

## Editorial



Dear readers,

I would like to introduce myself as the new Managing Director of STRACK NORMA. Since January I am running the business of the company after the sudden and unexpected death of our managing director Dag Friedrich. Since my training I have been employed in different functions in the company, most recently as Commercial Manager and I am looking forward to the new challenge.



Owner Andreas Geyer hands over the Management to Michael Lang

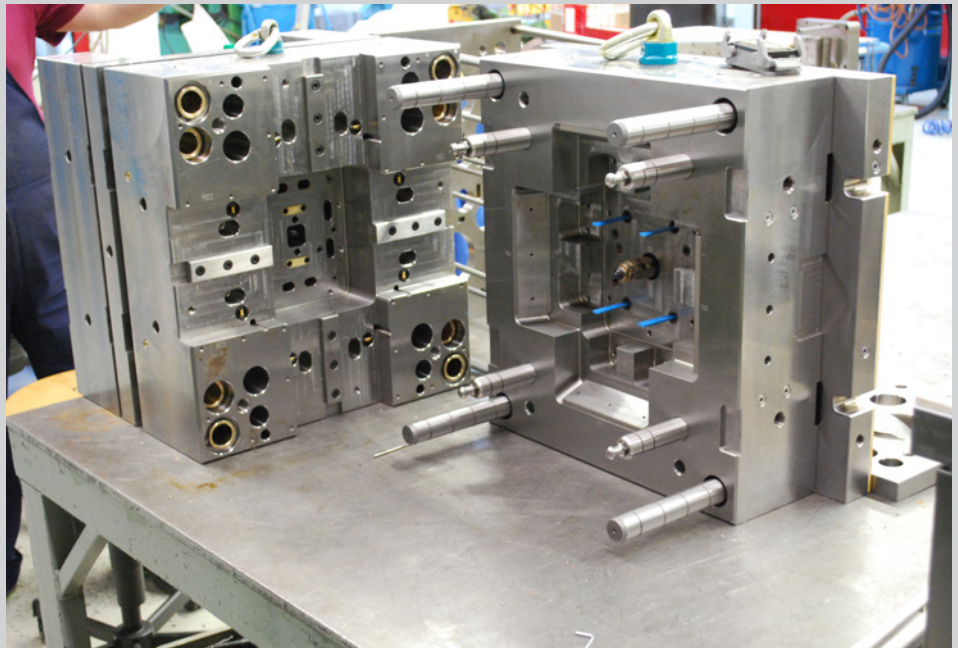
This year we celebrate the 40th anniversary of our highlight product "Latch-lock". A success story which started in 1976 with the first latch lock Z5. In addition to our standard products particularly the customer-specific designs and individual special solutions of STRACK are known. For this our customers receive of course parametrically adjustable CAD data in all leading construction systems. For you this means 40 years of ideas, experience and expertise of which we are proud. Learn more about the history of the latch lock and other products in our current standard part report.

Enjoy your reading!

Yours,

*Michael Lang*

Michael Lang  
Managing Director



Latch lock Z3 inside the tool

## STRACK latch lock – the best of its kind

### Movement in endurance and perfection for 40 years

Plastic parts are indispensable in our daily lives. The advantages are obvious, as this material offers unprecedented possibilities to the designer. Plastic products out of meanwhile more than 200 types of plastic and their million variants have entered in all industrial sectors. Plastic parts are produced on injection moulding machines. But it quickly became clear that the opening- and closing movement of the machine could not keep up with the rapidly increasing requirements on the necessary demoulding movements in the tool. The designers always created new methods to integrate additionally movements for the demoulding of undercuts or the ejection in the tool.

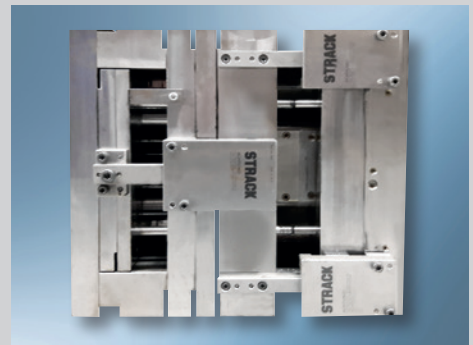
The standard part specialist from Lüdenscheid quickly recognized the requirement to create a standardised product which reliably integrates additional movements in the tool. The classic hook latch lock Z5 already offered 40 years ago a reliable solution, which is still today one of the first choices of the designer due to the solid structure.

### A variety of applications

With the proven latch locks of STRACK

NORMA a universal system for the movement of mould plates in tools is available for the user. The combination of different latch-lock variants offers a variety of possibilities to move the plates of an injection moulding tool.

The success history of STRACK NORMA began in 1976 with the sale of the first hook latch lock Z5, the robust allrounder for applications where no locking of the drawn plate is necessary. So, the toolmakers which until then built the solutions to implement the tool partings by themselves, could revert in a simplified manner to standard parts. In 1979 STRACK NORMA presented the latch



Latch lock Z4 mounted on the tool

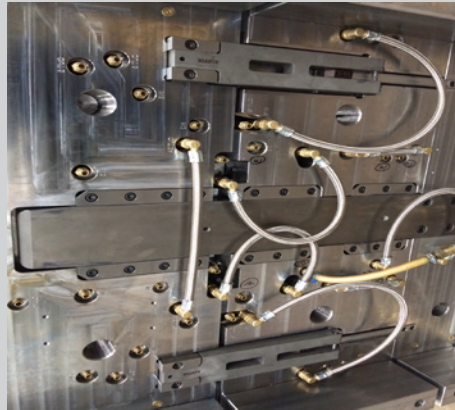
lock Z4 as further development of the latch lock Z5. So, it was possible to lock the formerly simply drawn and unsecured plate (Z5) now by means of catches in a defined position (Z4). This increased the production safety.

Moreover, the latch locks of the series Z4 allow high opening- and closing speeds due to the low moving mass. Thus, a use even with high-speed tools is ensured.

In 1998, in addition to the latch locks Z4 and Z5 which are externally screwed, the product program was complemented by a patented round latch lock for the internal installation. Here the construction principle of the latch lock Z4 was adopted. The advantages of the latch locks of the series Z3 and Z4 are among other things the mechanical locking of the drawn mould plate in its final position and the high opening- and closing speeds. Latch locks with or without retardation are available. At latch locks without retardation the stripper plate is directly drawn; at latch locks with retardation the stripper plate is only drawn after a determined opening way of the main parting plane.

The push locks Z6 and the early return Z7 round the latch lock program in the application possibilities. Already at that time STRACK NORMA was able to offer with its product range in the area of latch locks solutions for almost all applications. In 2004 in addition to the standard latch

locks the first double stroke latch locks with and without retardation were produced, for example for applications with 3-plate tools. Due to the tool movement the moulded parts are separated at the pint-point gate of the distributor, the distributor is demoulded in the additional parting plane and the moulded parts are ejected in the main parting plane.



*Latch lock Z5-4*

In 2015 the standard part specialist specially developed the latch lock Z4-40 for the application in large toolmaking. At the same time to improve performance at all latch locks of the series Z4, the catches and catch locks were coated with a DLC-coating. The new DLC-coating cannot be seen at first glance, because only the relevant parts of the latch lock (catches and catch locks) are covered with the coat.

Herewith the proven latch locks are able to ensure even higher running performances and thus ensure a trouble-free manufacturing process.

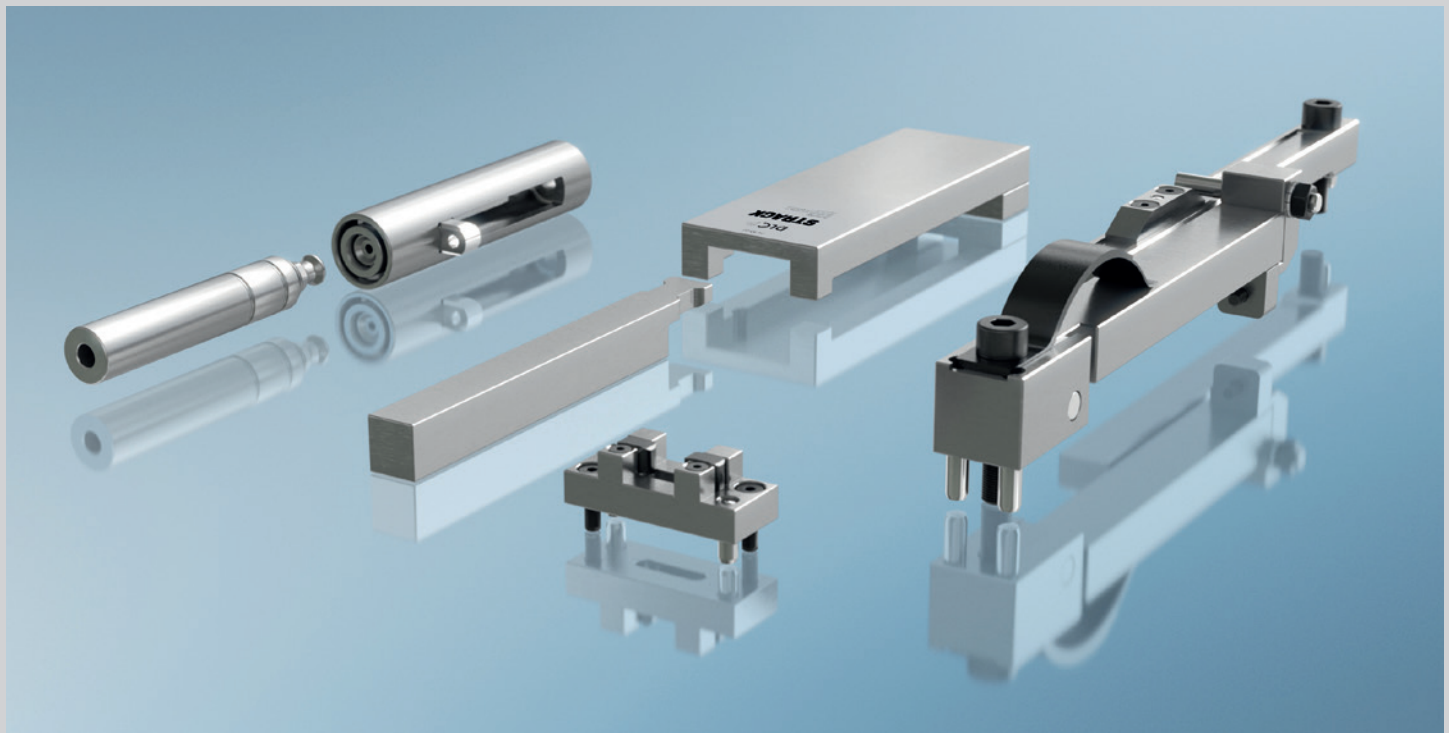
By using DLC-coated components an up to 80% reduction of the wearing costs can be achieved. So, the maximum benefit is achieved and friction and wear is minimized.

### Special solutions

Due to the manifold range of latch locks the user gets new constructive freedoms. In the phase of the mould design he is supported by the application engineers in Lüdenscheid. For the interpretation the parameters, plate movement order, plate thickness, strokes and the operating conditions (temperature in the tool, used hot runner systems etc.) are considered.

As individual the tools of today are, are also the solutions to realize motion sequences. In addition to standard solutions this often leads to a variety of special latch locks for almost each application case, which is individually worked out for the customer by the team of STRACK NORMA.

A large number of variants and customer-specific designs, which are individually produced since the beginning rounds the portfolio of latch locks and let the standard part specialist become the technology leader in the market. ■



*Latch lock series from STRACK NORMA: Z3, Z4 und Z5*

# Functionality of a latch lock with push lock Z6

The push lock is a supplement to the latch lock Z4. It is always used where a premature opening of a second parting plane, e.g. at 3-plate tools in connection with slides and/or core pulls should be avoided. Thus the injection moulding tool is firstly opened in the main parting plane. Only after effected opening of the main parting plane, the second parting plane is opened, for example when using a latch lock Z4 (with retardation).

**Figure 1**

The control bar (31) is bolted to the mould plate (H2). The latch housing (11) is bolted to mould plate (H1V) plate and control plate (21) is bolted to the clamp plate (H5). The control plate (21) is positively locked to the latch housing (11) by the catches (6).

**Figure 2**

When the main parting plane of the injection mould is opened, the closure or ejector side initially moves back in the direction of the arrow by the specified opening travel (S1). Until this opening movement (S1) has ended, the mould cannot open in the second parting plane, since it is locked by the positive connection between control plate (21), latch housing (11) and catches (6). As soon as the opening movement (S1) has been covered, the latches (6) of the push lock (Z6) are released and thus the locking of the second mould parting plane is eliminated. The catches (6) are guided out of the cutouts in the control plate (21) as soon as the limit stops of the latch bar (325, 350, 375 or 3-L1) bear against the catches (6) of the actual lock (Z4).

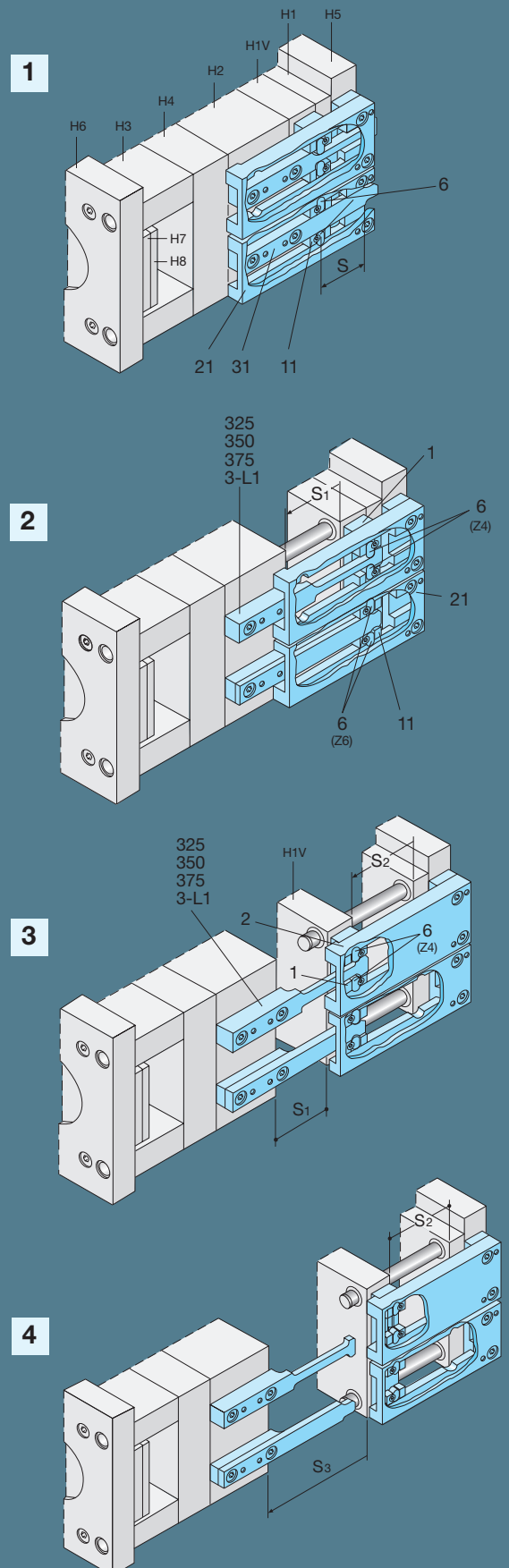
**Figure 3**

Now the latch (Z4) draws the mould plate (H1V) forward by the opening stroke (S2) in the direction of the arrow „S2“. When this opening movement has been completed the actuated mould plate (H1V) is locked.

**Figure 4**

The main parting plane (S3) can now be fully opened. The closing process is effected in reverse order.

The manifold application possibilities due to the combination of different latch lock types of the series Z4 are enlarged with the push lock Z6 by a further component. Benefits are the simple and quick installation as well as time savings, because the cut-out at the injection moulding tool is not necessary.





## New product configurator of STRACK NORMA accelerates selection process

Many product variants offer indeed the advantage to provide the appropriate solution for each application case, but often also require an additional expenditure of time to find this.

How to find easily and efficiently the best solution out of more than 1500 different standard slides or more than 1800 gas springs and different limit switches the right solution? Under time pressure this can become a challenge.

The new product configurator of the company STRACK NORMA offers clear advantages to its customers and allows to find quickly and efficiently the perfect product for the individual application.

The newly developed Online-Tool was integrated in the area of the shop and allows the customers to configure their product in the three product groups, standard slides, gas springs and limit switches in just a few clicks online.

Via dropdown-menu the customer must now make its individual preselection and finds the perfect article for his requirements in a matter of seconds. Here the sequence of the selection criteria doesn't play a role. Thus, in the range of standard slides reference numbers such as angles, dimensions, press- and retraction force and further criteria are offered for selection.

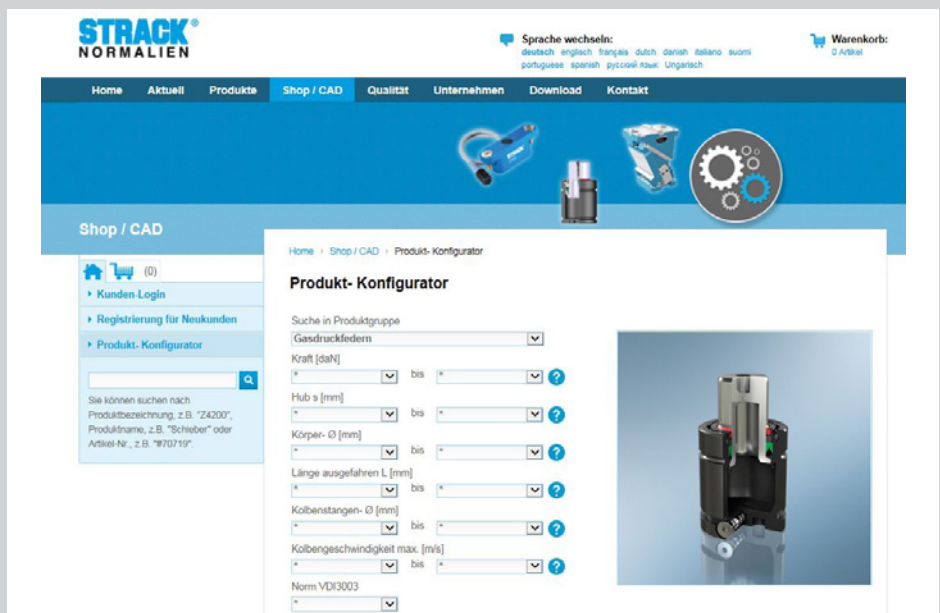
Gas springs can be found via their stan-

dard or also via features such as force, stroke and dimension of the body. In addition, other selection criteria such as e.g. „connector for composite system“ is available for the user.

Concerning the limit switches the customer doesn't only receive support in its selection, where he can limit the search by temperature, type, dimension or positioning. If the right limit switch for the desired application is found, a downstream wizard helps to find the right wiring to the machine or

the right test light. Thus a fault-free part list is compiled in a few steps. Generally applies for each search, that the user can individually adapt its requirements and is flexible in its selection. Already now, further configurators are in planning to support the user even more intensively.

The user experiences a fresher appearance and accelerated handling also at the reworked download portal for CAD data. ■



## STRACK enlarges its limit switch program

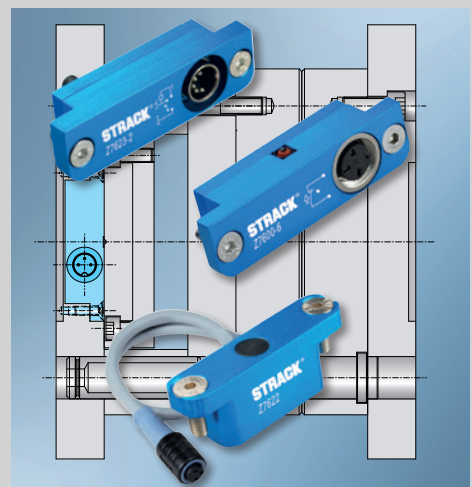
### New types immediately available

To meet the growing demands on the market the standard part specialist STRACK NORMA offers a new mechanical limit switch with the type Z7600-6 which is equipped with a connector socket instead of a connector plug. Thus, this limit switch complements the connecting options and cables at the machines which are usual in the market to increase flexibility.

A high-quality micro switch is located as usual inside the switch housing. The housing is made of aluminium and completely splash-proof according to IP 66. Here the corresponding connector cables Z7602-3/Z7603-3 and a testing-

and adjusting lamp Z7689 are available for the customer.

The second is an internal inductive limit switch with the type designation Z7622 which is equipped with precision sensors. This inductive sensor has no wear due to its non-contact operation and an endless repeatability. He is a geometrically identically designed alternative to the internal limit switch Z7615. The corresponding connecting cables Z7618 and the appropriate connecting housing Z7623 complete the connection with the injection moulding machine. ■



New limit switches Z7623, Z7600-6, Z7622

## GAS SPRING-STRIPPER UNIT *for punch retainer plates in polygon shapes*

High stripper forces for a safe production thanks NITRO STRIP unit



STRACK NORMA enlarged its product range by a gas spring stripper unit for cutting punches which is inserted in a punch retainer plate in polygon shape. So far, only elastomer strippers and strippers with helical compression springs were available for the user of such polygon-punch retainer plates. The increasing use of high-strength and higher-strength sheets leads

to a growing stripper force. Due to the fact that at elastomer strippers the initial force is equal to zero, here increasingly problems occur. The stripper units with helical compression springs and conical spring washers which are already available on the market can only partially solve this problem.

With the new NITRO STRIP unit the standard specialist has recognized this difficulty and has solved it with a gas spring specially designed for this application case. Due to their advantages we can no longer imagine life without gas springs, since they already provide a high force at the beginning of the cutting process. The new NITRO STRIP unit of STRACK NORMA uses these advantages.

The unit is so designed that it can universally be used on the punch retainer plates LIGHT DUTY, HEAVY DUTY and can be used as retainer for punches according to ISO 8020.

The stripper bush being in contact with the sheet is made of bronze. It is standard designed with a starting hole for the adaptation to the punch contour by wire

eroding machines. It can be delivered with an overmeasure of 10mm and offer the user the possibility to adapt it according to his requirements to the sheet contour. On request the bush can also be obtained according to customer data with machined inner and outer contour at STRACK NORMA.

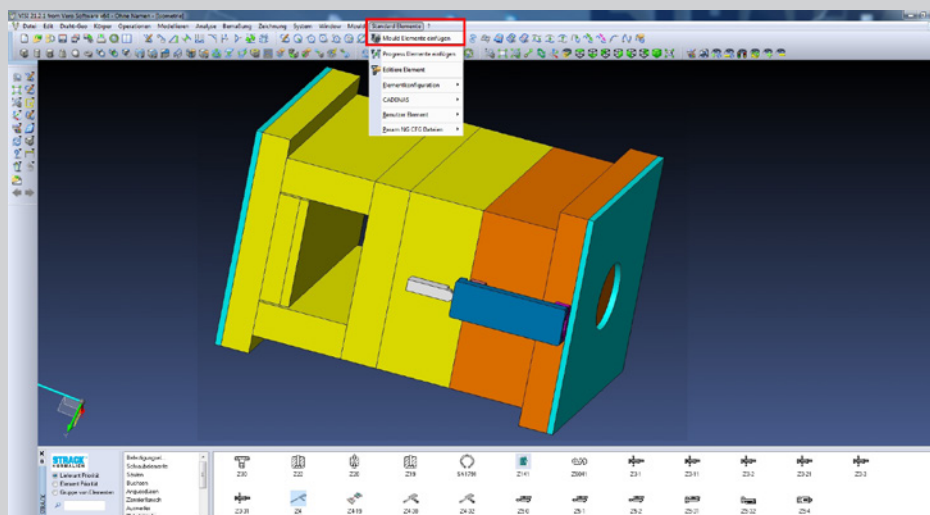
The unit can also be combined with other units and a control panel to a stripper system. Using this panel, the stripper force adjacent from the outside can be adjusted and controlled. Furthermore, due to the connection of several NITRO STRIP units it can be worked with a unified force. ■



*Profiled bronze bush for gas spring-stripper unit*

## Integration in VISI is proceeding

Latch locks and centring units now also available for direct integration



For many years the company STRACK NORMA is using the CAD-system VISI to enable to its customers easy access to the STRACK standard parts.

VISI is known as one of the leading construction- and NC-programming systems for the tool- and mould making. In addition to the mould assemblies,

also guide elements and various other accessories are always available at any time for the user.

In order to offer more service to the customer and to facilitate and to accelerate the design process, from March more important CAD-data of the STRACK highlights is integrated in the program VISI. Apart from fine centring and short stroke cylinders, the whole latch lock program is immediately available.

Over the standard-updates, the designer can integrate the new parts in his VISI system. These are then available under STRACK standard elements. ■

## In memory of DAG FRIEDRICH



We mourn the loss of our long-time managing director Dag Friedrich, who died suddenly and unexpectedly on 26th December 2015.

Deeply moved and with great thankfulness we say goodbye to a charismatic and goal-oriented person. He successfully led the company STRACK NORMA with tireless personal effort, great vision and determination and pushed the worldwide development of our company.

After his successful teacher training Dag Friedrich began his training as an industrial clerk at STRACK NORMA in 1989 and in 1996 he concluded his studies in business administration while working full-time. From 1991 to 1997 he worked as a clerk in our company before he got the job as Assistant of Manager in 1998.

After the Commercial Manager, Peter Fischbach, went into retirement in

2003, Dag Friedrich run the business of STRACK NORMA from the 1st August 2003 together with the Technical Managing Director Siegfried Kahlstadt. After Siegfried Kahlstadt went into retirement in the year 2008 he became the sole Managing Director of STRACK NORMA GmbH & Co. KG.

Dag Friedrich has accompanied the development of STRACK for 20 years and had a decisive influence on it. Under his leadership new products were successfully introduced and the international orientation of the company was expanded. Due to his death we are losing a personality who we owe so much. We will always keep him in good and appreciative memory.

His successor is Michael Lang, an experienced and decision-strong manager. Mr. Lang is a graduate in business administration and has more than 25 years of professional experience in the range of standard parts. He started his career with a commercial training and worked afterwards in various management functions for STRACK NORMA GmbH & Co. KG. Since 2001 he has been responsible for the entire commercial sector as proxy.

The STRACK- Team

*Internal*

## The new man for the Northwest

Frank Millkuhn succeeds  
Manfred Wedler from the 1st  
of February



For more than 30 years Manfred Wedler has been on site and has looked after the customers of STRACK NORMA in the area of north west Germany. He was especially appreciated by the customers due to his professional competence, his reliability and his knowledge of the region.

Now Manfred Wedler goes into well-earned retirement. His successor, Frank Millkuhn, is looking after the sales area since January and is also a man of practical experience. The 46-years old Millkuhn is a skilled toolmaker and contributes much experience in his job. After completing his studies in mechanical engineering he has worked in the sale since 2001.

"I am looking forward to my new challenge and will visit all the customer from the area one after another in the next few weeks", Millkuhn is pleased about his new tasks. ■

*Congratulations!*

## Anniversaries

STRACK congratulates the employees belonging to STRACK family for 10 years

**Sabina Nuovo** January 2006  
**Kosima Sonneborn** March 2006

and the employees belonging for 25 years

**Carsten Woker** January 1991  
**Roswitha Haller** February 1991

### Masthead

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