

DOUBLE DISC GRINDING

Technical solutions for double disc grinding



Innovative grinding technology since 1895

Automotive

Semiconductor industry

Hydraulic industry

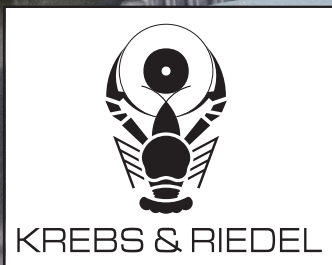
Ceramic industry

Aerospace

Medical technology

Roller bearings

Wind energy



High performance DIA & CBN double disc grinding wheels for face and finegrinding

Krebs & Riedel has many years of experience and references in double disc grinding. We offer tailor-made solutions for a wide range of applications, machines and workpieces in the area of face and finegrinding. Krebs & Riedel manufactures double disc grinding wheels up to 1500 mm outer diameter made of DIA and CBN in vitrified bond for the effective creation of flat surfaces with a high surface quality and shape tolerance for a wide range of different materials. The range includes grinding tools in different segmentation for single and double disc grinding machines with and without planetary kinematics. Compared to other systems, the vitrified bond system by Krebs & Riedel allows the production of very free cutting and porous coating structures. This results in a significant increase in productivity.

Your advantages

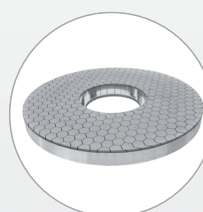
- Many years of experience and strong references
- Bespoke solutions with quality tools
- Pellet dimensions possible from 12 to 30 mm
- Solutions for roughing applications with high stock removal rates
- Pre- and finish-grinding with one machine concept
- Customer service and application support worldwide
- Fast delivery times and flexibility
- All products are „Made in Germany“
- Highest precision and excellent tool life
- Finest workpiece surface qualities
- Disc diameters up to 1500 mm
- Continuous development of specifications

Equipment for all common grinding machines

In addition to the classic machine concepts with planetary kinematics, we also supply for through-feed grinding:
Single disc concepts: Linear
Double disc concepts:
Horizontal, vertical
and linear.

Krebs & Riedel DIA & CBN grinding wheels

Technology & worldwide support



Grinding System



Krebs & Riedel dressing tools



One system for tailored solutions

In addition to an intensive process analysis, we supply you with grinding, dressing and sharpening tools that are tailored to your production processes and your requirements.

- Al_2O_3 white, Al_2O_3 pink and SiC
- From 100 mm to 600 mm ring diameter
- Grain sizes from 80 to 600 mesh
- Fast delivery from stock possible
- Two layer design as an option



Finest surface results for metal, ceramics and plastics

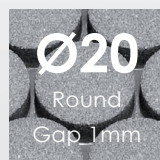
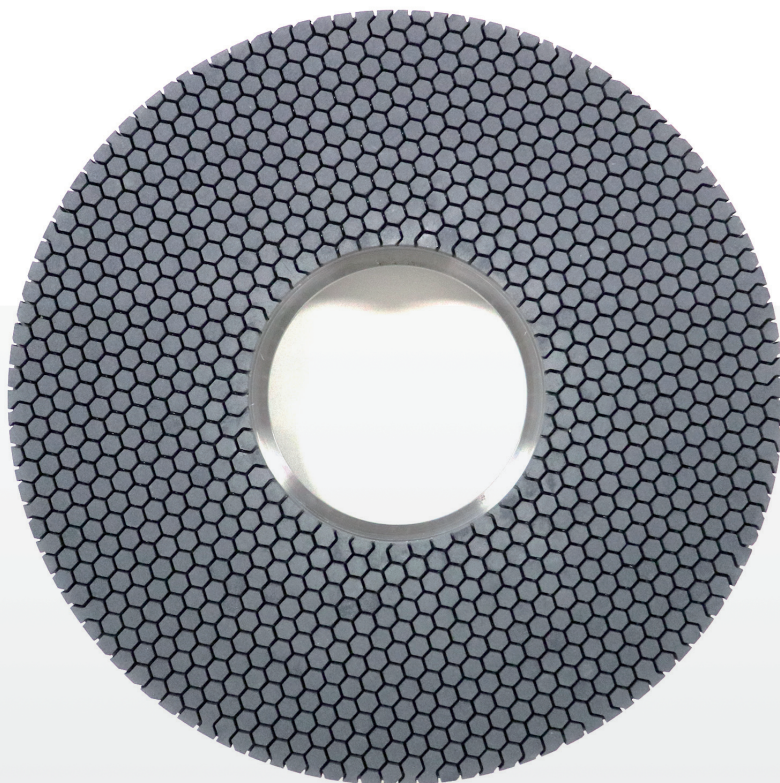
Our bonding systems have proven particularly effective in the machining of a wide variety of ceramics, cast materials, sintered metals, hardened steels and hard metal products. E.g. for sealing discs, valve plates, pump rings and housings, rolling bearing rings, knives and carbide cutting tools. High stock removal rates and long tool life for bearing steel such as 100Cr6 characterize our specifications.

Bespoke wheel layouts

The grain size of the DIA and CBN bonds used is adapted to the application as well as the required surface quality. Workpiece-specific and flexible wheel layouts, optionally with edge protection or gap filling and wear-resistant bonds with suitable sharpening technology.

Our service

- Selection of the optimal specification
- Pre-tests with own laboratory machine minimizes risk
- Production of customer specific grinding tool type
- Recommendation of the appropriate dressing strategy, process parameters and cooling lubricants
- Coordination & solution for the specific application
- Dilligent process documentation
- Continuous optimisation
- Application-oriented usertraining
- Repair of segments / replacement
- Recoating of base bodies
- Close cooperation with machine manufacturers

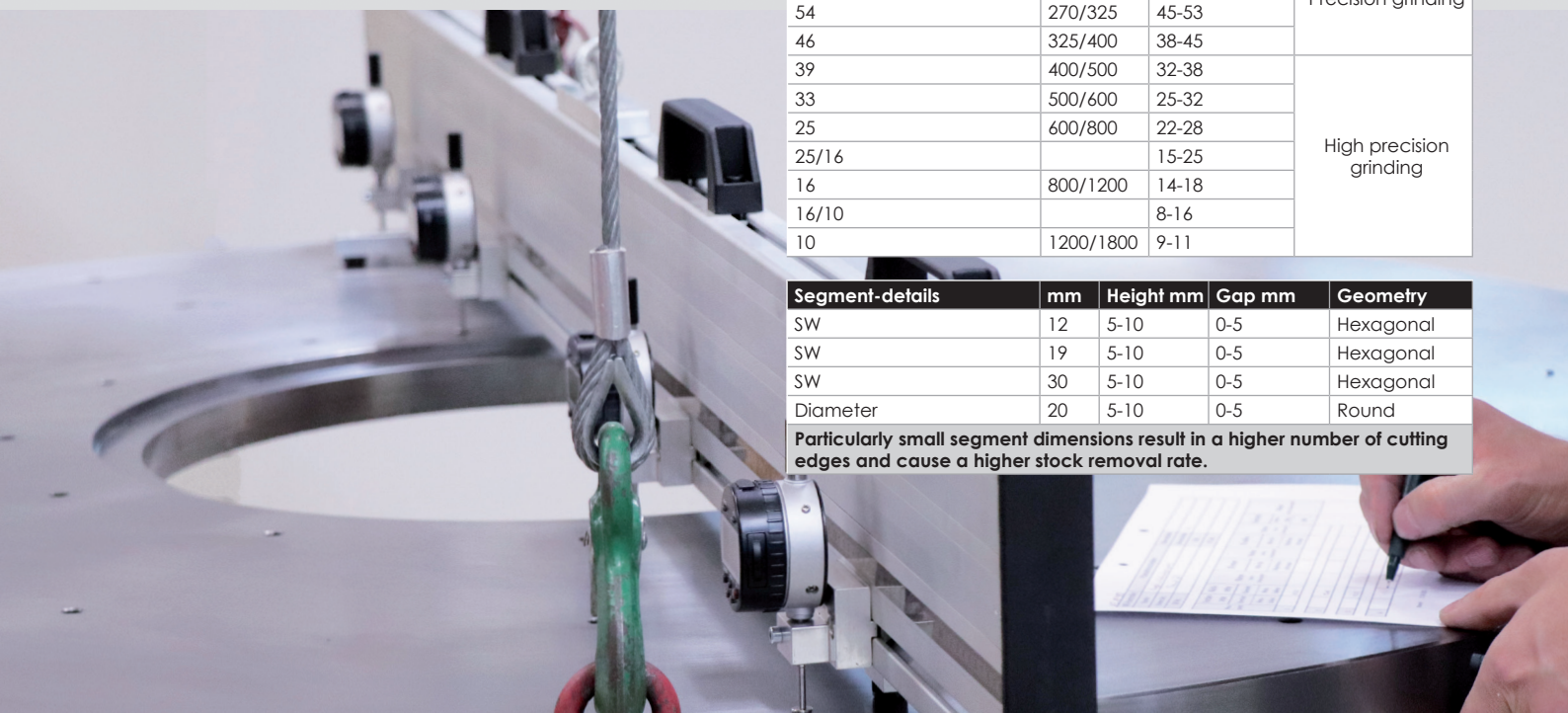


| Metals | Plastics | Glass & ceramics |
|---------------------------------------|------------------|--|
| Steel: Soft, hard, hardened, tempered | Hard/Soft | Al ₂ O ₃ |
| Tungsten, soft | Fiber reinforced | ZrO ₂ , SiC, Si ₃ N ₄ |

| KREBS & RIEDEL grain sizes FEPA CBN/Diamond | US [Mesh] | FEPA Sieving [µm] | Application |
|--|--------------|----------------------|-------------------------|
| 251 | 60/70 | 212-250 | Pre grinding |
| 213 | 70/80 | 180-212 | |
| 181 | 80/100 | 150-180 | |
| 151 | 100/120 | 125-150 | |
| 126 | 120/140 | 106-125 | |
| 107 | 140/170 | 90-106 | |
| 91 | 170/200 | 75-90 | Precision grinding |
| 76 | 200/230 | 63-75 | |
| 64 | 230/270 | 53-63 | |
| 54 | 270/325 | 45-53 | |
| 46 | 325/400 | 38-45 | High precision grinding |
| 39 | 400/500 | 32-38 | |
| 33 | 500/600 | 25-32 | |
| 25 | 600/800 | 22-28 | |
| 25/16 | | 15-25 | |
| 16 | 800/1200 | 14-18 | |
| 16/10 | | 8-16 | |
| 10 | 1200/1800 | 9-11 | |

| Segment-details | mm | Height mm | Gap mm | Geometry |
|-----------------|----|-----------|--------|-----------|
| SW | 12 | 5-10 | 0-5 | Hexagonal |
| SW | 19 | 5-10 | 0-5 | Hexagonal |
| SW | 30 | 5-10 | 0-5 | Hexagonal |
| Diameter | 20 | 5-10 | 0-5 | Round |

Particularly small segment dimensions result in a higher number of cutting edges and cause a higher stock removal rate.





Laboratory machine AC 500

- Double side face grinding with planetary kinematics
- Workpiece holder max. D120 mm
- Working wheels Ø 356/156 mm (ring width 100 mm)
- Speeds top and bottom 400/min infinitely variable
- Power of both drives 3 kW
- Contact pressure max. 250 daN
- Working area encapsulated

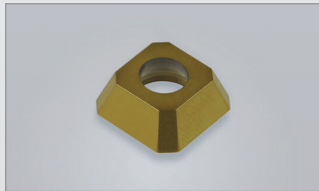
Risk minimisation through preliminary tests

- Preliminary tests in own test field
- Grinding test on request
- Sample components: 2 mm to 50 mm, maximum 20 mm high
- Solutions for both oil & water based coolants
- Better performance predictions possible
- High accuracy machine, stable wheel bearing
- Better performance predictions possible

Workpiece examples & references



Sleeve Ø24×28mm



Insert 14×14×7mm



Bearings Ø23×7mm



Sealing washer Ø160×2mm



Spring washer Ø60×4mm



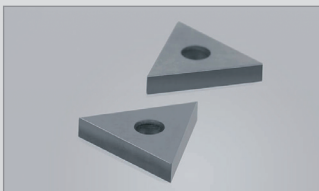
Spacer tube Ø45×18mm



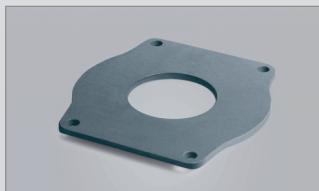
Pliers 52×26×2mm



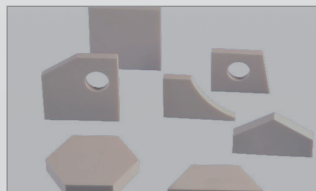
Bearing ring Ø130×24mm



Cutting plate 9×9×2mm



Sliding plate 300 × 220 × 8mm



Ceramic Workpieces



Control plate Ø160×2mm



Gears Ø14×3mm



Roller bearing rings Ø160×26mm



Gear rings Ø32×7mm



Valves Ø20×7mm

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