#### Edition 43 / 2020

## NORMALIEN REPORT

Informative · Interesting · Innovative
The company magazine of STRACK NORMA

# INNOVATIONS FOR THE LARGE-SCALE TOOLMAKING

STRACK NORMA expands its product range with attachment parts

DIRECTION INDUSTRIE 4.0

Automated solutions for own production

ALWAYS A
MOVE AHEAD

Tailored latch

**CLOSE PARTNERSHIP** 

Cooperation with machine manufacturers

# SIRAGE NORMALIEN

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## **EDITORIAL**



#### **DEAR READERS,**

This year we have done a clear step further towards industry 4.0. We introduced a new, automated and robotic-assisted storage system and artificial intelligence now also supports the production of our patented standard cam PowerMax®. Herewith we can still respond to customer requirements more quickly and more flexibly.

Reliability and customer orientation have always been lived values at STRACK NORMA. Volkswagen shows us that also our customers perceive and appreciate this: the worldwide leading car manufacturer included us once again in its supply chain and extended even the listing: with our SNS guide elements we are the only released manufacturer. You will find these and many other topics in our current Normalien Report.

Enjoy reading!

Michael Lang Managing Director

Mihael (



# STANDARD COMPONENTS FOR THE LARGE-SCALE TOOLMAKING



Application of standard parts in the large-scale toolmaking.

STRACK NORMA has enlarged its product range of innovative and standardized solutions for the large-scale toolmaking and has included attachment parts considering the standards of the car manufacturers. Thus, the standard part specialist offers to the large-scale toolmakers products and services in the punching range completely from a single source.

The pre-positioning of the board belongs to the basic requirements for a stable production. Therefore, STRACK NORMA has enlarged its portfolio and added attachment parts which are especially tailored to the automotive industry. These include different versions of gages or variants with end position control. The standard part specialist offers hardened executions for the low-wear machining of highstrength metal sheets.

Also, different cutting- and embossing elements are part of the range as well

as an extensive program of lifting elements. Concerning the guide elements, STRACK NORMA offers both columns and bushes according to the VDI-Directive, as well as a wide range of flat guide strips, wear plates and prism guides in bronze with solid lubricant or SNS sintered metal. "The guide elements with the proven SNS sintered metal layer are characterized by their high durability, by a significantly improved service life and by a temperature resistance up to 250°C", explains Ludger Müller, Technical Director at STRACK NORMA. "Thanks to the steel base body, the elements offer at the same time consistently favourable purchasing prices and thus contribute to the budget compliance for the tool."

The extensive range of gas springs according to ISO and VDI is supplemented by numerous special solutions. They include controlled gas spring systems as well as hosed complete solutions, which construction on site is included in the service. "Manifold plate systems,

which can individually be adapted to the tool environment are suited for a higher maintainability and for minimizing possible leakages in the tool," says Müller. "In doing so, the standard gas springs are provided with boreholes in the ground, screwed on the manifold plate and combined with each other with the connection bores. In this way, the distances between the gas springs can be reduced to a minimum."

Locating cones and toothed spacer plates are also part of the standard accessories of the standard part producer as well as components which have to be individually adapted to the tool environment. Here STRACK NORMA offers the service to order these components adapted to the tool dimensions, like for example spacing bars with hinge or pressure bolts. In addition to the proven PowerMax® standard cams, the constructing engineer and toolmaker finds numerous special cam solutions adapted to his particular problems.



PowerMax® standard cam installed in the tool.

The newly expanded range for the large-scale toolmaking illustrates the columns of the company and at the same time its unique selling point: the innovative developments for the tool- and mould making, the customer-specific special- and individual solutions as well as the comprehensive range of standard products. STRACK NORMA formulates this with the triad THINK. TECH. STRACK.

Brochures on the extended range can be requested at info@strack.de. All products are also available in the web shop of the standard specialist.

# PATENTED PowerMax® STANDARD CAM

The cam series PowerMax® includes patented standard cams especially for large-scale toolmaking, used worldwide, particularly in the automotive industry.

According to the manufacturer, the cams equipped with gas springs reach, due to an active return, the unique ten percent press force as retraction-/stripping force.

Together with the high running accuracy, the PowerMax® standard cams form the basis for efficient and safe working.

STRACK NORMA supplies more than 70% of them as ready-to-install solution with customer-specific machining and special constructions.

The standard part specialist plans to continuously improve the PowerMax® cam series also in future and to develop them further.



The PowerMax® cam series includes patented standard cams especially for the large-scale toolmaking, used worldwide, particularly in the automotive industry.

# NEW INNOVATIVE AND INTELLIGENT STORAGE SYSTEM



Compact storage on 14.000 storage sites operated by 4 robots.

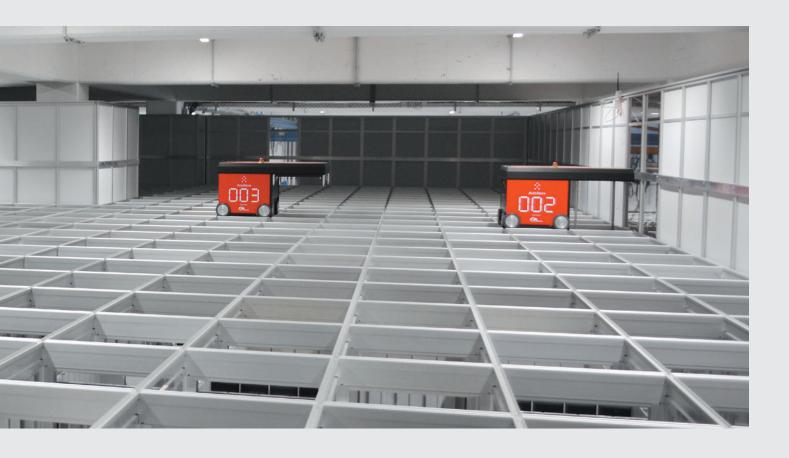


Intelligent storage system with 8.500 containers stacked on the top of each other.

# FAST AND EFFICIENT PICKING LEADS TO HIGH READINESS FOR DELIVERY

Since the middle of the year, we have been working with a new, intelligent storage- and picking system for small parts. One part of the plant of the brand name AutoStore supports the goods receipt and the shipping. "Now a delivery of standard parts is guaranteed within 24 hours", reports Guido Fastenrath, Head of the Materials Management proudly. "The aim is also to further reduce the error rate for deliveries towards zero."

The innovative system optimally uses the existing space and stacks the storage containers in a modularly compact way. In this way 140.000 items from the standard range can be kept in stock. "We have consciously decided for a chaotic warehouse system to improve the use of the space and to avoid empty spaces," explains Fastenrath. Four robots take over the storage and ordering of small parts. "Therefore, our pickers have to travel fewer distances. The goods are now coming to them and no longer the other way around. This saves an enormous amount of time and ordered items can be picked even faster and more efficient."





Back-friendly picking due to output tables at chest-height.

The second part of the storage system is working in the production of the standard cam PowerMax® which is used worldwide in the large-scale toolmaking. Two robots deliver accessories directly to the mounting table which also shortens the paths and thus allows a more efficient assembly of the standard cam.

The robots are extremely energy-efficient and consume only 0,1 kW/h. This means, all robots together need only as much energy per hour as a toaster. If a robot fails, another robot can take over the tasks.

The artificial intelligence of the storage system learns automatically which products are often required and stores them accordingly easily accessible. AutoStore is controlled via a warehouse management system (LVS) which stores the information which item is located where. The warehouse management system communicates via a Web-interface with the company's internal ERP system (ERP = Enterprise Ressource Planning), which provides, among other things, the order data.

# ARTIFICIAL INTELLIGENCE OPTIMIZES PRODUCTION



Optimized order sequence and automatic adaptation in the event of modification ensure an efficient production.

#### **AUTOMATED PALLETIZING SYSTEM FOR STANDARD CAMS**

As a further system for optimization of the production of the patented PowerMax® standard cams we introduced an automated palletizing system.



"The innovative systems allow us to prepare the goods for our customers even faster and more efficiently", says Guido Fastenrath, Head of the Materials Management. "Moreover, as one of the leading standard part suppliers in Europe we take an important step towards Industry 4.0."

The artificial intelligence, the Manufacture Management Software (MMS) plans and controls the production at the milling machines autonomously.

The required order data comes from the company's internal ERP-system. Herewith MMS calculates, among other things, the delivery-, milling- and setup times and prioritizes the orders. In case of modification in the production plan it automatically adapts. The machines are working around the clock in three shifts, whereby one shift runs completely self-sufficient.



Three loading stations insert the cast parts which have to be machined in the system.

The MMS is provided by the offeror of automation solutions Fastems.

## THE BRONZE AGE IS OVER

#### DISCOVER THE AGE OF SNS SINTERED METAL

STRACK NORMA continuously expands its range of guide elements by variants with sintered metal sliding layer. The sintered metal sliding layer makes the elements in the tool- and mould making more resistant, improves their service life and thus reduces the maintenance costs and increases the productivity.

Often at guiding systems sliding elements and -bushes out of bronze with solid-lubricant are used. STRACK NORMA offers guide elements with a sliding layer, which can significantly increase the running performance of the movable sliding pieces. The standard part producer supplies a selection of its guide elements with the so-called SNS sintered metal sliding layer, which is sintered together with an embedded lubricant in a strength of about 1,5 to 2 millimetres on a steel base body.

Thus, the guide elements get a high compression- and friction wear resistance and become more durable even with medium to high process speeds, that are especially appearing in the production of high-strength sheets. In this way, SNS coated elements can be run with a surface pressure which is twice as high and an almost five times higher sliding speed of 70 m/min.

The PV-value (relationship between surface pressure and speed) ranks three times as high as in the use of bronze with graphite and also the unlubricated running performance can be multiplied.

Temperature resistant up to 250°C, these guide elements are also ideally suited for the application in the mould toolmaking or in the hot forming. Generally, they are particularly used where high dynamic bearing forces have to be absorbed and where a regular maintenance is not always secured. The flat material in particular can easily be further processed and can thus be individually adapted to your own application cases in the own toolmaking.

Also tests in the automotive industry already confirmed that the service life of sintered metal is many times higher than that of bronze with solid lubricant. Here, in the last years, the SNS-guide strips were successfully used in the Medium- and Premium Version of the PowerMax® standard cams.

STRACK NORMA has enlarged its product portfolio gradually. Meanwhile, in addition to the flat guide strips also prism guides and guide bushes as well as special solutions belong to the fixed program. The two-piece guide bushes out of steel with glued-in sintered

sleeve which have been offered for a long time, have been replaced this year by the guide bush Z4412-SNS with SNS sliding layer.

Consequently, in the next step, the guide bushes with flange SN1770-SNS as well as the cylindrical bush Z4492-SNS have been replaced in the program.

The proven construction with sintered sleeve always reached its limits, if external influences caused too much friction in the guiding system and the glue lost its grip due to the emerging frictional heat.

The new SNS-sintered sliding layer allows high process temperatures, because the SNS-layer is firmly connected with the carrier material due to a procedure based on heat and pressure. The new bushes are available in different dimensions and are compatible to the already existing guide bush program, so that the customers can easily renew them and exchange them with each other.







Z4412-SNS



Z4492-SNS

# QUICK ACTION CLAMPING JIG FOR INJECTION MOULDING TOOLS

#### SETUP COST REDUCTION BY RAPID TOOL CHANGES

STRACK NORMA offers an innovative solution to reduce setup costs and flexibility due to fast and easy tool change on injection moulding machines: the quick action clamping jig Z8060.

The proven mechanical action clamping jig of STRACK NORMA is designed for two- and four pillar versions of all market leading injection moulding machine manufacturers. It is universally applicable up to a closing force of 800 KN and total weight of 1.000 kg depending



Quick clamping jig Z8060

on the type of injection horizontally or vertically. The retrofitting is fast, easy and cost-effective as the quick action clamping jig doesn't require an interface to the injection moulding machine (hydraulics, electricity).

The set-up time is significantly reduced because the clamping to the clamping plate of the injection moulding machine is done by turning two levers instead of using the elaborate claws or screwing. In addition, STRACK NORMA offers designs according to customer requirements up to a plate size of 700 x 800 mm.

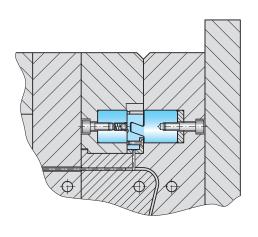
# CONSTRUCTION TIP: SLIDE UNITS

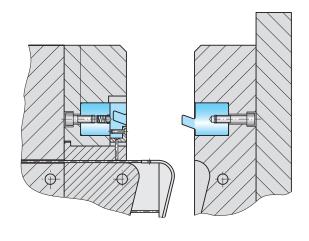
#### **CLEVER UNDERCUT**

Usually internal undercuts on plastic parts are realized by using slanted slides or collapsible cores.

The use of the small slide unit Z4290 is simpler and more cost-effective. The installation is carried out in such a way that the modified inner part is pushed inwards with the opening process of the tool and not outwards as with the basic version. In order that the slide is not pulled inside by the injection pressure, the injection-pressured surface has to be smaller than the surface of the actual slide element.

Thanks to this solution, markings on the component are avoided. Due to the compact design, the constructing engineer also wins space for the cooling. The extensive slide range offers a suitable solution for internal and external undercuts in round and angular design as well as with extended slides a solution for each case of application.





Slide unit Z4290 for the application at internal undercuts.

# TAILORED LATCH LOCKS

#### FIND WITH US THE RIGHT SOLUTION FOR YOUR MOULD

Latch locks have already been launched on the market in the sixties and the program has gradually been expanded.

Due to the many combination possibilities and a high variety of variants from up to 90 possible latch locks, these are also internationally well-known. The product range includes round-, flat-, hook-, push lock-, early return- and double stroke latch locks.



Latch lock series Z3, Z4 and Z5.

Latch locks control the movement sequence of the individual parting planes at the opening of an injection mould, which is adapted to the demoulding of the article. In general, in the applications a distinction can be made between:

1. Latch locks that are actuated by the tool stroke and 2. Latch locks that are controlled by the ejector stroke.

For latch locks which are actuated by the tool opening, a distinction is made between latch locks with and without retardation. Depending on whether at first the additional parting plane or the main parting plane is opened.

If the additional parting plane should reliably be opened before the main parting plane, a latch lock without retardation is used.

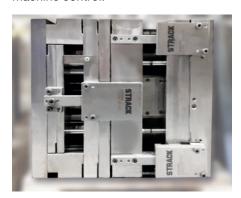
If an additional parting plane after previous partial opening of the main parting plane should be driven, usually latch locks with retardation are used for such a task, before the main parting plane completely opens. A classic application case is the three-plate tool. Due to the tool movement, the moulded parts

are separated from the distributor at the pin gate. The distributor in the additional parting plane demoulds and ejects the moulded parts in the main parting plane.

The latch locks of the series Z3, Z4, Z6 and Z7 are provided in the functionally decisive areas with a DLC-coating. This contributes to increase the profitability significantly, i.e. a longer service life due to wear reduction and the associated reduction of the maintenance costs.

Due to the low moving masses, the latch locks offer high opening- and closing speeds. As a result, also the use at fast-running tools is guaranteed.

The simple mechanical design, the proven construction and the production-safe operation due to forced control characterize the latch lock compared with other constructions e.g. by hydraulic cylinders which are operated by the machine control.



Z4 latch locks in combination.

As individual as the tool of today are also the solutions to realize movement sequences. This very often leads to a variety of special solutions, which the technicians of STRACK are individually elaborating for the customer. It is not unusual that different functions as the retardation of a Z4 and a further push lock Z6 unite in a movement sequence.

Thus, the wide variety of variants and the customer-specific design individually manufactured from the beginning round off the portfolio of latch locks and make the standard part specialist the technology leader in the market.



Latch bar of a Z4 special latch lock according to customer request.

The main advantages of the STRACK latch lock program are an extensive program, diverse combination possibilities, customer-specific design of latch lock applications, special dimensions for all variants, a product configurator as a selection aid and the CAD data comfortably accessible on our homepage.

All components and spare parts are always individually and directly available in the web shop with an additional spare part configurator.

# PRODUCTS FOR INCREASED EFFICIENCY

## HIGH-PRECISE GUIDING

The angular centring unit Z55 can flexibly be positioned in the tool and ensures an improved part quality.

The new angular centring unit Z55 of STRACK NORMA enables an improved part quality because its four-corner-radii allow an incorporation in the tool and thus a precise positioning.

The centring unit Z55 can be inserted in the tool via the centre axis like the other centring units in the program of the standard part producer. Thereby it compensates different thermal expansions in the two mould halves, which could otherwise lead to a jamming of the two mould halves. Z55 is available in 5 dimensions from 20 to 50 mm for different mould sizes, so that it can optimally absorb the forces in each case and is DLC-coated (DLC-diamond-like carbon). This coating on the upper part increases the service life, improves the scratch- and wear resistance and reduces the maintenance costs by up to 80 percent.



The four-corner radii allow an especially precise positioning.

## SPACE-SAVING INSERTION

DLC-coated centring units Z500 and Z501 convince by their flat design and the reduced maintenance costs.

Also, the new external flat centrings Z500 and Z501 ensure a new precise mould centring. They can be screwed externally on the mould and thus increase the active range for the constructing engineer in the tool.

Available in six dimensions and in a narrow design, they maintain the plate stability and can easily be dismounted even at closed tools. The DLC-coat, a diamond-like carbon layer is applied on the movable components such as centring pins or the guide sword. It thus extends the maintenance intervals of these unlubricated components, increases the service life and ensures a high scratch- and wear resistance of the surface. In addition, it reduces the corrosion tendency and guarantees a homogeneous coating thickness. The maintenance costs thus can be reduced by up to 80% with DLC-coated components. This is particularly required again and again for the medicine- and cleanroom technology. Z500 and Z501 are available in several dimensions.



The narrow design centres the mould halves precisely in the tool.

## **COMPACT CENTRING**

Centring sleeve Z811 with spacesaving design.

STRACK NORMA presents with the new centring sleeves Z811 a product line with which elements can be centred and be positioned without play. Its space-saving design increases the machining zone and an integrated extraction thread allows an easy dismounting. The sleeves Z811 are available up to a diameter of 54 mm and are thus also suited for the absorption of greater lateral forces. The alternative for the proven cylinder pins is inserted in the same axis as the screw machining.



New centring sleeve with internal thread allows a play-free positioning of the elements.

## FLEXIBLE EXCHANGE

New system compression spring for light loads.

System compression springs from STRACK NORMA are composed of a flat-round profile wire made of spring steel. They are coiled in such a way that they react to pressure. Due to their versatile application, the system compression springs are, among other things, used in the punching- and forming technology, in the injection moulding- and die-casting toolmaking and in the mechanical engineering and fixture construction.

The system pressure springs have standardly a diameter of 10 - 63 mm and a length of 25 - 305 mm. The same lengths and diameters allow a problem-free interchangeability between the different load levels. Moreover, the special profile of the compression springs allows high alternating loads- as well as permanent loads.

STRACK NORMA enlarges its product range of springs by the variant SN2521, which is optimally suited for lower loads. Each load type is assigned its own colour marking, which not only serves for the fast differentiation, but also excludes any possibility of confusion.



Extension of the product range by light green system compression spring SN2521 for light loads.

## MAINTENANCE-FREE EJECTION

New DLC-coated ejector pin for an increased productivity.

Ejector pins are used for the ejecting of moulded parts in the injection moulding- and die-casting toolmaking. STRACK NORMA has included a new DLC-coated version of its ejector pin Z98 in the program. Thanks to the coating, it ensures better dry-running emergency properties and thus increases the service life of the tool and the productivity.

The DLC-layer has a thickness of about 2  $\mu$ m and a hardness of approximately 3.000 HV at a friction value of 0,1 - 0,15.



Long living ejector pin Z98 with DLC-coating.

## INTRODUCTION MADE EASY

New inlet hopper SN4555 supplements the product range for the punching toolmaking.

Introducing sheet metal strips from the coil into the tool can become a challenge depending on the strip width and material thickness at greater distances. In order to thread the sheet metal strip in the correct position in the strip guidance, often some violence and sensitivity are required. The work of the setter is significantly facilitated with the inlet hopper SN4555 which is newly introduced in the program. Screwed on the right and the left side in front of the strip guidance, the inlet hopper helps, in both horizontal and vertical direction to centre the strip and thus to thread it easier. This significantly reduces the setup-process at a coil change or after problems in the tool, where the strip had to be removed from the tool. Moreover, the new inlet hoppers made of steel fine casting, comply with the VW-standard 39D 579 and are now available from stock.



The inlet hopper facilitates the work of the setter at the introduction of the sheet metal strip.

# PARTNERSHIP CREATES SYNERGIES



Frank Amende (middle, STRACK NORMA), showed Ralf Grede (left, DMG) and Ralph Rösing (right, DMG) the DMG machines in use during a company tour.

Whether press plant or toolmakingas one of the leading standard part producers in the world we attend in many areas a similar customer base as DMG MORI, one of the greatest manufacturers of metalcutting machine tools in Germany and a worldwide leading manufacturer of CNC-controlled turning lathes and milling machines.

In addition, we are also using milling machines of DMG MORI in the production of the PowerMax® standard cam as well as in the production of tool plates. One reason to join forces and to use synergies in partnership.

Ralph Rösing is the person responsible for the range Business Development at DMG MORI. In the interview he tells us how the teamwork came about and how the cooperation between the two companies can look.

Editors: How did the partnership with STRACK NORMA came about and by what is it characterized?

Ralph Rösing: Especially in the press toolmaking we often encounter common OEMs, which see the benefits of both companies. They appreciate both, the high quality and process reliability of STRACK NORMA as well as those of DMG MORI.

Our company philosophy is solutionoriented such as those of STRACK NORMA which has always been characterized by working together with customers in a solution-oriented way to optimize the current manufacturing approaches and to create cost advantages for them. Our aim is to develop long-term partnerships.

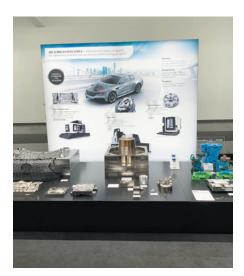
Editors: To what extend do STRACK NORMA and DMG MORI complement each other? How could a cooperation look like in future?



Cooperation with DMG MORI and the department Technology and Development of STRACK NORMA.



DMG machines in the production of STRACK NORMA.



STRACK presents its PowerMax  $\!\!^{\otimes}$  standard cam on the fair EMO in Hannover.

Ralph Rösing: In the past STRACK NORMA has already used our milling machines in the production, for example in the production of the PowerMax® standard cam as well as for tool plates with machining. In return we could learn from STRACK which benefits their standard parts can have in the toolmaking. Now we present our-

selves together at trade fair booths. At the K-fair, the Fakuma, the Euroblech or the fair EMO, the Die & Mold Excellence Center of DMG MORI offers a platform to integrate STRACK products and to demonstrate the customers a small process chain for high quality in the context.

I am sure that we are not running out of ideas where standard part producers and machine manufacturers can complement each other.

#### **INFOBOX**

## **DMG MORI**

DMG MORI is a world-leading manufacturer of machine tool and has 14 production plants and 157 sales- and service locations in 79 countries of the world.

The offer includes both turning lathes and milling machines as well as Advanced Technologies. The company bundles its excellence of technology in the key industries "Aerospace", "Automotive", "Die & Mold" and "Medical".

With its APP-based control- and operating software CELOS and the associated accessories DMG MORI creates industry 4.0.

# VISIT FROM A DANISH SCHOOL



Once again Danish students informed themselves at STRACK NORMA.

In June a group of students from the Skive College, a Danish technician school, visited for one day our headquarters in Lüdenscheid. The Skive College has a partnership with the Vocational College of Technology of the "Märkischer Kreis" in Lüdenscheid. Therefore, traditionally, once a year a class comes to Germany

and meets students of the Vocational College as well as several technical companies in the vicinity.

Jesper Thorne accompanied the group to Lüdenscheid. He is the sales manager of our Danish representation Mouldshop A/S and he is a former student of the Skive College. The seven students and three teachers gained insights in the mould- and punching range in descriptive lectures. Afterwards there was a company tour on the program, in which the new blood technicians experienced the production in practice.





# TRADE-FAIR APPEARANCES: PRESENTING AND ADVISING



Our team on site.

## STRACK PRESENTS INNOVA-TIVE SOLUTIONS FOR THE TOOL- AND MOULD MAKING

This year the trade fairs Moulding Expo, K and Blechexpo were again the focus of the German- and European tool-, model- and mould making. We once again took the opportunity to present our extensive range of innovative and standardized solutions for the tool- and mould making and to explain our concept "THINK. TECH. STRACK".

The trade fairs offer a stable platform for contacting customers and for exchanging experiences with colleagues from the sector. Our Sales Manager Frank Amende was on site: "The fairs were well attended. We had many interesting conversations with companies from all over the world", he sums up. "Particularly our concept of not only offering standard solutions but also special productions, product modifications and flexible adaptations has found a widespread support. Also, the feedback from markets, having a great relevance for us and our industry, was very positive."



Several times a year we are available to our business partners at trade fairs for direct conversations.

# STRACK NORMA WORLDWIDE

#### **INCREASED PRESENCE ON TRADE FAIRS IN RUSSIA AND CHINA**

With the opening of the representations in Dongguan and St. Petersburg last year, we started to extend our service offering in China and Russia and to support the growing customer base on site. This year we were able to reinforce this development by our presence on trade fairs on site and by targeted product trainings of our employees there.

A highlight of this year was the trade fair Rosmould 2019. In June we participated for the first time as an exhibitor at the International Exhibition for Casting- and Punching Technology. With more than 7.000 visitors out of 55 countries and more than 200 exhibitors from 16 countries, the trade fair Rosmould was a great opportunity to establish further international contacts and to position our products even stronger on the international market. By participating in this year's Chinaplas, Asia's largest plastics fair, we had in May the opportunity to present our standard parts in the key market Asia.



Evening event with all foreign representations in the exhibition "Phänomenta" in Lüdenscheid.



Our representation STRACK Hongkong on the trade fair Chinaplas 2019 in Guangzhou.

In addition to the presentation and placement of our products in key-markets, the service offering of our representations abroad is an important factor, we are continuously dealing with. Therefore, in October 2019 we organized an export-conference training, in the framework of which we stimulated a general exchange of information and jointly visited the K-fair in Düsseldorf. By making individual product trainings by our technicians on site, we provide for a high degree of professional competence in our representations abroad in order to look after our customer base in the best possible way.



# SUPPLY CONTRACT AT VW CONTINUED AND EXTENDED

VW has once again integrated us in its supply chain and also in an additional product series. In addition to the patented standard cam PowerMax® we are the only technically approved supplier of the sintered metal guide elements which is reflected by an exclusive framework agreement.

We have been working successfully with VW for 10 years and supply sites worldwide, in addition to the VW plants also those of all Group brands including Audi, Skoda and Porsche. The newly concluded contract will run for at least three years.

"VW has known us for many years as a reliable partner and supplier of the standard cam PowerMax®", says our Key Account Manager Daniel Brockhaus. "The fact that we are now supplying the Group once again with an extended range of products confirms us in our performance."

We are offering a 24-hour delivery guarantee for side cams so that the production is virtually uninterrupted. "In the recent years our service has been used several times and each time we significantly underrun the promised 24 hours", says Brockhaus.

"Moreover, we have recently upgraded our production with an automated pro-

duction centre, which doubles the production capacity of the PowerMax®.

Due to this significant increase in efficiency, we can reduce delivery times enormously in individual cases."



The compact PMOK standard cam is space-saving and efficient

The PowerMax® standard cam covers already a variety of sizes (65-1200 mm) and cam angles between 0° and 75° in 5° steps. In addition, the range includes the standard cam PowerMax® 2.0 (PMOK) which is up to 30% shorter, whereby significant space saving can be realized in the tool. As a result, the constructing engineers can act more economically and with a great freedom of design.

In addition, the range includes the PowerMax® light (PMOL) identical in design to the aerial cam PMO as an

inexpensive alternative. We also design special cams according to customer requirements corresponding to the specified cost limits. As an example, we created the blank holder cam PMON – with the driver in the upper part of the tool and we also integrated a pull-cam in the program.

We are the only approved supplier at VW with the SNS guide elements. SNS stands for STRACK NORMA sintered metal. The guide elements, such as flat guide strips, prism guides or guide bushes are provided with a sintered metal sliding layer instead of conventional bronze with graphite as solid lubricant. This allows high process temperatures, is particularly resistant, increases the service life considerably and improves the productivity of the tool.

In addition, we have recently extended our range of standard parts for the large-scale toolmaking by further attachment parts, which are particularly tailored for the automotive industry. This includes among other things, locating cones, gages and toothed spacer plates.

## STRACK CON-GRATULATES!

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

## MANY THANKS & CONGRATU-LATIONS!

#### **25 YEARS**

JÜRGEN SCHILLING Entry: 17<sup>th</sup> October 1994



We also congratulate our field staff to their new cars and wish always "Good Ride"!

# WE INVITE: FORMELY AND FESTIVELY

#### ICE, ICE, BABY!

On 23<sup>rd</sup> and 24<sup>th</sup> July at summer temperatures a cool refreshment was offered for our entire staff.

Many thanks to the ice-cream van of the ice café Di Natale and the management for the cooling!



#### **CAR-FREE VOLMETAL 2019**



On 30th June was the fifth anniversary of the action day "Car-free Volmetal", where a part of the Federal Highway in the Märkischer Kreis is closed to cars. For one day the B54 belonged to cyclists, hikers, skaters and joggers. Like many other companies, associations and organisations we set up a booth and our sales representatives, Mark Pakirnus and Stefan Dohle offered refreshments for the participants who braved the record heat.





# THROUGH THE FINISH LINE: SPLASHY RUN

On 5<sup>th</sup> July it was time again. Complete Lüdenscheid was under the sign "Running and walking for the working atmosphere" at the 17th AOK run. We started with 70 colleagues, a total of 6.000 female and male runners participated. In good weather and summer temperatures we spent a boisterous sporty evening together.















## "CURRY WURST" AND MUSIC

## PARKING DECK PARTY 2019

The parking deck party is our annual company event. On 31st August we spent a convivial afternoon in beautiful weather with "Currywurst" and an entertaining program of the coverband Lina Marrocco.





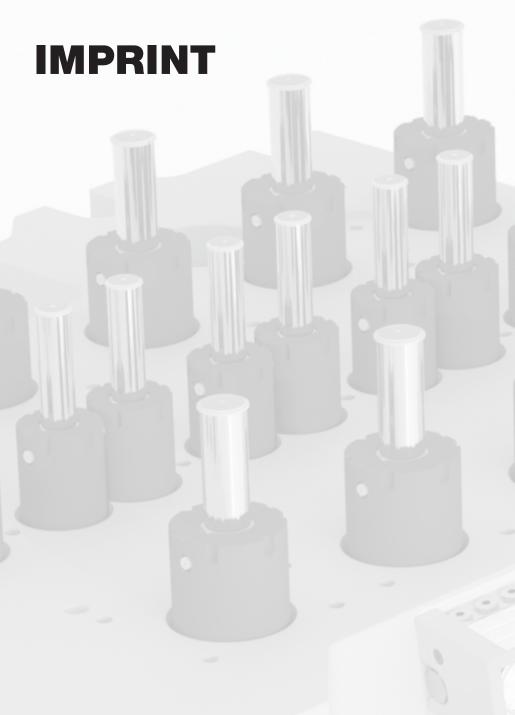












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