

OKULEN[®]



Engineering
plastics



Hello there –
we are OKULEN®.



OKULEN® Die Köpfe machen den Unterschied *People make the difference*



Engineering plastics. Versatile, innovative, high-grade.

We have been technical partners for the development, production and processing of tailor-made high-tech polymers for clients all over the world for more than 40 years.

Free thinking and action are the only way for us to consistently break completely new ground in plastics production and develop innovative solutions for ever-increasing market requirements.

Each of our 240 committed employees is asked to share their experience and contribute their innovative spirit. We also attach great importance to improving our employees' qualifications on a continuous basis.

We are not a major company. We're a solid, medium-sized family firm. We make a living from the many strengths that we have acquired over the course of our company's history:

- A comprehensive portfolio
- Exceptional innovative spirit
- Compliance with delivery periods
- Text-book quality assurance
- Reliable

We have acquired comprehensive sector-specific expertise thanks to our international operations and many innovations, particularly those related to UHMWPE polymers.

As your experienced partner, we manufacture components tailored to your requirements and work with you to optimise the materials needed for their specific purpose.

**We are OKULEN® –
how can we help you advance?**



What OKULEN® represents is a comprehensive product portfolio combined with motivated employees and state-of-the-art machining and treatment processes.

Rainer Gosling, CEO

Creative ideas for large projects.

OKULEN® – no compromises.

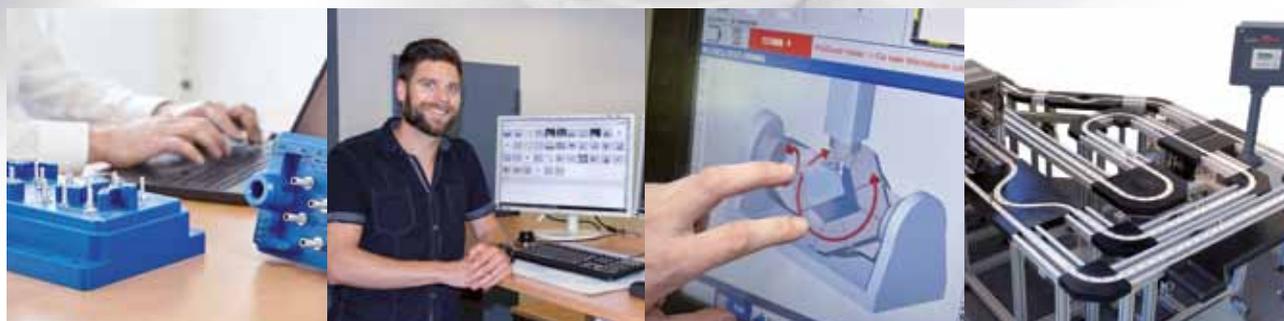
At OKULEN®, it is the employees who achieve great results as a team – from the initial idea through to production and sales. We are particularly proud of this resource. Superior quality is assured: people make the difference.

At OKULEN®, we control every step related to the manufacture of our engineering plastics ourselves. That's why we have excellently trained specialists for every part of the process – whether they work in toolmaking, in-house mechanical engineering, our laboratory, production and manufacture, quality control or in all-important administration and sales. This single-supplier approach is extremely efficient and eliminates unnecessary costs.

We also make no compromises when it comes to raw materials either: we acquire them from highly reliable, established manufacturers. Materials are finished in our in-house mixer. During this process, we do not simply rely on standard blends, but work permanently on developing optimised formulas to achieve even better material properties.

Our promise: our plastics provide the very best utilities with perfect slide properties and excellent wear and impact resistance. What's more, they are produced in consistently high, certified quality.

Place your trust in the OKULEN® team and quality.



Many products, a single quality.

You could say we're being fussy,
but we call it quality assurance.

Marc Beuting, R&D



Our own laboratory makes these things possible.

Rest assured: you'll always receive OKULEN® products with the same outstanding quality standard. To ensure this is the case, we only use raw materials from renowned manufacturers.

All tests are carried out in our in-house laboratory, which is separate from manufacturing. Comprehensive testing options enable us to issue the following certificates:

- Inspection certificate 3.1 as per EN 10204
- Test report 2.2 as per EN 10204
- Declaration of compliance 2.1 as per EN 10204



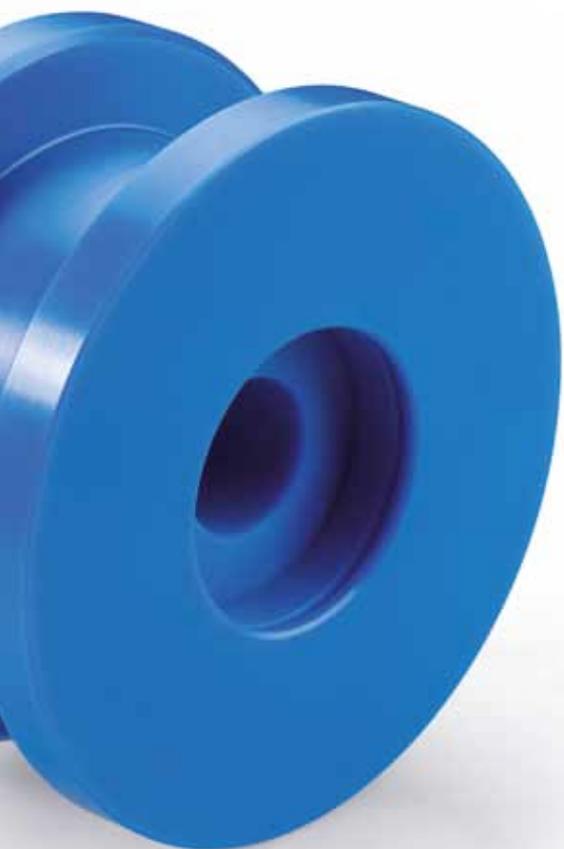
Our quality: exceptional.

A material, semi-finished part or finished component is not approved until exhaustive tests have been performed. Our quality management system is certified to EN ISO 9001.

Environmental protection and plastics production are not incompatible.

Since our company was founded in 1977, we have attached great importance to materials, resource conservation and energy efficiency and not only for financial reasons. But it's good to know that environmental protection and plastics manufacture are not necessarily incompatible:

- We are able to recycle 98 % of our production residues ourselves and re-use them for new products
- Regenerated material is used in die plates whenever the application allows
- Using new technologies enables us to buffer the heat produced during the production process and thus use it for longer
- We analyse compressed air consumption and optimise its use continually
- We reduce our energy consumption dramatically by using state-of-the-art lamps
- We pay particular attention to energy consumption when acquiring new machines. This allows us to reduce consumption of finite raw materials such as oil or gas while also eliminating CO₂ emissions.
- We hold regular energy audits



Determining Charpy impact resistance with double notches provides an objective plastic quality assessment.



Microtome cuts can be analysed to provide extensive information.



Wear tests based on the sand-slurry and friction wheel methods provide exceptional classification of test bodies.



One of our most important tools:
common sense.

Thomas Wüpping, Form Pressing

Semi-finished
parts – complete
service.

For an exacting future.

You have a highly extensive OKULEN® to ensure the perfect material for your applications. Our machines meet the latest requirements. We have nineteen machines to produce plates and discs using a press-sinter process to manufacture semi-finished parts. Our sinter presses can also produce large-format plates and, what's more, in a thickness between 6 and 400mm. Our product range also includes solid bars, strip material and peeled skived or extruded semi-finished parts. We are also happy to produce custom dimensions for you. The PLC computer controls automatically regulate time, pressure and temperature to ensure extremely efficient production and guarantee consistent quality.

Further processing – highly complex, precise to a tenth of a millimetre and even super-sized if required.

Exceptional expertise in plastics processing and toolmaking allows us to craft highly complex finished parts on our machines, including parts with large dimensions. We are also able to produce tiny components measuring just a few millimetres on our CNC processing machines. In contrast, our largest machine features a working envelope measuring 8,500 x 2,800mm, where the machine can cut along 3 or 5 axes at the same time. We modify the clamp set-up on the machine to manufacture even larger plastic parts precisely to size.

Form pressing – how your ideas take shape.

We have been specialists in using a compression moulding method to manufacture components since 1993. We use this method to machine high-grade plastics into discs, rings and close-to-contour components while offering the great advantage of savings on expensive raw materials and minimising times for post-machining.

Always the right, optimum quality tool.

We mostly develop and manufacture the tools for our exceptionally well-equipped machine pool ourselves. This not only ensures their quality, but we're also able to quickly provide the right manufacturing equipment for special tasks.

Engineering services for optimum flexibility and quality.

An own mechanical engineering department enables us to quickly adapt production to customer requirements. This not only ensures great flexibility and precision, but also a high quality standard. This brings a further advantage: our repair team is able to provide an immediate response and take action in the event of malfunctions or breakdowns.



All-rounders materials.

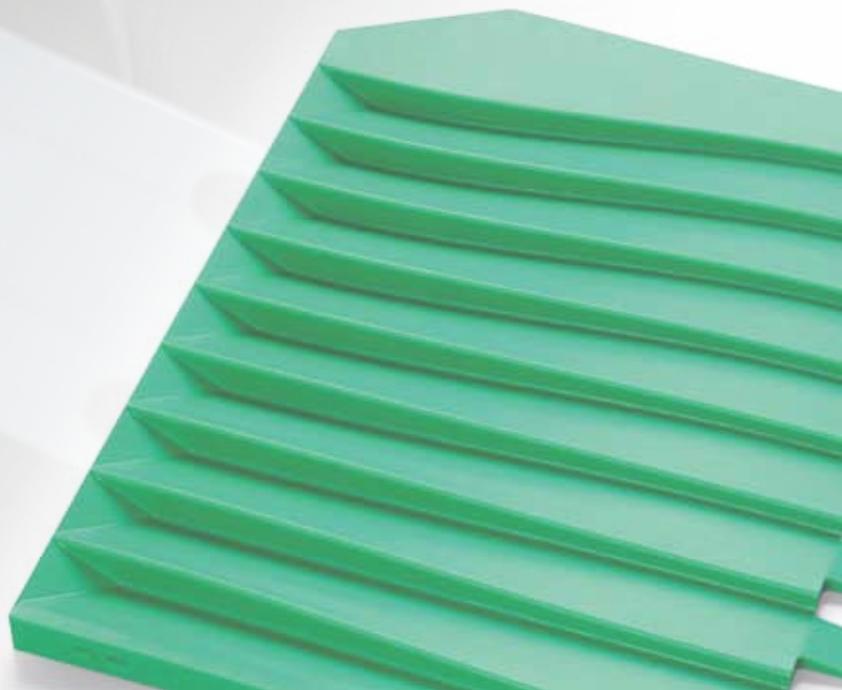
Every last detail, even in large formats.

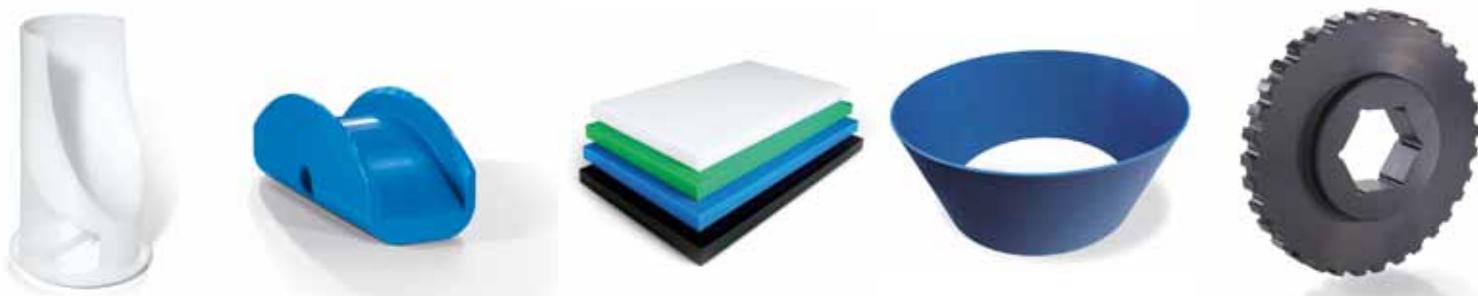
Ivan Cerkez, Chip Removal

Engineering plastics customised to your needs.

We do not only merely supply materials; we also adapt them precisely to your requirements. Many years' research in our in-house laboratory and our experience with different material blends make this possible. We meet requirements for electrical conductivity and satisfy the need for extremely high wear and abrasion resistance. Moreover, we can also offer our materials with other additive characteristics.

What do you need?





OKULEN® 500, OKULEN® 1000, OKULEN® 2000

Polyethylene delivers the best wear resistance and impact strength of all listed materials. It features a very low coefficient of sliding friction and is also food-safe. Polyethylenes are inexpensive, lightweight alternatives to traditional materials in many cases. Their continuous operating temperature is 80 °C with higher temperatures possible for a short period. Low temperatures do not pose a problem.

PE + elastomer – a multi-talented material

The polyethylene-elastomer blend opens up a whole scope of options for different applications. The two materials complement one another with their specific advantages: polyethylene as a protective layer against wear and elastomer as an energy absorber which reduces noise.

OKULEN® PP

Polypropylene (PP) is laid beneath polyethylene (PE) to provide wear resistance and impact strength. PP has a greater hardness and allows a higher application temperature (0 °C to 100 °C) than PE. OKULEN® PP is used, for example, as a semi-finished part, die plate, filter plate, inner shell, cog wheel or moulded part with or without an injected metal insert, such as a disc or a pump impeller and pump housing.

OKULEN® PVDF

OKULEN® PVDF is an unreinforced, half-crystalline fluoropolymer which offers both good mechanical properties and excellent chemical resistance. This versatile construction material is primarily used in the food sector, in pumps and in the chemical, petrochemical, metallurgical and pharmaceutical industries. Polyvinylidene fluoride (PVDF) can also be used at a continuous operating temperature of up to 140 °C.

OKULEN® PTFE, OKULEN® PFA

Polytetrafluoroethylene (PTFE) is a semi-crystalline fluoropolymer and thermoplastic. Perfluoroalkoxy alkane (PFA) is a fluoropolymer which can be melt-processed and is similar to PTFE in its chemical and thermal properties. PFA unites all the excellent qualities of PTFE. Only its continuous operating temperature is slightly lower than PFA (260 °C). Areas of use include slide components for higher temperature loads (chemical apparatus construction) or moulded parts with or without injected metal inserts, such as a disc or a pump impeller and pump housing.

OKULEN® PSU

OKULEN® PSU is an amorphous plastic which is one of the high temperature resistant, high-performance thermoplastics. Polysulfone is used in electrical engineering, electronics, vehicle construction, mechanical engineering and household appliances when heat resistance is required in a transparent material. Clear as glass with a slight yellowness, polysulfone is rigid, hard and resistant between -100 °C and 190 °C.



OKUSLIDE® – quick, safe tipping

If you install a UV-protected OKUSLIDE® lining, the retrofit plastic lining from OKULEN®, you will ensure that your load slides quickly from its load platform without leaving behind any significant residues. The exceptional slide properties are assured thanks to the specially embedded additive in the material. You will receive no reduction in quality even at extremely low temperatures down to -40 °C thanks to the good mechanical properties. You will obtain OKUSLIDE® wear linings as a complete system, including customer consultation, material development, planning and installation.

Areas of use – uniquely versatile.

Over the decades, this plastic has found its way into a whole range of applications. You can see a few sectors and applications where OKULEN® is already in use below. New ones are added on a regular basis.



Mechanical engineering – plastics as an ideal alternative

Originally, such structures were made of metals and non-ferrous metals. Things have now changed: exceptional wear and slide properties combined with weight savings ensure that increasingly more attention is paid to UHMW-PE and HMW-PE. This opens up the way for applications which would have been almost inconceivable.



Conveyor technology – time- tested materials in use

High or ultra-high-molecular-weight polyethylene ensures exceptional slide properties, high wear resistance, low weight and acid resistance. It also deadens noise and does not absorb water.



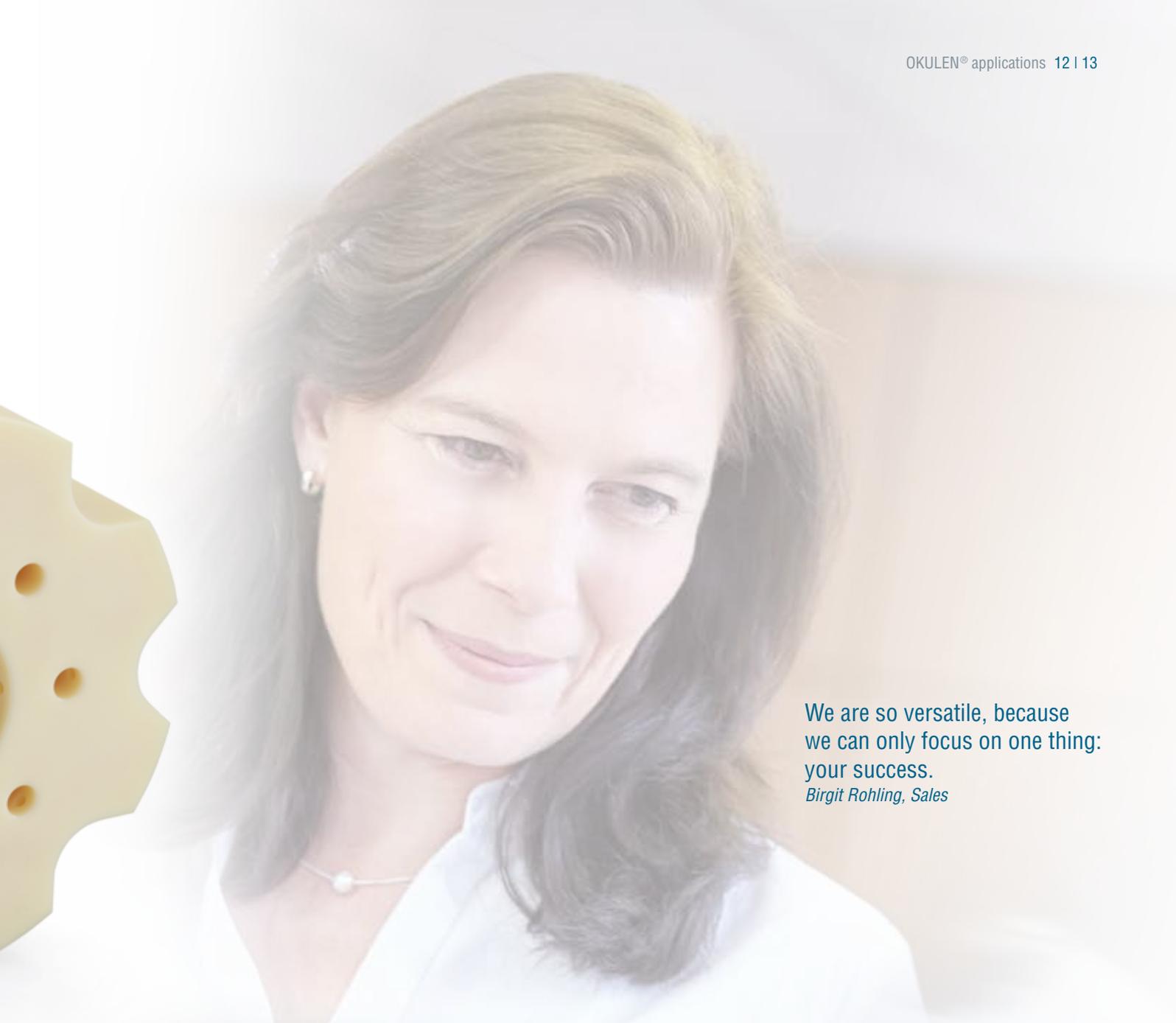
Pump industry – optimum conditions for continuous operation

Optimal wear properties and excellent universal chemical resistance combined with a long service life make plastics ideal for use in the pump industry. Components can be compression-moulded into close-to-contour shapes, ensuring components can excel with an attractive price-performance ratio.



Food industry – hygienic, practical and lightweight

We produce OKULEN® cutting boards made of high-grade raw materials. Increasingly more professionals use our boards, which comply with the requirements and provisions in the EU Framework Regulation on plastics.



We are so versatile, because we can only focus on one thing: your success.

Birgit Rohling, Sales



Paper industry – our plastic is ready

Maximum wear resistance is our proposition for the paper industry. We develop our own formulas where required. It's our aim to keep your machines running for as long as possible.



Harbour construction with OKULEN® fenders

Where once timber planks 400mm thick were used, we now see panels made of OKULEN® 1000. How you benefit: these panels do not rot and their thickness has been drastically reduced compared to timber.



Commercial vehicle manufacture – sturdy connections for safe transport

OKULEN®-PRO-GRIP has established itself as a firm favourite for trailer superstructures. Rely on a virtually inseparable connection thanks to a material with a very high coefficient of sliding friction, developed in conjunction with the Fraunhofer Institute.



Wear protection linings – no compromises

Thanks to their many advantages, OKULEN® plastics have become successfully established as linings in industrial fields such as mills, mining, coal power stations, cement factories, lime works, ironworks and salt mines.



See you soon —
at OKULEN®.

How are we able to produce
oversized components?
Because we have high-calibre employees.
Jörg Testrote, Authorised Representative & Sales Director

Our job: making life easier for customers.

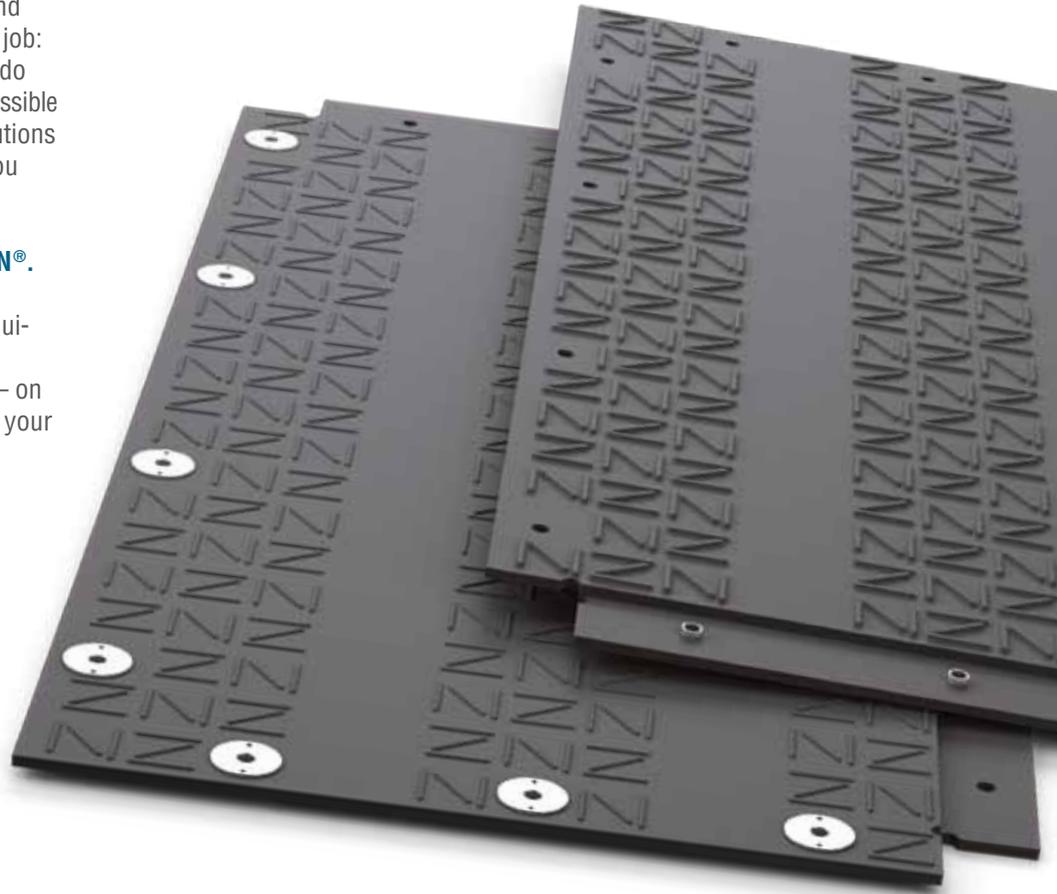
All team members in Consultation, Sales and Order Processing essentially have the same job: making life easier for customers. This, they do successfully on a daily basis. They make impossible meetings possible, offer uncomplicated solutions and will set full production in motion for you overnight in an emergency.

Give it a try and place your trust in OKULEN®.

We're at your service if you have special requirements or general enquiries. Our customer service team is available to you at any time – on the phone or with a face-to-face meeting on your premises or in our offices.

Don't hesitate. Call us!

More information at
www.okulen.de





Die Köpfe machen den Unterschied
People make the difference

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