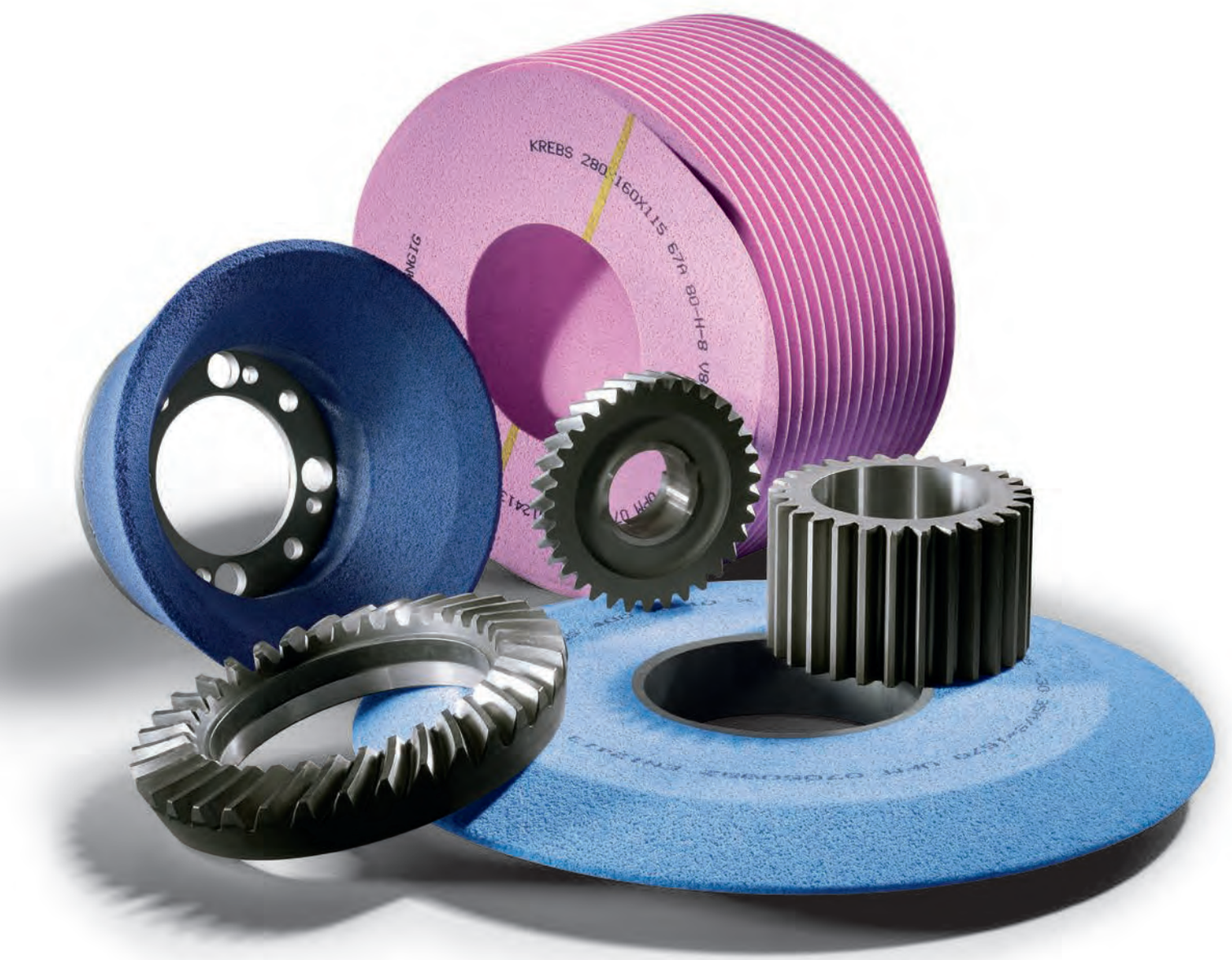
Gear grinding
with KREBS & RIEDEL

Precision - tooth by tooth.



KREBS
KREBS & RIEDEL

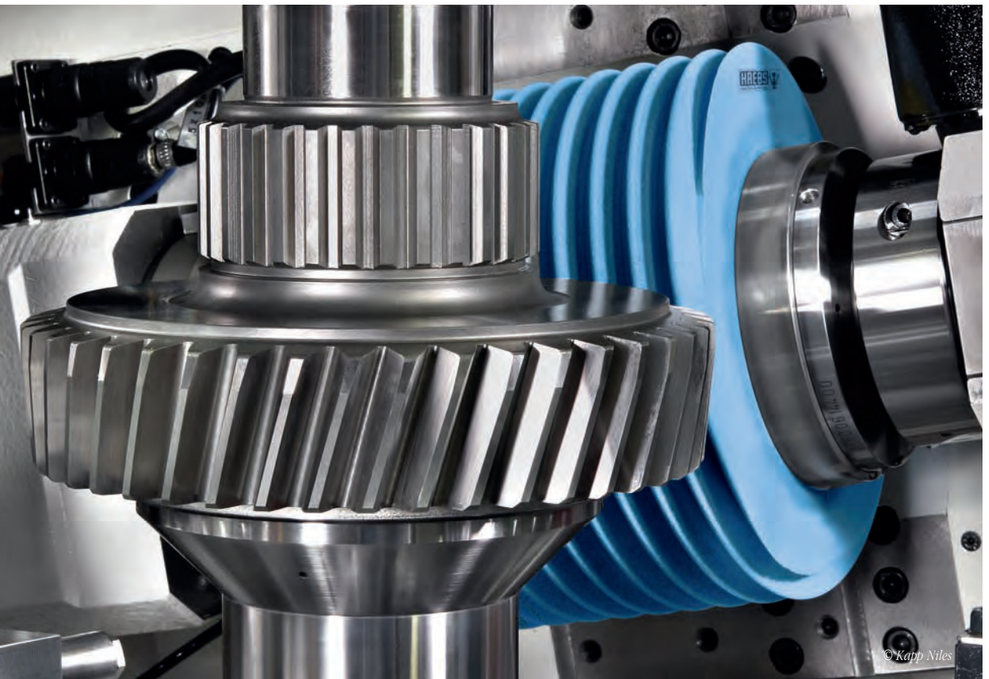
Workpiece like tool.
Complex and demanding.

The gear wheel.

For customers in the *automotive industry*, *aerospace*, *mechanical engineering*, *medical technology* and *wind power*, Krebs & Riedel offers the right tools for the perfect machining of gears in continuously reliable high quality. Our experience ranges from grinding the smallest gears in the field of medical technology to large-format planetary gears in wind turbines.

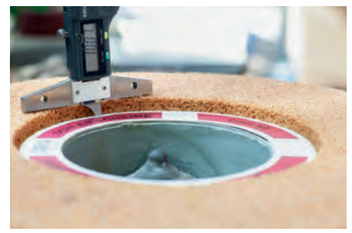
From continuous generating grinding to single-profile grinding and bevel gear grinding to power honing we naturally also offer individual grinding solutions. For example: machine bores, faces and gear rods with maximum precision and efficiency.

Whether you want to increase your productivity, improve or optimize your surface finishes: You can absolutely rely on the consistent grinding performance of Krebs & Riedel grinding tools.



Show us your workpiece, talk to us about your goals - we will provide you with the perfect grinding solution.

Perfectly adapted: The tool determines a significant part of the quality of the result. That is why we adapt our tools to your grinding processes and continuosly optimize our grinding wheels.



Part of your TQM: We manufacture our products according to your geometric tolerance specifications. In terms of density and microstructure, our products remain within half a degree of hardness.

Black on white: We document the quality of each individual grinding wheel with test reports.

Faster setup times: We pre-profile with the highest precision to shorten your setup times

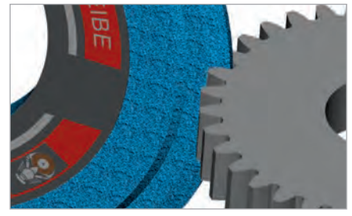
Safe shipping: We pack each grinding wheel in environmentally friendly packaging. The tools will arrive safely.

One gap like the other.
Precise internal and external toothing.

Precision for every tooth.

In profile grinding, the workpieces are machined with profiled wheels. The gear defines the recipe, shape, structure and specification of the wheel. In the machine, either the entire tooth space profile or the tooth flank is ground tooth by tooth. This process is perfect for medium and large modules.

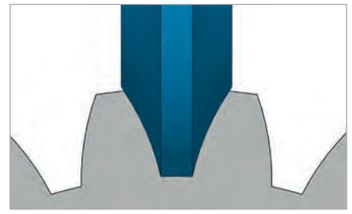
Made of high-grade corundum, microcrystalline sintered corundum, special corundum as well as CBN: We offer a comprehensive range of vitrified bonded single profile grinding wheels.



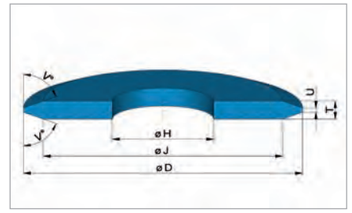
Profile grinding: Perfect teeth all over.

Perfectly combined: Grain and bond create the desired surface quality.

We have proven compounds and most common dimensions in stock. According to your order, we can pre-profile and deliver at very short notice.



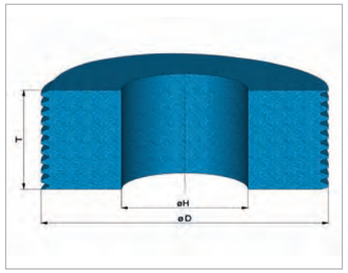
Mounting and grinding: We pre-profile our easy-cutting and dresser-friendl products - so you save time and money during setup.



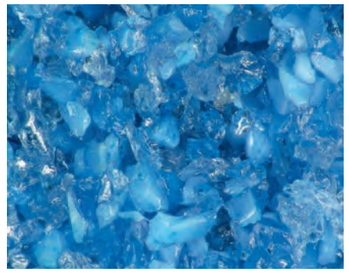
In stock: Single profile grinding wheels in most common dimensions in stock.

Grinding worms.
Grinding more and grinding faster.

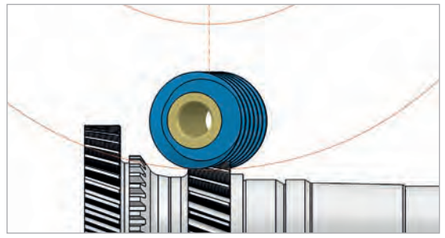
Generating grinding:
Precision on every rotation.
For external and internal gears.



Ready to go:
Up to nine starts pre-profiled for you.
Or unprofiled, if you want to keep all your options open.



Blue Moon™, Blue Moon™ T, Blue Moon™ TZ:
The specifications for perfect grinding.
We have the right solution for all grinding tasks.

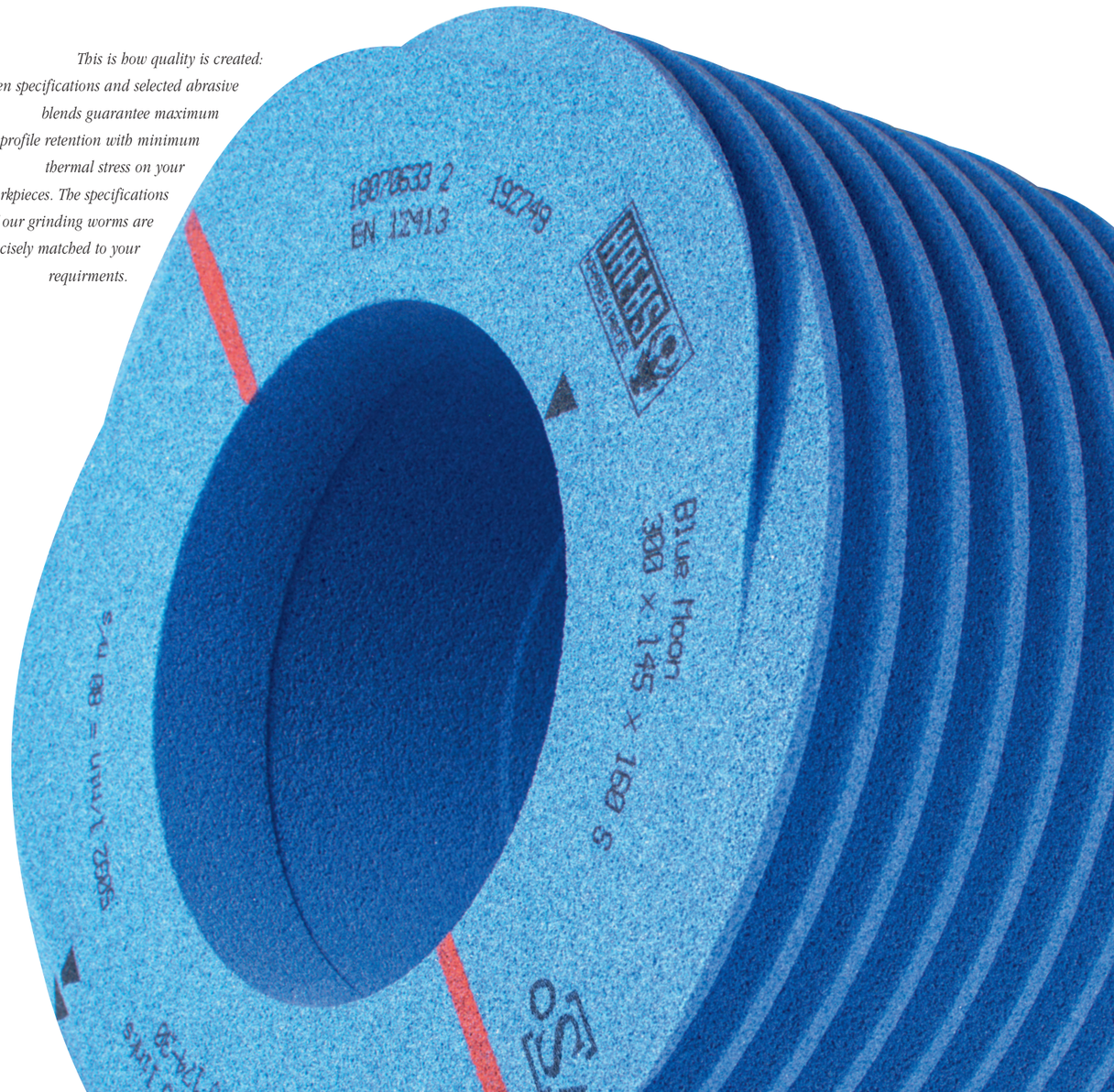


Small, but extremely powerful:
Complex workpieces cannot always be processed with grinding worms of standard dimensions.
We have the perfect solution - our baby grinding worms.
They perform just as well as the large ones.

Nonstop synchronized.

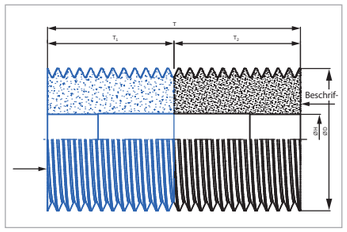
In continuous generating grinding, the grinding worm and workpiece rotate synchronously with each other. The workpiece is moving past the grinding worm in several strokes. The machine kinematics are correspondingly complex. However, the effort pays off very quickly - the production of large quantities of small to medium modules is very economical in this process. High-grade corundum and microcrystalline sintered corundum provide high stock removal rates. Our modern ceramic bonds are gentle on your dressing tools. We optimize our recipes for the respective machine types and applications.

This is how quality is created:
Proven specifications and selected abrasive blends guarantee maximum profile retention with minimum thermal stress on your workpieces. The specifications of our grinding worms are precisely matched to your requirments.

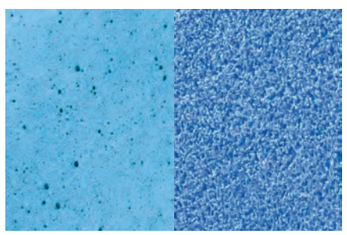


Compound grinding worms.
Grinding and polishing with one wheel.

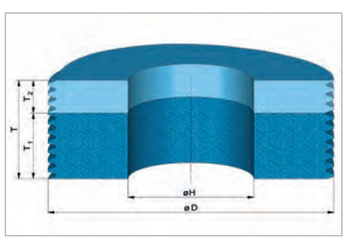
Know-how from A to Z:
Whatever you want to machine in which process, we manufacture the perfect tools exactly according to your specifications.



The same and not the same:
The profile is the same, the grinding results are different.



The material for the material:
Your workpiece defines the composition of the grinding wheel.



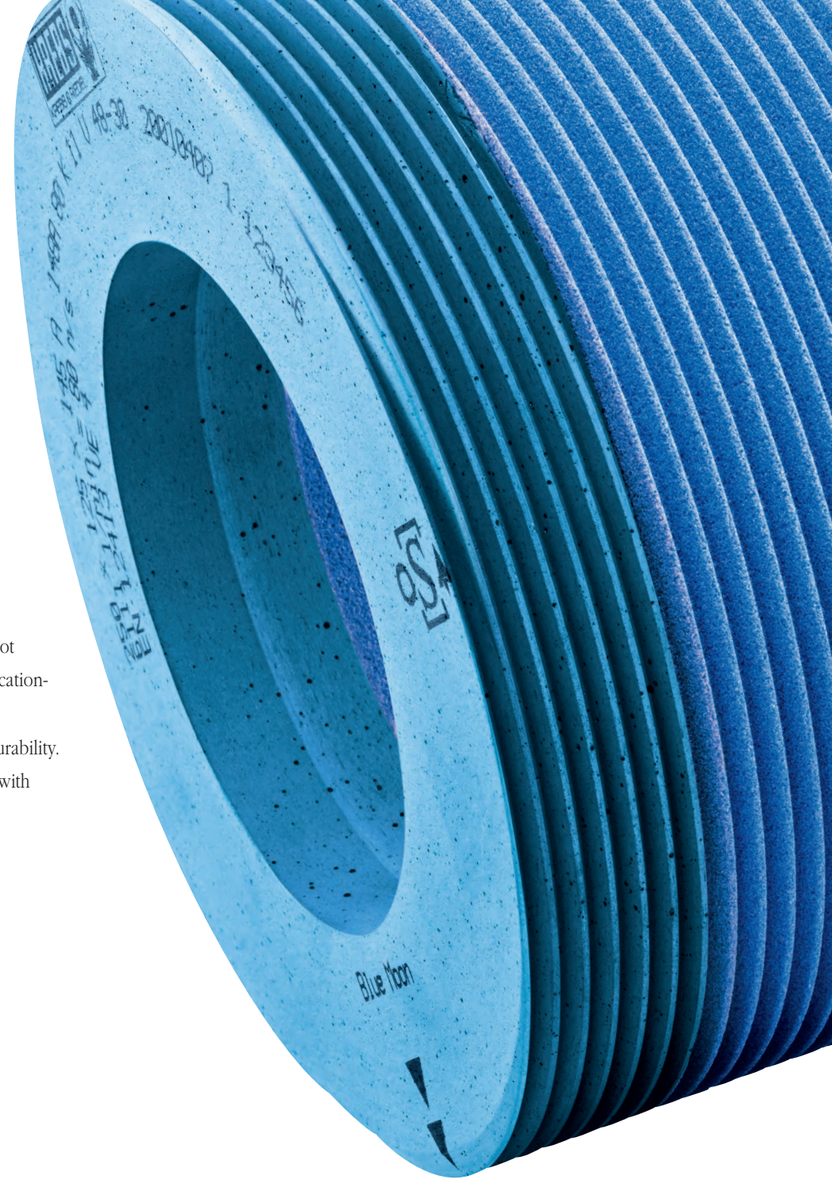
Our service:
On request, we can also pre-profile compound grinding worms.

Save time and money.

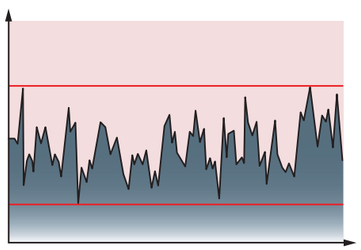
With our compound grinding worms, you not only save time for changeover, but also minimize risks for tool and workpiece. Thanks to the combination of fine grit and polishing zone, you can achieve perfect fine grinding and the desired polish on one and the same machine with only one changeover. The precise mixture of high-grade corundum, special and sintered grits in these special tools also reduces wear on your dressers and avoids heat input into your workpieces. Our compound grinding worms thus combine the required profile retention with the perfect surface finish of your workpieces and tools.

A closer look at the finish.

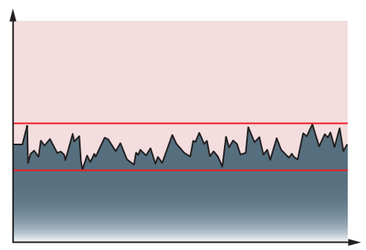
Rough is not the same as rough. And polished is not always the best, target-oriented solution. The application-specific perfect surface quality is often decisive for smoother running, more energy efficiency, more durability. You define your desired surface - we provide you with the perfect compound grinding worm.



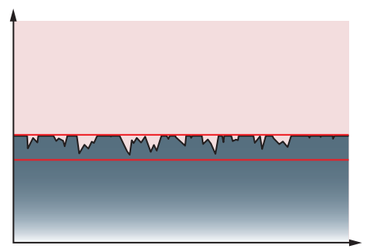
Roughness profiles



Ground:
The surface with Ra < 0.5 µm, Rz 4 can be achieved with our standard grinding worms in various compositions.



Fine ground:
For surfaces with Ra < 0.2 µm, Rz < 1.6 we produce compound grinding worms with fine grinding zones in different compositions.



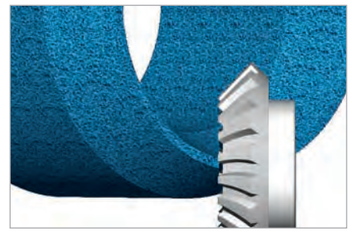
Polished:
The surface with Ra < 0.1 µm, Rz < 0.8 is characterized by its very high contact ratio for the protective lubricant. Currently, only compound grinding worms with polishing zone achieve this quality.

Cup wheels and rings.
Special tools for special processes.

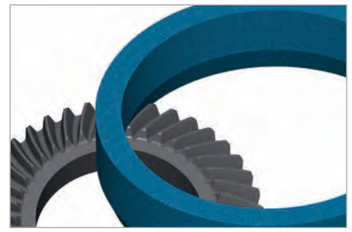
Topography accurate to the point.

Bevel gear grinding is a special form of metalworking for the production of precise bevel gears and spiders, ring gears and pinions. Mostly for *differentials* and *drives* in *vehicle construction* or *elevators*. Accuracy and reliability are the main criterias for abrasives in order to achieve required qualities. The demanding workpieces are discontinuously roll-ground or machined by the plunge grinding process. Both are very complex processes that require special tool life and dimensional stability of the tools. With our proven, individually tested cup wheels and rings, you can unlock the full potential of your precision machines.

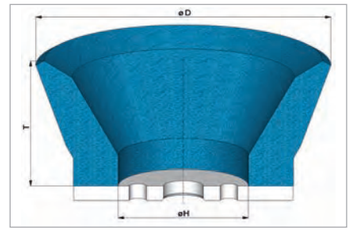
Pre-profiled and safely glued to plates: Whatever grinding machine you use - we offer the right steel plate.



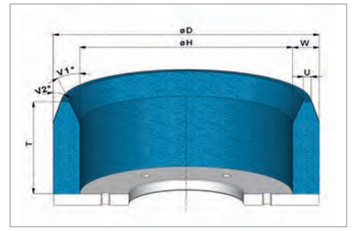
Discontinuous grinding: Both the workpiece and the process require tools of the highest quality on a continuous basis.



Eccentric: During plunge grinding of of ring gears, your workpieces remain cool despite high chip removal.



Complex: No matter how difficult the mold geometry is - the precision of our tools remains simply unmatched.

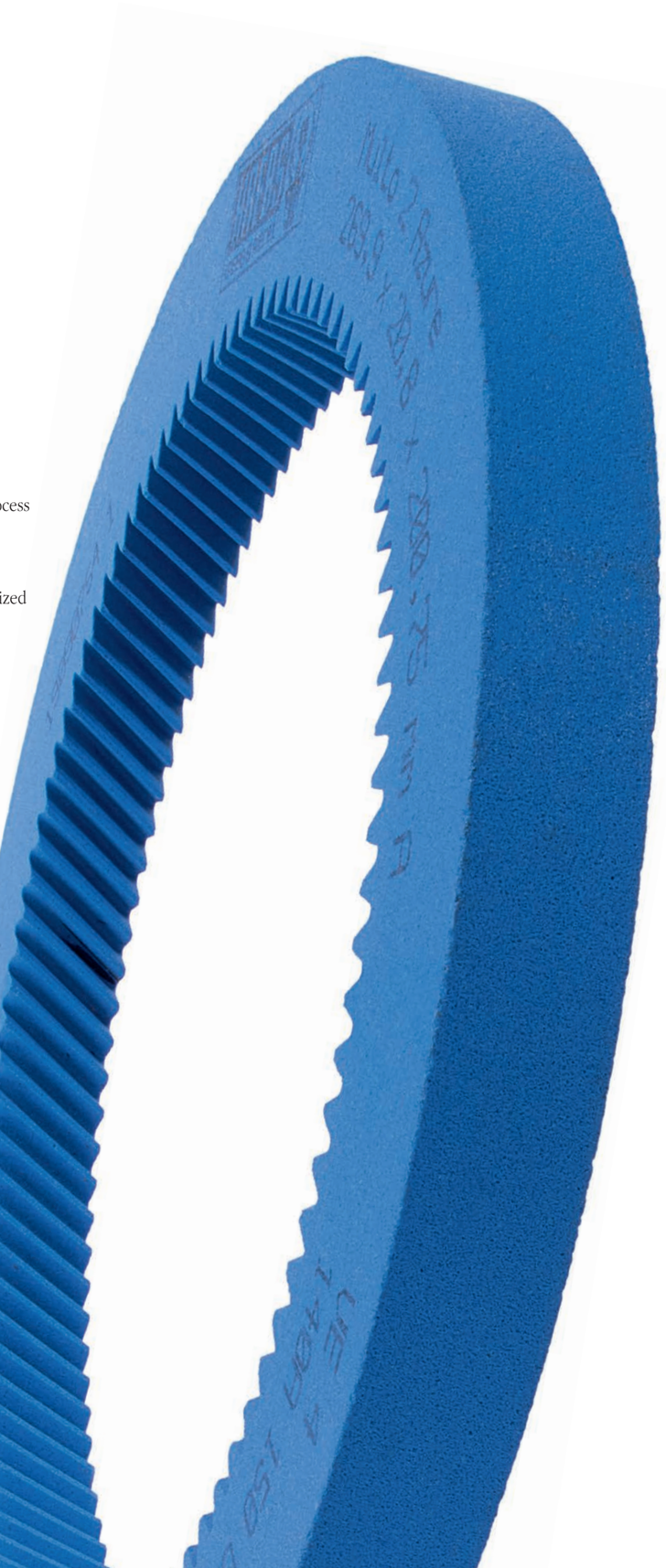


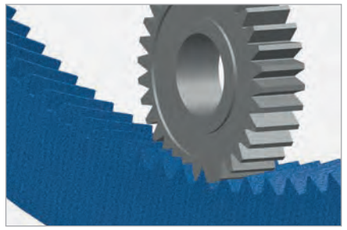
With or without: Every grinding ring, whether conical or straight, is available with or without profile and with or without a plate. Perfect suitable for your workflow.

Ceramic bonded honing rings. Economically precise.

A finished gear in one step.

Power honing is currently the most efficient process for producing low-noise and low-wear gears. It combines high productivity with excellent quality. The ceramic-bonded tools are characterized by a higher performance capability. These forward-looking tools will also make e-mobility more economical and more precise.





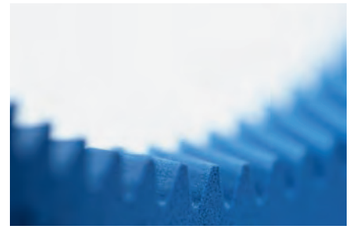
From finishing to complete machining: Thanks to advanced tools and modern plant technology, power honing has become a single-stage manufacturing process.

Cooler than grinding: The low cutting speeds during honing reliably prevent heat during the grinding process.

When things get tight: If gears with interfering contours cannot be machined with grinding worms, honing is the method of choice.

The optimal bond: You tell us which surface quality you want - we have the right recipe.

Performance: Ceramic honing rings are particularly efficient. Like all tools, we manufacture them exactly according to your requirements.



Tooth by tooth: Efficient, low-noise and low-wear gears.

The gear - more than its flanks.
The gear - more than gears.

All grinding solutions for your gearboxes from a single source.

Whether in a *sewing machine* or a *wind turbine*, the gearbox is an extremely complex structure that requires far more than excellently ground tooth flanks. Every surface, whether shaft, bore or face shoulder, etc., is precisely specified and requires the optimum surface. For minimum friction, perfectly metered lubricant adhesion, groundbreaking smoothness, sustained protection against wear and efficient productivity. From us you get grinding tools for all tasks in the highest and in constant quality.

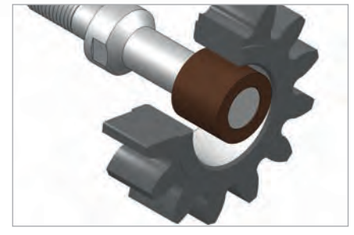
Perfection brings performance: A perfectly ground gear shaft has many different surfaces to be machined. From bearing seats with or without a face shoulder to complete gear teeth.

All around: Krebs & Riedel has individual grinding solutions for grinding all components of gearboxes.

OD cylindrical grinding: Between center and centerless, single and wheel set.

External cylindrical angular plunge grinding: Customized specifications for the best result.

Combined processing: Whether synchronous or sequential - we do it!



Internal cylindrical grinding: CBN bore grinding - with or without flat surfaces.

The right tool.
Always and everywhere.

With over 30 locations around the globe and subsidiaries in China and India you get the same high quality grinding wheels at all of your production sites worldwide:

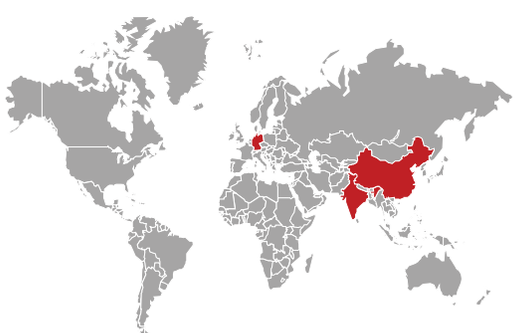
Highly qualified advice from our application experts, excellent service from shipping to production optimization and, last but not least, excellent product quality. Take advantage of our entire production program:

Ceramic and resin bonded discs up to 900 mm outer diameter for all grinding operations and processes.

Cut-off wheels in resin bond with and without fiber reinforcement up to 800 mm outside diameter for laboratory cuts and everything that requires precision.

Rough grinding wheels and pendulum grinding wheels with and without fiber reinforcement for contract fettling and the casting industry.

Diamond and CBN tools with operating speeds up to 160 m/s for surface, cylindrical and internal grinding. Also with carbon base bodies.



KREBS & RIEDEL

KREBS & RIEDEL *Schleifscheibenfabrik GmbH & Co. KG*
Bremer Straße 44, 34385 Bad Karlshafen
Phone +49 5672 184-0, Fax +49 5672 184-218
mail@krebs-riedel.de, www.krebs-riedel.de

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