

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

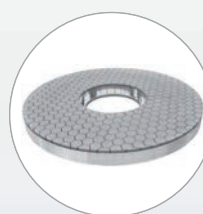
- Many years of experience and strong references
- Bespoke solutions with quality tools
- Pellet dimensions possible from 12 to 30mm
- Solutions for roughing applications with high stock removal rates
- Pre- and finish-grinding with one machine concept
- Customer service and application support worldwide
- 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 live 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
- Recommendation for appropriate process parameters
- Recommendation for appropriate 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	Fiber reinforced	ZrO ₂ , SiC, Si ₃ N ₄

FEPA	US-Mesh	Size in µm	Application
126	120 / 140	125 / 106	Pre grinding
107	140 / 170	106 / 90	Pre grinding
91	170 / 200	90 / 75	Pre grinding
76	200 / 230	75 / 63	Finish grinding
64	230 / 270	63 / 53	Finish grinding
54	270 / 325	53 / 45	Finish grinding
46	325 / 400	45 / 38	Finish grinding

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
- Machine for pre-tests and quick tests
- Single side operation possible (Quick-Test)
- 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 3kW
- Contact pressure max. 250daN
- Working area encapsulated

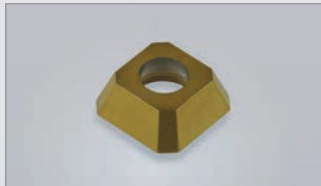
Risk minimisation through preliminary tests

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

Workpiece examples & references



Sleeve $\varnothing 24 \times 28$ mm



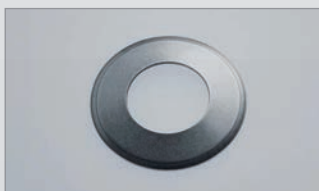
Insert $14 \times 14 \times 7$ mm



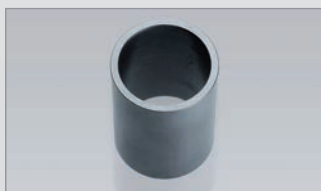
Bearings $\varnothing 23 \times 7$ mm



Sealing washer $\varnothing 160 \times 2$ mm



Spring washer $\varnothing 60 \times 4$ mm



Spacer tube $\varnothing 45 \times 18$ mm



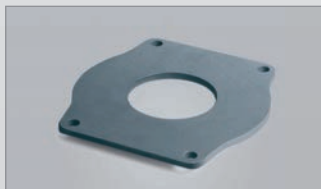
Pliers $52 \times 26 \times 2$ mm



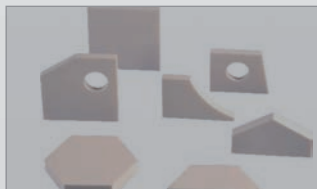
Bearing ring $\varnothing 130 \times 24$ mm



Cutting plate $9 \times 9 \times 2$ mm



Sliding plate $300 \times 220 \times 8$ mm



Ceramic Workpieces



Control plate $\varnothing 160 \times 2$ mm



Gears $\varnothing 14 \times 3$ mm



Roller bearing rings $\varnothing 160 \times 26$ mm



Gear rings $\varnothing 32 \times 7$ mm



Valves $\varnothing 20 \times 7$ mm

Innovative grinding technology since 1895