

# MARBACH NEWS.

All the latest news and innovations at a glance.



## 100 YEARS OF MARBACH. 100 YEARS OF PERFORMANCE.

**History** | Performance through the ages.

Having started in 1923 as a small local craftsman business, today we are a globally successful group of companies with 20 locations and 1,600 employees. How have we achieved this? With tireless commitment, good decisions and a wealth of ideas: but of course also through committed employees and loyal customers. And not forgetting the emerging packaging market and a little bit of luck. You can find out more about our company history in this newspaper.

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Marbach image film. Performance through the ages.

### Ready for the future?!

**Digitalization** | With us, you are ideally set-up for the future. Because we don't just think in terms of performance, we live performance. As a result, we always have our finger on the pulse when it comes to future-oriented topics such as digitalization. Would you like a small foretaste?



Our newspaper will highlight which digital technologies and services we have developed for you that will make you ready for the future!

Page 2



### Marbach receives EcoVadis silver medal.

**Sustainability** | We have been successful on the market for more than 100 years. As a globally active family business, sustainability is an integral part of our corporate philosophy. In November 2023, EcoVadis awarded us for

our commitment to future-oriented actions with the silver medal. This is valid for one year. We have also launched our sustainability report.

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### Marbach worldwide.

**General** | 20 locations 1,600 employees. You can find all our locations here.

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### Marbach Academy.

**Training** | All training dates around die-cutting. For maximum performance.

Page 9

### Highspeed.

**Product** | With the marbaject ejector rubber. Page 10



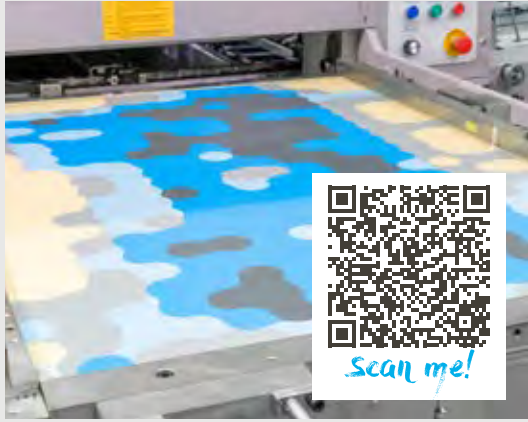
Peter Marbach, Owner and Managing Director

“More than 100 years as a company on the market. An incredibly long time. Accompany us in this issue, through 100 years of Marbach and 100 years of die-cutting technology. At Marbach, you don't just buy a cutting-die. At Marbach, you buy performance. And above all, you buy into the future.”

## Zone levelling made easy.

**Product** | With the DZL|plate.

Tolerances due to unevenness in the cutting platen are usually caused by wear. In order to compensate for this, a manual zone levelling must be carried out for each job. Not so with the DZL|plate.



The digital zone levelling.

This digital variant of zone levelling only needs to be created once and then completely eliminates the need for manual zone levelling for each job. And that for several months. Digital zone levelling is also available for large-format die-cutting machines in the corrugated board sector with a split protection plate. Simply ask for the DZL|plateXL.

More than 500 of our customers' machines are already equipped with this effective form of zone levelling.



Digital zone levelling in action.



Digitalization. Industry 4.0.

# READY FOR THE FUTURE?!

**Digitalization** | Our digital solutions for maximum performance.

## Get ready for a successful future!

With our digital technologies and services: The Marbach Performance Package, digital zone levelling DZL and the CON-NECT|M system solution. You

can find out more about these solutions in this newspaper.

Benefit from smooth processes, significantly reduced make-ready times and saving resources in the production of your packag-

ing. In other words, simply maximum performance all round. From the first sheet to the last.

We support you on all the way to the digital future of die-cutting 4.0!

# ALWAYS UP-TO-DATE.

**General** | Always well informed. With the Marbach Experience Hub.

A unique platform for the packaging industry with the latest news and exclusive content. Welcome to our Experience Hub.

This online platform is different. Simply unique. Our motivation: we want you to find the information you are looking for quickly and easily. The Experience Hub contains articles, whitepapers, decision-making aids, videos, photos, graphics and web sessions. With lots of exclusive information that is only available to you as a registered Hub user.

We launched this platform at the end of 2020. Due to its continued success, we have not only expanded its content. From now on, the Experience Hub is not only available in German and English, but also in French, Spanish and Polish. Just take a look. And see for yourself how indispensable the Experience Hub is for



you. And if you want maximum benefit, sign up for the Insider Experience.

We will inform you of all the lat-

est and important news at Marbach every 4-6 weeks.

# FOCUS ON SUSTAINABILITY.

Sustainability | Our activities for a hopeful future.



Sustainability in focus.

As a company with a long history, sustainability is a topic of the utmost importance to us. In order to have our activities in this area evaluated by an independent instance, we were audited by EcoVadis in November 2023

– and successfully achieved the silver medal! This is valid for one year.

But that's not all! As part of our sustainability project, we defined what sustainability means

to us as a company and how exactly we can make our contribution to a sustainable future. We not only looked at the ecological aspects of sustainability, but also the economic and social aspects. You can read about this in

our sustainability report. For us, sustainability means the future: the future for our company, the future for following generations and the future for our planet.



**duramar|alu.**

THE HIGH-END TOOL FOR HIGH-END RESULTS.

duramar|alu. The absolute high-end tool for special requirements. Highly precise. Dimensionally stable. Incredibly durable. And extremely light at the same time. For maximum performance in the production of your packaging.

[www.marbach.com/en](http://www.marbach.com/en)

# MARBACH ANNIVERSARY.

**History** | Performance and experience for more than 100 years.

Marbach celebrated a very special birthday in 2023: 100 years ago, we were founded as a 3-man business in Heilbronn.

## Internationally active

Peter Marbach, Owner & Managing Director: "Celebrating a 100-year anniversary as a company is not a matter of course. Only just over 1% of all companies in Germany achieve this. And we are one of them. Who would have thought

it when my grandfather founded the company with two partners in 1923. It all started back in a small workshop. Today, we are a group of companies operating at 20 locations worldwide with more than 1,600 employees, offering die-cutting and thermoforming tools as well as various services related to packaging production."

## 100 years of experience

The Marbach company was

founded in 1923 by Karl Marbach Senior. In 1955, his son, Karl Marbach Junior, joined the company management. In 1972, Marbach was the first company in die-cutting technology that use laser technology for the production of cutting-dies. This was a milestone for the further success story of the Marbach Group. In 1988, Peter Marbach, the 3rd generation, joined the company. Supported by his three man-

aging directors Stefanie Schier, Markus Britsch and Bernd Klenk, today Marbach manages the fortunes of the company. Marbach continues: "On the 7th July, 2023, we celebrated our 100th birthday together with our employees from Heilbronn and their families. 2023 was a unique and exciting year for us!"

## From a 3-man business to world market leader. Milestones in the history of Marbach.

# 1923



1923

### Foundation of a mechanical workshop

By Karl Marbach Sen. & two partners on the 16th July, 1923. Manufacturing of manual top knives for the shoe industry & commissioned work.

1926

### New product: steel rule dies

For the owner of an advertising factory to die-cut colored letters from paper, paperboard & cardboard for window decorations.

1955

### The 2nd generation

In June 1955, Karl Marbach Jr. joins the company. In 1959 he becomes managing director.

1957

### Toolmaking

The company is expanded to include its own toolmaking department. The first thermoforming tool is produced in 1960.

1972

### The diemaking revolution

Use of Europe's first laser system in die-cutting technology.

1984

### Start international expansion

Marbach starts its internationalization with participations in France & England and becomes a worldwide group of companies over the years.

1988

### The 3rd generation

Peter Marbach joins the company and becomes part of the management team in 1992.

2021

### Digitalization

Marbach creates new digital products and platforms with CONNECT|M and the Experience Hub.

2023

### 100th anniversary

On the 16th July, 2023, Marbach celebrates its 100th anniversary.

# OUR INNOVATIONS.

History | The top highlights of our innovations from over 100 years of Marbach. For maximum performance.

**1967**

rillma license



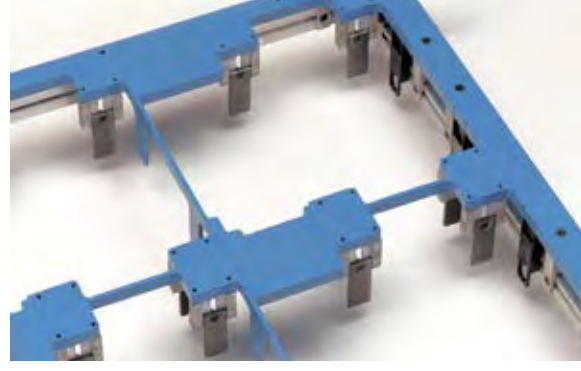
**1968**

Rotary tool



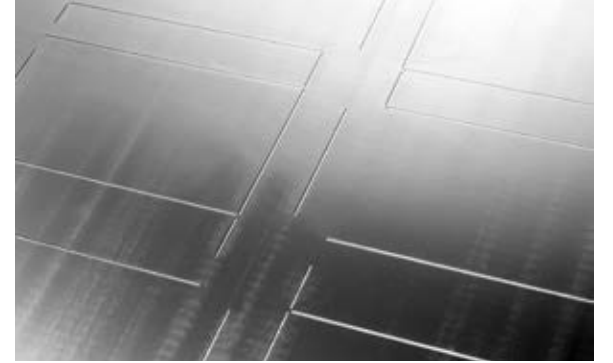
**1979**

Blanking tool



**1985**

Steel counter plate



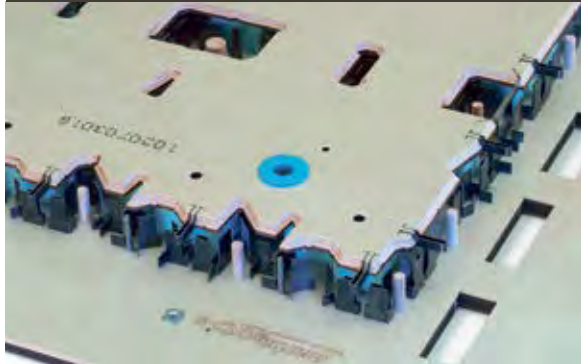
**1989**

duramar



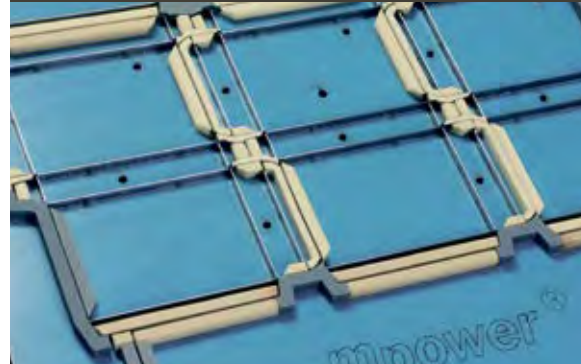
**1991**

marbstrip



**1996**

mpower



**1999**

crease-plate-die



**2006**

Storage System MDSS



**2009**

Marbach greenplate



**2012**

masterstrip|plate



**2016**

marbablanker/lightblanker



**2016**

DZL|plate + DZL|plateXL



**2020**

mplaten|cleaner



**2021**

Performance Package



**2022**

CONNECT|M



**2022**

alublanker



**2022**

marbaject



**2023**

duramar|alu



**FUTURE**

Our innovation forge is constantly working at full speed on further innovations. For even better performance in packaging production.

**NOW and in the FUTURE.**



Download whitepaper now!



Scan me!

CONNECT|M. The system solution for performance tracking and tool management.

# DIE-CUTTING 4.0? QUITE SIMPLE!

**Digitalization** | Boost your machine performance with CONNECT|M.

Track the performance data during the production of your packaging in real time. Easily at the touch of a button. With the CONNECT|M die-cutting tracker!

CONNECT|M connects the die-cutting machine and tool with the user via cloud. And via QR codes on the tools, which are registered using camera technology or a hand scanner. All this in connection with a special software.

**CONNECT|M provides you with important and valid key figures to optimize your processes and improve your machine performance.**

The two modules Tool Management and Performance Tracking ensure that you can keep an eye on your performance at all times and react quickly and easily if necessary.

## Performance Tracking

The Performance Tracking module contains a special package of camera technology and sensors on your die-cutting machine. It ensures that key performance figures can be determined quickly and easily. Automatic messages inform you about

changes in tool performance. The data collected supports benchmarking, trend analyses and the identification of optimization potential in order to continuously improve performance.

## Tool Management

The Tool Management module ensures that tool provision works perfectly. It enables tools to be located quickly, ensures their maintenance and simplifies repeat orders. The last is especially efficient in conjunction with the optionally available work preparation workstation. Important

tool-specific information is available at all times in the Tool Management system, and the storage of performance indicators for each individual tool makes tool use even more efficient.

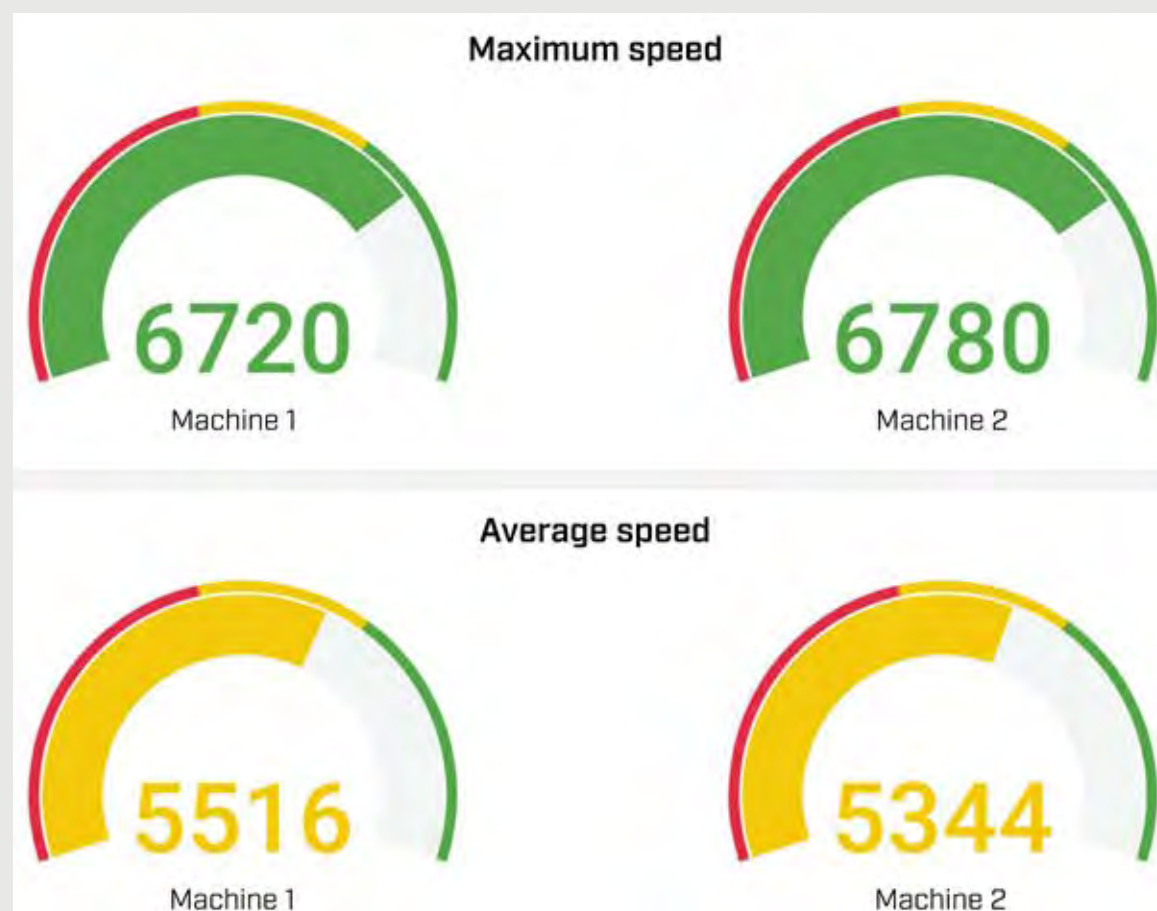
**CONNECT|M: For maximum machine performance.**

**More information: [connect.marbach.com/en](https://connect.marbach.com/en)**

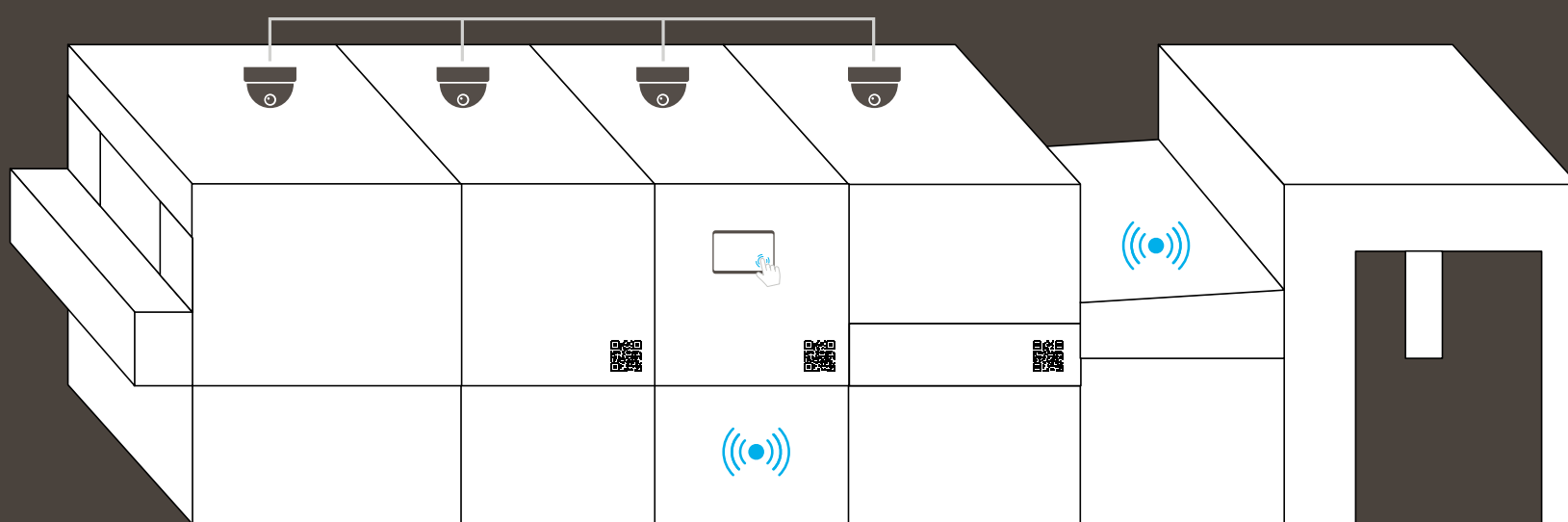
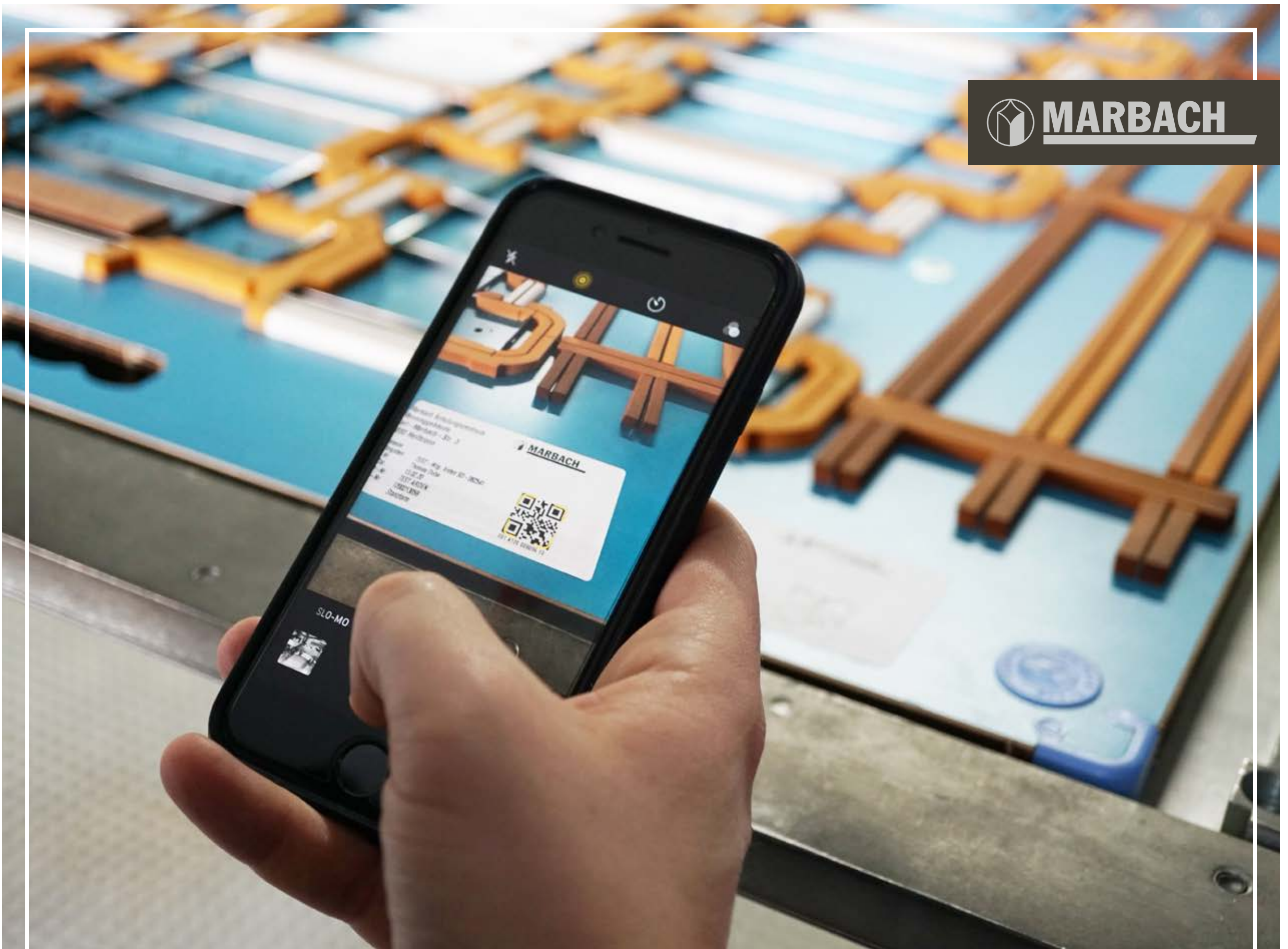





Hans-Jürgen Eckart,  
Work preparation /  
purchasing |  
Packwell GmbH & Co. KG

» « “We have been using CONNECT|M since January 2024: thanks to the digital documentation, communication with the tool manufacturer is much quicker and easier. This new process also saves time: more than 50% for each tool reorder. Another advantage: the new, digitalized process ensures that every tool is perfectly prepared for the next order. We therefore benefit from shorter set-up times, less downtimes as well as high die-cutting quality.”



Performance Tracking analysis.



<b>Hardware upgrade</b>	
<b>Camera system</b>	
• Optical tool detection	
<b>QR-Code</b>	
• Optical tool detection	
<b>Sensors</b>	
• Speed	
• Paper detection	

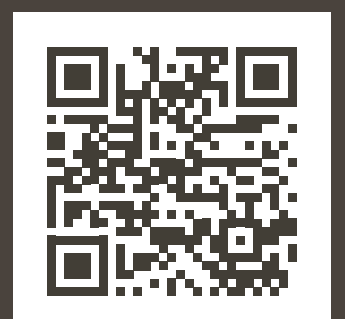
# CONNECT|M.

## DIE-CUTTING 4.0: THE FUTURE STARTS NOW.

CONNECT|M. The latest system solution. A special software, combined with various hardware components. Cameras, sensors and QR codes create a connection between cutting-die, machine and operator.

For maximum transparency in your packaging production. Dive into the fascinating world of die-cutting 4.0.

[connect.marbach.com/en](http://connect.marbach.com/en)



## Stripping par excellence.

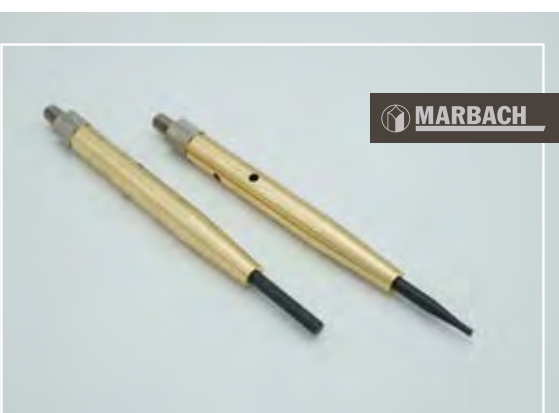
**Product** | Production reliability with the masterstrip|plate.

The masterstrip|plate stripping tool is a special stripping technology that ensures fast and safe stripping during packaging production.



The stripping tool masterstrip|plate.

“This tool has become the standard for many of our customers“ says Jan Brunner, Sales Manager at Marbach. “The masterstrip|plate is the tool of choice for many of our customers with high requirements for zero waste and machine speed.“ The upper stripping tool of the masterstrip|plate is equipped with a presser plate. This smoothes the sheet and ensures that the waste is evenly fixed during the stripping process. The marbafly sheet lifters in the lower stripping tool support the smooth transport of the paperboard sheet during the stripping process. This makes it extremely safe and stable. Users benefit from high machine speeds without machine stops and waste-free blanks.



MARBACH

### HIGH PRECISION LOWER PINS. FOR A RELIABLE STRIPPING PROCESS.

Extremely precise. And made of high-quality materials. These are our precision lower pins. Thanks to their narrow guide tolerances, they are very accurate in terms of position. For permanently trouble-free stripping processes in packaging production.

[www.marbach.com/en](http://www.marbach.com/en)



The diebaord Marbach greenplate.



Scan me!

# LET THE FUTURE COME.

**Sustainability** | Marbach greenplate. Supply security and economy in one.

Dieboards as a basis for cutting-dies are available in numerous designs. The right dieboard is selected depending on the requirements. The standard here is a multiplex dieboard made of birch wood. But what happens when the raw material birch becomes rare?

In recent years, there have been repeated shortages of birch as a raw material due to climatic conditions and political circumstances. This issue has been a major concern for us, as our multiplex dieboards are made from birch wood. The problem here is: Only 5% of an area of birch wood can actually be used for a Marbach multiplex dieboard. In addition, the birch veneer must come from Nordic forests. This is because only at low tem-

peratures the trees grow so slowly that the birch material is very firm and uniform and therefore perfectly suited for our dieboards.

Our idea: We need a dieboard that makes us less dependent on birch as a raw material.

With this target in mind, we started our development. Some time later it was born: The Marbach greenplate. This dieboard consists mainly of a special fibre core (marbacore), for which mainly waste wood components from FSC-certified forestry are used. This is quickly and easily available to us - regardless of climatic conditions or political circumstances. Birch veneer, which is difficult to obtain, is only used as a second-

ary material for the respective top layers. This has enabled us to significantly reduce the share of birch wood in our dieboards, making us much more independent on the availability of birch as a raw material. In addition, deforestation is reduced, as far fewer birch trees have to be felled for cutting-dies.

But that's not all - in addition to increased supply security with cutting-dies, Marbach greenplate can do much more: the special composition ensures excellent flatness, high pressure resistance and high dimensional stability of the board. For our customers, this means short set-up times, high machine speeds and excellent storage stability.

## Everything you need to know about nicks...

**Tip** | ... in our factsheet.

Nicks have it all: they may be tiny, but they are often crucial for the die-cutting process.

This is because nicks ensure that the sheet is transported smoothly in the die-cutting machine. They decide whether production can take place at half or maximum machine speed,



Nicks.

they fix the waste parts in the sheet and help decide whether the sheet is waste-free. You can find all important information and tips on the subject of nicks in our factsheet.



Scan me!





Perfect processes with the Marbach Performance Package.

### Less set-up time. More productivity.

**Service** | With the Marbach Performance Package.

Packaging manufacturers are under enormous cost pressure. They have to produce more and more efficiently in order to survive on the market. Time pressure is also growing. With every smaller batch sizes, machines have to be set-up more and more frequently. All of this means that short set-up times are becoming increasingly important.

And this is exactly what our “Marbach Performance Package” service is all about: minimizing your set-up times.

Because these are the results of a complex interplay of various factors, such as machine equipment, machine condition, tool technologies used, but also work processes and employee qualifications.

The Marbach Performance Package takes all these influencing factors into account and analyzes your individual pro-

cesses on site. In doing so, we focus on each individual process step and select the appropriate measures for the requirements in your company.

Because we know that time is money, we keep the effort to a minimum: using state-of-the-art recording and video technology, we record the set-up of several orders – including the machine environment – on your premises.

Our experts analyze the recordings, identify potential savings and provide you with a tailor-made concept for optimization. In doing so, we make use of various modules, which we select for you individually to suit your company’s requirements.

These include, for example, machine upgrades such as a platen cleaning device, a digital zone levelling, a calibration tool, a universal sheet delivery or training for machine operators.

### More productivity in packaging production.

**Training** | With practice-orientated training at the Marbach Academy.

Short runs, frequent changeovers of tools. It is particularly important to minimize set-up times. The Marbach solution: training courses at the Marbach Academy.

A machine that runs creates turnover. A machine that stands still costs money. What makes a machine run? The people who work on it. Our training is all about these people. At the Marbach Academy, we provide all those involved in the production process with up-to-date expertise and a great deal of practical know-how.

Set-up times are at the centre of our trainings. In our courses, we

demonstrate in a very practical way how unnecessary machine set-up times and machine down-times can be avoided.

For lower costs and maximum performance in the production of your packaging.

**Under the motto “More knowledge. More skills.”** we offer you our training courses as standard courses – or, on request – customised to your individual needs. They are conducted by trainers with years of experience.

Here you will find all current training dates **in English:**



Here you will find all current training dates **in German:**



Ziad Metni,  
CEO | Byblos Printing SAL

» “We appreciate the high die-cutting quality of Marbach in addition to efficient trainings. Through Marbach’s support, we have been able to become the leading supplier in the Lebanese packaging market. Thanks to Marbach for the great partnership.” «



Training at the Marbach Academy.

## Maximum speed.

**Product trend** | marbaject – the rubbering makes the difference!

The running behaviour of a die-cutting machine in packaging production is enormously influenced by the rubbering used. This is why it is so important to equip a cutting-die with the optimum rubber.

To ensure the smooth functioning of the die-cutting process, several rubbers with different properties are always required for the same tool – depending on the place of use. Important: The different rubbers must harmonize perfectly with each other. But that's not all: good ejection behaviour, high abrasion resistance and durability are properties that our customers expect from a good rubber.

With these requirements in mind, we have developed our marbaject rubber, specifically for use in die-cutting technology.

But what makes marbaject so special? marbaject impresses with its unbeatable positive

technical properties: Thanks to its very high rebound elasticity, it ensures an optimum ejector function during the die-cutting process. Its high abrasion and wear resistance makes it particularly durable. marbaject also protects the nicks. Another plus: marbaject is ISEGA-certified and can therefore also be used in the food sector.

In short, marbaject stands for high performance and greater efficiency in packaging production.

marbaject is available in various shore hardnesses. Colour coding ensures easy handling during maintenance and repair.

marbaject – the clever high-performance rubber for maximum performance.

Please scan the QR code to receive our current rubber sample card.



The high-performance rubber marbaject.

## Keeping your die-cutting machine tidy.

**Tip** | Tool organizer sets.

With the Marbach tool organizer sets you have optimal access to equipment such as wrenches, make-ready tapes

and adhesive tapes directly at the die-cutting machine.

This reduces walking distances and searching times. Organize your workplace – and save valuable time in the production of your packaging!



The MDSS die storage system for your cutting-dies.

## Just-in-time at the die-cutting machine.

**Product** | With the Marbach Die Storage System MDSS.

Optimally functioning internal logistics are important for every packaging manufacturer. This also includes the cutting-die packages. These must be stored securely, accessible at all times and easy to find so that they are available just-in-time at the die-cutting machine. Smooth packaging production is ensured by well-functioning logistics.

To support our customers in this area, we have developed the Die Storage System MDSS. This is available for flat or rotary dies.

The MDSS is very flexible, it can be installed as a storage system directly on the die-cutting machine or as a separate storage system with up to many 1,000 storage locations on several levels. Thanks to its modular design, even space-related special solutions can be easily realized. And the best thing is that its equipment can be customized to meet individual requirements, with an incredible number of configuration options.

The MDSS is available for flat cutting-die packages up to 2,100 mm format and for rotary dies up to a shell diameter of 690 mm. We can only recommend any packaging manufacturer who wants to optimise their logistics to take a look

at our solution and see the benefits of the MDSS for themselves. Packaging manufacturers who use our MDSS see its advantages above all in the individual equipment options, optimum space utilization, simple and safe removal options, good protection and quick retrieval of the tools.



Holger Müller,  
Production manager | Weiss Packaging GmbH & Co. KG

» "The MDSS is not only stable and super-flexible, but has also been perfectly adapted to our needs. Our requirements for a secure, logistically well organized and fast tool provision have been perfectly met. Many thanks to Marbach for this great solution and the excellent cooperation during the whole project."

# ROTARY DIE-CUTTING IN PERFECTION.

**Product** | The right tool solution for every requirement.

There are numerous challenges when it comes to die-cutting. Decisive influencing factors include the material (moisture, flatness, recycled content), the machine and the quality and equipment of the cutting-die used. As diemakers, we have no influence on the material and machine. But we do have influence on the tool. In order to achieve zero waste and the highest machine speeds in rotary die-cutting, we offer various tool technologies – in addition to our standard rotary tools – with which you can master any challenge in rotary die-cutting.

In rotary die-cutting, the tool not only performs creasing and die-cutting functions, but also the stripping of waste parts. To do this safely and efficiently you need a rotary tool that is perfectly equipped for your particular job.

At Marbach, we have various tools in our portfolio to suit your requirements: In addition to our standard rotary tools, we have marbaspeed|r high-performance tools as well as rotary tools with active stripping technology.



The high-performance tool marbaspeed|r.

## marbaspeed|r.

marbaspeed|r is a special high-performance tool that is equipped with the latest materials and manufactured using the best production technologies. The tool is always customized to your individual requirements. It not only optimizes cutting and creasing, but also stripping during rotary die-cutting of corrugated board. marbaspeed|r is available for all types of corrugated board and for both inline and offline machines.

## Rotary tools with active stripping technology.

In rotary die-cutting, there are more and more rotary machines with active stripping technology. For this purpose, we at Marbach have developed special tools that ensure high productivity on such machines. Because the tool requirements are enormous: for maximum performance, the special rotary tools must not only be extremely precise, but also have special equipment. The result is waste-free

blanks and very high running speeds of the rotary machine and thus maximum productivity in rotary die-cutting.

As you can see: With Marbach rotary tools, there is a suitable solution for all your requirements.

Find out more in our exciting whitepaper on rotary die-cutting.



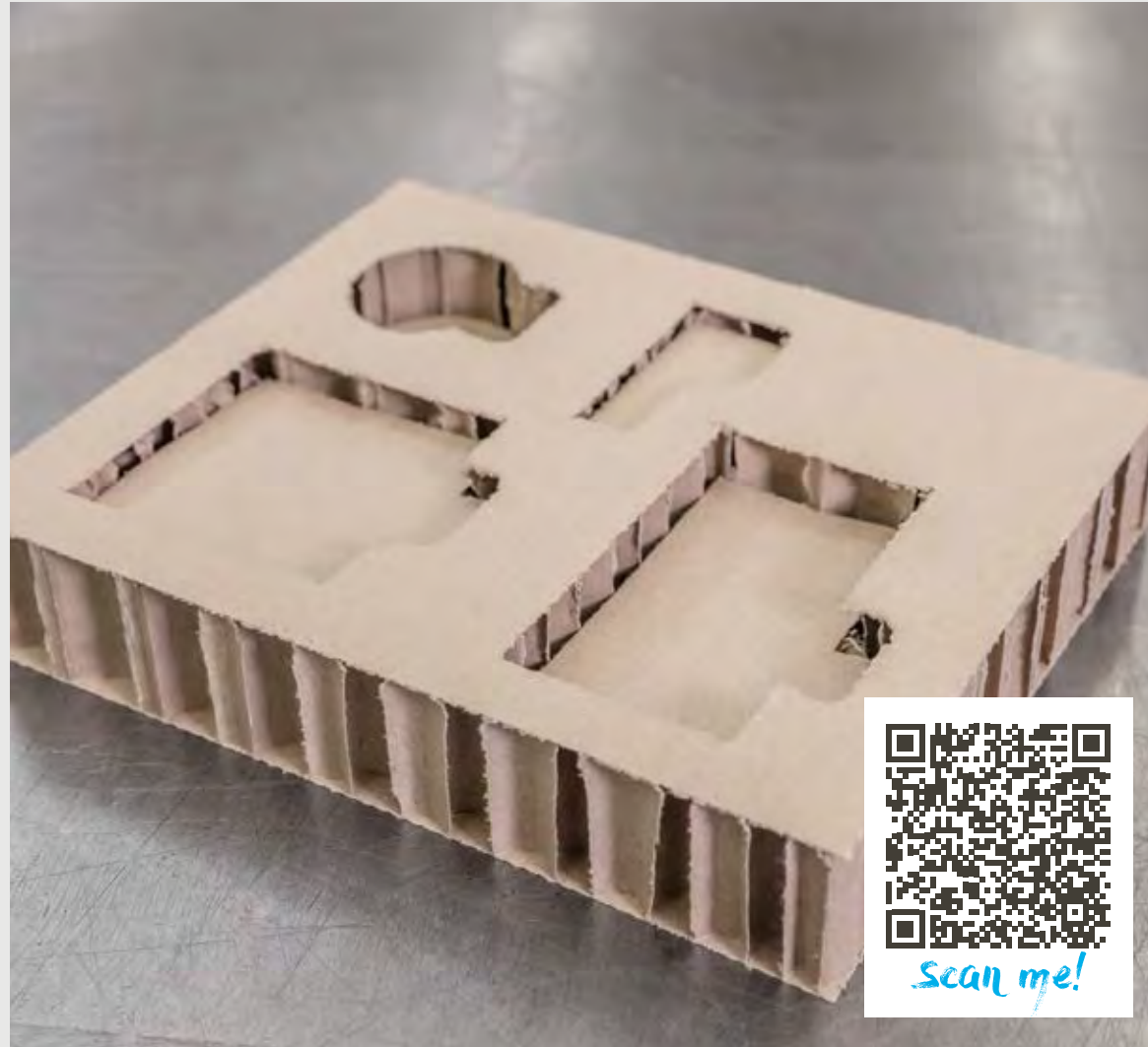
Rotary tools with active stripping technology.

# EFFICIENT DIE-CUTTING OF THICK MATERIALS.

**Product trend** | Tools for honeycomb board.

The use of honeycomb board as a transport protection material is absolutely on trend. The reason for this is quite simple: this material is characterized by its many positive properties: Honeycomb board is a lightweight but very stable type of material thanks to its honeycomb structure. This makes it ideal for secure transport protection. Its environmental properties also make it a real alternative.

However, the thickness of the material poses particular challenges for the tool used for die-cutting: It must be very stable, resistant and robust as well as specially equipped so that it can optimally penetrate the thick material and deliver good die-cutting results. This is no easy task, but fortunately, with Marbach's decades of experience, it is not a problem. Marbach tools for die-cutting honeycomb board are charac-



Special tools for honeycomb board.

terized by their special equipment as well as the selection and quality of the materials used. This leads to smooth die-cutting processes and optimum die-cutting results. And best of all, the

special tools described can also be used for die-cutting honeycomb board for door interiors, edge protectors, connectors and packaging trays



Lubomir Kroupa,  
COO | nextPACK AG

» « “We use Marbach tools for die-cutting honeycomb boards. We are completely satisfied with Marbach. Not only do the tools perform perfectly, but we are also very satisfied with the speed of realization for special requirements along with the support and the after-sales service.”

# TOBACCO: PERFECT CREASING.

**Product** | The right technology for every requirement: crease-plate-die, crease-plate-die|+ and crease-plate-die|rc.

The packaging machines in the tobacco sector are extremely sensitive. To ensure smooth packaging processes, the processed cigarette blanks must be very precise. And the creasing parameters must be right.

This is why Marbach has a special technology: the crease-plate-die. Here, the creasing rules are replaced by crease plates. These are elastically mounted on a die-board and equipped with raised creases. That makes it possible to crease first and then die-cut so that there is less tension on the paperboard sheet during the die-cutting process. This results in beautiful cut edges, small nicks and maximum accuracy. The further development of this technology are the crease-plate-

die|+ and crease-plate-die|rc variants.

The crease-plate-die|+ is used when packaging with a hinge lid or bevel edge design is to be produced. This technology involves creasing with a defined final dimension. This means that the make-ready can be carried out extremely precisely and the creasing is very even. This increases the quality of the packaging blanks and the speed of packaging.

The crease-plate-die|rc is a solution for cigarette packaging especially in round corner design. The make-ready of the vertical creases can be separated from the round corner creases of the crease-plate-die. The result are high-quality blanks that



The crease-plate-die|rc.

achieve the creasing specifications defined by the end customer. Find out how you can easily

and reliably check the creasing values of your packaging on page 19.



Download  
whitepaper now!



# AWARD CEREMONY TOP 100 INNOVATOR.

**Press release** | Marbach receives award from Ranga Yogeshwar.

Marbach is known in the market for its innovative activities. In 2023, Marbach was honoured as a TOP 100 Innovator at the German SME (Small and Medium-sized Enterprises) Summit.

Ranga Yogeshwar congratulated the Marbach Group on being honoured with the TOP 100 award. The award ceremony took place in Augsburg (Germany) as part of the German SME Summit. All SMEs that received the TOP 100 award in 2023 were honoured there. Science journalist Ranga Yogeshwar accompanied the innovation competition, which was held for the 30th time, as a mentor. In the scientific selection process, Marbach impressed particularly in the category "Innovation Success" in size class C (more than 200 employees). Marbach Managing Director Bernd Klenk, Head of Development Thomas Kandlbinder and Innovation Manager Sandro Meile

received the TOP 100 trophy.

Marbach Managing Director Bernd Klenk: "Innovations move a company forward and ensure its sustainable success. We are delighted to be one of the most innovative medium-sized companies in Germany and to have received the TOP 100 award. Especially as we also celebrated our 100th anniversary in the same year. 100 was our number in the year 2023!"

**About the TOP 100 competition.** compamedia has been awarding the TOP 100 award for special innovative strength and above-average innovation success to SME companies since 1993. Prof. Dr. Nikolaus Franke has been the scientific director since 2002. Franke is the founder and director of the Institute for Entrepreneurship and Innovation at the Vienna University of Economics and Business. With over 26 research awards



TOP 100 award ceremony.

and over 200 publications, he is one of the leading innovation researchers internationally.

The mentor of TOP 100 is the science journalist Ranga Yogeshwar. Project partners are the Fraunhofer Society for the Promotion of Applied Research and the BVMW association of small and medium-sized enterprises. The magazines "manager magazin" and "impulse" accompa-

ny the company comparison as media partners, "ZEIT für Unternehmer" is a co-operation partner.

More information and registration at [www.top100.de](http://www.top100.de).



**MARBACH**

mpower      standard

## The mpower cutting rule. THE ORIGINAL.

The mpower cutting rule. Developed by Marbach. For the shortest make-ready times. And maximum die-cutting performance from the first to the last sheet. The trick: a rounded cutting edge that absorbs tolerances, eliminates angel hair and is almost immune to overpressure.

[marbach.com/materials](http://marbach.com/materials)



# BLANKING IN PERFECTION.

**Product** | Marbach alublanker.

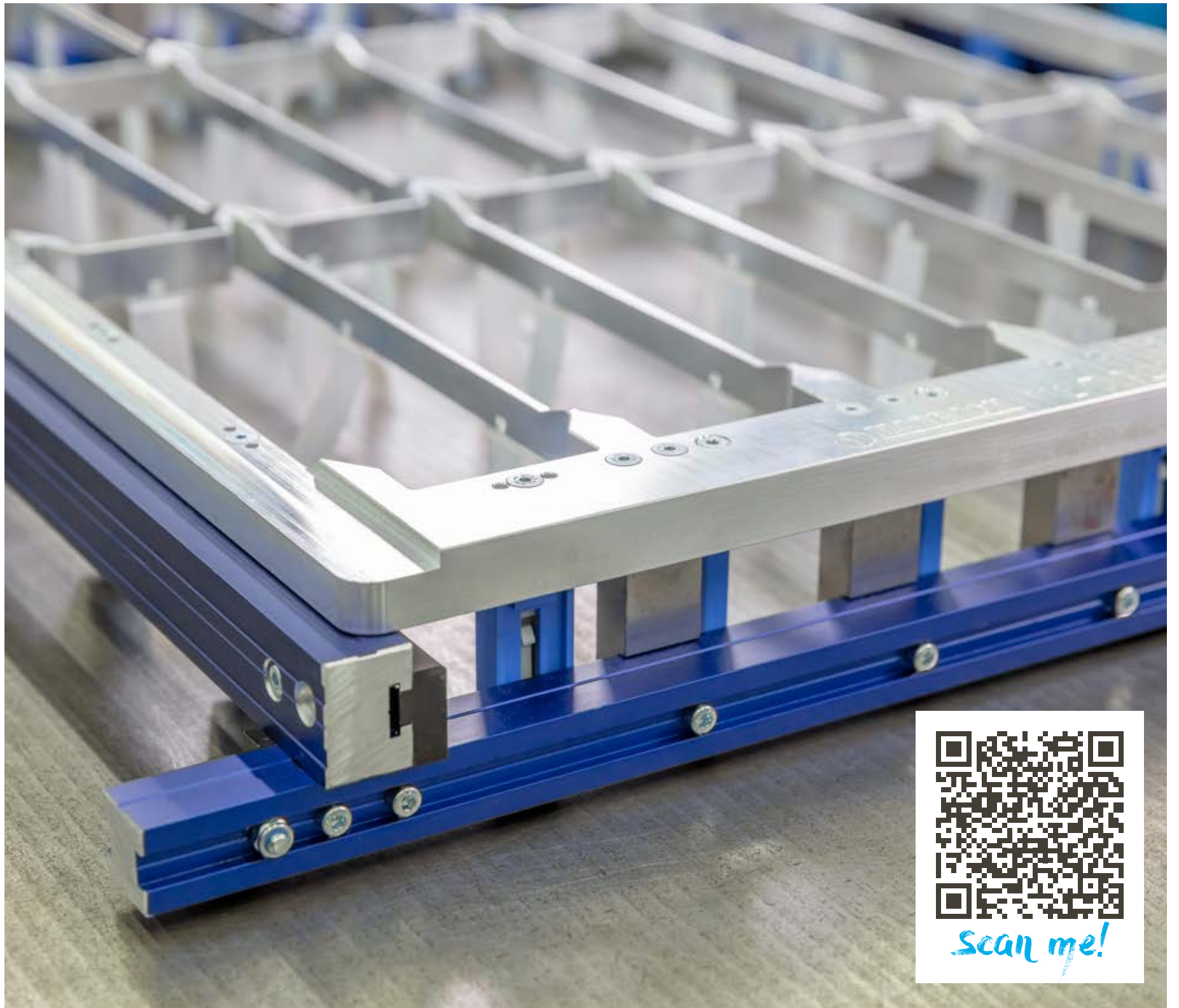
Blanking is a sub-process in packaging production with many challenges. Especially when the blanks have to be separated by machine, even with very demanding layouts. To maximize efficiency, not only precision is required, but also easy handling of the blanking tools used.

With conventionally manufactured blanking systems for these special requirements – such as blister cards, cup segments, small folding cartons or cigarette packaging – faults often occur due to the manufacturing tolerances of the materials used.

If the blanking shafts are of different sizes for this reason, this leads to longer set-up times and lower running speeds. Not to mention the fact that conventional blanking tools are very heavy.

Not with our alublanker: This is a high-precision lower blanker, made entirely from one piece and manufactured in a single milling operation. It is available in 102-106 format in marbablanker or light-blanker versions. The separating grid is made of aluminum and is completely CNC-processed.

The aluminum design ensures a significantly lower weight: It is



The Marbach alublanker.

much lighter than a conventional compact blanker. This makes handling much easier for users when installing the blanking tool in the die-cutting machine. That

saves time and money. The high precision ensures perfect stacking, reduced set-up times, high packaging quality without imprints and high machine speeds.

Marbach alublanker. For maximum performance in your blanking station.



**mplatén|cleaner-smart**

THE PLATEN CLEANING DEVICE FOR DIE-CUTTING MACHINES.

Easy handling. No need to disassemble the chain. For a fast and efficient cleaning process of the cutting platen. Reduced set-up times. And more performance in your production.

[www.marbach.com/en](http://www.marbach.com/en)

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Follow us on LinkedIn.





More than 50 years of laser technology at Marbach.

## Use of laser technology in die-cutting technology.

[Press release](#) | Marbach as a pioneer in Europe.

In its 100-year history, Marbach can look back on numerous innovations and pioneering decisions. One of the most important decisions in the company's history is the investment in laser technology at the beginning of the 1970s.

In the 1960s, the production of a cutting-die was still a purely manual activity: marking out the contours on a plywood board, sawing the contours using a decoupling saw, bending to the correct contour and mounting the rule material using simple devices and aids. The tolerances of the individual production steps added up, meaning that the quality of the tools produced was not very high.

However, the demands of the packaging industry were constantly increasing, particularly due to the rapid development of packaging machines with ever higher performance data. Karl Marbach Junior was well aware of this situation of increasing quality requirements for cutting-dies. In 1969, he attended a lecture in Great Britain on the subject of "cutting with light", a new, revolutionary technology.

The speaker was Ray Miller, President of Atlas Steel Rule Dies. At the time, his company in the USA was using the world's first CO<sub>2</sub> laser system for cutting-die production. In 1970, Karl Marbach flew to the USA to see Miller's laser system.

From then on, he was fascinated by this technology. The idea of using such a cutting system at Marbach never left his mind. And

so he decided to make the investment. Although the financial risk was high and there was still no reliable experience. In 1972, the time had finally come: the first CO<sub>2</sub> laser system for cutting-die production in Europe was installed in Heilbronn in a specially constructed building.

In retrospect, the decision proved to be absolutely right. The use of laser technology for the production of cutting-dies became a milestone of the Marbach Group's success. With the help of this technology, a previously unimagined level of productivity was achieved: in a very short time, significantly more cutting-dies could be produced than with the conventional, manual production method. In addition, the use of laser technology made a new tool quality possible, which was not only unique on the market, but which simply delighted customers. As a result, Marbach no longer only supplied customers in Germany, but also abroad.

Marbach tools with their exceptional quality quickly met with just as much interest there as they did in Germany. Marbach became the market leader in Europe. The foundation stone for the family company's success story had been laid.

The use of laser technology was therefore one of the most important milestones in Marbach's company history. Today, more than 40 laser systems with a total output of more than 86,000 watts are in use in the Marbach Group.

## Whitepaper about make-ready.

**Tip** | Main factors for minimum make-ready time during die-cutting.

In theory, all cutting rules meet the cutting plate at the same time during the die-cutting process. But this usually only works in theory. In practice, there are various tolerances that cause the cutting rules to cut in some places and not in others. Height levelling is necessary here: Make-ready.

This make-ready takes time. And time is money. With ever increasing demands on packaging manufacturers, ever smaller runs and thus an increasing number of tools that have to be set up and made-ready, the importance of saving time in the make-ready process is increasing enormously.

### The make-ready process.

During make-ready, differences in height are levelled out with the help of make-ready paper/tape. A distinction is made between area make-ready which compensates for machine unevenness and local patching of the cutting rules.

### The influencing factors.

There are various tolerance factors that influence the extent of a knife make-ready. These include the die-cutting machine, cutting-die and counter plate, the material being cut and the quality of the make-ready materials.

But the machine operator and the operation itself also have an influence on the make-ready time.

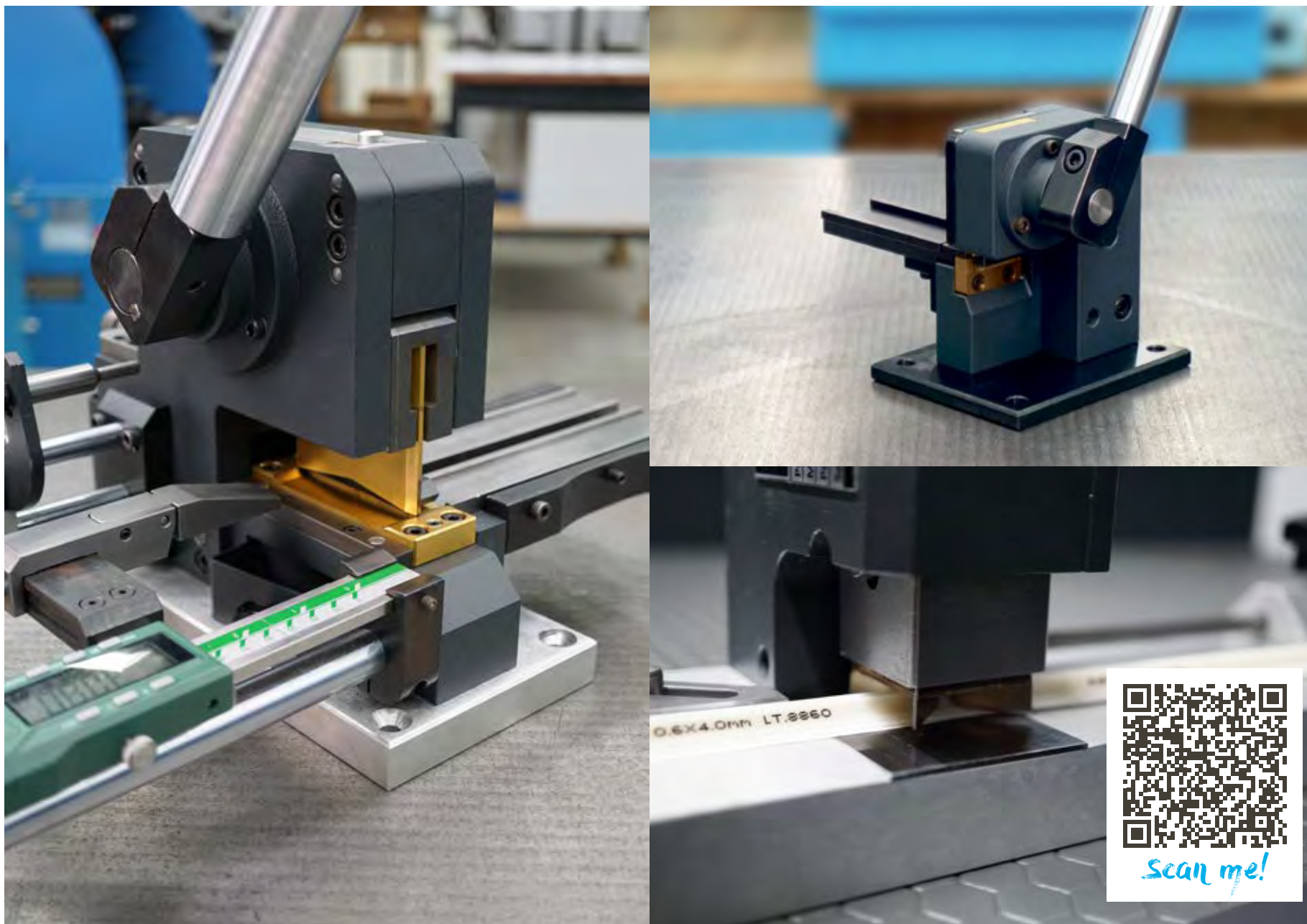
### Results of the make-ready process.

At the end of the make-ready process, the result is a clean cut – for high-quality packaging. The levelling process ensures the best possible protection for the die-cutting machine and tools. This means a longer service life. Clean make-ready also ensures stable machine operation and thus an efficient die-cutting process. Technologies and services from the tool manufacturer and regular training for machine operators also supports the efficiency during make-ready.

In our free whitepaper on the topic of „The main success factors for minimum make-ready time during die-cutting.“ you will not only learn how make-ready works and what the most important make-ready rules are, but also how you can reduce your make-ready times – and achieve high-quality make-ready at the same time.

Our practical checklist will help you.





Handheld devices for your cutting-die preparation. (mcut|multi, mcut|round and mcut|matrix).

# PERFORMANCE FOR CUTTING-DIE PREPARATION.

**Product** | Handheld devices for maximum productivity and short set-up times.

Die-cutting machine and tool technologies play an important role in minimizing set-up times, maximizing machine performance and ensuring good packaging quality. But that's not all: optimised tool preparation also plays an important role in maximizing productivity.

After all, what's the point if the die-cutting machine and the tool are in top shape, but even small machining operations that are necessary during production take up valuable time?

The right equipment is important for optimum tool preparation. As a cutting-die specialist, we know from many years of experience which equipment is indispensable for tool preparation.

**mbend**  
The mbend is a manual device for bending rules. It is characterized by its easy handling, high precision, flexibility and absolute durability.

**mcut|multi**  
A true all-rounder, the mcut|multi combines the functionality of 3 devices in one. Cut rule materials to length, notch, cut lips and double lips.

**mcut|matrix**  
The mcut|matrix makes your life easier during preparation. It cuts creasing matrixes quickly, precisely and safely.

**mcut|round**  
Simple and clever – that's the mcut|round. This hand tool cuts defined radii at the end of creasing rules.

**Rechargeable nick grinder**  
With the rechargeable nick grinder, you can easily grind nicks into cutting rules. The powerful rechargeable battery ensures high flexibility when used in your production.

Many of our customers are already using Marbach devices. You too can benefit from more performance in your cutting-die preparation.

Our mobile workbenches mbench|smart and mbench|pro are available for even more efficiency on the die-cutting machine.

More information is on the right side of this page.

## More efficiency at the die-cutting machine.

**Product** | With our mobile workbenches.

The two Marbach workbenches mbench|smart and mbench|pro ensure greater efficiency at the die-cutting machine.



The mbench|pro.

The workbenches in the mbench series are equipped with smooth-running heavy-duty wheels for greater mobility. They offer an ideal work surface and storage space for accessories and equipment. They can also be equipped with suitable handheld devices: Whether mbend, mcut|multi, mcut|matrix or mcut|round – you have the choice.

Thanks to their design and equipment options, our mbenches ensure maximum flexibility in die preparation and increase efficiency on the die-cutting machine.

**The mbench|smart...**  
...is a mobile repair workstation that sets you up for all situations. It is particularly suitable for quick repairs directly on site. It is the ideal solution right next to the die-cutting machine.

**The mbench|pro...**  
...is a professional assembly table for production. As a complete workstation, it has plenty of storage space and can be used in die-making, in tool preparation and for reworking on the die-cutting machine.

### Maximum performance.

**Tip** | With materials from Marbach.

At Marbach, we don't just produce cutting-dies. Under the name "Marbach Die Supplies" we have materials for die-cutting

in our portfolio. For packaging manufacturers and diemakers. Our materials are not only characterized by their quality, but also by the fact that they have proven themselves time and time again.

**You can find our portfolio here:**







Sales-boosting packaging with embossing tools from Marbach.

### Eye-catcher at the point of sale.

**Product** | With the right finishing solutions for paperboard.

At the point of sale, the packaging often decides whether a product is bought by the consumer or not. The finishing of packaging plays a decisive role here.

This is because embossing can be used to visually highlight individual elements of the packaging. This increases its impact at the point of sale: the packaging becomes an eye-catcher. It attracts attention, which has a sales-promoting effect on the packaged product.

There are various factors to consider when embossing paperboard. Their selection and combination depends primarily on the material to be embossed, the packaging layout and the visual requirements of the packaging.

Very important: Before embossing, the design of the packaging should already take into account which embossing type can be used.

In addition to the two types embossing and debossing, a distinction is made between 2D and 3D embossing. Another option for packaging finishing is hotfoiling (see article on the right).

In addition to the tool itself and the die-cutting machine on which it is used, the set-up process is essential when embossing paperboard. This is because the embossing should ultimately match the packaging layout and print image perfectly in order to achieve its full visual effect. There are various set-up aids to quickly create the perfect register between the printed image and embossing.

Making the optimal decision for your embossing application is not easy. In practice, it is therefore always difficult to make the right choice.

However, with our whitepaper on embossing, we have gotten to the bottom of this question. We explain in detail what exactly embossing is, what different embossing processes there are when processing paperboard and what you should look out for when choosing embossing designs. On this basis, we explain to you how you can use embossing to make your packaging even more attractive. And even make it an eye-catcher at the point of sale.

### Fast & precise set-up of embossing plates.

**Product** | Maximum performance in hotfoiling.

Hotfoiling is a popular form of packaging finishing. Heat comes into play with this type of embossing: a heated hot foil tool transfers foil to a paperboard sheet under high pressure. It is important to achieve a perfect register between the packaging layout and the embossing plate. Only hotfoiling that is in exactly the right place fulfills the visual requirements of a high-quality packaging finish.

This coordination is very time-consuming with hotfoiling. It can take several hours until the layout and the female dies match perfectly. The problem here: If the position of the female die is not archived on a job-specific honeycomb plate, but on a universal one, then this effort is necessary for every make-ready, including every repeat job.

But: An order-specific honeycomb plate is expensive, which is why our customers usually decide against it for cost reasons. And they can. Because there is a cost-effective solution for this: the thinplate from Marbach.

With this plate, the embossing plates are pre-mounted on a special steel plate according to the print layout. This steel plate is attached to the universal honeycomb plate mounted on the machine side. That's it.

Ideally, the position of the hotfoiling will fit immediately. However, if something needs to be adjusted, the female dies can be easily

adapted as they are mounted on the thinplate so that they can be adjusted quickly and precisely to the layout of the packaging using a scale. And the best thing is that this position can be archived for the next repeat job. This means that everything is lightning fast for repeat orders: position the thinplate on the honeycomb plate and packaging production can begin.

The result: High-quality embellished packaging with hotfoiling that perfectly matches the layout.



Torbjörn Svensson,  
Production development |  
MM ESON PAC AB

» « “We have now been using the thinplate system for several years. For purely repeat orders, it is big advantage in make-ready time, because the clichés can be archived on the thinplate during the first make-ready. An unbeatable advantage. On a 10-ups tool for example, we can save 4 hours. This means half shift.”



The Marbach thinplate system.

# DURABLE, PRECISE AND LIGHT.

**Product trend** | Dimensionally stable high-end tool duramar|alu.

In the production of packaging, wood is usually used as the die-board material for standard requirements. For higher requirements in terms of durability and precision during die-cutting, there are dimensionally stable dieboards. These are designed to remain dimensionally stable even under hygroscopic influences and strong climatic fluctuations thanks to the choice of material and their structure.

Our absolute flagship and high-end tool here in the past was the duramar|performance dieboard. Now we are setting even higher standards with our duramar|alu cutting-die.

This lightweight tool combines numerous technical advantages with significantly reduced weight and thus optimized handling during packaging production. duramar|alu is a tool which dieboard combines glass-fiber strengthened plastic with aluminum sheets. This not only ensures maximum dimensional stability – even in changing climatic condi-



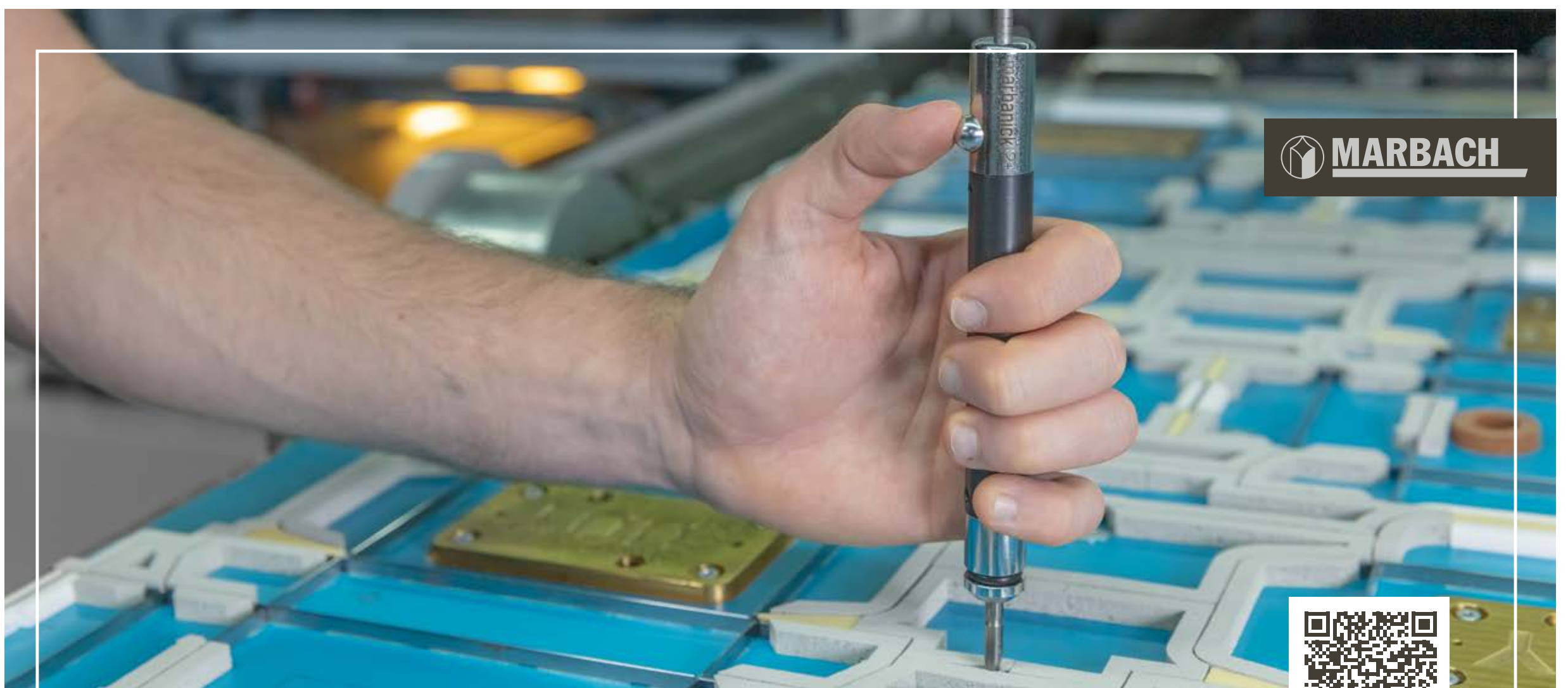
The dieboard duramar|alu.

tions – but also significantly less weight.

Industry manager Bernhard Reisser: “Our duramar|alu tool has outstanding technical properties and is over 30% lighter than the previous steel version thanks

to its lightweight design. The reduced weight of the duramar|alu tool simplifies handling during the set-up process, during in-house transport and when storing the tools. It also reduces the workload for machine operators in their daily work.“

duramar|alu combines numerous advantages in one tool: low weight and optimized handling, maximum dimensional stability and a precise register for the best creasing results.



## marbanick|2+.

FOR INSERTING WASTE NICKS. FAST AND PRECISE.

marbanick|2+, the brilliant hand tool. For precise and reproducible nicks. Directly and quickly on the machine. With integrated quick-change function. 4 different wedge widths. And different impact levels. Maximum flexibility in one device. This is the marbanick|2+.



Marbach crease-bend-tester.

### Always on the safe side.

**Product** | Crease-bend-tester quality assurance device.

The packaging has to fit: To the packed product as well as in the processing. We at Marbach have the highest demands on ourselves: Because quality has always been a matter of course for us.

As an all-round service provider, we therefore also have quality assurance devices such as the Marbach crease-bend-tester in our portfolio for you. This means you are always on the safe side with your customers. With the crease-bend-tester, you can check the creasing values and folding resistance of your packaging in advance or directly during production. Whether for quality assurance or documentation purposes: Simply produce a sample, depending on the application, with the hydraulic laboratory press or the sample cutter. Insert the sample into the crease-bend-tester. Determine

the creasing values. Done. This gives you absolute security. Also with regard to your customers' requirements. You can sit back and relax.

Lisa Gräbner,  
Quality Management |  
Weig Packaging GmbH & Co. KG



“I would recommend the crease-bend-tester to any folding carton manufacturer. It is a quick and easy way to create a valid database that serves as an independent basis for the technical assessment of cartonboard material and the folding cartons produced. Once again, a big thank you to Marbach, we were very satisfied with the entire process.”



### More flexibility when die-cutting.

**Product** | With the trimknife|multi cut-off knife set.

trimknife|multi is used whenever additional waste cut-off knives need to be installed in a cutting-die or existing ones need to be extended. This is done directly on the die-cutting machine during packaging production. Here we offer an easy solution with trimknife|multi.

The special feature of our trimknife|multi cut-off knife set is that it is not glued on, but screwed onto the cutting-die. This is extremely secure and quick. As a result, the cut-off knives are firmly fixed and stay exactly where they belong.

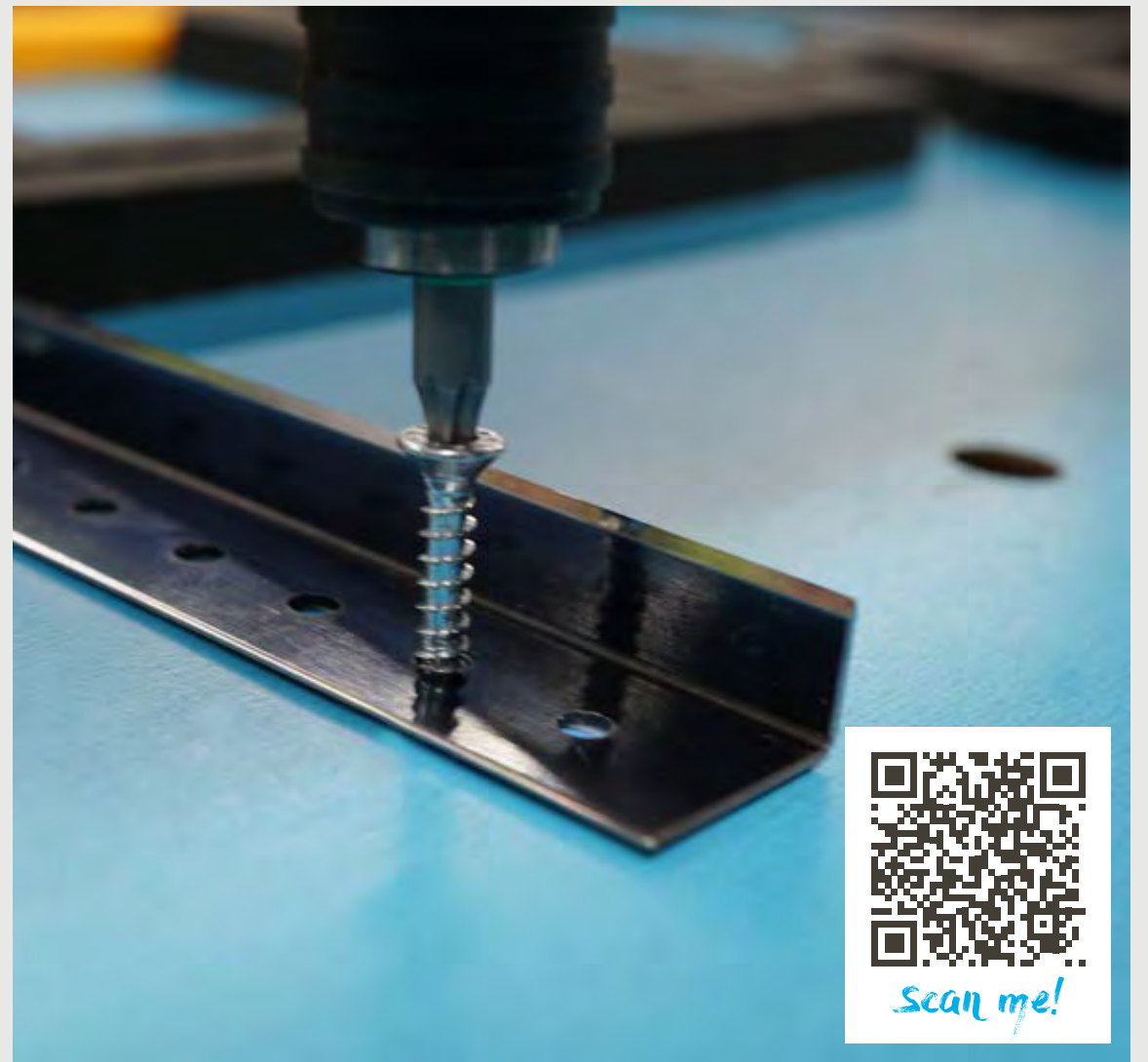
Detachment – as is the case with existing adhesive solutions – is prevented with our cut-off knives. In this way, trimknife|

multi ensures that the cut-off knives stay where they belong: On the tool – and not as a foreign object in the die-cut format.

The screw-on cut-off knives are available in four different heights as a complete system including the necessary accessories and suitable fastening tools.

But that's not all: thanks to special perforations, a 100 mm long knife can not only be used in its original length, but can also be used to create knife lengths of 64, 40, 35 and 25 mm.

Would you like to see trimknife|multi in action? Then simply scan the QR code.



trimknife|multi.



**MARBACH**



## MATERIALS FOR PROFESSIONALS. FROM MARBACH DIE SUPPLIES.

Marbach Die Supplies delivers them: The best materials for packaging manufacturers and diemakers. Used countless times in our own production facilities. Many are originals, only available from Marbach: rule materials, rubbering materials, innovative hand tools or workplace equipment: you can get all this from Marbach. And much more. Request catalogue now. Or simply scan the QR code. [marbach.com/en](http://marbach.com/en)

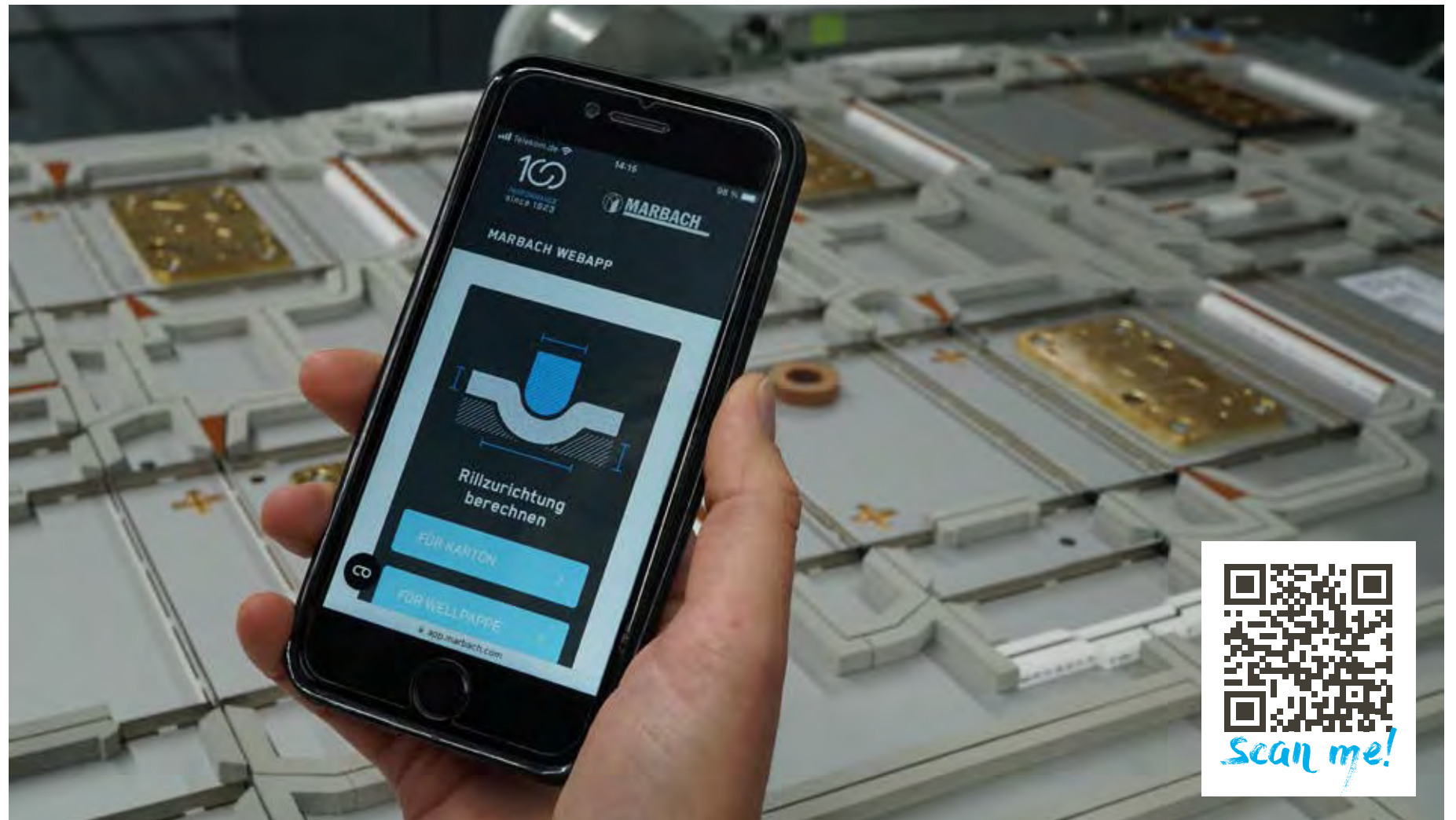
# ALWAYS THE RIGHT CREASING CHANNEL.

Tip | Marbach app.

With the Marbach app, you as a user can quickly and easily find out at the touch of a button which creasing channel best suits the respective job when die-cutting your packaging.

The app can either be installed on a mobile phone or used as a web application on a PC.

André Angermeir, Sales Manager at Marbach Die Supplies: "With the variety of creasing channels used today, it is not easy to keep an overview and always select the perfect one for the respective job. The Marbach app is a digital advisor for our customers. It gives them the opportunity to receive a recommendation quickly and easily by entering just a few parameters. In addition to the individual recommendation of a creasing channel, the Marbach app informs users in real time about current Marbach news.



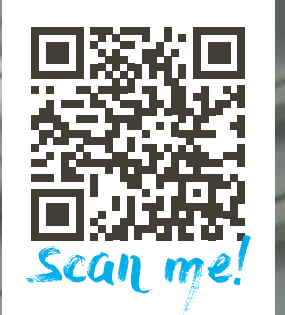
The Marbach Web app.

There are also special promotions for app users and other additional information."

With our app, you can optimally select the appropriate Marbach

Creasing Channel (MCC). This Marbach creasing channel impresses with its long service life, extremely good adhesion and easy handling. MCC also has a

special finger-lift technique that allows the creasing channel to be quickly and easily removed from the base tape.



 **MARBACH**



## MARBACH CREASING CHANNELS (MCC).

THE SMART CREASING CHANNEL FOR CLEVER MINDS.

MCC. These are the smart creasing channels from Marbach. Durable. Extremely good adhesion. And easy handling thanks to special finger-lift technology. Simply the optimum solution for short runs.

[marbach.com/en](http://marbach.com/en)

# CONCENTRATED EXPERTISE.

Tip | Marbach Whitepaper.

Do you want even more concentrated packaging expertise? Then visit the Marbach Experience Hub. On this knowledge platform you will find the latest news, whitepapers, product videos, animations, web sessions and much more on exciting topics. And all this in German, English, French, Spanish and Polish.

Want a little preview? Recently, we have published several whitepapers in which we share important practical tips and tricks with you for even better performance in packaging production:

## Paperboard



### Stripping.

The 4 success factors for efficient stripping. How you can increase your productivity in the production of your packaging by using dynamic stripping.



### Embossing.

Strong-selling paperboard packaging at the POS.



### Make-ready.

The most important success factors: Reduced make-ready times for maximum performance. Including checklist.



### Counter plate.

The 4 possibilities of a counter plate for paperboard applications. Including decision aid.

## Tobacco



### Process reliability Tobacco.

Maximum process reliability for tobacco applications.



### Will cigarettes soon lose their breath?

Consequences of current tobacco trends for packaging manufacturers.

## Corrugated board



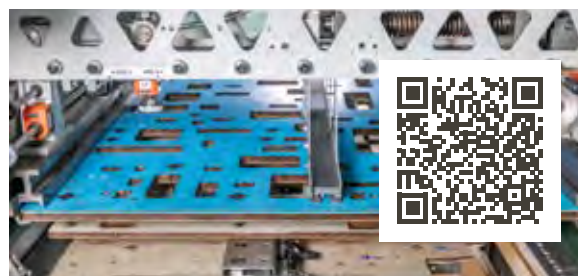
### Rotary die-cutting of corrugated board.

The most important success factors for efficient rotary die-cutting of corrugated board.



### Counter plate.

The 4 possibilities of a counter plate for corrugated board applications. Including decision aid.



### Stripping.

The most important facts for perfectly functioning stripping in corrugated board.

## Die-cutting, general



### Digitalization.

The future is digital: How you can increase the performance of your die-cutting processes through digitalization. With valuable tips from practical experience.



### Blanking.

Optimum use of the blanking station on your die-cutting machine. This is how it works. Including decision aid.



### Nicks.

Most important information for the perfect balance between functionality and appearance.



# CUSTOMERS VOICES.

Feedback | What our customers say about us.

» «

“We order our tools at Marbach, because we simply achieve the best results with Marbach technologies. Considering the gain in productivity and the economy of time at the tool make-ready, Marbach tools provide us with by far the best price-performance ratio.”

[Krzysztof Mendyka,  
Purchasing Director |  
WERNER KENKEL Sp. z o.o.]

» «

“The colleagues who enjoyed the training at the Marbach Academy were very impressed by the course and put what they learned directly into practice. Apart from the motivational boost that the course provided, we have also seen significant progress in performance.”

[Markus Möller,  
Head of die-cutting | D.O.G.  
PACKAGING GmbH & Co. KG]

» «

“Since ordering our tools from Marbach, the reliability, quality and service we are now able to offer our customers is measurable. Their expertise in complicated tools and advise is invaluable.”

[Yvette Roberts, CEO |  
PRO-PRINT (PTY) LTD]

## Snippets from our customer satisfaction survey:

“Proven quality for decades.”

“Innovative.”

“The quality is top.”

“I’m a fan of your great work.”

“Marbach’s customer service is simply excellent.”

“Super-fast and reliable delivery.”

“The cutting-dies are always perfectly manufactured.”

“Very good price-performance ratio.”

“Very good professional support and friendly contact persons.”

“Not the cheapest supplier, but the best. Quality has its price.”

“Very competent employees who understand the customer’s needs. The products are also great.”



**TO ALL:**

CAREER STARTERS.  
EXPERTS.  
EXECUTIVES.

 **MARBACH**



## JOIN OUR TEAM.

Wanted: Career starters, Experts and Executives! Join our team and shape the future with us. We offer exciting challenges and development opportunities across a range of professions. Apply now and bring in your expertise!

[marbach.com/en/career](https://marbach.com/en/career)

# WORKING AT MARBACH.

**Career** | Your career at the Marbach Group. Exactly the right decision.

## A FUTURE WITH PROSPECTS.

Find the job that suits you. Are you looking for a secure job with prospects? A job you enjoy? Where you can develop yourself?

Then come to Marbach!

## MAKE A SUCCESSFUL START.

### PACKAGING. PERFORMANCE. YOU.

Are you dedicated and looking for a new challenge? Then you've come to the right place! We are always looking for good employees. Become a part of the Marbach family. What makes us special? Quite simply, it's the spirit that you will experience when you visit us: The great working atmosphere, the wide range of possibilities to shape your job, the opportunities for further development and the variety of tasks.

All this combined with numerous benefits and the certainty of a se-

sure job. Because we have been successful in the marketplace for more than 100 years.

## DIVERSE AND EXCITING: THAT'S OUR JOB OFFER.

As a manufacturing company, we can offer you a wide range of job opportunities with prospects: for the perfect start to your career or the successful development of your professional path.

Whether as a skilled worker, administrator or manager. In development, sales or administration. Or even in production. We have the right job for you, based on your knowledge, strengths and experience!

We support you in achieving your goals: With many opportunities to help you develop. Are you curious and would like to learn more about Marbach as an employer or apply



for a job? For more information scan QR-Code.

Or simply contact us directly:

Phone: +49 7131 918-0,  
personal@marbach.com.

**We look forward to hearing from you!**



Marbach apprentices during the planting campaign.

## Sustainability expertise begins with vocational training.

**Image** | Marbach trainees plant trees and wild bushes.

As a group of companies, Marbach has been dealing with the topic of sustainability for many years. As part of our current Marbach sustainability project, this topic also plays an important role in vocational training.

In various projects, our Marbach trainees deal intensively and independently with the topic of sustainability. For example, our trainees took part in the Eco Scouts initiative of the Heilbronn-Franken Chamber of Commerce and Industry. This has already led to a

reduction in Marbach's electricity consumption, thus conserving resources. Our trainees and students are also involved in various social projects with kindergartens and schools.

But that's not all: Marbach trainees took part in a campaign on the biodiversity trail in Heilbronn. The project manager of the biodiversity trail, Dr. Jürgen Hetzler, first explained to the trainees and students in detail about biodiversity, the importance of plants and trees for our nature and living

creatures and, last but not least, what needs to be considered when planting trees and plants. The young people then went on to plant three trees and almost 50 wild plants themselves.

In order to increase our trainees' awareness of the topic of sustainability, further sustainability projects are planned for the future. These include the production of insect hotels.

## Did you already know? Social Media.

**Image** | Marbach is active on Instagram.

Marbach has an Instagram channel since 2021. The focus of the social media presence is on potential future trainees and the diverse career opportunities offered by the world's leading family business.

On Instagram, we not only present our various apprenticeships, but also give tips on how to apply and show exclusive insights into everyday working life. At Marbach, we give our trainees responsibility from the very beginning. For this reason, the project team for "Instagram" consists exclusively of Marbach trainees. You can find more information on Instagram at:

[instagram.com/marbach\\_ausbildung](https://www.instagram.com/marbach_ausbildung)

