

Interesting facts for the tool- and mould making

Editorial



Dear readers,

40 years of latch locks – these are 40 years of further development and adaptation to the technical progress. You will learn how our anniversary product functions in practice while reading our current user report of the company “Lauer Harz”, which has been our partner for 25 years. In addition to the round latch lock Z3, many customized articles, also in special sizes, are inquired by the family-run company and are made available by STRACK.

On the occasion of our anniversary, this year we released an own Highlight Brochure on the subject latch lock giving you an exact overview about our standard program. A high variety and customer specific designs, which are individually produced from the beginning, complete the portfolio of the latch locks and makes us the technical leader in the market segment.

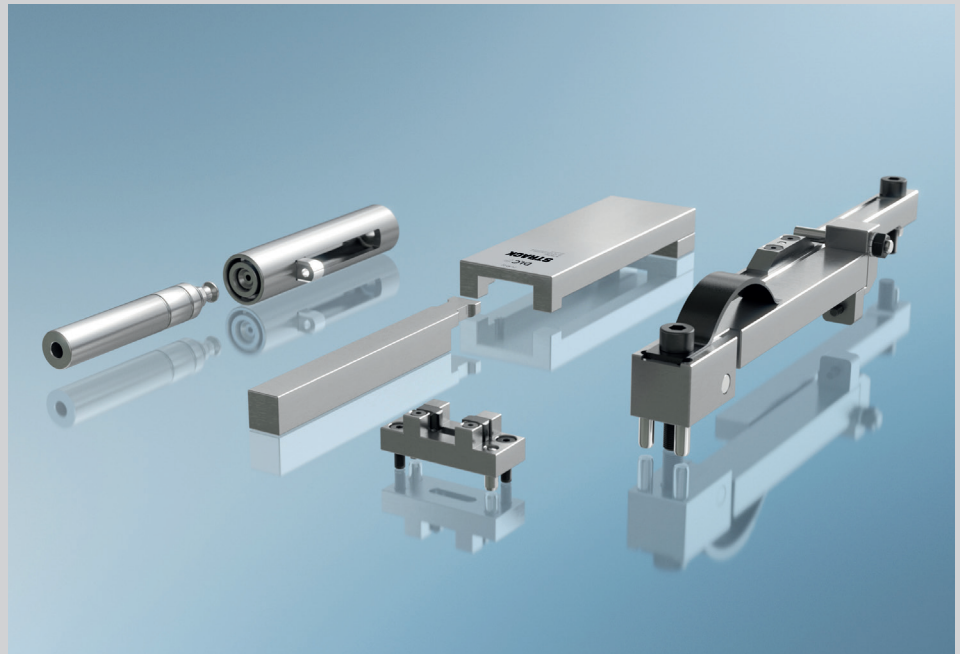
Currently for the fair EuroBlech 2016 we present a further standard cam, the PowerMax light. Developed according to the requirements of the automotive industry it completes the cam program as cost-effective alternative according to the motto: the simple solution.

Learn more about this and other innovations in the current standard part report.

Enjoy your reading!

Yours,

Michael Lang
Managing Director



Precision is required: Round-, flat- and hook latch lock (from left) open and close the mould plates. In order that this works without problems, they are manufactured with highest precision. (© Strack)

Step by step

The use of round-, flat- and hook latch locks in the toolmaking

In a tool latch locks open additional parting planes. This must work reliably- also at high tensile forces, at tools weighing several tons and under any environmental conditions. Lauer Harz here relies on the products of Strack Norma.

We don't make cookie-cutter things“, Kurt Harz, Managing Director of Lauer Harz Tool Technology describes his business. Already at the foundation 25 years ago the focus was on the toolmaking. „Later it was stated, you also have to be able to make samples. Then the first two injection moulding machines were bought. In the meantime, a small injection moulding department has been created “tells us the Managing Director.

In the company based in Lüdenscheid today about 30 employees are working. Complex one- and multi-component injection moulds up to a weight of 4 tons are produced. „Metal inserts which are injection-moulded around belong to our day-to-day business. Or, for example light conductors for automotive customers. You must become creative when having a component length of 1,10 m – it doesn't fit in a normal mould unit“, says Harz. The required accuracies are at one to

two hundredths of a millimetre, in the separation area even lower. This is not a problem for Mr. Harz: He has an ultra-modern machinery, for the erosion as well as for the milling. The last investment was a 5-axis machining centre Hermle C50.

Customer and contract manufacturer at the same time

Flexibility is very important for Lauer Harz. In addition to the toolmaking and the production of small series, the company offers a 24-hours emergency service for series tools. „Also for tools which have not been manufactured by ourselves“, emphasizes Harz. „Here we take over the responsibility for series tools. We have the corresponding spare parts in stock, pick-up the tools and can repair them at customer request within 24 hours. „Depending on the order situation the mould inserts are completely manufactured on our own – or bought pre-processed.

The partner Strack Norma fits in this concept. The business relationship has worked on reciprocity for 25 years. Usually Lauer Harz purchases standard parts from Strack, sometimes it supports the standard part manufacturer as extended workbench.

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The high school of ejection

An important component in the mould making is the latch lock. It is always used wherever an additional parting plane has to be created. For example, for housing parts, where the holding forces in the mould are so high, that at first it has to be demoulded with a stripper plate, before the ejector can take any action, so that the moulded part is not damaged by the ejector pings. Strack Norma has been focussed on the high school of ejection for a long time – this year the latch lock celebrates the 40 th anniversary at the standard part producer based in Lüdenscheid. „Formerly for the ejection self-built solutions such as roller chains or tow screws were used“, explains Jürgen Krugmann, the contact person at Strack for the special field mould making. „We started with the hook latch locks in 1976. This was the approach where the gate could automatically be separated from the article. “Within a period of 40 years the latch locks continued to develop: in relation to materials, geometries and hardening processes. “We have always adapted to the technical progress”, says Krugmann.

Meanwhile the standard part producer has an extensive product range of latch locks:

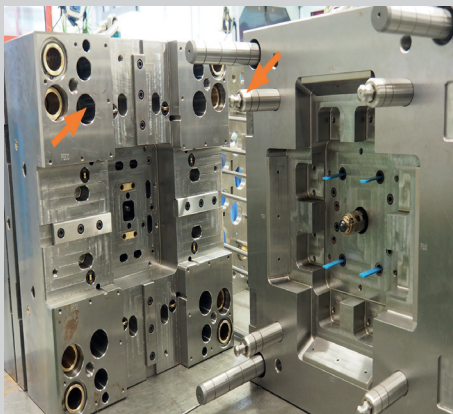
- Hook latch lock Z5: the classic; is mounted externally on the tool.
- Flat latch lock Z4: equipped with locking and DLC-coating.
- Round latch lock Z3: the space-saving variant; is mounted inside the tool.
- Double stroke latch lock Z4-19: available with and without retardation. By using this type three parting planes can be realized.
- Latch lock Z4 40/42: for large scaled mould making, equipped with DLC-coating on catches and catch stops. With two latch locks 16 tons can be moved.

And which latch locks are used by Lauer Harz? „Previously everything was screwed outside“, tells Harz. That means: The flat latch locks were used. „With the growth of the 3-axis machines this was relatively common. The round latch lock was then a real innovation. By using this kind of latch lock it is possible to bore the entire insertion for the latch lock equally in one clamping“, continues Harz.

We are using the round latch lock in case of space problems. It depends a lot on the toolmaker. The better the latch lock is mounted, the lower is the wear. It has to run well aligned one above another. “

The toolmakers from Lüdenscheid are advised by Stefan Dohle, Key Account

Manager at Strack. „We know each other for 24 years. Meanwhile a friendly relationship was born. If there is a problem, I come spontaneously – otherwise I visit the company several times a year to present our innovations“, reports Dohle.



Integrated in the tool: In this injection mould a round latch lock has been mounted at Lauer Harz (arrows).

„We purchase all from Strack“, explains Harz. „Plates, bolts, bushes, the complete package. Often we need special articles, for example in special sizes. Partly Strack also produces the complete mould insert including all inner parts such as cut-outs, inclined bolt holes or cooling channels. “

Hard machining up to a 1000th

The sector special production meanwhile represents about 30 % of the business at Strack, rising tendency. The customers provide 3D-CAD-data; the special requests are implemented within a few weeks. Harz

likes to use this service: „After the boring it goes to the hardening and then comes the final machining. Strack makes this very well – and not every company makes hard machining. Our customers from the automotive sector are merciless in their specifications.

For small switches, plugs and cables we have to comply with tolerances in the 1000th-mm-range. “

„With the special machining the toolmaker can save a lot of time“, Krugmann is sure. „Machining, intermediate annealing, wire-eroding, deep-hole drilling, flat- and jig-grinding – we can do everything. Including the in-house quality control. The customer doesn't have to retool the heavy plates so often and can concentrate on the cavity. “

Kurt Harz, who is at the same time head of the precision mechanics guild in Lüdenscheid appreciates this: „We rely on Strack. Of course we also gather offers from other vendors but the geographical proximity and the flexibility in the price and in the work of Strack convinced me.“ Also Stefan Dohle is pleased about the good cooperation: „We both know what is really going on and what the customer demands. We have also learned a lot from each other. That benefits us all.“ ■



Experienced team: Jürgen Krugmann, responsible at Strack for the special field mould making, Kurt Harz, Managing Director Lauer Harz, and Stefan Dohle, Key Account Manager at Strack (from left).

The construction tip

Manifold plate system for gas springs

The gas springs have already largely displaced the conventional compression-, elastomer- or plate springs.

The advantages of the gas springs are the long service life, the constant power and the little installation space. But in addition to these facts also the high initial force without pretension from the beginning of the stroke plays an important role. Signs of fatigue at the conventional springs lead to different loads in the tool.

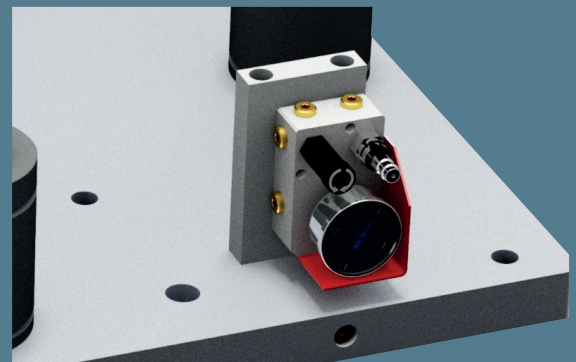
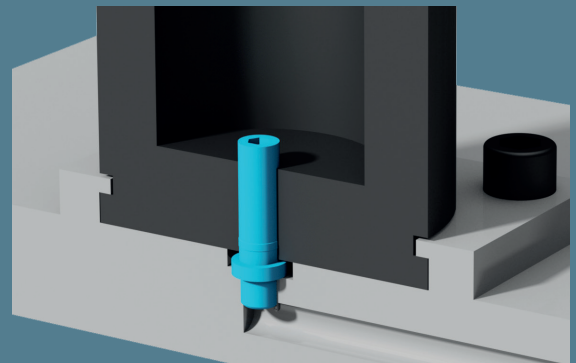
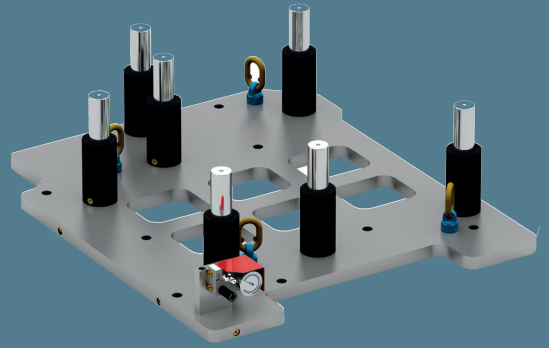
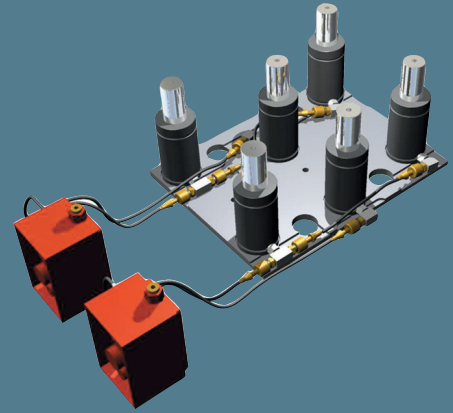
To overcome these difficulties, it was started to connect the gas springs with high-pressure hoses among each other. A control panel allows the exact adjustment of the force on the required tool parameters. It is also possible to adapt the system pressure without great effort.

The weak point here is that the many connections represent a potential for possible leaks. Due to the connection nipples and the minimum crushing lengths of the hoses, extremely short distances between the gas springs can't be realized. If, however, gas springs and high-pressure hoses are mounted on a mounting plate, in case of wear, the whole unit can be removed and later easily be refitted, a significant release of the handling.

The manifold plate system is a further development of this idea. Here the deep-hole borings in the plate connect the gas springs among each other. Connecting nipples present a secure connection of the gas spring with the deep-hole boring. In addition, the gas springs can be placed very closely in the plate, if necessary. The risk of leak or squeezed hoses is eliminated and thus the safety is increased. The system can be filled by the directly flange-mounted control panel and can be adapted to the own requirements at any time.

The system is available for many standard gas springs from a diameter of 45 mm.

Please contact us. Whether standard gas springs, tank plate systems, hose systems, manifold plates or controlled gas springs, the specialist team of STRACK NORMA is happy to work on the right solutions for you.



Inexpensive alternative

New SE-plates of STRACK NORMA

The mould- and precision plates are the basis of each tool and must be as flexible and individually tailored as their application. Due to the different production depths at the individual mould makers and the varying quality requirements of the end customer, the standard plates are available in different processing steps.

The company STRACK supplements its extensive product range of plates by the new SE and SE2 plates. The simplified mould plates are the low-cost alternative to the previous E- and P-plates and are milled respectively finest-milled on all sides.

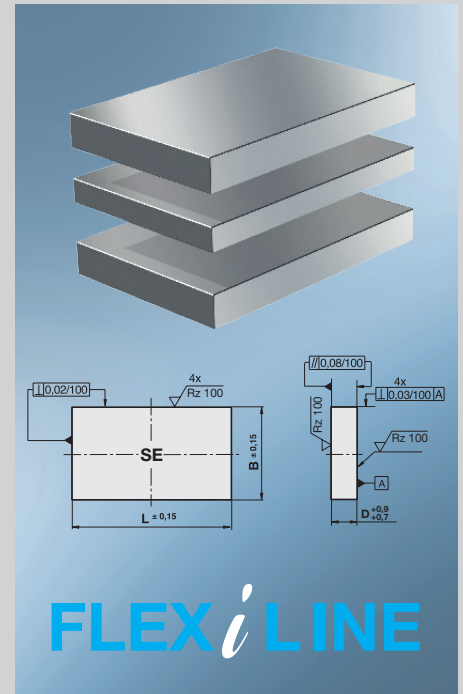
While the E-plates of the standard part producer have a ground and finest-milled outer edge, the P-plates (precision) have in addition to the finest-milled outer edges

peripherally-ground bearing surfaces.

SE plates are ideally suited for the production of mould plates with comprehensive machinings as well as for inserts, slides, cutting- and tool making elements.

SE and SE2 plates are part of the new Flexiline-plate line, which stands for flexibility in tolerances, outer dimensions and depth gauges. The plates are freely selectable in size and plate thickness depending on the external dimensions with focus on the individual customer requirements.

For more information, please refer to our current catalogue under www.strack.de/download/brochures. ■



FLEXiLINE

PowerMax[®] light
the simple solution

STRACK is extending its cam program

Low-cost version enlarges the successful PowerMax standard cam series

The requirement of the automobile manufacturers to reduce the tooling costs is completely fulfilled by the newest member of the well-known PowerMax program.

With the PowerMax *light* the standard part producer STRACK NORMA introduces its newest standard cam on the market, the low-cost alternative for product series, which are only running in lower number of pieces.

This new PowerMax *light* series is designed for a service life of 1.000.000 strokes, which corresponds to the quality class 2. The user saves cash money in the purchase, however has the safety in the production due to sufficiently high forces.

Already at the introduction of the PowerMax standard cam in 2008 STRACK NORMA was confronted with the advanced modification of the cam requirements on the market.

On the one side there were the considerably higher number of pieces which were required by platform concepts, on the other side simultaneously the model range of the automobile manufacturers was growing. Therefore, new concepts for the reduction of the processing time in the toolmaking were necessary. In addition, more and

more high-strength sheets are used which are leading the tool components to their load limits.

The PowerMax standard program from the company STRACK completely meets these requirements and gives at the same time with its three unique designs "Basis", "Medium" and "Premium" each designer a high degree of flexibility in the construction. With this standard program piece numbers with far more than 2.000.000 strokes (quality class 3) can be achieved without problems.

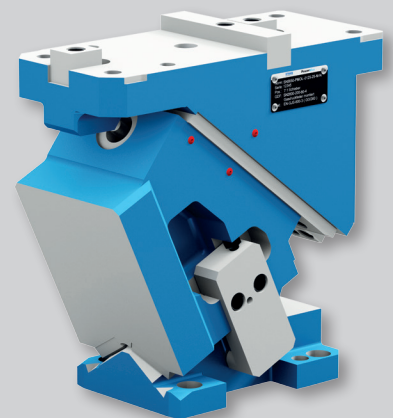
Challenges due to very limited spaces resulted in 2015 in the new cam generation 2.0. This supplement to the PowerMax compact program characterizes by its design which is 30 % shorter and partly leads to the saving of complete tools.

But due to the many derivatives of the automobile manufacturers there are also product series which are only running in low piece numbers. Here, for the reduction of the tooling costs, a reliable cam is required, which provides sufficiently high forces, but simultaneously not burdens the purse too much.

The new PowerMax *light* program focuses exactly on these application cases.

Greatest emphasis was put on the compatibility of the external dimensions and the screw holes with the existing PowerMax standard program. Savings could among other things be achieved by a new patented flat guide. A guide directly against the casting, paired with the reduction of components and a simplified machining result here in a considerable price reduction.

Presumably the new PowerMax *light* cam will be available for the user in the first quarter of 2017. ■



PowerMax light

Locking plate for slide stopper unit Z5131 and Z5141

Locking plates are designed to considerably simplify the insertion of the latching groove in the slide. The time-consuming milling of the groove by means of a form cutter is not necessary, because the nut is already optimally inserted in these plates. They are only screwed in a pocket in the bottom side of the slide.

The round version Z5131 for round slide stopper units Z5129 + Z5130 is available in the three diameters 13, 18 and 27 mm.

The rectangular version Z5141 for the slide stopper unit Z5140 is available for sizes from 38 to 56 mm length. ■



Locking plate Z5131 (left) und Z5141 (right)

New centring flanges W85 and W86

By means of centring flanges, the mould is centred on the clamping plates of the injection moulding machine. In addition to the unbored and bored centring flanges the standard part specialist STRACK has now entered the centring rings in the program. Due to the large opening of up to 120 mm, the annular version creates significantly more space for the machine nozzle and the ejector rod with back pressure spring.

A further machining of the centring flanges in the toolmaking can be eliminated by this version in most cases.

These are available with and without fixing holes. In the popular diameters from 125 to 250 mm. ■



Centring flanges W85 (left) und W86 (right)

Procure spare parts online

Homepage of STRACK NORMA offers new possibilities

Shop / CAD

Home > Shop / CAD > Zubehoer > Entformungselem... > Klinkenzuege > Z4 Klinkenzuege > Z4-1 Klinkenzug

Z4-1 Klinkenzug

Technical drawing showing dimensions and part numbers: Z4-1-0/25/50/75-0, M4 x 12, DIN 913, DIN ISO 4762, DIN 913, DIN ISO 9734, L+21, 145 (L1), 145 (L2).

in anderen Längen auf Anfrage
in other lengths on request
en outre longueurs sur demande

Z4 - 1 - TYPE Bild 1/6

Teil	Pos	Bezeichnung	Benennung
Z4-1	3	Z4-1-03	
Z4-1	325	Z4-1-0325	Zugleiste
Z4-1	350	Z4-1-0350	Zugleiste
Z4-1	375	Z4-1-0375	Zugleiste
Z4-1	4	Z4-1-04	Traverse
Z4-1	41	Z4-1-041	Traverse
Z4-1	5	Z4-1-05	Sperre
Z4-1	6	Z4-1-06	...

zur Baugruppe

Getting single spare parts of standard parts in good quality – this problem formerly caused major problems for the purchaser.

The company STRACK NORMA responded to the wishes of its customers and offers now in the web shop the possibility to order spare parts for latch locks directly online.

Whether catches, catch stops or latches – from now on nearly 500 articles on the homepage can be downloaded from the homepage and are available from stock. In the next time the tool will also be extended for other products.

The customer can directly press the button “spare parts” and can select the required spare part by means of an explosion drawing. Based on the own ERP system this process will be completed in a simple and uncomplicated manner. In the shopping cart and the purchase doesn't take 5 minutes. ■

STRACK parking deck party



The annual family- and company party of STRACK NORMA took place this year on 27 August 2016. At hot temperatures also this year the management and the work council invited all employees and their families to a pleasant get-together. By drinking a well-cooled beer in relaxed atmosphere, it was also possible to talk to and to exchange information with the colleagues. In addition to freshly grilled sausages and steaks, there were salads and cakes.

A bouncy castle and of course the kicker were the highlight of the day for the kids. The whole afternoon, the parking deck party was very well attended with nearly 120 participants. ■

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STRACK
NORMALIEN

STRACK highlights

- ▶ Klinsenzüge
Latch locks
Ouvres-moules

1976 - 2016 ▶ 40 Jahre bewährte Qualität
40 years proven quality
40 ans qualité éprouvée

New STRACK-highlight brochure

40 years latch locks – these are 40 years of further development and adaptation to the technical progress.

The new Highlight-Brochure “Latch locks” gives a precise overview of the extensive STRACK standard program.

You will find it directly under www.strack.de/download/brochures. ■

Internal

Home match for Marc Oliver Pakirnus

Successor for Westphalia-Area immediately on site



He is deeply involved in the matter of standard parts. He is not only a skilled toolmaker and technical training manager, but also

has many years of experience in the field. From now on, together with Stefan Dohle, Marc Oliver Pakirnus will be responsible at the company STRACK NORMA for the sales area Rhineland, Westphalia and Sauerland.

While Stefan Dohle, who has already worked at STRACK NORMA for 20 years, looks after the standard parts for moulding tools, Marc Oliver Pakirnus will take over the range of the standard parts for stamping tools.

In the very near future, the 43-years-old Marc Oliver Pakirnus will visit the customers and present himself personally on site together with Walfried Tschirner, who enters in his well-earned retirement at the beginning of next year.

Congratulations!

Anniversaries

STRACK congratulates the employees belonging to STRACK family for 10 years

Leslaw Krempa	May 2006
Marco Elsner	May 2006
Nadine Gutberlet	June 2006
Turan Yilmaz	June 2006
Jose Nunes	August 2006
Isabell Panagiotidis-Sanchez	August 2006
Isabel Argibay-DiSumma	August 2006

and the employees belonging for 25 years

Guiseppe Nuovo	September 1991
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Masthead

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Conception, text und layout:
STRACK NORMA GmbH & Co. KG

References:
Cover story Susanne Schröder
Trade journal „Form & Werkzeug“