope.

THE POPE COLLECTS SUNSHINE.

In 2002 when Frank Asbeck handed the then Pope, John Paul II, a solar cell during a public audience, the Holy Father encouraged him to continue with his commitment to a global solar energy supply. Asbeck, Chairman of the Management Board of Solarworld AG took it literally. Besides the scheduled solar relief projects in the world's poorest countries, in November 2008 Solarworld AG presented the Vatican with a complete solar plant.

Clean energy saves 225 t CO₂.

"The solar plant is to set a visible signal for a climate-friendly energy supply and for the preservation of Creation", says Frank Asbeck. Since then 2,394 solar modules produce environmentally friendly electricity on the roof of the papal audience hall, directly next door to St. Peter's cathedral. The solar power plant has a total peak output of some 220 kW, with which around 300,000 kWh of electricity can be generated. This is equivalent to the annual electricity requirements of over 100 households. Clean energy generation enables 225 thousand kilos of carbon dioxide per year to be avoided. It took a great deal of technical and architectural effort to fit the aesthetically sophisticated plant in with the historic ensemble of the Vatican City.

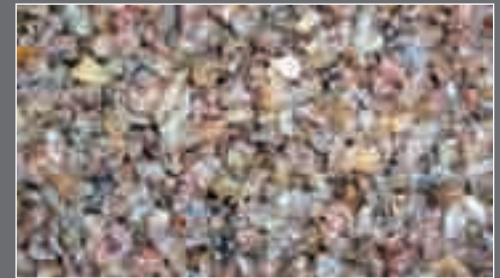
High tech for the Holy See.

The modules were produced in Freiberg, Saxony, and OTTO provided the Novasil® products developed specifically for such purposes. Novasil® SP5728 silicone adhesive is used to bond the solar cell units into the frame. Novasil® S13, the 1K silicone sealant, is used to seal the corners of the frame and the 2K silicone joint sealant, Novasil® SP 5170 is used to pot the power consumer socket. All Novasil® products are characterised by their high resistance to weathering and UV and their permanent elasticity and rigidity.

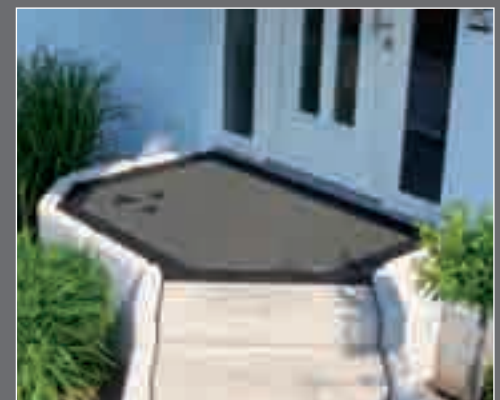


How to drain terraces and other things elegantly.

INNOVATIONS ON THE FLOOR.



Under the Purodrain brand name "Benno Maringer Dienstleistungen" from Biblis offers slightly different floor coverings. What at first glance looks like a normal pebble or gravel covering, when considered more closely, turns out to be an out-of-the-ordinary way of upgrading floors for a very wide variety of applications in the private, commercial and public sector. Without sealing the floor, OTTOCOLL® P 520 SP 5811, a polyurethane-based two-component adhesive, bonds the natural stone granulate. The surface thus created is quick to drain off more than just the surface water. Thanks to its grip and elasticity it is also a genuine alternative to concrete paving stones, and as the flooring on terraces and balconies, for drives and courtyards, in exhibition rooms or in sauna and wellness areas. Besides the rather technical advantages, planners and house owners are extremely enthusiastic about the creative freedom this innovative floor covering permits. With Purodrain it is possible to implement any shape and pattern right up to intricate inlay or mosaics without having to make any compromises. Moreover, around 20,000 different colour compositions can be realised.



New perspectives for an old acquaintance.

THE HIGH TECH LEGACY OF THE ROMANS: CONCRETE.

As far back as Roman times concrete was already known as opus caementitium. One thing they used it to build was the Pantheon, the largest dome in the classic age, which can still be seen today, 2,000 years later. But it was not until the 20th century that the advantages of this material started to be fully exploited by the building industry. Concrete can be processed fast; it can be cast excellently and structurally it can withstand high pressure. However, the disadvantages of concrete are obvious: it is very heavy and withstands tensile forces relatively badly. To compensate for the low tensile strength steel mats and belts are installed in the concrete to reinforce it.



The building material that dreams are made of.

DuraPact from Haan in North Rhine-Westphalia has specialised in a new form of concrete reinforcement: fibre-reinforced concrete technology. This opens up entirely new perspectives for the seemingly cumbersome building material, concrete. DuraPact substitutes the steel reinforcement with glass fibres and textile glass fabric, which do not react chemically to the alkaline content of the cement. In this way DuraPact exploits the static and design advantages of the concrete to the full, without having to accept such disadvantages as its heaviness. The extremely thin concrete surfaces, which can be achieved with this new method, causes not only architects of all types to hold their breath. Whether for modern kitchens or bath interiors, for trade fair, exhibition or shop construction, with DuraPact concrete is mastering entirely new functions. The potential applications and designs are virtually unlimited. DuraPact fibre-concrete technology is playing an increasingly important part on façades. This is because the very slender concrete elements, which now have only around 20% of the usual mass can be produced at a minimum thickness of approximately 18 millimetres. This makes it possible to save large quantities of CO₂ in view of the very energy-consuming manufacture and transportation of the heavy concrete. By the way, for interior work DuraPact uses numerous OTTO products, including the OTTOCOLL® M 500 power adhesive, which is extremely compatible with concrete.



Seat sculpture made from textile-reinforced concrete at the Stauffenberg-Gedenkstätte (memorial centre), Stuttgart.

Web tip

WWW.DURAPACT.ORG



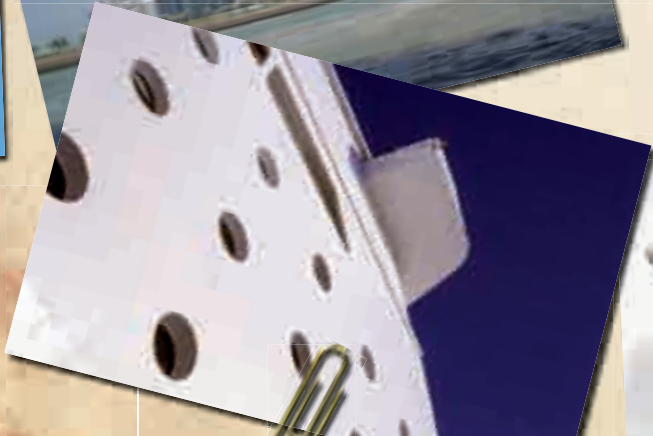
The invisible travelling co

OTTO products are to be found all over the world. And on the way there. It makes no difference whether by land, sea or in the air: anywhere, where exceptionally high quality is required, OTTO makes a small contribution towards a great holiday. Even under extreme conditions, such as aggressive sea air, heat, sunshine and vibrations. So when other people drive, fly or cruise on holiday, OTTO is always on duty. How comforting to have travelling companions such as these.

5.30 a.m., Frankfurt am Main: the ugly sound of my alarm clock is a rude awakening. The night was much too short. After work I was busy for ages packing my case. And then going through everything over and again: Passport? Here. Driving licence? Got it. Travel documents? ... well, somehow everything was ready at 11:20 p.m. And now everything goes in the car. The excitement about the journey and a cup of coffee ultimately overwhelm the tiredness. And the fact that it's raining makes me look forward to exotic landscapes even more.

Safety in every situation.

However, to begin with we head for Hamburg. With me: my wife. And someone you don't really ever think about: OTTO. It's still dark, but the headlights light up the road perfectly. Although I'm freezing a bit, behind the glass on the headlight it gets really hot, while the rain drums on on it on the outside. But the adhesive which holds the headlight together defies every temperature and every kind of weather. The diesel engine buzzes away soothingly; here too: valve cover seals and radiator sealants are from OTTO. And while I am just letting my thoughts run free, my wife suddenly cries out: "A deer!". I brake sharply but the deer runs back into the woods. That was lucky, but in an emergency situation the OTTO silicone-coated airbag would have prevented the worst. A sigh of relief.





ompanions.

OTTO holds the world together.

10:20 a.m., The Hanseatic City of Hamburg, Hafencity ("harbour city"), cruise terminal. We have parked the car and now we are on board our cruise ship, inspecting the cabin. I immediately take a look across to the industrial port through the porthole. A seagull greets from the outside. And again OTTO accompanies us; this time in the form of the adhesive and sealant on the porthole. Sun, seawater and the ship's movements make huge demands not only on the crew and the passengers, also on the materials. By the way: the bonds in the bathrooms on the luxury liner are also made with OTTO. Not that it is in any way conspicuous, because simply everything holds tight.

9:30 a.m., Singapore: for 3 weeks we enjoyed cruising on the sea. Now we are on our way to the airport. But not to go home; we're flying to Sydney. We're standing in front of an Airbus A380 for the first time with our mouths wide open. A huge bird. Every single detail of it must be just right. At our feet: OTTO again; to ensure that the flooring adheres absolutely perfectly in any situation.

With OTTO into the outback.

14:20 p.m., Sydney; just outside the city we pick up our camper. The latest model, from Germany. Well, at least it's no problem getting used to it. And we can concentrate entirely on the landscape. We drive for long stretches through the kind of scenery you normally only see on TV. And it's pretty hot. The sun is burning down. And OTTO holds. OTTO adhesives are very popular in caravan and camper construction. This is because they can be painted over and therefore do not disturb the modern design. I wouldn't have noticed it, but since my wife found the camper so stylish ...

Maybe we should go up even higher next time?

18:43 p.m. Frankfurt am Main. We're back in Germany. After the Australian trip we returned to Hamburg and then back to Frankfurt by car. We encountered OTTO in many more places. Too many places to be able to describe them all.






From Having **to Being.**

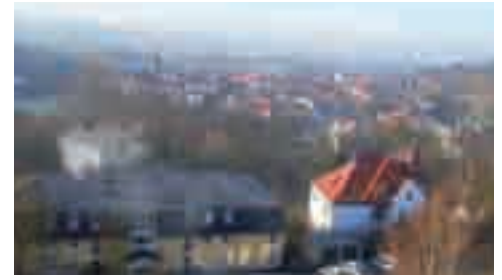
FOCUSING ON THE QUALITY
OF LIFE.

Luxury is a strange word. Whilst some people connect it with big yachts, magnificent villas, fast cars or expensive jewellery, to those who already have all of that, it means something quite different. For example, a survey commissioned by American Express, which included questioning particularly wealthy customers on the subject of luxury, brought to light some astonishing results: because in the eyes of the great majority of interviewees, true luxury primarily meant being healthy and having time – for the family, for friends and, above all for oneself.



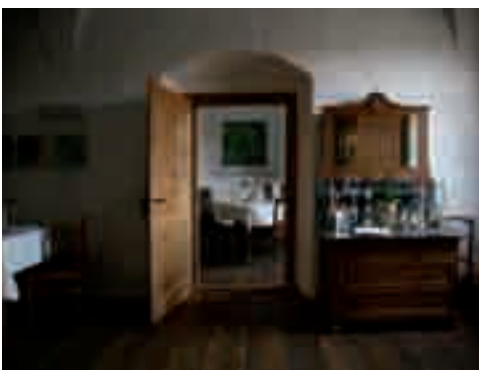
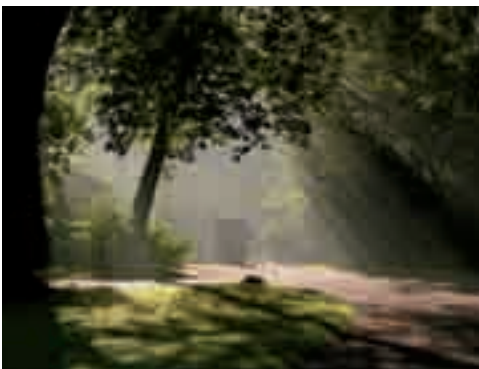
The paradoxical thing about this fact is: that normally you "invest" an enormous part of your lifetime and jeopardise your health owing to work, in order to be able to afford luxurious items. Nevertheless, you gradually become aware that the things in life we seem to take for granted have moved back into focus and are trying to allow a little bit of happiness in everyday life. One of those things is, for example, flexitime which, instead of making the family a marginal phenomenon, makes it the main focus or an occupation which is not simply a job to earn money, but where one can develop one's skills and oneself. This brings a little more healthy selfishness onto the agenda. And since this is a trend, there is a lovely English expression for it: the work-lifetime balance and it means simply getting more out of life in spite of work. You can also find a balance for work and new strength for the "ego" on holiday. If you know where to look for it.





The new generation spas.

About 15 years ago "wellness" was a foreign word with three question marks behind it in Germany. Hardly anyone who had not happened to work in that field in the United States had the slightest idea what was meant by it. Meanwhile it has become a whole industry in Germany. And every hotel with a slightly larger bathtub is proud to call itself a beauty farm or spa. This is where people, who seek to counterbalance their exhausting daily life yet continue searching forever because it is impossible to discover your true "self" from a little massage here and some Ayurveda there. It is a little too much to expect to regenerate body and soul on a one-week holiday in a converted hotel with a Feng Shui garden. Yet nevertheless, they do exist: auspicious places where you not only experience health close-up but can also have spiritual, holistic experiences without any esoteric nonsense. Destination spas, which used to be known stuffily as health spas, and were conceived and are now operated with much passion and expertise. Here one can find the real values which can give one a notion of why this life on planet earth – despite the shortness of our stay here – is truly worthwhile.



Bathing in happiness.

There is a landscape in Thuringia known as the "Tuscany of the East". And indeed, in this pleasant region full of warmth and lightness, rolling hills and old vineyards you feel as though you were in Italy. It is not a marketing gag which inventive tourism experts have thought up. Nor is it just nature which is reminiscent of southern regions. The Tuscany of the East near Weimar was always a cultural landscape at the heart of Germany; from the privy councillor, Goethe, to the Bauhaus in Weimar: here are the roots of important cultural impulses, which have changed the world. Salt has been extracted from the famous salines since times of old. Then came Goethe and he suggested setting up a spa, whereupon Bad Sulza became a delightful little spa town just outside Weimar. Today on many varied walks one discovers historic buildings, protected streams, opulent forests and elevations with breathtaking panoramas. In the evenings little restaurants entice you with regional specialities.







Liquid Sound® takes you into the unknown depths of consciousness.

Bad Sulza has a centuries-old tradition as a spa and place of healing which, is now continuing in the form of the spa and medical-spa programmes of the Toskana Spa. Depending on the personal needs of the spa guest, holistic medical applications involving naturopathic methods – such as Ayurveda cures – are used. The wellness programmes of the Toskana Spa take care of the rest so that guests can start out again into a better, successful life with new energy and inspired by new impressions. Bathing in liquid worlds of sound is a special highlight here. The salt water in the water-filled concert hall is at body temperature and you float in a sea of light and sound, protected as if you were an embryo in the womb. With music, select spoken texts and a gentle play of colours, the soul regenerates and one discovers thoughts and memories which seemed to have disappeared a long time ago.

Impulses for a tourism industry off the beaten track.

But standing still amounts to a step backwards. This is how – under the term "Sauna of the Future" – the Toskana Spa takes new pleasure in the old art of sweating for health reasons. This also includes an "Art Sauna" with video projections, a "lectarium" called the Reading Sauna to promote health and cultivate reading, and – in addition to the "classic" saunas ranging from mild to hot – there is also an auspicious-sounding "Wine Cellar Sauna" and a "Panorama Sauna" with a breathtaking view of the forests and vineyards of the Tuscany of the East. The Toskana Spa has given the international world of spas new impulses with its combination of thermal saltwater, light and music in a sensual spatial experience. The guests enjoy it; and the concept is expanding like the waves from a drop falling into the water. After Bad Sulza (near Weimar) and Bad Schandau (near Dresden), in Bad Orb (near Frankfurt/Main) a new, third Toskana Spa is under construction, with a holistic concept combining landscape and culture, health and self-awareness.

Pioneer of the Green Spa idea.

The Toskanaworld Group, which is responsible for the concept and operation of the thermal spa and sauna worlds, has given its activities the motto "Happiness and Health". It expresses an understanding for what ensures that the web of life, consisting of the individual, nature and society, will survive. It goes without saying that contemporary ecological options are part of the holistic art of healing. For example at the "Sauna of the Future" a geothermal system is integrated in the energy supply circuit, which delivers natural heat and protects fossil resources. The Toskana Spas are therefore considered to be the avant-garde of the Green Spa movement, which has formed in America and is campaigning for holistic, organic and environmentally friendly spas.

Web tip WWW.TOSKANAWORLD.NET





A passionate entrepreneur with a vision.

Visionaries can cope with being laughed at to begin with. That is what Klaus Dieter Böhm experienced when he and his wife Marion Schneider invested in Bad Sulza just after the Berlin wall fell. A mild climate, local wine, a landscape rich in culture and the healing properties of thermal saltwater offered favourable conditions. When Böhm learned that the region between Weimar, Jena and Naumburg was praised as Germany's Tuscany in old travel books, it became impossible

to halt his career as the "Tuscany-Maker" – the title by which he was introduced on radio and TV. Meanwhile his concept is now being exported as a model of success. As an expert on spas, Marion Schneider now enjoys an excellent international reputation and is Chairwoman of the British International Spa Association. Together with her husband she not only operates three spas and various hotels, but also a management consultancy for spas.

Silver for new values.



Even when it comes to such major values as happiness and health, it is necessary to go into detail, right down to the smallest joint. 650 metres of silicone joints were laid underwater and in showers and the sauna area. In 2008 Mr Böhm, founder of Toskana Spas, took the initiative and had all of the silicone joints in the spa at Bad Sulza treated with a mould-protection silicone which is based on silver ions and significantly slows down mould formation ecologically, and without harming anybody's health. The OTTO Fungitect® Silver technology was used for this purpose. The result of comparative field tests on silicone joints treated with conventional fungicide in the shower areas of the spa was clear:

OTTOSEAL® S 130 and S 140 afford the joint significantly longer mould protection. This is why today Klaus Dieter Böhm is already determined to use the newly developed silicone from OTTO on the new spa in Bad Orb and for the next renovation work at the spa in Bad Schandau.



The Puffin Pool in Berne.

A SWIMMING POOL FOR WINDY BIRDS.

Fratercula arctica belong to the species of arctic puffins, which in turn is a subspecies of the alcidae. There are still some 6 million of the birds better known as puffins living worldwide. 28 of them live in the Dählhölzli zoo in Berne. The puffins are remarkable, not just because of their conspicuous appearance, which is like a mixture between parrot and penguin. These agreeable contemporaries, who prefer to live on the windy cliffs of Norway, Iceland and the Faeroe Islands, usually use caves they have dug themselves, and they can fly superbly. Especially underwater. This is where they find their food, which is mainly fish. The birds catch them in significant numbers and skillfully collect them crosswise in their beaks to feed the young birds.

Waves, wind and over 360,000 litres of seawater.

Since March 26, 2009 at Dählhölzli Zoo in Berne visitors can watch the puffins at eye level with the birds. A wave and a wind machine produce approximately natural conditions in the facility. The "penguins of the north" plunge from the high cliffs into the cold water. They let themselves be washed ashore by the waves or they dive down and continue their "flight" underwater. This unique form of underwater locomotion can be seen through the two-metre high viewing window. The glass side of this impressive "show pool" was manufactured by Proverit AG, a medium-sized business from Zollikofen/Berne. A multilayer glass construction measuring almost 10 cm separates the delightful diving birds and over 360 cubic metres of water from the visitors to the zoo. OTTO supplied the two-component silicone OTTOCOLL® S 610 used to meet this interesting challenge.



Web tip WWW.PROVERIT.CH

Web tip WWW.TIERPARK-BERN.CH

Coating baking trays with OTTO.

MASTER OF VERSATILITY.

The many different names for bread rolls indicates that Germany has a unique baking culture. Again, OTTO makes a modest contribution to it. It provides a material the properties of which are probably just as versatile as the German bread scene. Although OTTO has dedicated itself to sealants and adhesives and has written it below its logo, for once the objective of using OTTO premium silicone at ITN Baatz is to separate rather than connect. This company has specialised in the coating of metal parts, such as baking tins or baking trays with nonstick materials. The OTTO food-safe, high-temperature silicones, Novasil® SP 5711 and Novasil® SP 5190 are used to coat baking trays. The special characteristic of Novasil® SP 5711 is that this product is available both in the usual reddish-brown colour and in anthracite. After all, even in the case of industrial products we "eat with our eyes first". OTTO supplies both products with a very low viscosity and at ITN Baatz it is again diluted with solvent to enable the material to be spray-coated.



Web tip

WWW.ITN-BAATZ.DE

The aircraft décors by
Decorative Products.

AIRBORNE DESIGN.

Last time you flew, did you think about who actually takes care of the design of the inside areas of the plane? Well, there are specialists for this too. For example, Decorative Products from Ahrensburg. Now, in conventional airliners the surfaces in the cabins are usually in white or a discrete grey. However in premium-class private planes things are entirely different. Tropical wood or marble are to be found here, or sophisticated graphic patterns or granite. However for reasons of safety and weight, this is of course pure illusion. Instead, the surfaces bear sophisticated prints, which are applied to the moulded "aircraft furniture" and partitions in a special process. It goes without saying that the décors meet all the relevant aviation and automotive standards. Nevertheless, they provide interior designers with total freedom to incorporate new trends in their designs. The complete package offered by Decorative Products includes laying the floor coverings in planes. And this is where OTTO comes into play. For sealing the floor coverings they use a special product from Fridolfing, which also has to meet the highest safety requirements of aircraft construction.



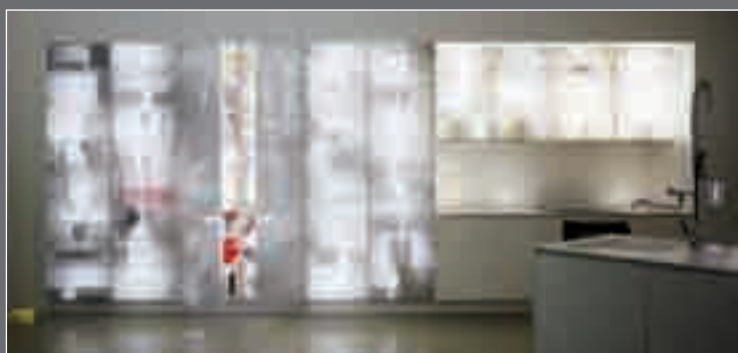
NEW FORMS OF FREEDOM.

About the unusual furnishings from Hasenkopf.

Once upon a time there was a small Upper Bavarian firm which – with two employees and capital amounting to 2,400 marks – specialised in the production of drawers ... And the rest of the Hasenkopf story sounds like a modern fairy tale. A fairy tale with no princesses or frogs, but with wondrous furniture and interior objects which many would hardly dare to dream about. At Hasenkopf innovation is part of the company's identity. Besides wood, which is still an extremely modern material, in a production area totalling 15,000 m², 150 employees process high tech materials such as Parapan[®], a high gloss acrylic, or Corian[®] to make sinks and wash basins, bathtubs and worktops, furniture fronts and doors. By round-moulding, grinding and cutting – or with the aid of various sealants and adhesives from OTTO – environments are brought forth which appear to know no limits to creativity. Hasenkopf focuses especially on light as an active and passive design element. For on the one hand only when light is directed at them does the uniqueness of the objects truly become apparent. On the other hand, lighting itself becomes the object.

Individual design made-to-measure.

Although Hasenkopf can easily produce larger quantities, the company is especially popular with interior designers, architects and demanding house owners because of its individual, customised one-off production, made-to-measure. So it is no wonder that many design-oriented industries, such as restaurants, the hotel business or retail trade have also cast an eye on Hasenkopf. For example, the world-famous architects, Zaha Hadid and Claudio Silvestrin work closely together with Hasenkopf to create new Corian[®] objects. Planners and designers gave Hasenkopf special recognition at the beginning of the year by awarding the company the "Innovation Award of Architecture and the Building Industry", which was bestowed on the company by a top-class jury from a competitive field of 65.



OTTO TREND



Web tip WWW.HASENKOPF.DE

The underestimated **precious metal.**

For over 7,000 years silver has been treasured as a valuable metal. Its high weight and typical lustre already made it popular with the Assyrians, Egyptians, Greeks, Romans, Goths, and Germanic peoples and at times it was even valued more than gold.

It was and still is appreciated by connoisseurs as coin metal, for elegant table silver as well as for musical instruments such as flutes. After all it was silver that paved the way for photography long before digital cameras had even been thought of.

Today still, silver is in high demand in industry, for example as a soldering agent. However, only a few insiders appear to know about the antibacterial and fungicide effect of silver.





A treasure for combating bacteria.

In medicine silver has already been used successfully for centuries because, when very finely distributed with a multitude of soluble silver ions, bacteria growth can be stopped and bacteria even killed off. In the human organism, however, silver ions quickly bond with sulphur and are soon eliminated from the meta-

bolic system without the body being harmed. In medicine this effect is used in the form of wound dressings containing silver, for harmless disinfectants with silver ions or as silver coatings for medical devices,

which are used inside the body. A further advantage of the shiny metal: micro organisms

do not build up any resistance to silver, so they cannot

become accustomed to the active component. It was a very long time ago that doctors started to use silver to combat all kinds of diseases.

Hildegard von Bingen (1098–1179) used silver

in accordance with the theory of juices of the Classical

Antiquity as a strong medicine for mucous congestion and coughs. In his Book of Nature Konrad von Megenberg, a 14th century canon and university scholar from Regensburg, mentioned that, mixed in powder form with precious creams, silver helps "against the persistent putrefaction" in the body. Among other things it was recommended for scabies, bleeding haemorrhoids and a weak metabolism. In 1869 a scientist by the name of Ravelin pointed out that even in very low doses it unfolds its antimicrobial effect. It is therefore no wonder that the biological properties are meanwhile being utilised by

industry for innovative products. For example, silver threads in socks are said to inhibit unpleasant odours. And silver fulfils the same purpose in refrigerators.

It has a sustained effect in combating mould.

OTTO also makes use of the effect of silver for its new "Fungitect®" product technology.

Generally speaking, sealant manufacturers usually equip silicones for sanitary areas with fungicides which can kill mould or at least inhibit its growth. However, these fungicides are only added to the sealants in small quantities to prevent them from becoming a health hazard. And they must be soluble for the mould to absorb them with the nutrients.

Hence their effectivity is limited in time. These fungicides cannot therefore afford reliable protection in the long term. Silver ions can

prevent mould in places which are continuously exposed to moisture without presenting any hazard to health or the environment. The OTTO Fungitect® silver technology was used for the first in OTTOSEAL® S 130 and S 140.

The result of comparative tests in the shower areas of a spar, also with silicones containing conventional fungicide was clear: The two innovative OTTO products did extremely well and provided the bathroom with significantly longer protection against the dreaded mould.

This is because, contrary to other silicones with anti-mould protection, Fungitect® is not washed out and can therefore develop its effect over a protracted period. By the way, natural stone can be jointed perfectly with both products. OTTOSEAL® S 140 is furthermore good for underwater sealing, for example in swimming baths. ■



THIS IS HOW SILVER WORKS.

The antibacterial and fungicide effect of silver is based on three effects. The ions block enzymes and thus prevent their vital transport function in the cell. Furthermore silver impairs the strength of the cell structures and damages the cell membranes. This not only inhibits the micro organisms in their growth, it even kills them. By contrast, silver is not toxic to human beings. One reason for this is that silver quickly attaches itself to the sulphur contained in the body, i.e. it oxidises and is eliminated as harmless silver sulphide.



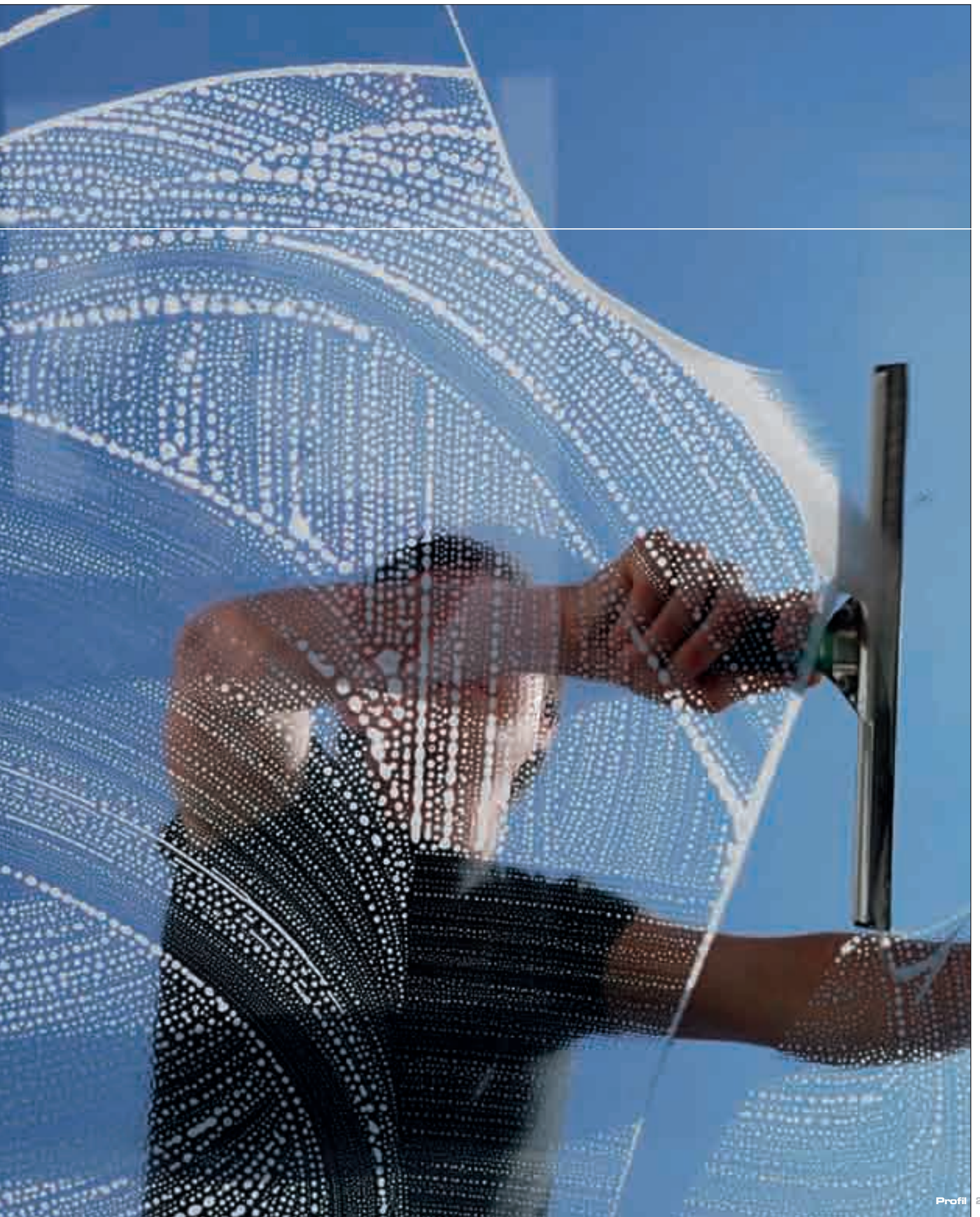
HOW WOOD-GLASS
COMPOSITE ELEMENTS
ARE CHANGING THE
BUILDING WORLD.

Revolution rather than **frames.**

It may only be a little revolution and OTTO's contribution to it is only a modest one: nevertheless, even the greatest progress always takes place by stringing together many successful little steps.

With a pioneering further technological development of the wood-glass composite elements one such small step has been successful, which may well have an impact in many different ways. An innovative, patented design makes it possible to build façades in glass and wood without a conspicuous wood frame.

The positive impact on architecture, wood craftsmanship, the lumber industry and forestry as well as on the energy balance and the quality of life in buildings is hard to assess at present.



From orangeries to conservatories.



Let us first look back at how glass and wood façades developed and hence also at the history of conservatories. The desire of French kings and other European dynasties for a golden citrus fruit laid the foundation stone for the development of conservatories. The aroma and taste of oranges, lemons, bergamot, pomegranates and grapefruit appealed to them.

So from the 16th century on at the courts collections of exotic trees were planted in the orangeries –

orange gardens. When the tub transporttrolley

was invented by André Le Nôtre

(1613–1700), the gardener

at Versailles, the trees be-

came mobile and the

term "Orangery"

stood for the

building in

which the

plants that were sensitive to frost were kept in winter. The orangeries soon became places for representation; they were used for Asian tea ceremonies and were characterised by a large glass façade which let light into the room and captured the heat from the sun.

Conservatories as we now know them were a consistent further development of these orangeries.

It serves as a surrogate garden in the cold season of the year. And, as its name suggests, today it is also a means of conserving energy.

In a conservatory part of the

light is converted into

thermal energy. To

prevent this gain

n energy from

being lost

again

owing

to thermal bridges,

for the glass façade it is

important that the design is

right and that heat insulation

materials are used.



Strong bones and a good mood thanks to light.

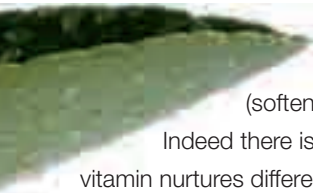
It is not only plants that depend on sunlight; human beings do, too. This is because vitamin D3 is formed in the skin with the aid of the UV-B in the light. This vitamin, and the metabolites which need it, directly and indirectly control important functions of the human organism. Vitamin D plays an important role in regulating the calcium level in the blood and for bone development.

In the medium term a vitamin-D deficit in children gives rise to rickets and can cause osteomalacia (softening of the bones) in adults.

Indeed there is suspicion that a lack of this vitamin nurtures different types of cancer and advances mortality in general. Too little sunlight makes people dejected and is responsible for the "winter blues" or, worse still, the "seasonal affective disorder" (SAD), known as winter depression. This disease is virtually unknown in the Mediterranean region, whereas in Scandinavia it is significantly more frequent than in Germany. Conservatories or large-surfaced glazed façades therefore also contribute towards stilling the body's hunger for light and keeping people healthy.

Energy catchers made from wood and glass.

As a building material for glass façades, wood has various advantages. It is easy to process, comparatively inexpensive and conducts heat significantly less well than, for example, metal. Furthermore, as a regenerative and regionally available building material, wood has an unbeatable ecological balance sheet. To date wood-glass façades were dependent on classic frames like those on windows. However, these frames could only be constructed up to a certain size and width. Besides, they have the disadvantage of limiting the view of nature owing to their large visible widths; and in some cases they used to cast shadows on the rooms and from the aesthetic point of view did not always satisfy the wishes of the architects or building owners. Therefore, for a long time there has been the idea of developing frameless wood-glass composite constructions connected directly to the support posts or mullions, usually also made of wood. However, before this idea could be implemented, a practicable system had first to be found which meets all the requirements in terms of statics, building law, aesthetics and economy.

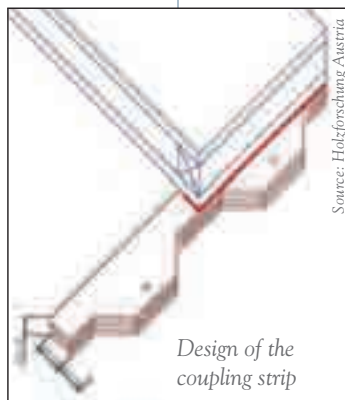


Joint development with Holzforschung Austria.

The torture chamber for wood-glass composite constructions.

A project initiated by Holzforschung Austria, Vienna, and the Institute for Window Technology, Rosenheim (*ift*), was to set the ball in motion. The objective was to develop a wood-glass composite system, which would make wide and expensive frames superfluous. OTTO was responsible for the adhesive concerns of this joint project. The design of the composite system is as ingenious as it is simple: a laminated wood coupling strip is bonded onto the insulated glass unit.

This coupling strip, which has meanwhile been registered for a patent, has multiple pre-drilled holes and a toothed geometry that interlocks with the adjacent composite element. It is screwed to the posts of the framework and makes it possible to limit the sightline of the coupling strip to a minimum.



This gives rise to an approximately two-centimetre wide joint, which then only requires grouting. So much for the theory. However, does this construction withstand the weight of the pane, strong gusts of wind, torsion, sound pressure, heavy rain or slight earthquakes? What are the optimal building materials, designs and dimensions of such a system? Which qualities must the adhesive have for it to be able to compensate the inevitable movement of the wood if the temperature or air humidity fluctuates? And how does the adhesive behave in the case of loads, which are more or less unrealistic in practice? To find this out, both the individual components and the overall system were subjected to a detailed investigation, computer simulations and tough practical tests.

While vertical forces are mainly braced by the supporting construction of the façade, the wood-glass composite construction must deal with horizontal forces such as wind pressure and suction. At the same time the dead weight of the glass or – in the case of inclined façades – additional pressure forces from snow loads are exerted on the glass. All these forces that arise were first captured in a computer at the competence centre of Holzforschung Austria in order to define the maximum values which may be found on the construction. Then the points of adhesion and also the other elements between wood and glass were subjected to diverse forces such as thrust, pressure and shearing as well as one-sided and contact loads under extreme climate conditions. It was thus possible to determine limit values up to which the bond between the materials will hold reliably. In addition to this, the scientists observe the behaviour of the adhesive when faced with

extreme demands such high temperatures and simultaneous pressure or in the case of extreme and long-lasting humidity. Further tests confirmed that the façade is airtight and driving-rainproof, which is important for passive and low-energy houses in order to obtain the necessary energy efficiency and prevent damage to the building. With the aid of the calculations and tests the prototypes were gradually improved and the ideal adhesive, a two-component silicone from OTTO, was found.

Prefabricated with care and quickly mounted.

The wood-glass composite elements developed by Holzforschung Austria, the coupling strip and the OTTOCOLL® S 660 adhesive and OTTOSEAL® S 7 sealant constitute a façade system which is available to the trades, is prefabricated in the workshop and can be mounted quickly at the building site. Thanks to the development and testing work there are no obstacles to hinder approval by the relevant building authority. Architects and building owners are sure to be delighted about a solution for glass façades up to a height of seven metres, which makes sense both ecologically and economically; furthermore it leaves nothing to be desired from the aesthetic point of view because from the outside all that can be seen is an expanse of glass. Visually the joints between the glass elements are no longer important. Moreover, based on data gained from the test phase, the engineers who plan supporting structures can soon use calculation programs which will make it easier to reliably plan, for example, inclined façades. Particularly when building wooden houses these innovative wood-glass composite elements constitute a genuine quantum leap towards modern, elegant wooden house designs, which are by no means inferior to conventional houses and at the same time meet the desire for sustainability in every respect.

Web tip WWW.HOLZFORSCHUNG.AT


Web tip WWW.IFT-ROSENHEIM.DE

From theory to practice.

Interested designers and craftsmen learned how and where wood-glass composite elements can be used, and how they are manufactured, at a first specialist OTTO convention on this topic on February 23 and 24 in Laufen a.d. Salzach, Bavaria. Besides an introduction to the guidelines and standards, the speakers also gave information on the development of the wood-glass composite elements and on how to select the appropriate adhesive and about its special properties. They also demonstrated the impressive results of this new technology from pilot projects relating to professional glazing and jointing. Then, on the second day there were practical demonstrations at three stations of how to correctly process the adhesive. ■



*The coupling strip with a pane of glass bonded onto it is screwed to the supporting structure.
The result: glass elements without the classic frame.*



"The best dreams are the ones that continue after you wake up". Since 1928 KLAFS has been creating places for body and soul to relax according to this motto. In 1928 Erich Klafs' company was founded in Stettin and in 1945 it was rebuilt in Schwäbisch Hall. To begin with the focus lay on activities in the field of medical baths. Originally a family company, KLAFS progressed to become world market leader as the company with the highest sales in the field of sauna, wellness and spa, today occupying 600 employees.

Wellness

BATHING IN STYLE
WITH KLAFS AND OTTO.

for the World.

For physical and aesthetic well-being.

Wellness and design are two sides of the same coin, which KLAFS has been bringing together for years. Working in close cooperation with famous designers, the company has repeatedly succeeded in developing products such as Proteo, a design sauna, the clear and reduced design idiom of which is captivating. Distinguished with the red dot design award and nominated for the German Design Award, for the first time a sauna received honours from the designer elite.

Custom-designed solutions for premium spas.

How KLAFS sets trends and its sensitive interpretations of market developments for each individual job is also evident in the commercial sector. From rough conceptions to the detailed planning and from the interior fittings through to commissioning, specialists from KLAFS have been dealing with the implementation of customer wishes since the mid-Nineties. The Hotel Traube in Tonbach, the Tschuggen mountain oasis by Mario Botta or the "Dolder Grand – The City Resort of Zurich" project by Sir Norman Foster are just a few examples of the competence of KLAFS for sauna and spa in hotels. Potential customers can experience this top-level competence intensively and physically in the "House of Sauna and Spa" at company headquarters in Schwäbisch Hall. KLAFS invites them to delve deeply into the World of Wellness and Spa and to enjoy very personal bathing experiences.

Market leader due to quality and customer orientation.

But it is not trend-setting design and all-round customer support ranging from consultancy, planning and production to installation that have made KLAFS world market leader. Equally important is the uncompromising quality standard, which is responsible for the good reputation of the company from Schwäbisch Hall today. It is therefore no coincidence that the choice of sealant for the very diverse functions in the entire wellness area – from steam bath and showers through to a Turkish Hamam – fell on the special product, Novasil® SP 2912 from OTTO. The special features of this product: the unusual steam resistance which the "normal" sealants do not have to this extent. And there was another reason for favouring OTTO as a partner: the high degree of customer orientation. OTTO adapts the colour of Novasil® SP 2912 exactly to match the wishes of the planners and designers. This has meanwhile resulted in 54 tailor-made special colours for the product. ■



*Cresta Palace,
Celerina, Switzerland*

SILICON, SILICATE, SILICONE AND
OTHER MEMBERS OF THE FAMILY.

Silicon oxide in its most beautiful form: mountain crystal.



Mother **Nature.**

Father **Progress.**

What do mountain crystals and micro chips, photovoltaic elements and sealants, flexible cake moulds and glass, sand and breast implants have in common? As incredible as it may sound, all these things are based on the same element: silicon. After oxygen and with an approximately 25% share, it is the element that occurs most frequently in the earth crust to which humans have access. However, by nature it never occurs in its elemental form; only in compounds.



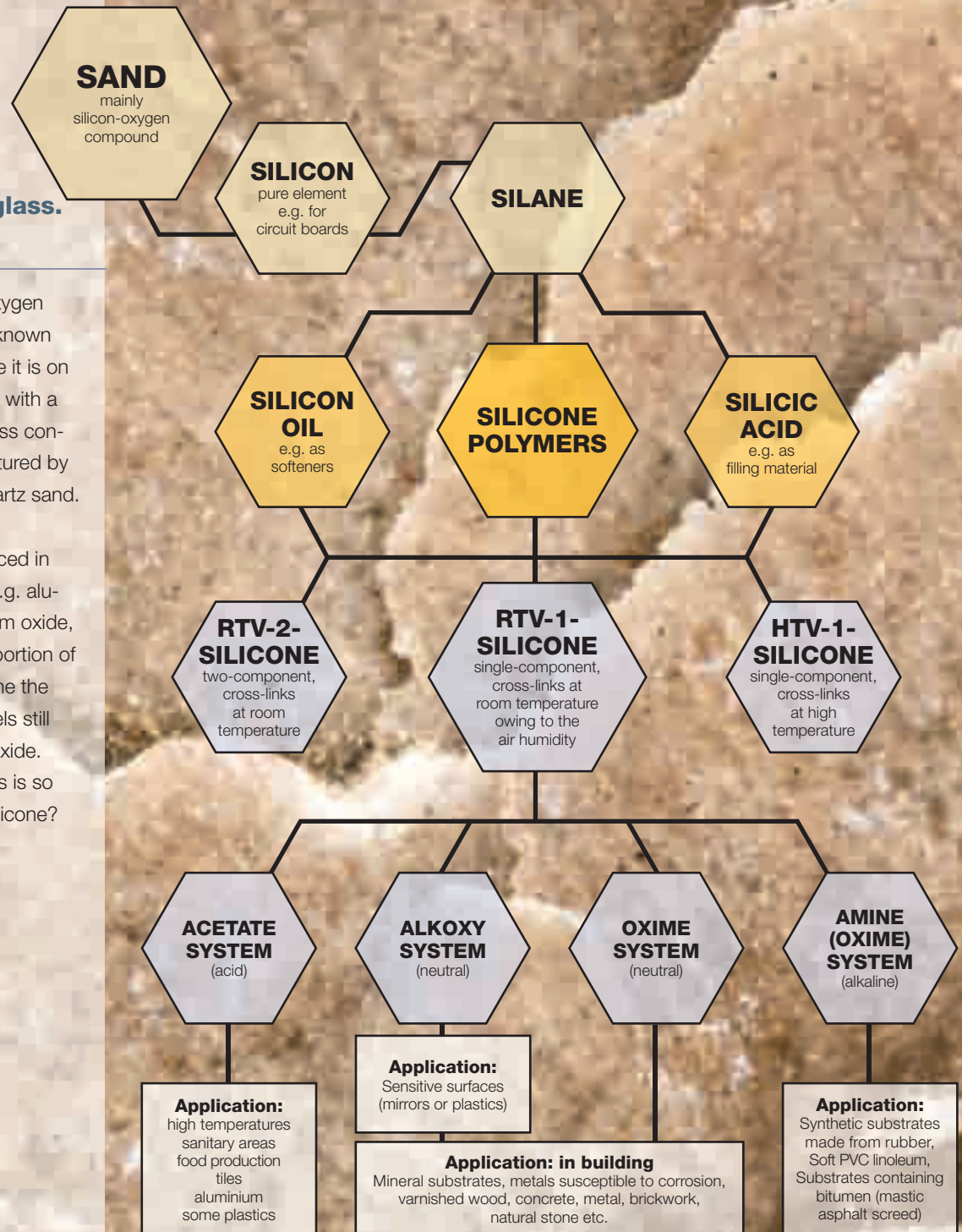
It is the special properties of pure silicon which make it possible to manufacture products such as micro-chips and photovoltaic elements. So-called silicon wafers are generated for production. Wafers are circular, approximately 1-mm thick discs, which frequently consist of monocrystalline silicon. Wafers are the basis on the surface of which photoelectric coatings or integrated circuits ("chips") are applied by means of a variety of technical processes.



Sand transforms into glass.

Sand mainly consists of a silicon-oxygen compound (silicon-dioxide), better known as "quartz" which, depending where it is on earth, is to be found in combination with a variety of other minerals. Quartz glass consists of pure quartz and is manufactured by producing a melt from ultrapure quartz sand.

Other types of glass are also produced in combination with different oxides (e.g. aluminium oxide, iron oxide, magnesium oxide, etc.). The combination and the proportion of the aforementioned oxides determine the properties of the glass. Even enamels still contain roughly 40 percent silicon oxide. Whether this is the reason that glass is so compatible with its close relative, silicone?



Varied applications thanks to different cross-linking.

WHICH SEALANT IS SUITABLE FOR WHICH PURPOSE?

In order to transform the chainlike silicone molecules (polymers) into silicone sealants, they must be compounded by means of cross-linking. The type of cross-linking in turn has an influence on where the sealant can be used. As a rule, all fully cured silicone sealants are very stable and in the cross-linked state can resist UV impact and high temperatures, weathering or the ravages of time. When they are not fully cured, the cross-

linkers may cause undesirable chemical reactions with the surrounding materials. Hence, the right choice of cross-linker is crucial for the respective application. In the case of single-component silicone sealants which cross-link at room temperature (RTV-1), a basic distinction is made between acid, neutral and alkaline cross-linkers, which one can distinguish simply by the smell. Acetate cross-linking sealants, which are identifi-

able by the typical vinegary smell, are used where acid cannot harm the materials, for example on tiles or aluminium. Neutral cross-linkers (slight minty odour) are used in sealants which are required for especially sensitive environments or where acid would react with, for example, metals. And slightly alkaline cross-linkers are used for applications on synthetic substrates, for example.

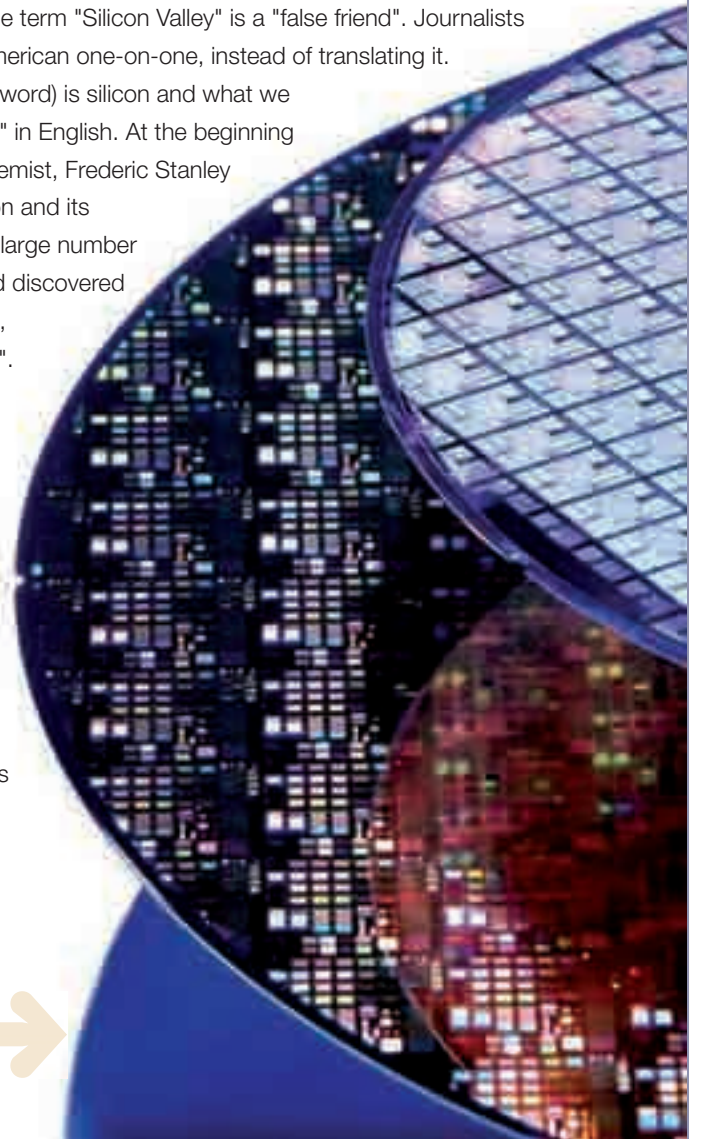


Confusing family relationships and "false friends".



À propos silicone. To Germans the term "Silicon Valley" is a "false friend". Journalists have adopted a term from the American one-on-one, instead of translating it. In English "Silizium" (the German word) is silicon and what we Germans call "Silicon" is "silicone" in English. At the beginning of the 20th century the English chemist, Frederic Stanley Kipling, experimented with silicon and its compounds. He first produced a large number of silicon-carbon compounds and discovered resin-like products in the process, which he termed "silicon ketones". So, hence the name "silicon".

Silicon Valley is a region in California with a very high density of companies producing computers, semi-conductors and electronic components. Now let's raise the degree of confusion: silicon is an elementary base substance for the production of silicone as is to be found in the sealants and adhesives from OTTO.



Sealant discovered by chance.

The production of silicon compounds needed for producing a wide variety of silicone sealants is effected by means of different, successive synthesis pathways. To begin with silicon is produced from quartz sand in a thermal process. Temperatures of over 1,700 °C are required to separate the silicon from the oxygen atoms.

In the next step in the manufacture of silicone, the silicon is converted into silanes by chemical reaction. In 1940 the US chemist, Eugene G. Rochow, and the German chemist, Richard Müller, almost simultaneously found a way to produce silanes, one of the most important preliminary products for the manufacture of silicones. Müller actually wanted to develop an artificial fog to camouflage the German city during the war. In the end, while experimenting, he finally happened to discover a stringy white mass: silicone. This is why today the synthesis process is known as the Müller-Rochow synthesis.

For those who want to know all about it: softeners, fillers, cross-linkers & co.

Here at the latest, we must warn our gracious reader: we are now entering into the details of silicone chemistry, which is unfortunately rather complex. But anyone who would like to know the secret of silicones, and does not want to continue to believe that silicones have "something to do with rubber", we recommend that you read the following lines.

The silanes, a group of silicon and hydrogen compounds, represent the basis for manufacturing silicones. Owing to the condensation reaction, if the process control is appropriate, the silanes combine to form high molecular chains. The silicone oils or silicone polymers can be produced due to the chemical reactions. The silicone polymers are distinguished from the silicone oils by the fact that these have groups at the end of the polymer chains which are accessible for cross-linking reactions.

Another group of silicon compounds plays an important role for the properties of a silicone sealant. When certain silanes are converted, pyrogenous silicic acids can be produced in an oxyhydrogen flame (combustion of hydrogen and oxygen), which can be used as fillers in silicone sealants. Their type and quantity significantly influence the mechanical and chemical behaviour of the silicone elastomers which arise from cross-linking.

As a rule the silicone sealants consist of silicone polymers, softeners (e.g. silicone oils), fillers (e.g. silicic acid), cross-linkers and other adjuvants (e.g. catalysts). The function of the so-called cross-linkers consists in linking the individual polymer chains together to make silicone rubber. This reaction of the polymers with the cross-linkers gives rise to different cleavage products, which escape from the silicone and have a perceptible odour. Besides the single-component silicone sealants, which cure with air humidity at room temperature, there are also two-component condensation cross-linking silicones as well as those which cross-link at higher temperatures. Among the single-component silicone sealants there are different cross-linking systems, which differ in terms of their properties and hence in some cases also have different applications.



Silicone surface on a conveyor belt for industrially-produced bakery products.

Applications ten a penny.

The versatility of the silicones in their characteristics and in manufacturing also makes itself evident in the different options for using them. Silicones form bonds. Their resistance towards the widest variety of influences (temperature, chemicals, physical forces) and their flexibility make them an ideal basis for a whole spectrum of innovative applications.



Silicone bakeware withstands oven temperatures without changing.

Thanks to their temperature stability – in some cases silicones can withstand 300 °C – some silicones have entered the kitchen. For example, today people like to bake a Guglhupf in a flexible silicone baking form and in the industrial production of rolls, the latter are conveyed through the ovens on silicone-coated belts. Silicone oils are used on shoes and for house renovations as a water-proofing agent. When introduced to the brickwork it stops the rising damp in old buildings. Dental technicians make moulds for teeth and maxillary implants, which are accurate down to the smallest detail.



Silicone mould for false teeth.

Today over 14,000 silicone products exist which range from liquid to firm in consistency and in almost every industry: from the paper and printing industry, to electronics and electrical engineering, the cosmetics and textile industry, the automotive industry and in mechanical engineering, medical technology and, last but not least, of course, the building industry. The proverbial "ten a penny" is therefore not only true of the original element silicon, it also applies to the distant relative, silicone. ■

Much too **good** for **driving**.

New object by
Tzuri Gueta



Web tip WWW.TZURIGUETA.COM

Whether it is a tribute to the bicycle as an environmentally sound means of transport or an expression of organic design, it is up to each viewer to decide for himself. However, it is clear that Tzuri Gueta, an Israeli-French designer, has again created unique works in which one can always discover new details. His bicycle, which was exhibited at the Paris Designer Days, looks like an artefact which has been left to nature. But if one looks more closely, one discovers the fine works, which have been created from silicone by human hands.

There is hardly another artist who has worked as intensively with the potential colours and shapes of silicone as Tzuri Gueta. Even if they are among the most unusual applications of OTTO premium products, the artist's works again indicate the potential inherent to these fascinating materials. Chapeau, Monsieur Gueta!



25 YEARS
OTTOSEAL® S 100.

Happy

Birth Bathroom

This is the story of a very special OTTO product. And it reads like a success story, which otherwise is only to be found in the biographies of great entrepreneurs.

The premium bathroom silicone, OTTOSEAL® S 100 has been on the market for 25 years. A good reason to celebrate and cast a glance into the past of this extraordinarily successful joint silicone.

Until about the mid-Eighties, OTTO was chiefly occupied with the glass and window sector with regard to the development and sales of sealants and adhesives. Various attempts to gain a footing with the tilers – and above all in the tile trade – with a bathroom silicone, failed. The competitors were far too powerful and their products too well-placed in the market. There are two possibilities in such situations: give up or think up something which customers need and other manufacturers are not be able to offer.

A VERY PRESENTABLE RESULT.

Over the past 25 years some 100 million cartridges of this product, which is highly appreciated by the innumerable craftsmen who use it, have been sold. So the word "premium" really befits it. With this quantity you can fill around 16,000 km of joints or seal the joints in 2 million



OTTO
SEAL
S100

day, Superstar!



Farewell to monotony.

At OTTO they thought about it and thought something up. The resourceful product developers had noticed that up to that time bathroom silicone was only available in the standard colours: transparent, white, grey, brown and black. This greatly limited the design options in the bathroom and toilet. So, under the name "Fugendicht-Silicon" OTTO developed a product which it was possible to offer in a wide variety of colours to match the most popular tile colours of the Eighties. These colours and their names corresponded to the bathroom colours of Villeroy & Boch. The current colour names, such as moss green, bahama beige, bermuda blue, curry, sorrento, evergreen or sunset, date back to this time.

Innovative processing quality and sales.

However, colour variety alone is not enough for OTTO as a sales argument. The quality of the new product was to surpass all other jointing silicones and make daily work for tilers and grouters easier. To make the new colours and the quality of the product really "graspable" at OTTO another innovation has been developed; this time for marketing. The various colours – at that time around 35 – were applied by hand in the form of a spot of silicone on a sample colour sheet, instead of simply printing the colours in a prospectus. This enabled the craftsman to compare the silicone samples immediately and directly with the tile material and they did not have to rely on dubious colour information.

Customer orientation, that fits the bill.

In a "circular" in 1985 – primarily to the German tile dealers – this special product was introduced as "Fugendicht-Silicon". The circular was accompanied by a colour chart and an offer for different quantities. The response was surprising and overwhelming at once. Nobody at OTTO had expected it.

The orders fluttered in by the dozen. "1 Pallet in white + 2 boxes of bahama beige + 1 box of curry" – would have been a typical order. At this point in time the market position of OTTO in the tile trade changed dramatically, much to the annoyance of competitors with distinguished names. At the end of 2002 the Fugendicht-Silicon was re-named "OTTOSEAL® S 100 – the premium bathroom silicone" in the course of a general restyling of the OTTO product range. An that is still its name today. ■

average bathrooms. The standard assortment of colours of OTTOSEAL® S 100 meanwhile encompasses 75 colours. In addition, there is an immense number of special colours, which have been developed for individual customers and buildings.



One of the first colour charts from 1985 and a former cartridge.

Solar plant for the roof of the world:

OTTO IN TIBET.



Solar plants all over the world, whether for power or hot water generation, are meanwhile part of everyday life. But on the "Roof of the World"? The term is by no means inappropriate. Lhasa, capital of the autonomous Chinese Republic of Tibet, is situated around 3,600 metres above sea level and is hence closer to the sun than any other major city. In principle the clear air and intensity of the sun are ideal conditions for utilising the solar energy, which is urgently required here for hot water and heating. However, the extremely low temperatures at night and the strong insolation during the day were not the only

challenges Bosch Solarthermie GmbH (Wettingen) found itself confronted with when it received the contract for installing 182 collectors on an office building belonging to China Telecom. For Lhasa, also the location of the famous Potala Palace of the Dalai Lama, is 3,000 km away from Peking and cannot be reached by motorways. The drive took two weeks by lorry. However, even under the tough conditions on the roof of the world, the sealants and adhesives from OTTO, which overcame and still overcome the strain of the journey there, can be relied upon.

Right to the top.

OTTO IN THE HIGHEST BUILDING IN THE WORLD.

On January 4th 2010 in Dubai the "Burj Khalifa", the highest building in the world, was officially opened. The incredible 830-metre tower, on which up to 12,000 workers were working at peak times, houses the world's first Armani hotel, 779 apartments as well as offices and a viewing platform with a terrace. The expertise of numerous German specialist firms was utilised both for building it and for the interior construction. Including OTTO. The Al-Waheed company from Dubai supplied the desired premium sealant in the form of OTTOSEAL® S 70 in a special colour for filling the connecting joints between the wooden floors and natural stone with technical perfection and in the right colour.



Successful camouflage.

THE ART OF INVISIBLE JOINTS.

OTTO solved a rather unspectacular problem affecting the building project, "Het Baken van Leiden" in Vlietpoort. It was the special wish of the architect that the joints on the round tower with its typical brick-red clinker façade should not be visible. OTTO customer, All-Kit in Speijkensisse, turned to OTTO. With a brick for a sample, the colour of the hybrid sealant, OTTOSEAL® M 360 was adapted to exactly match the brick colour. A total of around 248 aluminium sachets, each containing 580 ml of the special brick-red sealant made their way to Holland, never to appear again, or rather without impairing the identity of a magnificent building. And, of course, to seal it perfectly.

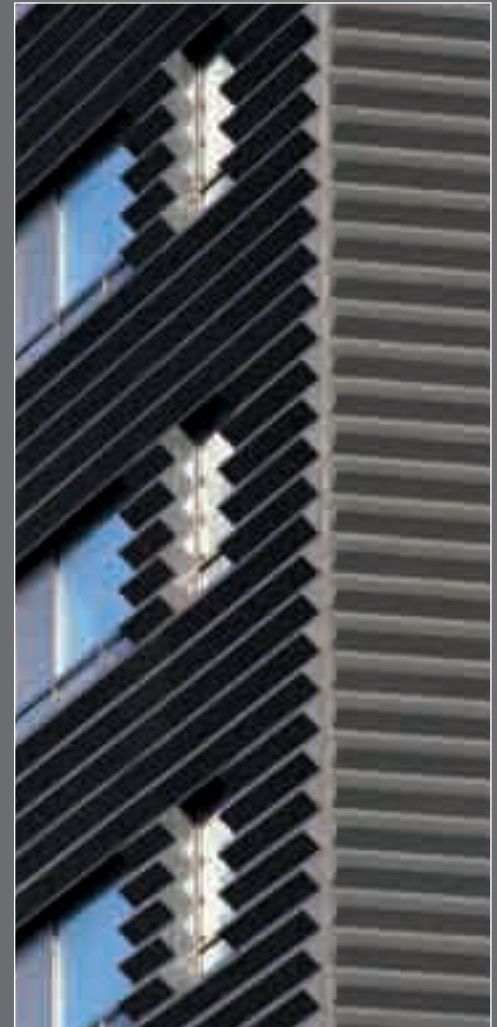


Living in the tower with certain extras.

RIGHT AT THE TOP IN THE HAGUE.

Besides the Statue of Liberty, the Empire State Building and the Chrysler Building the Flatiron Building belongs among the architectural landmarks of New York owing to its characteristic triangular shape. From 1899 to 1908, at 119 metres it was even the highest building in the city. At 132 metres, since 2007 the highest building in The Hague has been Het Strijkijzer (the Flat Iron), which its architect, Paul Bontenbal, intentionally modelled on the shape of the building in New York. On the inside Het Strijkijzer houses 300 one-room apartments for young people and 41 luxury apartments. A trendy Grand Café, a modern laundrette and fitness facilities are

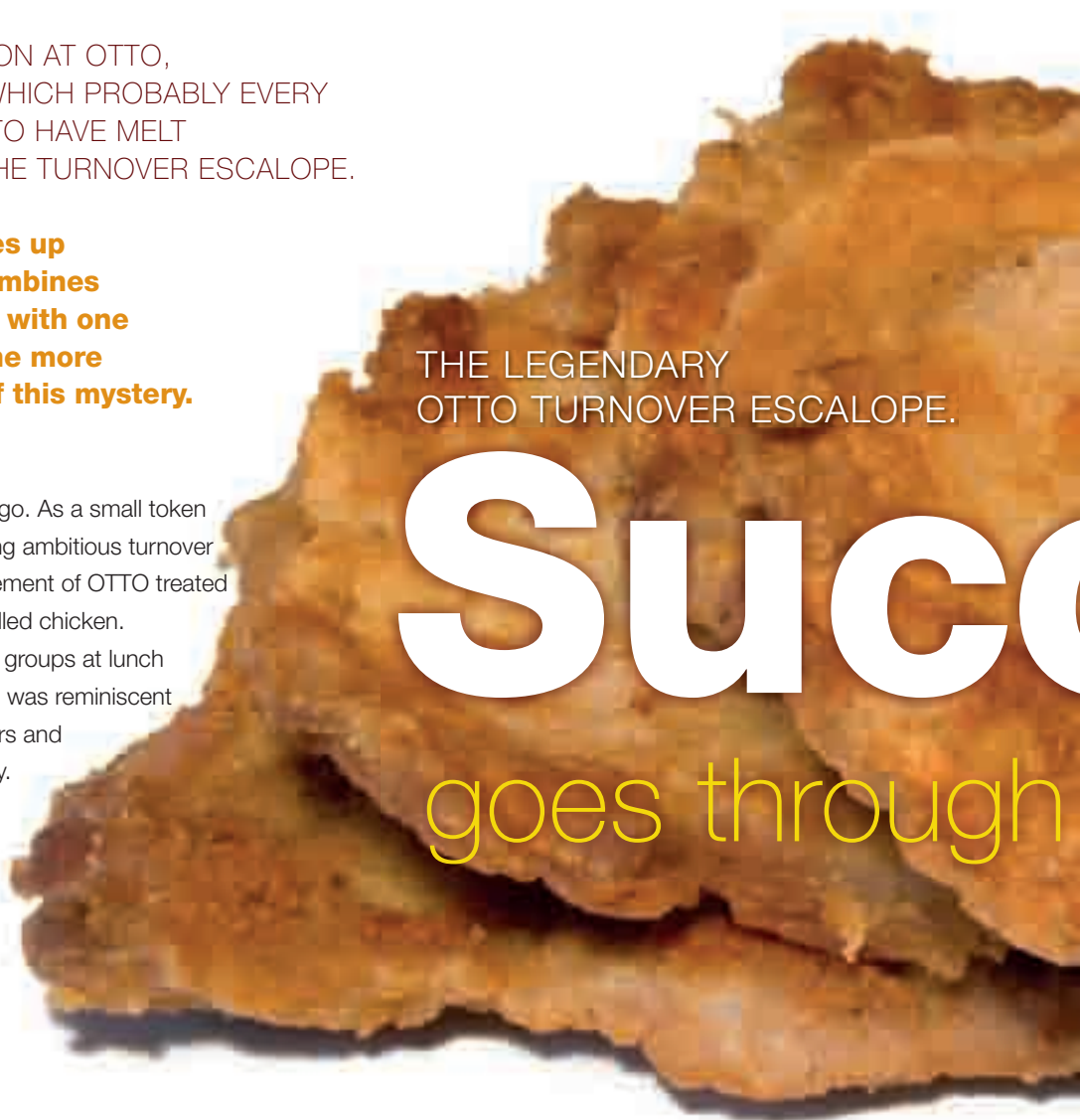
to be found on the ground floor, as well as workrooms and showrooms. Technically the building is state of the art. Those who live there have keycards instead of keys and a kind of paternoster rotation system replaces the classic mailboxes. With OTTOSEAL® S 110 on the interior façade the jointing is structurally excellent. The public restaurant on the top – the 42nd – floor affords a breathtaking view over The Hague and the sea. For its architecture the impressive building was awarded the 2007 Golden Emporias Skyscraper Award as the best building in the Netherlands.



THERE IS A TRADITION AT OTTO, INDEED A RITUAL, WHICH PROBABLY EVERY EMPLOYEE LOVES TO HAVE MELT IN THEIR MOUTH: THE TURNOVER ESCALOPE.

To outsiders this term conjures up question marks because it combines a business management term with one from the catering industry. One more reason to get to the bottom of this mystery.

It started about 15 years ago. As a small token of appreciation for achieving ambitious turnover targets, the senior management of OTTO treated the employees to half a grilled chicken. This was eaten together in groups at lunch time. We don't know if this was reminiscent of the rituals of early hunters and gatherers sharing their prey. However, we do know that not everybody likes chicken, so the turnover chicken became the turnover escalope.



THE LEGENDARY OTTO TURNOVER ESCALOPE.

Success goes through

For all those who would like to celebrate their success with a turnover escalope, but unfortunately do not work at OTTO, we sincerely recommend this recipe. Bon appétit!

THE ORIGINAL VIENNESE ESCALOPE



- INGREDIENTS:
- 2 veal escalopes (each weighing 150–200 g)
 - Salt
 - Pepper
 - 3 tbsp. flour
 - 3 tbsp. breadcrumbs
 - 1 large egg
 - Clarified butter
 - 1/2 lemon (if possible untreated)

1. *Rinse the escalopes in cold water, pat dry, slightly pound and snip the edges in several places.*



2. *Put flour and breadcrumbs on separate plates. Stir the egg and a little salt in a soup plate using a fork.*



Success in the stomach.

Employee incentive with breadcrumbs.

Still today, this wonderful Viennese escalope is delivered to OTTO together with the potato salad by a local innkeeper, Wimmer, and is then eaten by the OTTO employees if they have succeeded in selling OTTO products in excess of the defined targets. Therefore the number of turnover escalopes per year is a good indicator for the business success of the Fridolfing company. However, this indicator enjoys little attention from economics research institutes. And it goes without saying that the competitiveness of its products was also ignored.

In 2009 – which was, after all, the year of international financial crisis – the escalope was served

nine times. It is hard to predict how many escalopes it will be in 2010. Besides, the turnover escalope is and remains primarily a sign of good relationships. On the one hand between the workforce and senior management, and on the other between breadcrumbs and meat.

The Viennese escalope: Austria's culinary ambassador.

The Viennese escalope is probably a further development of the Milanese manner of preparation, which only uses whisked egg and flour for the batter. Field-Marshal Radetzky is said to have brought the recipe from Milan in 1857. The distinguishing features of a good Viennese escalope are its golden-yellow colour, the crispy batter which slightly detaches itself from the meat, the fine buttery flavour of the clarified butter for frying and the tender, very thin meat itself. It is considered to be Austria's culinary export hit but is also prepared – and enjoyed as much – in the neighbouring regions (for example in Fridolfing). Even if the traditional recipe for Viennese escalope prescribes veal, for a genuine Viennese it is no breach of style to eat a pork escalope with the same batter. ■

3. Now put the batter on the escalope by first flouring it on both sides, then draw it through the egg and finally cover it with breadcrumbs on both sides.



4. Heat the clarified butter in a frying pan to approximately 160 °C, fry the escalope on both sides, floating in fat, for 2–3 minutes.



5. Allow the fried escalope to drip off on kitchen paper and serve with a slice of lemon. The OTTO accompaniment: potato salad.



The Finite Resource.

Petroleum, the industrial drug,
and its consequences.

Too good to burn.

There are 70,000 industrial products requiring petroleum as a basic material in the manufacturing process, ranging from fertilisers and plastics for a wide variety of uses, paints and varnishes, washing and cleaning agents all the way through to pharmaceutical products. In the chemicals industry petroleum plays an important role. Most chemical products can be developed from some 300 basic chemicals. Today 90% of these molecular compounds are gained from petroleum and natural gas. Some 7% of the global petroleum production forms the basis for these chemical base products. Without petroleum these base chemicals would have to be manufactured by means of much more complicated and expensive processes with a high energy consumption.



The search for alternative sources of energy.

Whether it be climate protection or independence from oil: politics has discovered the importance of searching for new sources of energy for the individual economies.

Of course this also includes many measures the sense of which is debatable. One positive example is Sweden; it intends to be entirely independent of energy imports by the year 2020. In Germany solar and wind power plants are subsidised to gain greater independence from oil by means of a sound energy mix. Last but not least, owing to the recent oil price shock, at long last really efficient cars are coming onto the market and the breakthrough for energy-saving electric cars should come soon, not least of all owing to funding and promotion programmes which have been planned with the support of all the parties.

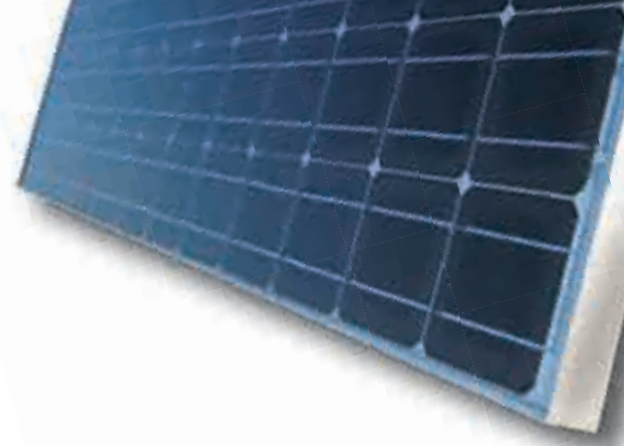
Free energy with high quality products from OTTO.

For over a decade OTTO has been supplying leading global companies in the solar industry with individually developed silicone sealants and adhesives. Manufacturers of photovoltaic modules and solar collectors for hot water production profit from the knowledge and experience from over 40 years of research and development, of recipe development, the production and industrial processing of special silicones in the form of adhesives and sealants. In view of the fact that solar power plants require many years to earn the high investment costs, quality right down to the most minute detail is an indispensable factor in this branch of industry. The adhesives and sealants required for this are also exposed to extreme stress. They must withstand and compensate alternating cold and heat fluctuations of up to 100 °C, put up with UV radiation without coming to harm, and survive mechanical deformations without damage and prevent moisture from reaching sensitive components. OTTO products are used for bonding the module frames, for the glass and metal bonds on the frame, for fixing metal supports on the rear side and as a potting material and adhesives for electrical junction boxes.

A small contribution to big projects.

In all aspects of house building and restoration OTTO makes a small, but important contribution towards improving the energy balance and optimising the use of energy. For example, the OTTOCOLL® P 270 foil adhesive is used for airtight bonding of vapour retarders and vapour barriers under the roof. This prevents the warm indoor air from escaping to the outside. Or roof beams and brickwork are protected from moist room air which would condensate there and cause significant damage.

By means of special sealants on window connection joints, OTTO also ensures that the environment and buildings are protected. The well-coordinated components of this complex and tested system make sure that while residual moisture can leak out, the room air cannot get between the sealant layers.



A further contribution is the frameless window bond with which OTTO is considered to be the technological leader. By this method window areas are created which have the effect of captivating the sunshine, thus using it passively to heat the room air. Large expanses of natural stone façades on office buildings have the opposite effect.

In view of the fact that the stone is slow to warm up and at the same time throws shadow on the building, in this area it is possible to save a lot of energy for air conditioning systems. Between the stone elements and even under the toughest climate conditions for example the OTTOSEAL® S 70 premium sealant still fulfils its purpose reliably.

Win future thinking.



All participants who answer the question correctly have the chance to win one of 25 DVDs of this breathtakingly beautiful film by Yann Arthus-Bertrand called "HOME". Fill in the right answer on the attached fax sheet and send it to **0049-8684-908-549**

Good luck!

Question:

How many years has OTTO been supplying the leading global companies in the solar industry with individually developed silicone sealants and adhesives?

- For over a decade
- for more than 50 years
- for 3 years



Sealants • Adhesives

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