

如何切割可以得到最佳效果

HOW TO CUT TO GET THE BEST RESULT

精密切割工具
PRECISION CUTTING TOOLS



von den
Steinen

材料和涂层的多样性

Diversity in material and coating

减低磨损
Wear reduction

不粘解决方案
Anti-adhesive solutions

斜面为金刚石涂层
DIAMOND COATED BEVEL

/ 不锈钢和金刚石涂层的独特结合
/ unique combination of stainless steel and diamond coating

钛铝氮化物涂层
TITANIUM ALUMINIUM-NITRIDE COATING

/ 高性能耐磨保护
/ High performance wear-protection

氮化钛涂层
TITANIUM NITRIDE COATING

/ 经济型表面硬化
/ economical surface hardening

亚硝酸盐处理
NITRITE-TREATED

/ 表面硬化
/ for surface hardening

SBR蓝色涂层
SBR BLUE COATING

/ 独家技术,内部开发
/ special formula, in-house development

SBR黑色涂层
SBR BLACK COATING

/ 独家技术,内部开发
/ special formula, in-house development

表面电镀处理
GALVANIC TREATED SURFACE

/ 最低粘性("莲花"效应)
/ minimum adhesion (lotus effect)

金色STT涂层
COATING STT GOLD

/ 优化结合了抗磨和抗粘附属性
/ Anti-wear and anti-adhesion properties optimally combined

加工各种工业中的材料和面料，圆形刀是不可缺少的。由于大多数大规模制造的商品只能是机械式有效地和经济地划分、分区和切割。要求所使用的刀具持久性地工作，这就需要采用使用寿命长，高性价比的刀具。最重要的要求是最大限度延长切割工具的使用寿命，一方面是选择正确的刀具和相应的刀形，另一方面也需要优质的材料和加工方式。根据客户各自的需求,我们使用了高精度的设计，高性能的材料和最佳品质的涂料，以确保尽可能长的使用寿命。

客户的具体需求

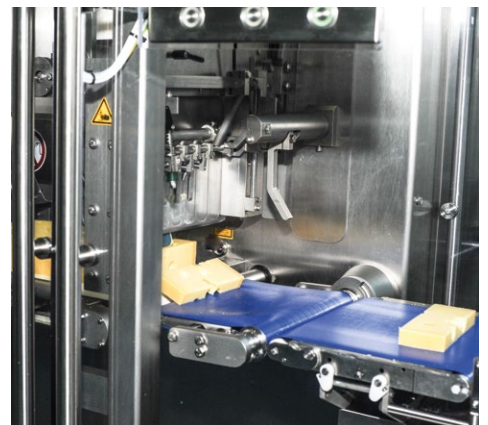
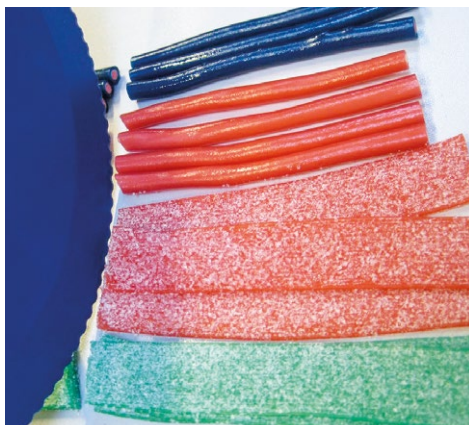
我们不仅用钢材生产圆刀，还可以根据客户的需求，用其它材料生产圆刀。（例如增强导热系数的铜）。

SPECIFIC CUSTOMER REQUIREMENTS

We do not only use steel. Depending on needs and requirements, we also manufacture our circular and machine knives made of other materials (e.g. copper for enhanced thermal conductivity).



Circular and machine knives are indispensable for industrial processing of various materials and fabrics. Because most mass-produced goods can only be mechanically efficiently and economically divided, partitioned, and cut. The cutters used are almost permanently stressed and need a correspondingly long service life for the greatest possible economic viability. The most important requirements for maximum service life are on the one hand the selection of the correct knife form and the corresponding cutter shapes, on the other hand an excellent material quality and machining. Depending on the respective requirements of our customers we use exactly the designs, materials, and coatings at von den Steinen that ensure the longest possible use.



切割食品和饮料的解决方案

Solutions for food and beverage

食物加工过程中要求小心谨慎地遵循卫生标准。圆刀用在这些领域，需要符合最高标准的耐用性、性能和质量。即使是长期使用、频繁清洗和极端条件下“如捕鱼船队切割鱼”使用，圆刀必须具备耐腐蚀性和耐磨性。

The processing of food requires careful observance of hygienic standards. Circular knives, which are used here, therefore need to meet the highest standards of durability, resistance, and quality. Even for permanent use, frequent cleaning and under extreme conditions e.g. for fish cutting on fishing fleets, the circular knife must be resistant to pitting corrosion and wear.

又如饮料、烟草行业，因材料中含有纤维，长期依赖于使用圆刀。

Also for the production of beverages such as tobacco, circular knives, which can process fibrous clippings reliably over long periods of use, are needed.



食品材料:
独家不锈钢

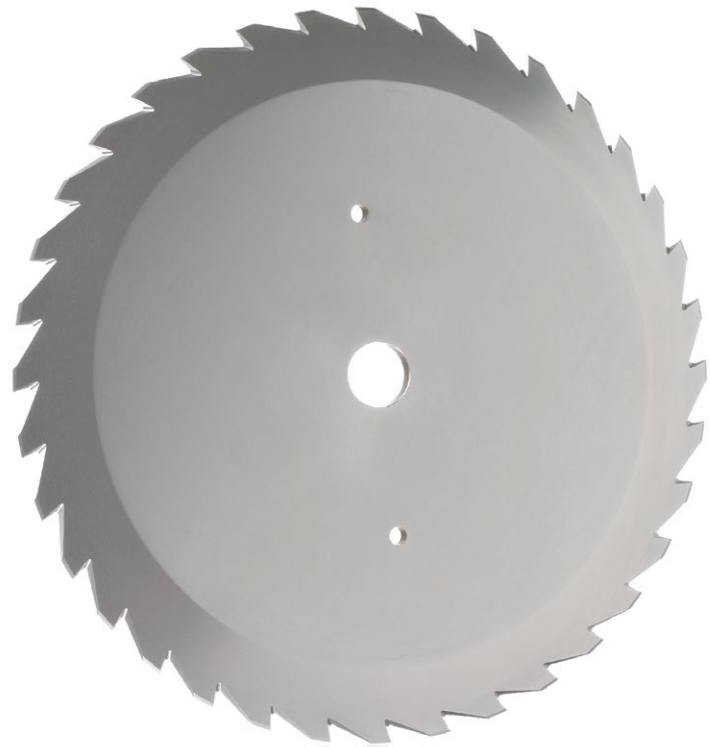
饮料材料:
-- 工具钢
-- 铬钢
-- 高速钢(HSS)
-- PM-钢
-- 碳化钨

应用领域:
肉、香肠、鱼、家禽、骨头、
水果和蔬菜, 糖果和烟草.

Material for food:
Stainless steel exclusive

Materials for beverages:
-- Tool steel
-- Chromium steel
-- High speed steel (HSS)
-- PM-steel
-- Tungsten carbide

Fields of application:
Meat, sausage, fish,
poultry, bones, fruit
and vegetables, confectionery
and tobacco





切割纺织品的解决方案

Solutions for textiles

高纤维或容易脆性材料，对刀具提出更高的切割要求。尤其在纺织品上，刀具必须是无磨损地工作，从而使物料不会因为刀片凹口被磨破。

The cutting of fibrous or easily brittle materials puts high demands on the cutting tool. Especially with textiles, the knives must work virtually wear-free, so that the material will not be frayed by notches on the blade.

对于脆性材料，如塑料或玻璃，必须绝对光滑，以保护好材料，避免工件造成的切削刃的不平衡而造成天然张力的增加，这样可能会导致材料和工具破损。

For brittle materials such as plastic or glass, absolute smoothness is necessary to protect the material in order to avoid increase of natural tension of the work pieces caused by imbalances of the cutting edge, which can lead to breakage of material and tools.



材料:

- 工具钢
- 铬钢
- 高速钢(HSS)
- PM-钢
- 碳化钨

应用领域:

塑料、纺织品、
皮革和玻璃纤维

Materials:

- Tool steel
- Chromium steel
- High speed steel (HSS)
- PM-steel
- Tungsten carbide

Fields of application:

Plastics, textiles,
leather and glass fibres





切割纸张和纸板的解决方案

Solutions for paper and cardboard

当切割热敏或可燃性以及粘合性和静电的材料，如纸，胶带或膜，使用合适的材料和正确的刀具设计是具有决定性作用的。

例如，在处理纸或粘合带时，即使是在连续使用时，产生的热量必须尽可能低以减少火灾的危险。特别是加工胶带时，粘接残渣还可以积累在切削刀具。因此，所用的材料应提供较少的粘合剂表面。此外，粘附可减少为相应的无粘性的解决方案。

When cutting heat-sensitive or flammable as well as adhesive and electrostatic materials such as paper, tapes or films, the use of the right material and the design of the cutting tools are decisive.

For instance, when processing paper or adhesive tapes, even during continuous use, the heat generation must be as low as possible to minimise the risk of fire. Especially when processing adhesive tapes, bonding residues can also accumulate on the cutting tool. Therefore, the material used should offer less adhesive surface. In addition, sticking can be reduced with corresponding non-stick solutions.



材料:

- 工具钢
- 铬钢
- 高速钢(HSS)
- PM-钢
- 碳化钨

应用领域:

卫生纸等卫浴产品，粘合剂和礼品丝带，管子，铝箔等表面敏感型的材料，可缩小，旋转，包装，折叠和拉伸。

Materials:

- Tool steel
- Chromium steel
- High speed steel (HSS)
- PM-steel
- Tungsten carbide

Fields of application:

Toilet paper and other sanitary products, adhesive and gift ribbons, tubes, aluminium foil and other surface-sensitive material types, shrink, turning, wrapping, fold, and stretch films





汽车行业解决方案

Solutions for automotive industry

根据材料的硬度和切割材料的强度，例如橡胶加工，需要具有不同特性的切割刀具。

对于橡胶制造业,特别是汽车行业，我们根据不同的设计和材料，生产圆形刀具。可优化处理的橡胶部件，如轮胎、传送带或液压软管。该领域，可成功使用，不粘的解决方案。

For the processing of rubber, cutting tools with different properties are needed, depending on the material hardness and strength of the cutting material.

For the rubber manufacturing industries, especially the automotive industry, we produce circular knives in various designs and materials. Rubber parts such as tires, conveyor belts, or hydraulic hoses can be processed optimally. In this area, also non-stick solutions are successfully used.



材料:

- 工具钢
- 铬钢
- 高速钢(HSS)
- PM-钢
- 碳化钨

应用领域:

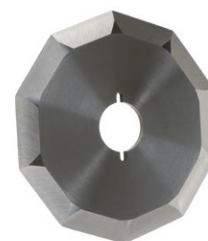
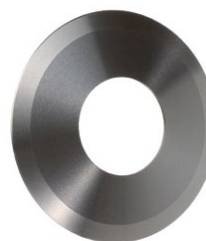
橡胶,汽车轮胎和液压软管

Materials:

- Tool steel
- Chromium steel
- High speed steel (HSS)
- PM-steel
- Tungsten carbide

Fields of application:

Rubber profiles, automobile tyres and hydraulic hoses



其他应用程序解决方案

Solutions for other applications

“没有什么是不可能的”，上面提到的优先领域，我们不仅生产刀具和工具。当然还有切割、锯和在工业规模上分区的其他应用程序。例如，切割组件的切割工具用于木材，金属和塑料加工工艺。这些木材，金属和塑料必须符合最高标准。

然而，在von den Steinen刀不必总是圆的。除了我们的圆刀，我们还制造平刀雕刻用的刀，还有长的带有自动应用程序的刀。



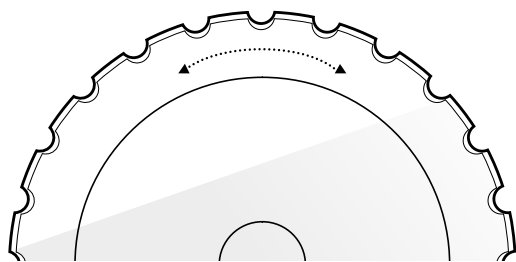
According to the motto "nothing is impossible", we do not only manufacture knives and tools for priority areas mentioned above. Of course, cutting, sawing, and partitioning take place in an industrial scale in various other applications. For example, cutting tools for cutting components are used in wood, metal and plastics processing craft which must also meet the highest standards.

However, knives not always have to be round at von den Steinen. In addition to our circular knives we also manufacture flat, graver, long and band knives for automatic applications.

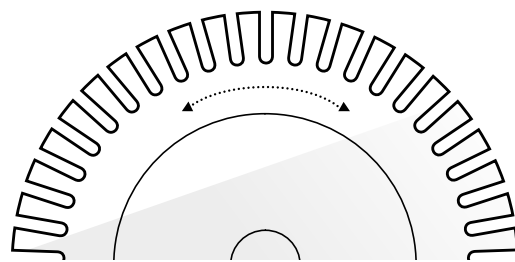


每个应用程序，配置正确文件

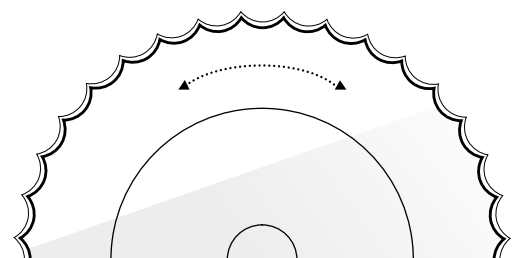
For every application the right profile



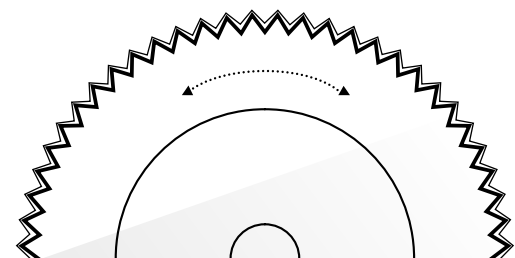
01 单面/有边缘链接的双面磨槽 / 适合任何方向的运动
-- Single-sided/double-sided sharpened fluted edge with link / suitable for any direction of movement



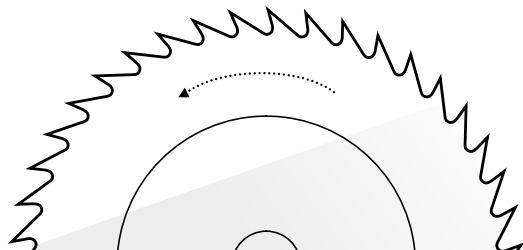
02 牙齿缝隙 / 适合任何方向运动
-- Slit teeth / suitable for any direction of movement



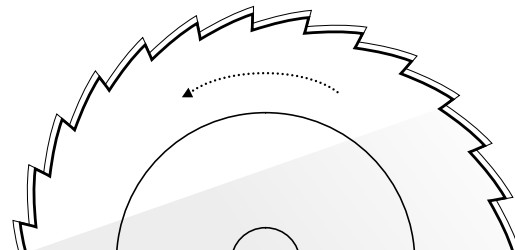
03 单面/没有链接的双面磨槽边缘 / 适合任何方向运动
-- Single-sided/double-sided sharpened fluted edge without link / suitable for any direction of movement



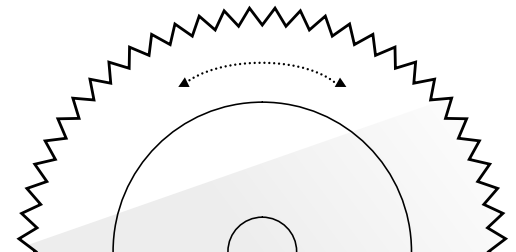
04 单面/双面磨的有链接的V-凹槽 / 适合任何方向运动
-- Single-sided/double-sided sharpened V-fluted edge with link / suitable for any direction of movement



05 单面/双面铲磨角齿 / 适用于指定方向的运动
-- Single-sided/double-sided relief ground angle teeth / suitable for specified direction of movement

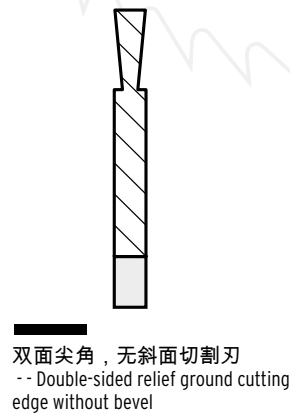
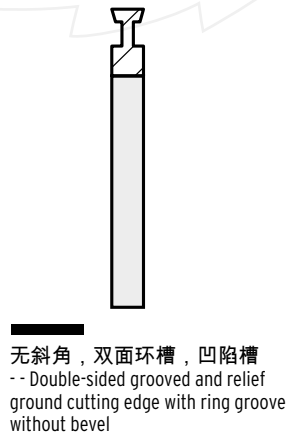
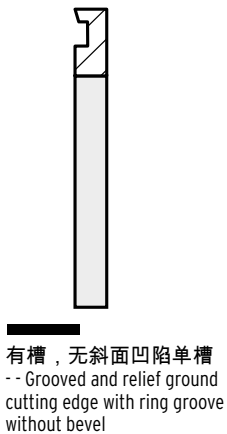
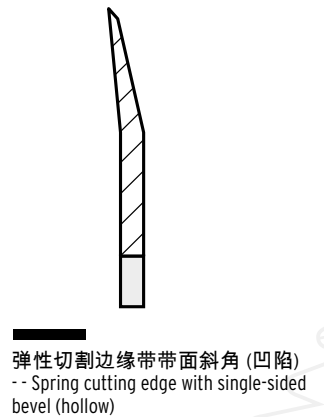
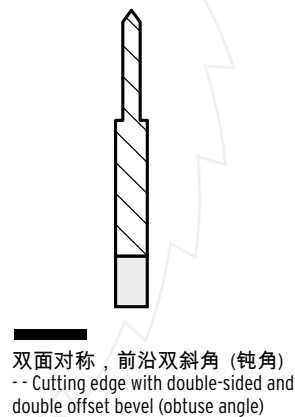
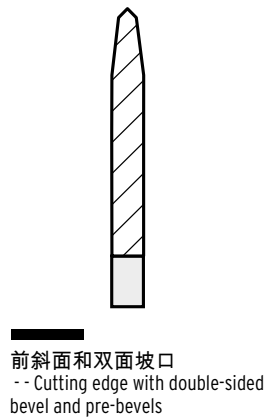
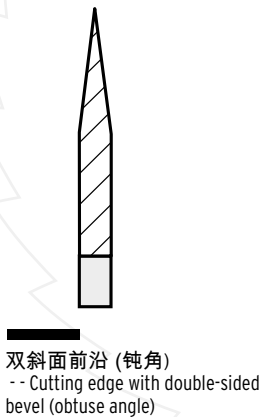
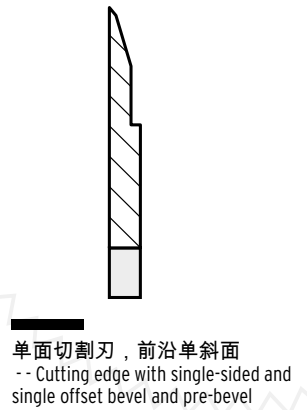
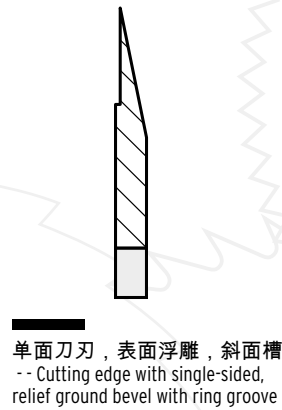
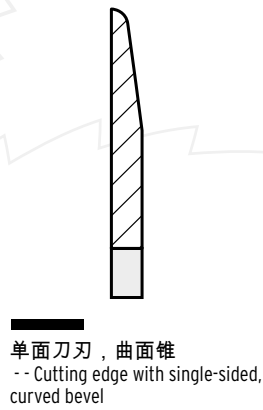
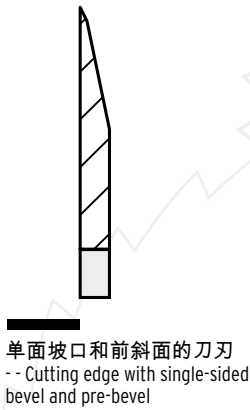
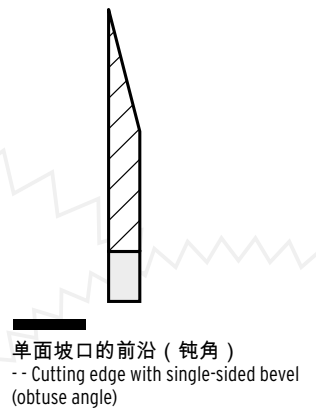
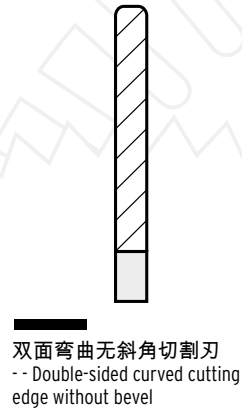
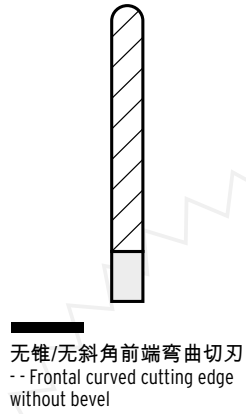
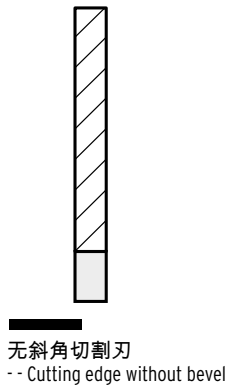


06 侧面锋利的牙齿 / 适用于指定方向的运动
-- Single-sided sharpened curved teeth / suitable for specified direction of movement



07 单一锯齿状的牙齿 / 适合任何方向的运动
-- Single serrated teeth / suitable for any direction of movement

根据不同的使用范围需要不同的齿轮和切削轮廓。为便于您了解所有可能应用，我们会在下面给您简要地描述一下最常见的轮廓种类。几乎所有单种切削轮廓都可以和所有单种齿轮配合使用，由此满足您的需求。



Depending on the application, a variety of teeth and cutting profiles is required. In order for you to see what is possible, we give you a summary of the most common profile variants above. Thus, almost any cutting-edge profile can be combined with any teeth, just as you need it for your purposes.

找到解决方案,确保质量,优化流程

Find solutions, ensure quality, optimize processes



Kontrollierte Präzision
Controlled precision

这就是我们开发和制造产品所能达到的水平。我们相信，我们仍然可以提高自己，以及我们的产品。安于现状，满足现有的成就并不是我们的经营理念。我们的圆形工具均采用优质的材料，如工具钢，铬钢，高速钢，PM钢或碳化钨。

用于食品工业的产品，我们只使用不锈钢。这样一来，我们的产品是非常耐用的。这种抵抗力确保我们的圆形刀使用寿命长和效率高。切割工具对于食品行业具有特殊的意义。在这些产品的附加价值链中，我们特别注意刀具的品质始终如一。

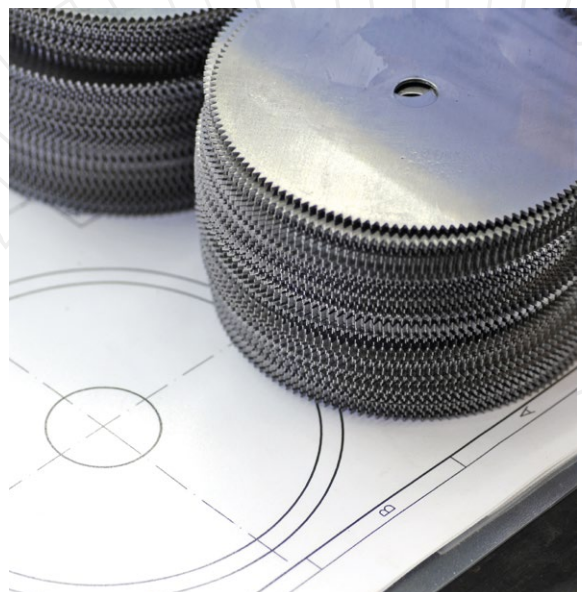
这些是由我们制造，因此它们基本上无点蚀的。它们也可用于在极端条件，例如用于深海捕鱼。即使是与咸的海洋空气和咸的海水不断接触，我们的产品也不会收到损害。我们正在不断努力改善我们的产品和制造工艺，以满足甚至超出我们的刀具和工具，质量要求高。我们始终贯彻从材料研究的新成果。通过优化流程，我们总是能够使用更少的材料和能源消耗方面产生更多的效率

逐层更多阻力

尤其是当它涉及到合适的材料对我们的圆形刀具和工具的问题，我们不能只用钢材和合金。根据切割材料的应用或性质，涂层也许是正确的选择。为取得最佳的质量，不同的刀具的具体特点，以及个别顾客的要求，都考虑在内。

涂层，材料，表面或锯齿影响着切割结果而因此影响了切割质量。特别是在食品加工业，以及对于粘性物质的分离，不粘涂料是一个很好的选择，可优化的切割工具的质量和寿命。

它们提供了一贯的切割质量，有效防止了粘附件在刀具上的污渍，高标准卫生通过降低微生物的生长和因此产生的污染，基于高防腐的化学品特性，两到三倍的耐用性和更长的使用寿命，因此同样适用于较高的经济型可行性。



效率和效益来自经验。
Efficiency and economic viability of experience



Höchste Beständigkeit durch sorgfältige Verarbeitung
Highest resistance through careful processing

This is how we approach the development and manufacture of our products. We believe that we can still improve ourselves as well as our products. To rest on our successes is not our philosophy.

Our circular tools are all made of quality materials such as Tool steel, Chrome steel, HSS, PM steel, or Tungsten carbide. For products of the food industry, we only use stainless steel. As a result, our products are extremely durable. This resistance ensures long service life and high efficiency of our circular and machine knives.

Products for the food industry have a special significance at von den Steinen. In the added-value chain of these products, we pay particular attention to the consistent quality of knives. These are manufactured by us so that they are largely free of pitting corrosion. They are also suitable for use under extreme conditions, e.g. as applicable in deep-sea fishing. Even constant contact with salty sea air and water cannot harm our products.

We are constantly working to improve our products and manufacturing processes, to meet and even exceed such high quality requirements in our knives and tools. We always implement new findings from material research. By optimizing our processes, we are always able to use less material and produce more efficiently in terms of energy consumption.

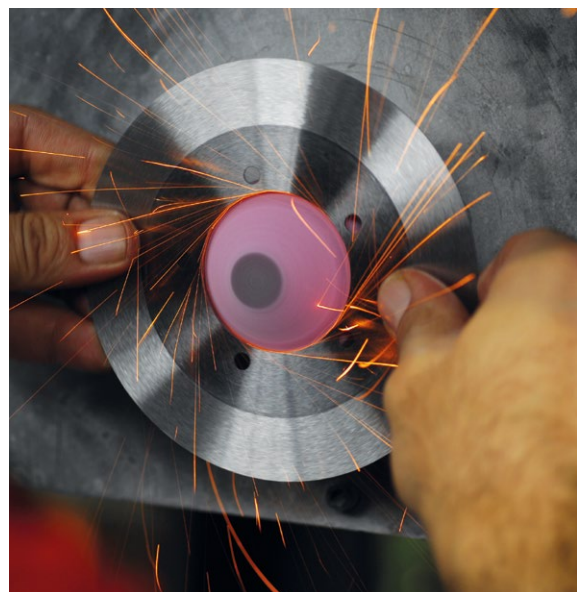
Layer by layer more resistance

Especially when it comes to the question of the right material for our circular knives and tools, we cannot just use steel and alloys. Depending on the application or nature of the cut material, also coatings may be the right choice.

For achieving the best possible quality, specific characteristics of different knives as well as individual customer requirements are taken into account. The coating, material, surface or serrations have influence on the cutting result and thus on the quality of cut.

In particular, in the food industry as well as for the separation of adhesive materials, non-stick coatings are a good choice to optimise the quality and life of the cutting tools. They provide for

- consistent cutting quality by effectively preventing sticking, crusting, attachment, or general soiling of the knife,
- high standards of hygiene by reducing microbiological growth and the resulting contamination,
- high corrosion protection due to special resistance to chemicals,
- two- to three-fold improvement in durability and longer service life compared to uncoated products, and therefore equally applicable to
- high economic viability.



Qualität ist Handarbeit
Quality by manual labour

我们以客户为中心

The customer at the centre of our action

根据这一原则,我们解决我们所有的项目。客户的满意对我们来说是最重要的。我们的目标是为您提供最高的质量,创新产品和全面服务。

Von den Steinen代表着全面的从最初的接触开始的客户服务,我们伴随你的个人意见,在项目通过初的要求,直接建立在工具和机器的具体产品的开发和解决问题的方案。即使在完成订单后,我们仍以我们全面的售后服务支持你。

除了我们的产品,我们也提供一系列的技术服务。因此,我们提供有关的硬度和研磨工艺,以及涂料工艺,包装设计和刻字等方面的建议。

作为一项额外的服务,我们也提供定制的激光刻字。我们可以做到在不锈钢材料上无氧化。我们会建议你如何使用工具来设置您的公司标志,你的产品编号,或其它在工具上的标签。

According to this principle, we tackle all of our projects. The satisfaction of our customers is most important for us. It is our objective to offer you the highest quality, innovative products and comprehensive services.

Von den Steinen stands for comprehensive customer service from initial contact. We accompany you from individual advice at the beginning of a project via requirement-specific product developments and problem solutions up to tool and machine set-up directly at your premises. Even after completing an order, we support you with our comprehensive after-sales service.

In addition to our products, we also offer a range of technical services. Therefore, we offer advice regarding hardness and abrasive processes as well as in the areas of coating, packaging design, and lettering.

As an additional service, we also offer customised laser lettering. We can do this even on stainless materials, without the risk of oxidation. We will advise you about how to place your company logo, your item number, or other labels optimally on the tools.

我们公司的

Milestones of our company



1886

以线工具制造商的身份成立Ernst von den Steinen公司

--
Foundation of the Ernst von den Steinen company as a manufacturer of threading tools

1918

生产圆形工具(圆刀,以及木质和金属圆锯)

--
Production of circular tools (circular knives, as well as wood and metal circular saws)

1946

生产Spontan圆锯机

--
Production of Spontan circular saw machines

1965

生产有装载杂志和电子控制的锯床

--
Production of sawing machines with loading magazine and electronic control

1992

加入Friedr. Dick GmbH & Co. KG集团

--
Inclusion in the group of Friedr. Dick GmbH & Co. KG

1996

在产品无点蚀领域深入研究和开发

--
Intensive research and development activities in the field of products free of pitting corrosion

2002

扩展产品范围,包括刷毛刺工程

--
Expansion of the product range to include brush and deburring engineering

精度和质量是我们的传统

我们的成功历史可以追溯到1886年，从成立以来，Ernst von den Steinen公司为工业制造业的分区和加工工程生产有质量的工具，这个悠久的传统和专业知识让我们可以实现客户的特定需求来生产，并尽可能实现更有效和性价比高。

由于其高精度，高品质，我们的产品销往世界各地，且闻名全球。对于各种材料和应用领域，Ernst von den Steinen提供精确，快速，料好和高性价比的圆刀和工具，专家提议，实行个人护理，以及一系列广泛的服务，以保证客户的最大满意度。

自1992年以来，我们是完全由集团FRIEDR的全资子公司作为。迪克有限两合公司在戴齐绍。在今天的雷姆沙伊德雇佣有40余名员工。传统手工艺和现代制造工艺的结合，使我们的公司和我们的产品在全球享誉全球。

Precision and quality is our tradition

Our successful history dates back to 1886. From inception, von den Steinen manufactures quality tools for industrial partitioning and machining engineering. This long-standing tradition and the resulting expertise allow us to implement customer-specific requirements and needs as efficiently and economically as possible.

Thanks to their precision and high quality, our products are worldwide appreciated and required. For a variety of materials and applications, von den Steinen offers circular knives and tools for precise, rapid, material-friendly, and economic processing. Expert advice, individual care, and a wide range of services ensure maximum satisfaction of our customers.

Since 1992, we are wholly owned as subsidiary by the group of Friedr. Dick GmbH & Co. KG in Deizisau. More than 40 people are employed at the location in Remscheid today. The combination of traditional artisanship and modern manufacturing processes makes our company and our products successful worldwide.

里程碑。

→ 2008

在机械工程部，SPONTAN Trenn- und Entgrattechnik GmbH & Co. KG 作为一个独立的公司建立

--
Establishment of SPONTAN Trenn- und Entgrattechnik GmbH & Co. KG as an independent company in our mechanical engineering division

2012

Michael Maag先生来自Friedr. DICK GmbH & Co. KG公司

--
Takeover of the management by Mr. Michael Maag from the parent company Friedr. DICK GmbH & Co. KG

2013

购买了一台最新型磨削机，加工直径达到200 mm

--
Purchase of one robot grinding machine for diameters up to 200 mm

2015

购买了一台锯齿机，加工直径达到1000 mm

--
Purchase of one serration machine for diameters up to 1000 mm

2017

并入Friedr. Dick GmbH & Co. KG 已有25年

"von den Steinen" 第130周年纪念日

购买了两台新型磨削机，加工直径达到400 mm

--
25 years membership in the Group Friedr. Dick GmbH & Co. KG

130th company anniversary "von den Steinen"

Purchase of two grinding machines for diameters up to 400 mm

2018

子公司"SPONTAN"已经搬到了雷姆沙伊德另外的位置，并拥有了自己独立的生产厂区。

"von den Steinen"仅生产的面积扩大到1000平方米。

购买了两台新型磨削机，加工直径达到200 mm

购买了一台全自动机器人磨削机，加工直径达到500 mm

购买了一台全自动机器人磨削机，加工直径达到150 mm

--
The subsidiary company "SPONTAN" moves into an own facility in Remscheid

Expansion of the production area (von den Steinen) by 1000 m².

Purchase of two grinding machines for diameters up to 200 mm

Purchase of one robot grinding machine for diameters up to 500 mm

Purchase of one robot grinding machine for diameters up to 150 mm

von den Steinen GmbH & Co. KG

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