

NORMALIEN REPORT

Edition 44 / 2021

Informative · Interesting · Innovative
The company magazine of STRACK NORMA

A CENTURY STRONG TEAM

STRACK NORMA celebrates its 100 years company anniversary

FUTURE- ORIENTED

Expansion of
core competences

INDUSTRY 4.0

We digitalise
information

NEW PRODUCTS

For increased
efficiency

100
Years
Anniversary
1921
2021

STRACK®

NORMALIEN

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THANK YOU**



EDITORIAL



DEAR READERS,

100 years of innovative thinking and action lie behind us. This year we are celebrating a big company anniversary with STRACK NORMA, which is now run by the great-grandchildren of our founder in the fourth generation. A particular path to success that we go together with our employees and that we want to continue to go.

100 years, on which we are looking back with proud and gratitude. However, our focus remains on the future which we want to shape sustainably and effectively. Therefore, within the framework of a local sustainability week for reforestation we contributed, for example, to the reforestation of the native forests.

100 years, marked by the technical progress. In order to continue to meet this requirement in future, we will continue to develop ourselves towards

industry 4.0 to offer our customers an even greater digital added value.

We are pleased about our historical anniversary and are looking with self-confidence and reliance to the next century of company history.

Enjoy your reading!

A handwritten signature in blue ink that reads "Michael Lang". The signature is fluid and stylized, with a long horizontal stroke at the end.

Michael Lang
Managing Director



100 YEARS STRACK NORMA



The company headquarters of STRACK NORMA in the 1950s.

Innovations are our corporate DNA. How we are planning our future with the expansion of our core competences, our innovation centre and new product groups.



Company founder Ewald Geyer

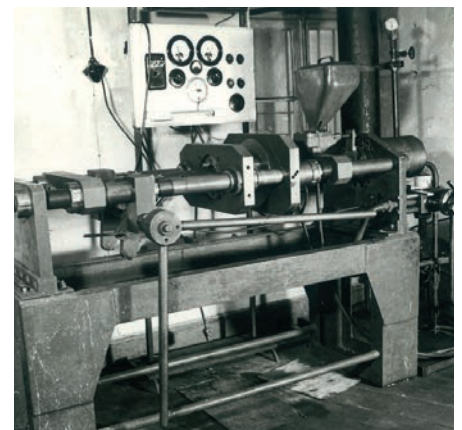
From “tinkering” to the motto Think. Tech.Strack. Our family business in the fourth generation concentrates today on three business areas. THINK describes innovative developments for the tool- and mould making,

TECH the customised special production, product modifications and individual solutions and STRACK a selected range of standard products.

Ewald Geyer, the great-grandfather of today's owners, founded his company in the reconstruction years after the end of the First World War in 1921, at the place where we are still today, in Lüdenscheid. At first, he concentrated on the mould- and tool making. The demand was high, and the business was excellent. Of course, even then standard products existed, but a lot was also especially produced for customers, practically tailor-made. Apparently, product solutions with which he surprised his customers again and again. And so, word got around quickly, that everyone who was looking for clever solutions should go to the “tinkerer”, because at that time innovative approaches were still referred to as “tinkering”.

At the end of the 1950s our founder expanded his programme by including

standard parts for plastic tools which were more and more demanded.



Injection moulding machine

Why we are not called Geyer Normalien

At that time the growing product range was marketed by the STRACK-Group which was taken over by Ewald Geyer in 1981.

It was decided to continue to offer the product range, standard parts for the punching- and plastics industry

A CENTURY STRONG TEAM



Company premises 2021 in Lüdenscheid.

under the established name “STRACK NORMA”. The concentration of innovative and customised solutions for many challenges of our customers became a trademark.

The modification from a pure mould- and toolmaker to a service company is confirmed by many patents. Examples are here latch locks, centring elements or sliding elements for the moulding area with which we are still leading in the market. We are proud of our customers of each company size and grateful for their loyalty.



Bettina Geyer and Andreas Geyer

Since 2015 the great-grandchildren of our founder, Andreas and Bettina Geyer have been running the family business in the fourth generation.

Our future lies in their added value

“Our customers are still searching for clever, creative and cost-saving solutions for their production processes and less standard products”, Andreas Geyer describes the present and the future in which we will use and expand our core competences. “We bundle our technical competences in our new innovative centre and an exciting range of new product groups. These include, for example, guide elements, subcontracting and above all digital products, with which we are moving with mile steps towards Industry 4.0.”, Geyer adds. In a nutshell, this means: the added value for our customer should be company-intensive advice, a high level of stock availability and short processing times. At STRACK NORMA these are the

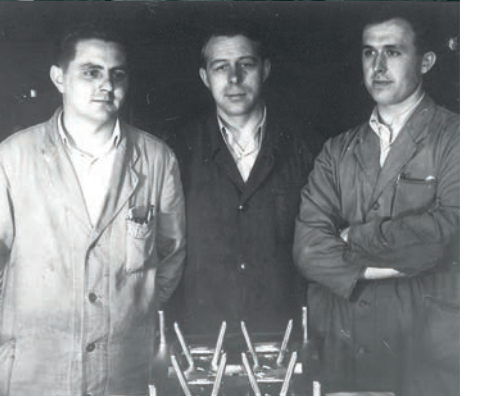
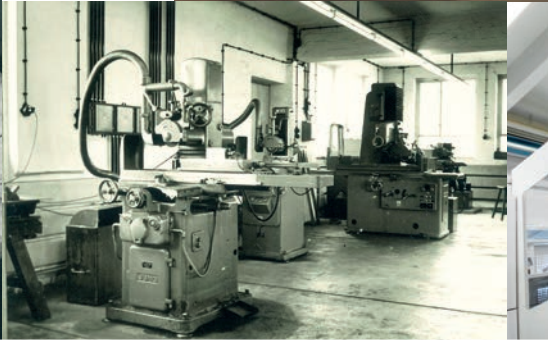
building stones for a common way into a common future.



Here you can see our new image film:



 **YouTube Film off!**





NEWLY POSITIONED

Innovative, individual solutions have been our trademark for over 100 years. In future we will focus on these core competences with a new structure.

In future we are using our strengths as problem solver and shaper of the future for and with our customers in six product groups. For this purpose, we assigned responsible teams of specialists in a customer-oriented manner to these groups.

The focus of our actions is the service we are offering to you, the customer, and our technical core competence. We want to expand these strengths also in future – as we have already done it last year and have given our company a new structure. For our newly established product groups we have therefore compiled teams of specialists to find competent and above all efficient solutions for your challenges. Our claim THINK.TECH.STRACK. describes the unique selling proposition of our

company:

THINK stands for the innovative developments for the tool- and mould making. TECH stands for the customer-specific special productions, product modifications and individual solutions and STRACK stands for a selected range of standard products.



SAFE DEMOULDING: OUR TEAM 1 DEMOULDING ELEMENTS

Whether latch locks, slide units, limit switches or short stroke cylinders: Here we have the products for demoulding of plastic moulds.



PRECISE GUIDING WITH STRACK: OUR TEAM 2 GUIDING ELEMENTS

This team concentrates on solutions for guiding systems in tool-, fixture- or special machine construction.



TECHNOLOGICAL INNOVATION POWER: OUR TEAM 3 POWERMAX, AUTOMOTIVE

Our high precision cam series for the automotive industry is designed on your application and provides for more efficiency in toolmaking.

POWERFUL TEAMS AND PRODUCT GROUPS



HIGH QUALITY MANUFACTURING COMPETENCE: OUR TEAM 4 SUB-CONTRACTING

In the subcontracting department your products are produced on CNC-controlled 3- and 5-axis machining centres with highest precision.



EFFICIENT PRODUCTION: OUR TEAM 5 STANDARD COMPONENTS

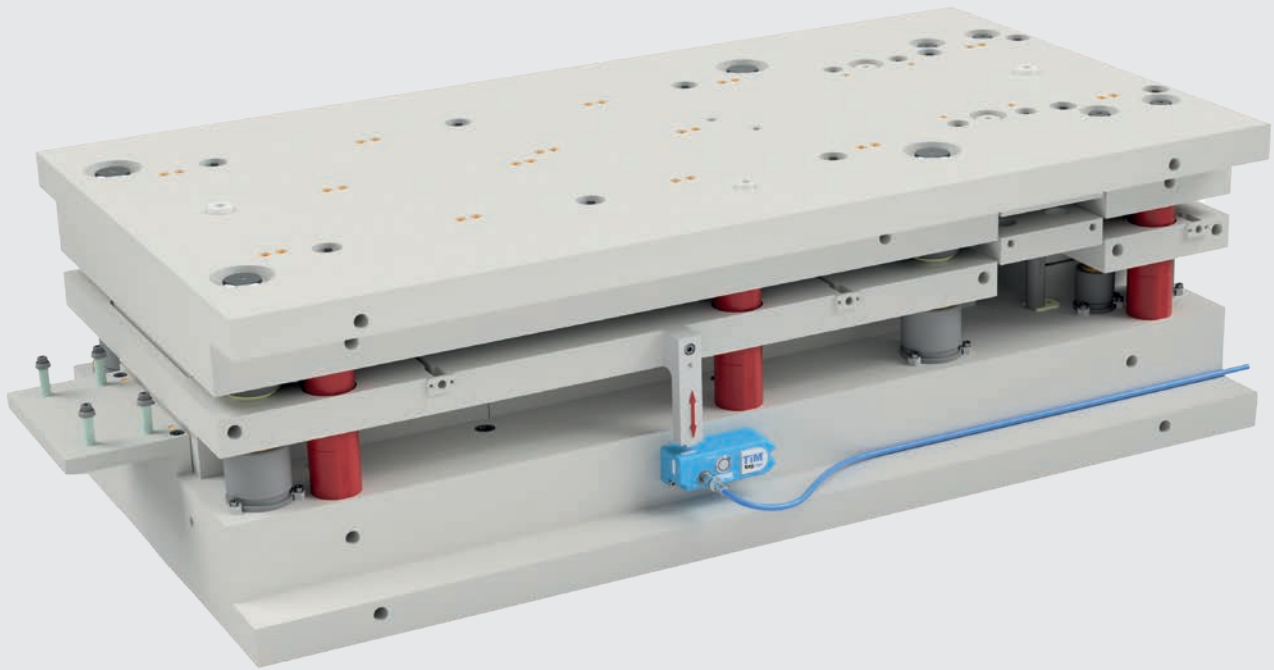
This team provides for a comprehensive range of moulding and punching standard parts for the construction of tools for the plastics- and metal industry.



DIGITAL INTO THE FUTURE WITH STRACK: OUR TEAM 6 DIGITALISATION

With digital products as an alternative to analogue solutions, this team supports the digitalisation of data and processes for more transparency and thus for production optimisation.

DIGITALISATION OF TOOL DATA? SURELY!



Optimised sequence of orders and automatic adjustment in case of modifications ensure an efficient production.

OPTIMISE PRODUCTION SAFELY WITH SMART SOLUTIONS

How nice would it be if you could access to critical tool data everywhere in the plant: When the next maintenance is due? How it can be carried out? How many strokes the tool performed during the last shift? Instead of spending hours searching in folders and the PC for the relevant documents, it would be practical if you could see all parameters immediately and everywhere by pressing a button. Studies predict that with digital transformation the maintenance costs could be reduced by up to 45 per cent and the productivity could be increased by up to 30 per cent. Overall applies: What saves time also saves costs.

Therefore, for many companies the transfer of analogue data and processes into digital formats is an important item on the agenda. The goal: to enter digital data on tools transparently and to draw logical conclusions for

optimising the processes and potentials in production. What sounds to be the ideal situation in theory, creates a lot of challenges in practice. Issues such as data security, practicability in the long term and costs for corresponding solutions are often a stumbling block for interested companies.

Internal instead of external storage ensures security

These challenges having in mind, Strack Norma set to work and invested a lot of development work in cooperation with partner companies to find a safe and practical solution. The result is called TiM by STRACK (Tool information Monitoring) and comprises hard- and software solutions, which digitally record and store parameters.

The special feature: the storage is not cloud-based but takes place in the company's own network.

"Many companies are concerned about

the security of their data, finally it concerns confidential and critical parameters that must in no case fall into the wrong hands", explains Andreas Walter. "Therefore, it was important for us to create a solution taking this concern seriously and showing alternative ways to store data safely."

One gadget for up to 150 tools

The core module is the so-called TiMlog, which is attached to the machine and collects and processes the data there in real time. A single TiMlog can here record the data from several tools, as Andreas Walter explains.

"Instead of using a separate TiMlog for each tool, we decided to develop a system that communicates among each other. For this reason, there are the so-called TiMtags, which are attached to the tools and transfer data, for example pressure, temperature, strokes,



and cycles to the TiMlog. Everything can be interconnected which saves enormous costs.”

In addition to the TiMlog and the TiMtags also the software, which is located directly on the TiMlog plays a big role. There, the incoming data is visualised and can then be called in the internal network from any workstation. Apart from the dashboard in the Web-browser also a readout via data exchange at the box (USB) or via integrated NFC-connection point is possible. However, with the latter only the master data is read out.



TiMlog and TiMtag

Reaching higher productivity with fast information

Via the dashboard companies can also enter additional data, document, and manage the collected information and create a lifecycle file of the tool – a good starting point for a later quality assessment. Furthermore, also the maintenance benefits. Because in case of maintenance and repair, the information

which is immediately accessible via TiM allows shorter machine downtimes and shorter set-up times – and thus a higher productivity of the tool.

Easy set-up and compatibility

“TiM has many advantages”, Andreas Walter sums up the functions. “The system ensures security and data transparency, increases productivity and optimises the maintenance planning, which reduces maintenance costs and downtimes.” In addition, the system can easily be integrated into the already existing IT landscapes of companies. “Due to our open interface, it is possible to transfer the data also into higher-level systems, such as for example an ERP-system, if the customer requires”, says Walter.

Especially in the anniversary year 2021 in which the Lüdenscheid-based company celebrates its 100th anniversary, Strack Norma is pleased to be able to launch such an innovative product on the market. “We are specialised to offer customers worldwide innovative, individual and standardised solutions for tool- and mould making”, Andreas Walter emphasises. “With TiM, we have succeeded in developing a system that meets the challenges in terms of safety, application and costs in production in the course of digitalisation. We hope

that this will dissolve some concerns of our customers and that together we can bring forward the digitalisation.



YOU ARE INTERESTED?

Then simply contact **Andreas Walter**, our **Project manager**:

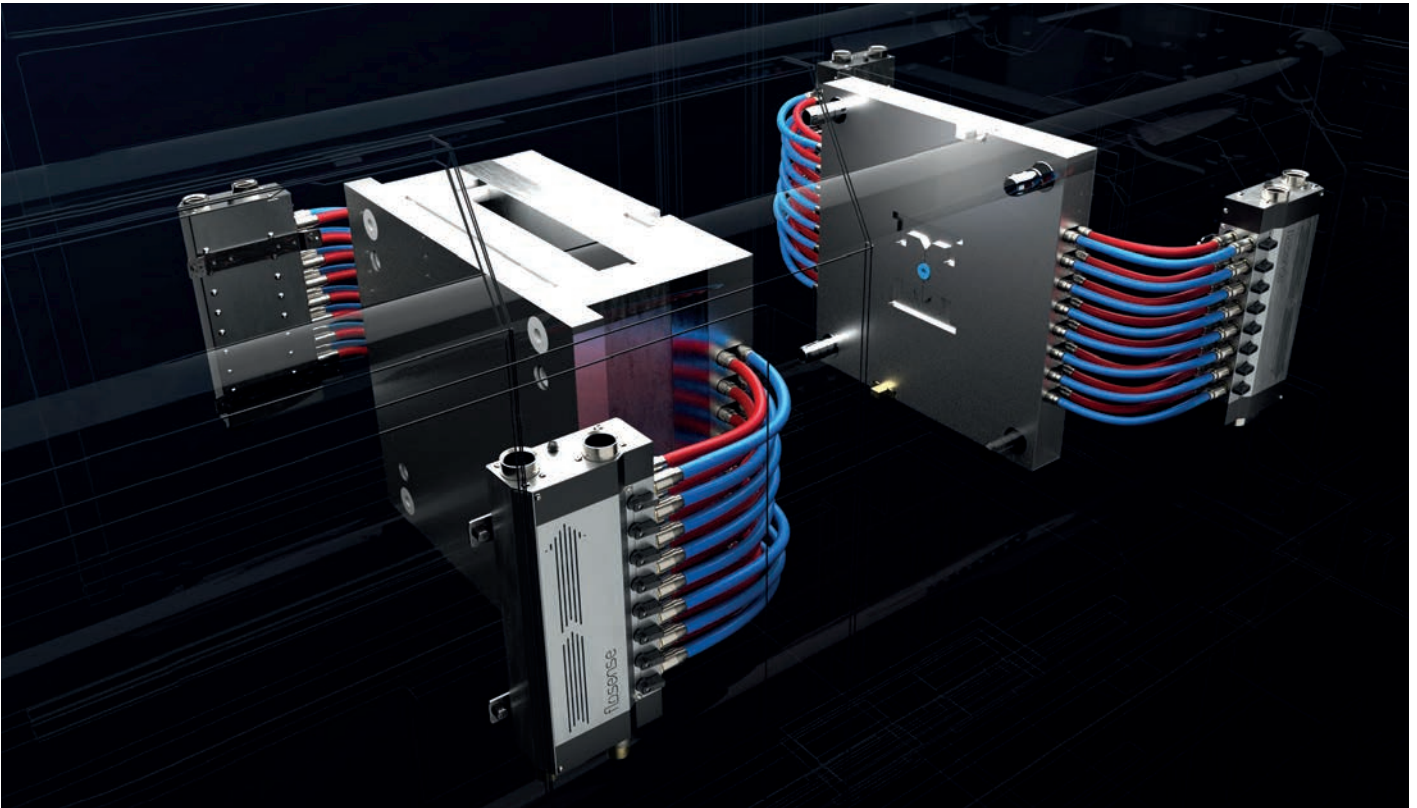
Mail a.walter@strack.de

Tel +49 2351 8701 450

or inform yourself at

<https://www.strack.de/en/tim>.

NEW: DIGITAL MONITORING ON INJECTION MOULDING MACHINES



The digital flow monitoring Flosense guarantees a constant process- and component quality.

CONSTANT PROCESS QUALITY

Flosense offers new possibilities to monitor the injection moulding process, to make process optimisations and to improve efficiency, productivity, and profitability.

Flosense, in service and sale of Strack Norma, offers a lot of advantages to anyone planning to replace during digitalisation analogue measuring systems for injection moulding machines with digital flow monitoring. These include the availability of real time data from production and stability of the temperature control or that in case of problems, such as pressure drop, the injection moulding machine can be stopped, or an alarm sound can be generated.

The complete Flosense-unit consists of built-in pressure sensors with flow and return and made of corrosion-resistant materials. Pressure, temperature, and flow can be monitored on the screen over a specific period of time. Thereby, we are taking another step in direction Industry 4.0", our product manager Andreas Walter is pleased. The alarm function for flow and temperature guarantees a constant process- and component quality. In case of malfunctions, the alarm can stop the injection moulding machine or generate a signal, depending on the adjustment of the machine.

With the digital solution, Flosense 3.0, the touch screen is attached to the manifold and is easy to be operated. Walter

sees further advantages in the fact that, in contrast to analogue measuring systems, the Flosense 3.0 has a higher flow capacity and an increased temperature range of up to 120°C. The compact unit is offered for 4 up to 12 cooling circuits.

Flosense 4.0 offers an alternative for higher temperatures, at which the touch screen and the manifold are separated from each other. Thus, temperature of up to 160°C can be reached, because due to the spatial separation the separate screen does not heat up at the same time. 48 temperature control circuits can be monitored with the connection of four manifolds on the screen.

All data is stored on an internal memory, displayed graphically, and can be exported at any time. Also, a faster mould change due to the stored data also increases the productivity of the user.

CLAMPING- FASTER AND EASIER



The backfitting of our quick action clamping systems Z8061 and Z8062 to injection moulding machines is quick, easy, and cost-effective.

NEW QUICK ACTION CLAMPING SYSTEM TO REDUCE SET UP COSTS

In addition to our standard clamping systems, we have two new quick action clamping systems in the programme which further reduce the set-up costs. Special versions up to a plate size of 796 x 696 mm.



Quick action clamping system Z8062 with each 8 fixing holes.

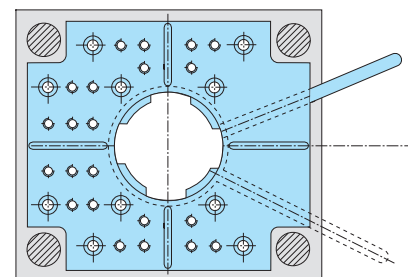
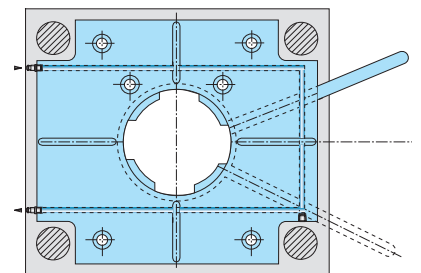
Our quick action clamping systems Z8061 and Z8062 create a high level of flexibility due to an easy tool change and help to further reduce set up times. Moulds in the injection moulding machine can easily be newly positioned and clamped. The fixed connection of the system plates with the tool is

achieved by a torsion-free clamping by means of inclined eccentrics. The proven mechanical system for injection moulds is suitable for two- and four bar versions of all leading machine manufacturers. The quick action clamping system can be used up to a maximum clamping force of 1000 kN and a total weight of 1000 kg. In addition, depending on the type of injection, they can be used horizontally or vertically.

The system Z8061 is suitable for the common standard bar distances of injection moulding machines, while Z8062 covers the complete clamping plate of the injection moulding machine also between the bars. Moreover, we also manufacture special versions according to customer requirements with and without bar recesses, up to a plate size of 796 x 696 mm.

Also designs such as for example versions with special screw holes or tempering holes are possible without

complications.



Insertion of tempering course, additional threads or bores are possible according to customer requirements.

CONSTRUCTION TIP: NEW PILLAR WITH CENTRE COLLAR SN4331



New pillar with centre collar SN4331 with optimised features compared to the proven pillar Z4330.

ALREADY ARCHIMEDES HAS KNOWN ABOUT THE IMPORTANCE OF THE LEVER

Do you perhaps also have this one tool in your company which causes problems again and again? Burrs appearing only on one side, asymmetrical wear, even though everything seems to be O.K. when measuring?

Often transverse forces occur in the tool and the resulting moments are not considered to be the reason for increased punch wear and supposed centre misalignment. Here Strack Norma offers an alternative with the extension of its range of guiding elements. The pillar with centre collar SN4331 which was developed for use in the diameter range of 12 up to 50 is available in a wide range of lengths.

It can be held by the clamps SN4326 or Z4325 and can be combined with almost all Strack bushes.

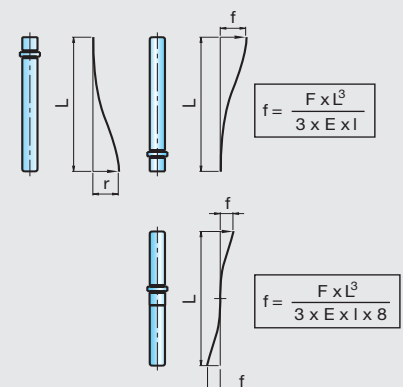
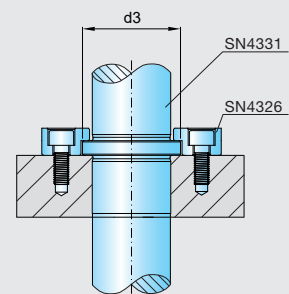
If the pillar with centre collar is mounted in the stripper plate, it halves the effective lever arm compared to conven-

tionally mounted pillars and thus provides for an 8-fold stiffness. Angular errors and moment loads have a significantly less effect and there is less wear on active elements.

COMPLEX SOLUTION FROM ONE HAND

- Compact tool design
- Higher load capacity with the same pillar diameter
- Less wear increases tool life
- High precision due to narrow manufacturing tolerance
- Tolerated matching of lengths possible on request

For fixation with retaining clamps Z4325 (square) or SN4326 (round).



PRODUCTS FOR INCREASED EFFICIENCY

SMALL BUT NICE

Demoulding of undercuts for tools with narrow installation space.

For cost reasons the dimensions of tools are especially reduced for small and filigree components. Strack Norma has reacted to this trend and offers a whole range of standard parts with small installation size. From now on, the mini slide unit Z4279 with a DLC coated slide carriage is available, which works in low-wear and low-maintenance mode and is particularly suited in the medicine- and cleanroom technology due to its non-lubricated components.

The angle pin is supplied with a length of 400 mm and a diameter of 10 g6 and can be individually shortened according to the tool requirement.

The use of Z4279 offers the designer a number of advantages. The demouldings of undercuts even with smaller tool sizes with limited space conditions are possible without problems. Thanks to the compact design of the smallest mini-slide unit on the market, a comfortable and fast incorporation in the injection moulding mould is possible at any time.



Now new: the mini slide unit Z4279 with an extended angle pin.

ALUMINIUM – LIGHT AND STABLE

Roller cages have a barrel-shaped rolling element with line contact to guide bushes and – pillars. Moreover, they are made of aluminium and not of brass. This offers further advantages.

Our ball bearing systems made of brass are well-established and popular in tool- and fixture construction. They are used in a wide range of applications. We have developed our new roller cages SN17950 and SN17951 for even more resilient application. They are made of blue anodized aluminium. Their lower material weight minimises the slipping effect of the cage in the tool and the high roller density ensures an optimal stability. In addition, the roller cages have a linear connection to the guide bushes and -pillars, which allows a higher load capacity of the individual rollers of the roller cage compared to a ball with the same diameter.

The high-strength aluminium thus allows with a high load capacity and low weight, the application of roller cage guides in many areas of tool- and mould making. Especially with fast production processes these properties of aluminium are advantageous.



The new roller cages SN17950 and SN17951 made of aluminium ensure safe production processes with high load capacity.

CLEAN AND EFFICIENT

Smooth production process thanks to stainless steel filter for cleaning of cooling channels.

The filter for cleaning of cooling channels is especially developed for small cooling bores or core coolings. Due to its fine 100 µ mesh size, the Z7701 removes finest dirt particles from the cooling circuit which would otherwise lead to clogged cooling channels or early wear of sealing elements. This makes it ideal for applications for laser-sintered mould inserts and thin cooling water bores, as it actively prevents contamination and the associated reduction of the flow. Due to its uncomplicated design, the easily demountable filter insert can simply be removed, washed, or cleaned.

The filter is ready for immediate use and can be connected via the quick coupling Z7709 directly to the periphery. There is also the possibility to use the ½ inch thread on both sides for the connection. The filter can easily be attached to the tool or the machine by means of the delivered fixing clamp.



The filter for cleaning of cooling channels Z7701 for the continuous cleaning of the tempering medium.

HIGH FORCE – IMMEDIATELY

Gas spring stripper unit “Nitro Strip” optimally designed for applications of high-strength sheet metal.

Specially designed gas springs as well as a stripper bushing which can be obtained with machined inner- and outer contours according to customer dates, ensure the high force and individualized adaptation into the tool at the beginning of the cutting process. The advantages are now being used by the automotive group VW where we are listed among other things.

With the increasing use of high-strength and higher strength sheets the stripping force also increases. Since with elastomer strippers the initial force is equal to zero, here increased problems are occurring with the stripper units with helical compression or disc springs available on the market.

With our new Nitro Strip unit, we found an answer to this challenge, namely with a gas spring particularly designed for this application. The advantage: gas springs already provide the required high force at the beginning of the cutting process.



The new gas spring-stripper unit for cutting punches “Nitro Strip” immediately provides the required high force.

OUR DESIGN IS SMALL

Cylindrical design ensures high positioning accuracy.

The two new centring units Z60 and Z70 are available in different dimensions from a guide diameter of 6 mm. With an installation diameter of 8 to 20 mm and the small installation depth of 9 to 11 mm, they are suitable for small installation space. While the screw connection of the Z60 is done from the back, the Z70 can optionally be mounted respectively dismantled from the parting plane or the rear side.

Compared to the already common fine centrings in flat design, the round design has immense advantages for the practical insertion of the machining in the tool. The bore can be milled and thus has a higher position accuracy in the tool. In addition, milled holders have the advantage that they can be produced more quickly and are attractively priced.



The centring units Z60 and Z70 for high-precision tool guidance in small spaces.

FOR SMALL INSERTS

Pressure springs available in four load types.

We now have the smallest pressure springs from 6 mm diameter in our product range to meet highest demands in the punching- and forming technology as well as in the machine- and fixture construction.

This new series of small system pressure springs is especially designed for use in small bead breakers, spring-loaded pressure pieces or small spring-loaded units.

Made of spring wire with a round cross-section the springs are available in 4 load types. Each load type has its own colour coding, so that the user will not be forced to adapt to differentiate them quickly.

The colour grading in green, blue, red, and yellow corresponds to the proven pressure springs according to DIN ISO 10243. However, with the same installation dimensions in sleeve-/mandrel diameter and length, the springs differ in spring force and possible spring travel. Here, the designer can choose the right spring adapted to his installation case.



The new system pressure springs with round wire cross-section.

COMPACT LIGHTNESS

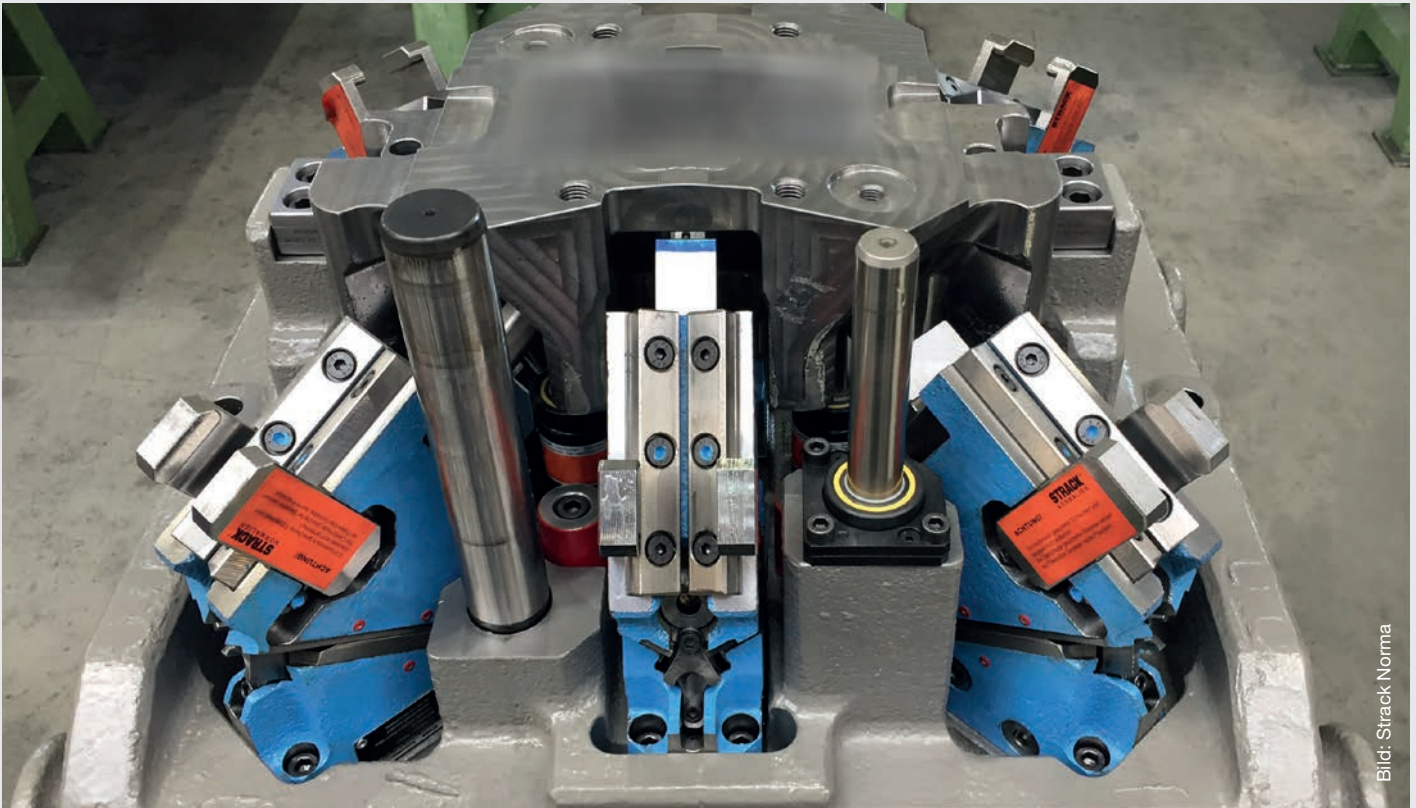


Bild: Strack Norma

Addition to the family: This tool stage is equipped with high-precisely running cams >PowerMax Kompakt (PMOK)< for very high press- and retraction forces with minimised installation depth. Now Strack Norma added a light version.

In the anniversary year Strack Norma expanded its cam series PowerMax for forming tools with the >PowerMax PMOKL< (compact light cam). The special guiding concept should now play off its advantages in the light version.



Bild: Strack Norma

Light but strong: Also in the light version, the prismatic dovetail guide implements the self-centring precisely and provides for a good compensation of lateral forces with high retraction forces.

The changes in the market for sheet metal forming tools which have been

observed for many years continued to intensify themselves recently. On the one hand, this concerns the significantly increasing quantities which are demanded as a result of the increasing number of platform concepts, on the other hand, at the same time the model range of the automotive manufacturers is becoming more and more diverse. In addition, more and more high-strength sheet metals are being used which are leading tool components to their load limits.

All this requires now advanced concepts to shorten the processing time in tool-making. Already in the year 2008 the standard part specialist Strack Norma reacted to this and introduced the "PowerMax standard cam" in the market, which is now available as ready-to-install solution with customised machining and special designs.

After only a short period of probation period in practice, it became clear that the standard programme PowerMax meets the named requirements to the full extent and allows with its three expansion

variants "Basis, Medium, Premium" any tool designer a uniquely high flexibility in his design activities. The programme covers a variety of sizes from 65 to 1200 mm and cam angles between 0° and 75° in 5° steps.

Quantities far exceeding 1 000 000 strokes (quality class 3) are easily achievable.

A compact design allows the integration of operations

Further increasing challenges due to very limited spaces in the press area resulted in the development of a new cam generation: "PowerMax Kompakt (PMOK). The expansion stage combines attitudes such as high running precision, highest press- and retraction force as well as a significantly reduced installation depth in one product. The PMOK is therefore the consistent problem solver for small spaces, which is able, due to a shorter and more compact construction, to save space and thus to combine operating steps and to produce cost-effectively and efficiently.



Bild: Strack Norma

For large sheets: The properties of the compact PowerMax cams are primarily important for the large tool making.

“We often get extremely positive feedback from production and maintenance concerning stability and quality of our cams”, reports Roberto Sikora, Key Account Manager from the PowerMax team. “This is obviously due to our highly precise, self-centring prismatic dovetail guide. Thereby the cams can absorb lateral forces very well”.

Ludger Müller, the technical manager, refers to a further strategy: “After we initially only offered the common widths of 65, 90, 125 and 165 millimetres in the Medium version, we are now expanding our standard programme to adapt it to the needs of the market. Particularly special solutions such as cam with widths of 700 millimetres show the importance of our individual consultations in which we develop, in close cooperation with the customer, forward-looking concepts”.

New cam creates the basis for a digitalised production

In concrete terms, this year the >PMOKL< (compact light cam) was launched on the market. Technological-

ly based on the PMOK, it is characterised by its unique guiding concept in the low-volume sector. Its prismatic dovetail guide precisely implements the self-centring and provides for a good compensation of the lateral forces and the very high retraction forces.

Like the PMOK, the PMOKL has been built up to 30 per cent shorter compared to other common cams. For control purposes, an optionally available contactless sensor records the end position and now also creates at this place, the prerequisites for a digitalisation of the production.

The active return, i.e. the retrieval of the cam body is now supported by precisely fitting clamps with sintered sliding elements. In addition, also gas springs are used in accordance with the standards. Daniel Brockhaus, also Key Account Manager with Strack Norma, explains the programme. “Also, with the PMOK series, the cam range covers widths of up to 460 millimetres and the cams can



Bild: Strack Norma

Ludger Müller, technical manager with Strack Norma: “After we initially only offered the common widths 65, 90, 125 and 165 millimetres in the Medium version, we are now expanding our standard programme”.

easily be interchanged with each other. Thus, the PMOK, in the sense of derivatisation of the models with even smaller batch sizes, fits ideally into the concept of the automotive industry. As Strack Norma emphasizes, the multiple customers wishes, and product improvement will also in future be included in the optimisation of the PowerMax cams and will ensure a sustainable increase in process efficiency and -security in the customer applications.

Source and text: Frank Pfeiffer; Carl Hanser Verlag; FORM+Werkzeug

STRACK NORMA DIGITALISES AND SUPPORTS



Machine pool and lower hall of Strack Norma with traversing crane.

VIRTUAL PRODUCTION TOUR FOR OPTIMAL SPACE CONCEPT

Strack Norma further pursues its path towards digitalisation while at the same time supporting junior employees. Supported by students from the technical university of Deggendorf the machinery and the factory were visualised true to scale and transferred into the digital age. The result was a digital twin that visualises the internal processes.

Using the Corona period to become more economically – this guiding principle is also pursued in the production area of Strack. At the same time the promoting of junior employees and the associated cooperation with colleges and universities are coming more and more into the focus.

The project for digitalisation of the production hall was launched in 2021 together with students from the master's course from the Technical University of Deggendorf. In this way, diverse space concepts can be tested virtually to find

the optimal position of the machines and the equipment. This was implemented with a Shopfloor, which digitalises the production of Strack Norma. More precisely, the production was rebuilt by means of a professional 3D software with CAD models of the machines, racks, transport equipment and all furnishings. This gave the students the opportunity to gain a practical insight into a future-oriented technology field of tool- and mould making, whereby not only theoretical procedures are implemented in practice, but also interdisciplinary challenges were practically communicated.

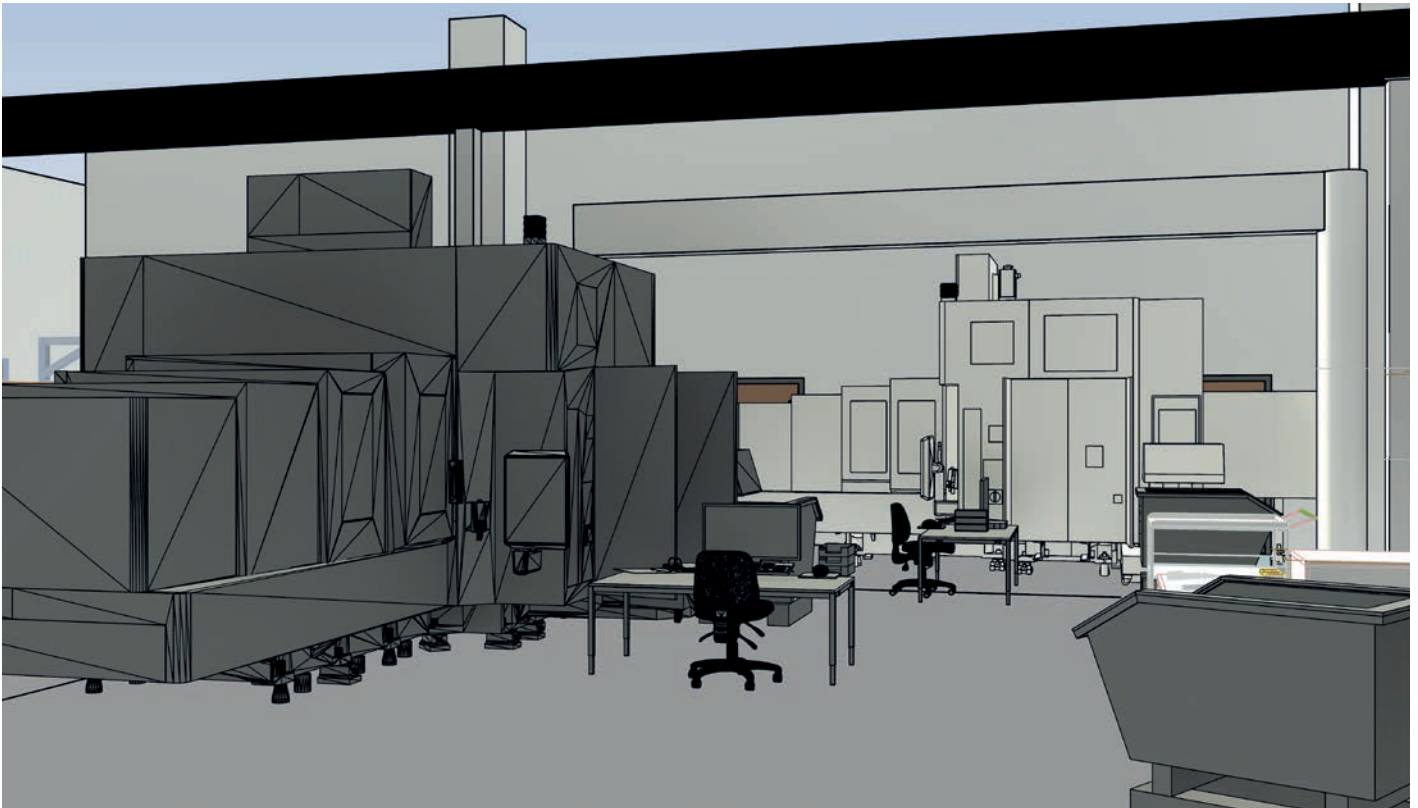
Formerly, production process, such as for example the travelling distances of workpieces within the machine park for carrying out individual machining steps, were directly tried in the production, now these can be planned, simulated, and refined on the computer.

Thanks to the close cooperation with

the responsible persons with Strack Norma and the students over a period of three months, in the middle of the year (as shown in figure 1) the digitalised Shopfloor could be presented. It is about a continuous process improvement which can only be achieved if process can be mapped digitally.

With the implementation of the digital twin, the standard part producer made the first step of many others on the path towards artificial intelligence which is the future for complex decision-making processes and increases competitiveness in the market. It also allows a high potential with regard to optimisations of the process control and the entire value chain of the production.

By modelling a CAD model, Strack is offered the possibility of a digital walk-through. Here, the viewer can see the production hall three-dimensionally from a first-person perspective. The virtual, three-dimensional reconstruction of production facilities contributes significantly



Digital version of the same cutout.

to push the digitalisation in companies. The practical teaching of the learning content also created a win-win situation for both, the Lüdenscheid-based company, and the students. While Strack has paved the way for process automation in the production, the students were given the opportunity to gain an intensive insight into the manufacturing industry and to broaden their experience. Thus, the Lüdenscheid-based company got the chance to benefit from the creativity and the ideas of the students and to enrich a young gene-

ration of aspiring engineers with its experiences.



From left to right: Thomas Brunner, Dr.-Ing. Ludwig Gansauge, Constantin Vogel

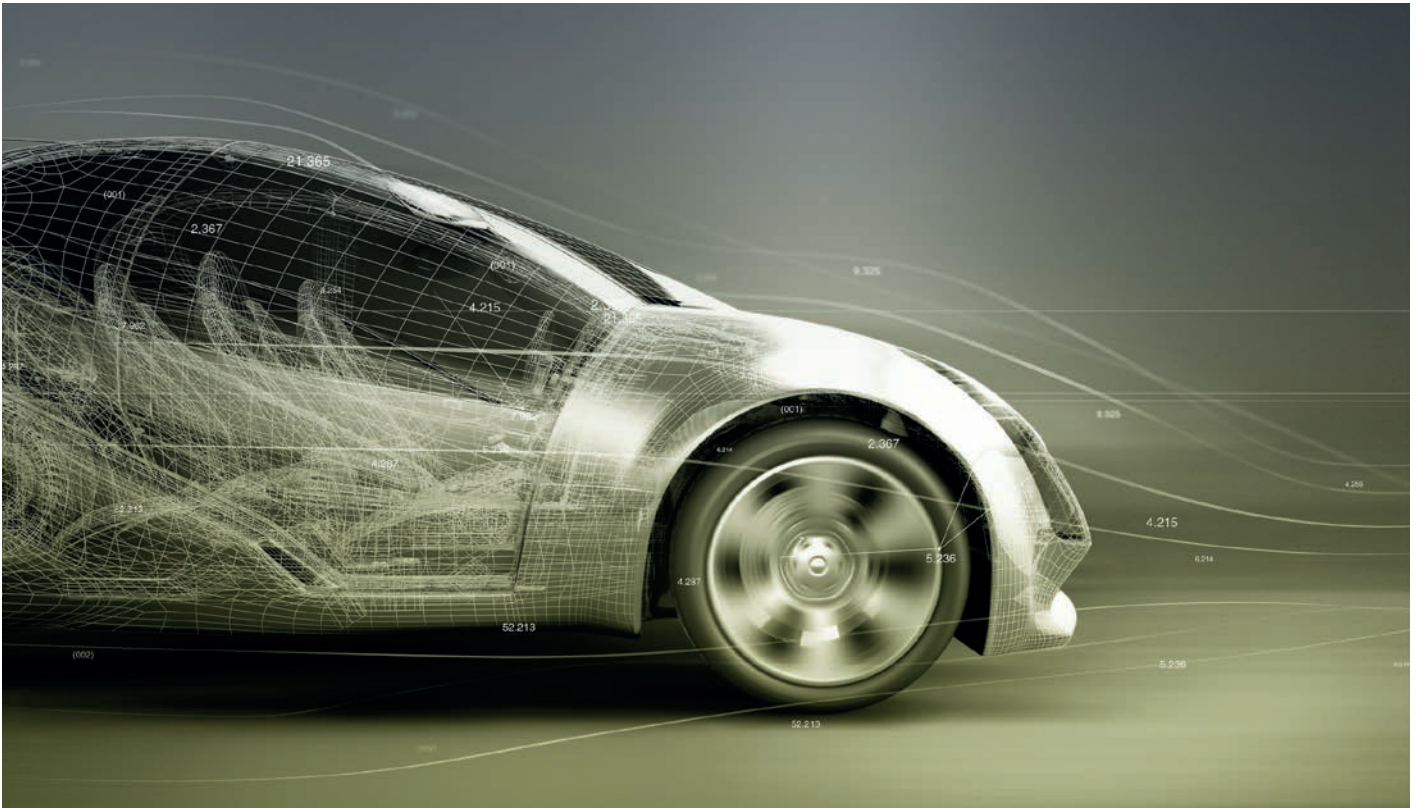
INFOBOX

tooling intelligence for future GmbH:

tooling intelligence for future is a start-up in the range of digitalisation in tool- and mould making (production of unique copies) and provided support for the project.

The start-up offers on the basis of figures, data and facts a digital access to a validated and specific Industry 4.0 strategy in order to be transferred from the production characterised by artisanship into the digital world.

APPRECIATION- WE SAY THANK YOU!



The standardised and patented cam series PowerMax is used worldwide in the large-scale toolmaking, primarily in the automotive industry. They divert the vertical press movement into lateral ones to allow lateral punching- and bending operations.

More and more manufacturers integrate Strack Norma into their supplier chain. Most recently, Mercedes Benz AG included us as a supplier in their standards for the first time.

“The fact, that Mercedes Benz has now included us in its supplier chain, makes us proud and confirms our capabilities”, our Key Account Manager Daniel Brockhaus is pleased to say.

This includes not only our products but also our service: “For example, we offer the car manufacturers a 24-hour delivery guarantee for spare-parts so that the production is practically not interrupted. For this purpose, we implemented and ultra-modern and automated storage and palletising system which also doubles the production capacity of one of our major success products, our cam programme of the PowerMax family and additionally secures our delivery capacity”, adds Brockhaus.

Thus, almost all cams of the PowerMax series are in the meantime listed in the

press plant standards of the automotive groups Fiat and Jaguar Landrover and in the context of the last tender, the Volkswagen-Group has not only prolonged its partnership with us but also extended it. Furthermore, also Tier-1 suppliers are also using our cams to produce sheet metal parts for many well-known car brands, including Tesla and Ineos Grenadier, the successor of the legendary Land Rover Defender.

INFOBOX

With the PowerMax Kompakt Light, Strack is also presenting a new development within the PowerMax standard cam series in its anniversary year. Now, the unique cam guide concept is also available for “low volume” standard cams. It has a prismatic dovetail guide that performs a self-centring and allows extremely high retraction forces.

PowerMax[®] kompakt light
that's the future



COMBINED POWER IN THE SOUTH

NEW EMPLOYEES

SEBASTIAN PETER

Sebastian Peter has been responsible for the area of Bavaria Württemberg since the beginning of the year.

We are happy to welcome him in our team and look forward to a good cooperation.

KARL PRODINGER

Our new sales representative Karl Prodingler took over the sale territory Austria from the retiring Erich Kamauf on first September 2021.

The 45-year-old trained toolmaker who has extensive experience in the range of CNC and CAD application is looking forward to his new task.



STRACK CON- GRATULATES!

We congratulate and we want to thank our employees belonging to the STRACK family for many years.

MANY THANKS & CONGRATU- LATIONS!

10 YEARS

ELINA FLAUM

Entry: 14.03.2011

DENISE HATAIS

Entry: 01.05.2011

WALTER GRABOVSKI

Entry: 01.08.2011

CHRISTIAN MÜLLER

Entry: 01.11.2011

25 YEARS

BERND ELFTMANN

Entry: 01.03.1996

MICHAEL MÜLLER

Entry: 15.07.1996

MARTIN FLÜGGE

Entry: 15.07.1996

RALF KLEIN

Entry: 29.07.1996

MICHAEL RIEDEL

Entry: 01.08.1996

100 TREES FOR 100 YEARS

POSITIONING FOR SUSTAINABILITY

Climate protection and sustainability are the focus of Strack in our anniversary year. For this reason, we took part in a tree-planting campaign in the local city park in September. Also here, the death of spruce trees due to drought and bark beetle infestation was heavy. Therefore, on the occasion of our anniversary, we have contributed 100 trees to the reforestation. The local press, representatives of politics and administration and a delegation from the partner community in Minnesota were on site. In this context, Managing Director Michael Lang showed personal commitment and actively supported the tree planting campaign. In addition, another 100 trees sponsored by Strack will be planted in the local forest next year.



PRESENCE AND EXCHANGE OF EXPERIENCE

After almost two years of online exchange and Zoom conferences, we were able to welcome the entire team of Strack sales representatives again for the first time.

At this year's sales representative conference which took place in Fulda, our employees were expecting three days of further education, training on current innovations and information on new products and current concepts.

In the evening, we visited a mine together and exchanged many experiences in a nice get-together.



100 YEARS STRACK- A REASON TO SAY THANK YOU!

STR'EAT BURGER

On 9 September 2021 our Strack employees received a small thank you: the burger van of the company STR'EAT BURGER based in Kierspe drove to our yard at around 10.00 am and prepared its self-made, fresh, and crispy burgers. The management and owners of Strack would like to thank the employees for their great commitment in the last years and are looking proudly back on 100 years of history. A larger staff event for this occasion is still pending as the original plans could not be realised due to the pandemic situation.



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**PUBLISHER &
EDITOR**

**STRACK NORMA
GmbH & Co. KG**

Königsberger Str. 11
D-58511 Lüdenscheid

Tel + 49 2351 8701-0

Fax + 49 2351 8701-100

Mail info@strack.de

Web www.strack.de

STRACK®
NORMALIEN

STRACK®

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STRACK NORMA GmbH & Co. KG

Königsberger Str. 11
D-58511 Lüdenscheid
Postfach 16 29

Tel + 49 2351 8701-0
Fax + 49 2351 8701-100
Mail info@strack.de
Web www.strack.de



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