KREBS & RIEDEL

Schleifscheibenfabrik GmbH & Co. KG

INNOVATIVE
GRINDING TECHNOLOGY
SINCE 1895

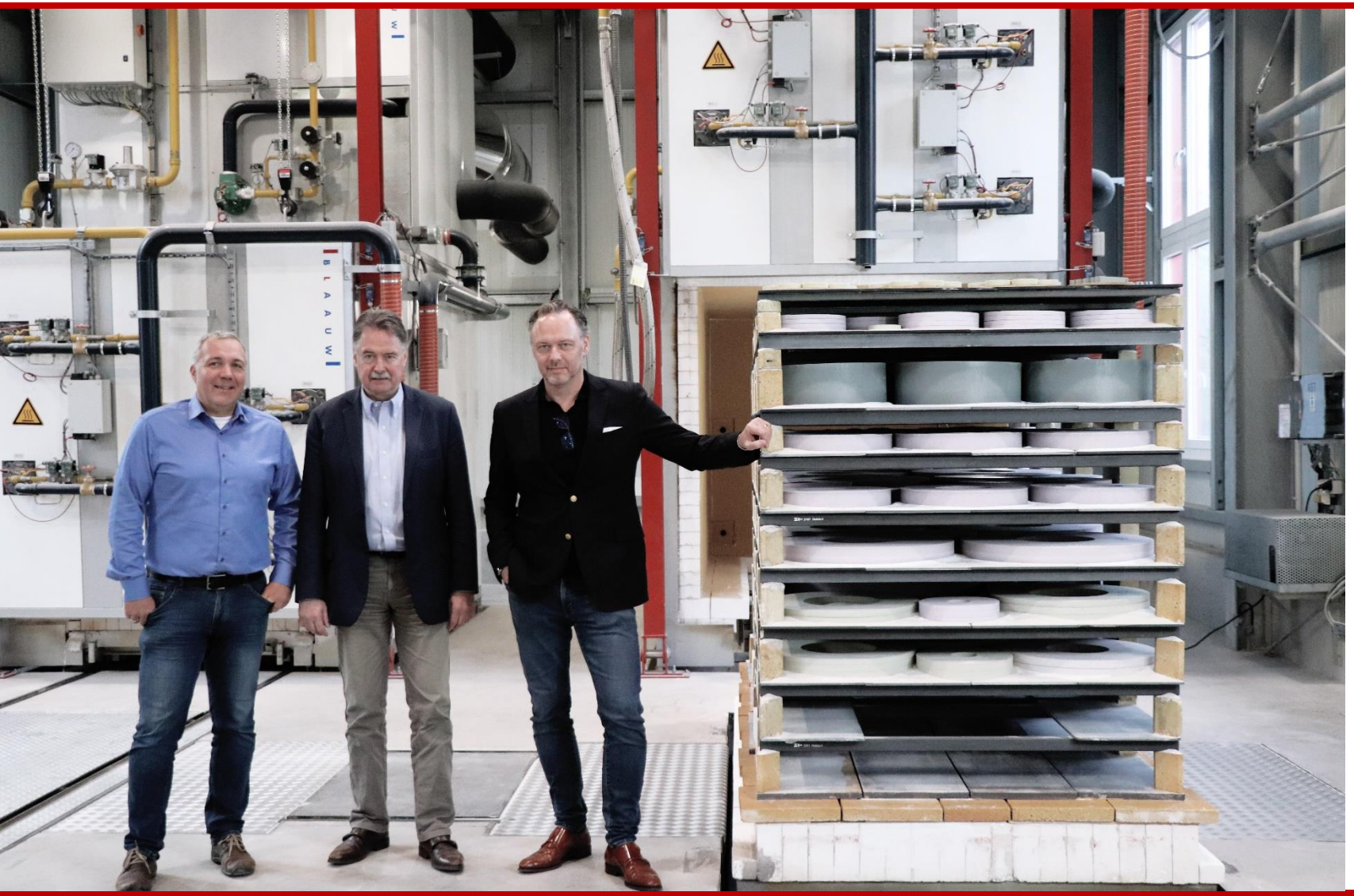
EMAS

TÜV SÜD ISO 9001

INNOVATIV DURCH FORSCHUNG

MADE IN GERMANY

Owner-managed family business



About

- 1895 in Bad Karlshafen, Germany
- By Carl Krebs
- 250 employees
- 12 apprentices

Management

- Diplom Volkswirt Florian Riedel
- Dr. Ingo Kuhl

Goals

- Growth
- Internationalisation
- Expanding scope

KREBS & RIEDEL stands for…

Innovative grinding technology since 1895

- Specialisation on bespoke grinding solutions
- Servicing highest customer requirements
- Reproduceable and homogenous quality
- Fast delivery times and adherence to schedules
- Excellent application engineering support worldwide
- Made in Germany
- Innovation leadership
- Close cooperation with machine manufacturers, universities and research institutions
- Continuous learning and training of grinding skills together with our customers

Milestones

Innovative grinding technology since 1895

- 1895: Production of vitrified grinding tools started by Carl Krebs
- 1932: Buy-in of Walter Riedel – since then it is Krebs & Riedel
- 1933: Introduction of resin-bonded grinding tools
- 1950: New company HQ was built
- 1985: Start of production of CBN and DIA grinding tools
- 1995: Certification to ISO 9001 standard
- 1997: R&D department opened
- 2000: Founding member of the oSa
- 2014: New office in Shanghai, China
- 2015: 100% naphthalene free products

Milestones

Innovative grinding technology since 1895

- 2015: Lowest specific CO^2 emissions in the industry
- 2019: Major expansion of our production facility in Bad Karlshafen
- 2019: Photovoltaic system installed, 70.000 kWh per year
- 2020: New office in Bengaluru, India
- 2020: 125 years of Krebs & Riedel
- 2021: Production of PU grinding and polishing tools
- 2022: New representative office in Tokyo, Japan
- 2022: Certification EMAS environmental management
- 2023: Joint Venture Proteus Abrasives, Hongkong
- 2024: Setup finishing plant, China

Highlights

Export 48%

Sales EUR 35 million

subsidiary companies in China & India

> 30 partners worldwide with local contacts

KREBS & RIEDEL

KREBS & RIEDEL is one of the world's leading manufacturers of modern grinding tools.

The product range includes conventional grinding wheels, cutting wheels, cup wheels and grinding segments with vitrified or synthetic resin bonds as well as vitrified bonded CBN and diamond tools.

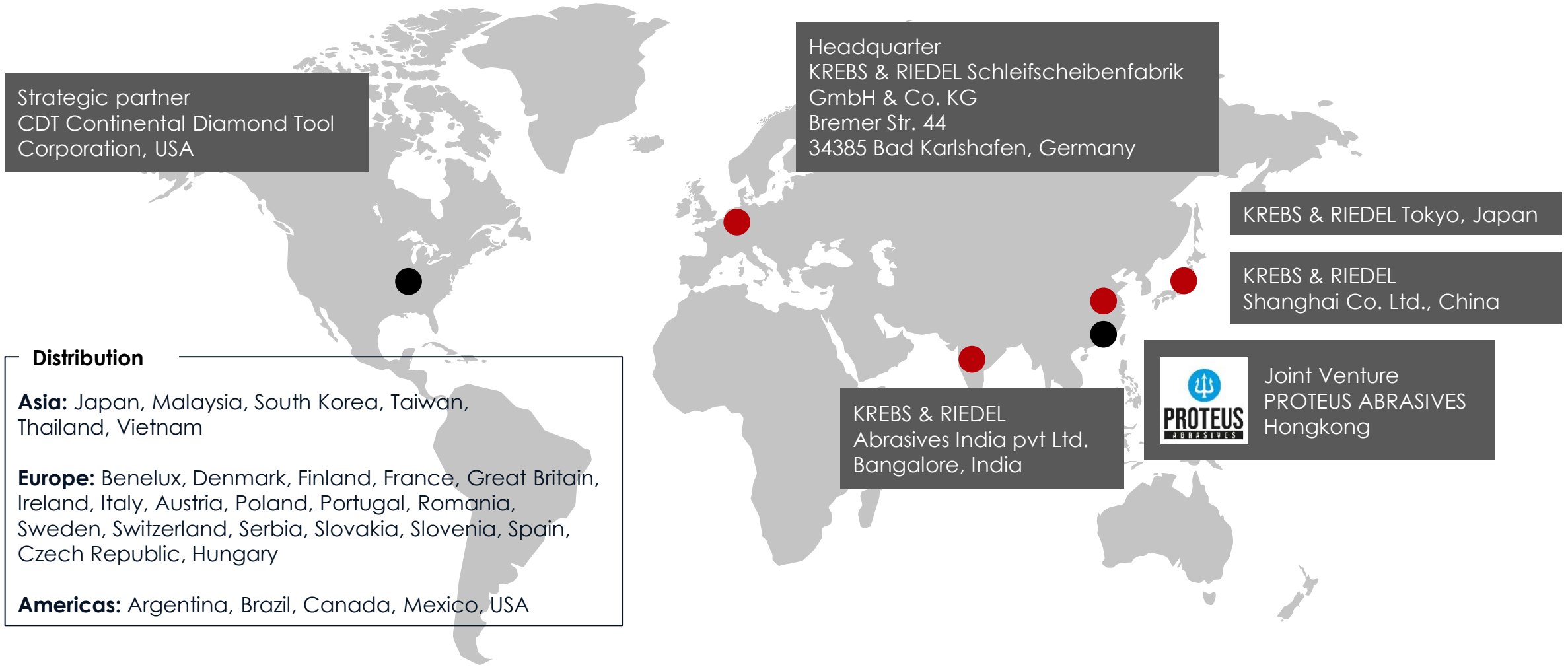
KREBS & RIEDEL products are used worldwide.

645 raw materials

25,000 formulas

140,000 products

KREBS & RIEDEL is successful worldwide



Strategic partner
CDT Continental Diamond Tool Corporation, USA

Headquarter
KREBS & RIEDEL Schleifscheibenfabrik GmbH & Co. KG
Bremer Str. 44
34385 Bad Karlshafen, Germany

KREBS & RIEDEL Tokyo, Japan

KREBS & RIEDEL
Shanghai Co. Ltd., China

KREBS & RIEDEL
Abrasives India pvt Ltd.
Bangalore, India

Joint Venture
PROTEUS ABRASIVES
Hongkong

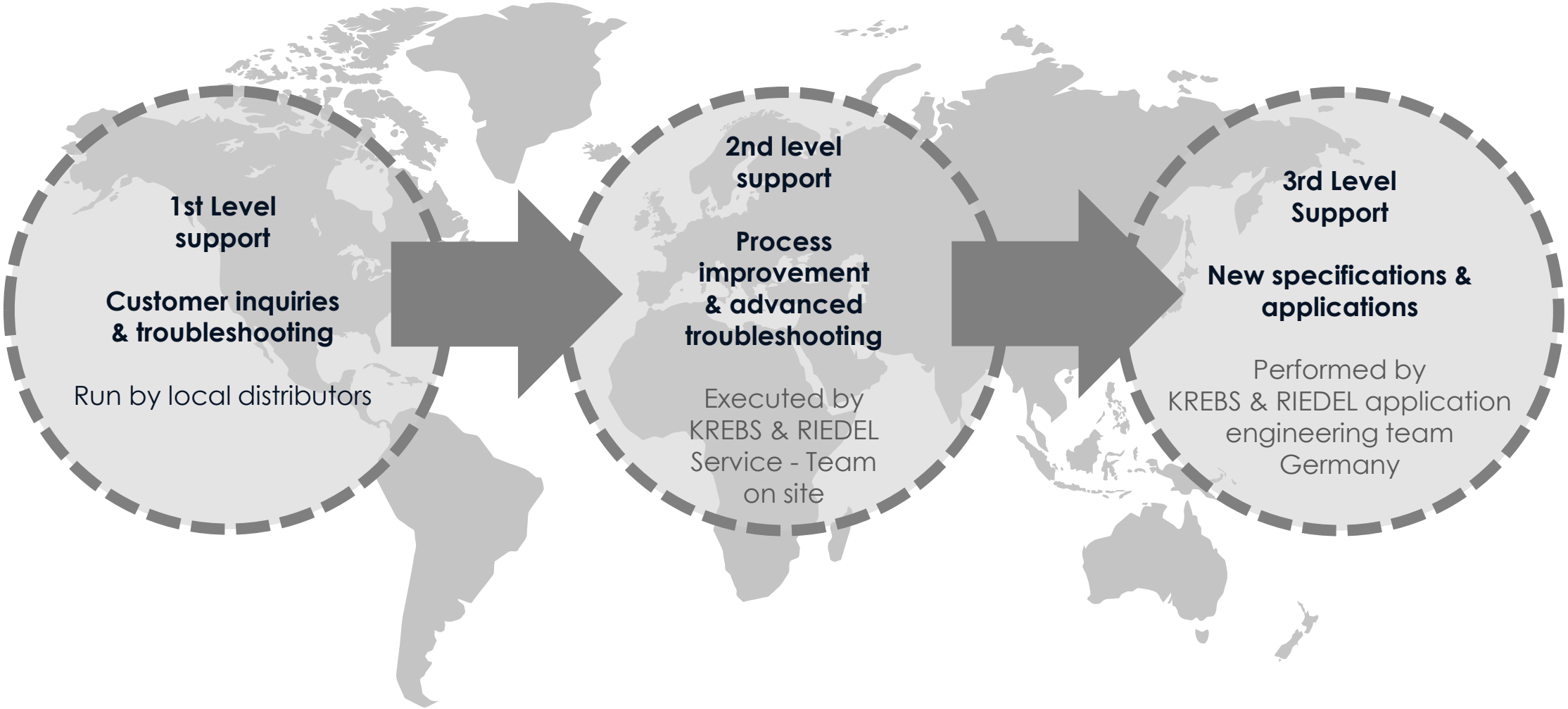
Distribution

Asia: Japan, Malaysia, South Korea, Taiwan, Thailand, Vietnam

Europe: Benelux, Denmark, Finland, France, Great Britain, Ireland, Italy, Austria, Poland, Portugal, Romania, Sweden, Switzerland, Serbia, Slovakia, Slovenia, Spain, Czech Republic, Hungary

Americas: Argentina, Brazil, Canada, Mexico, USA

Three tier support system



Excellence in technology support

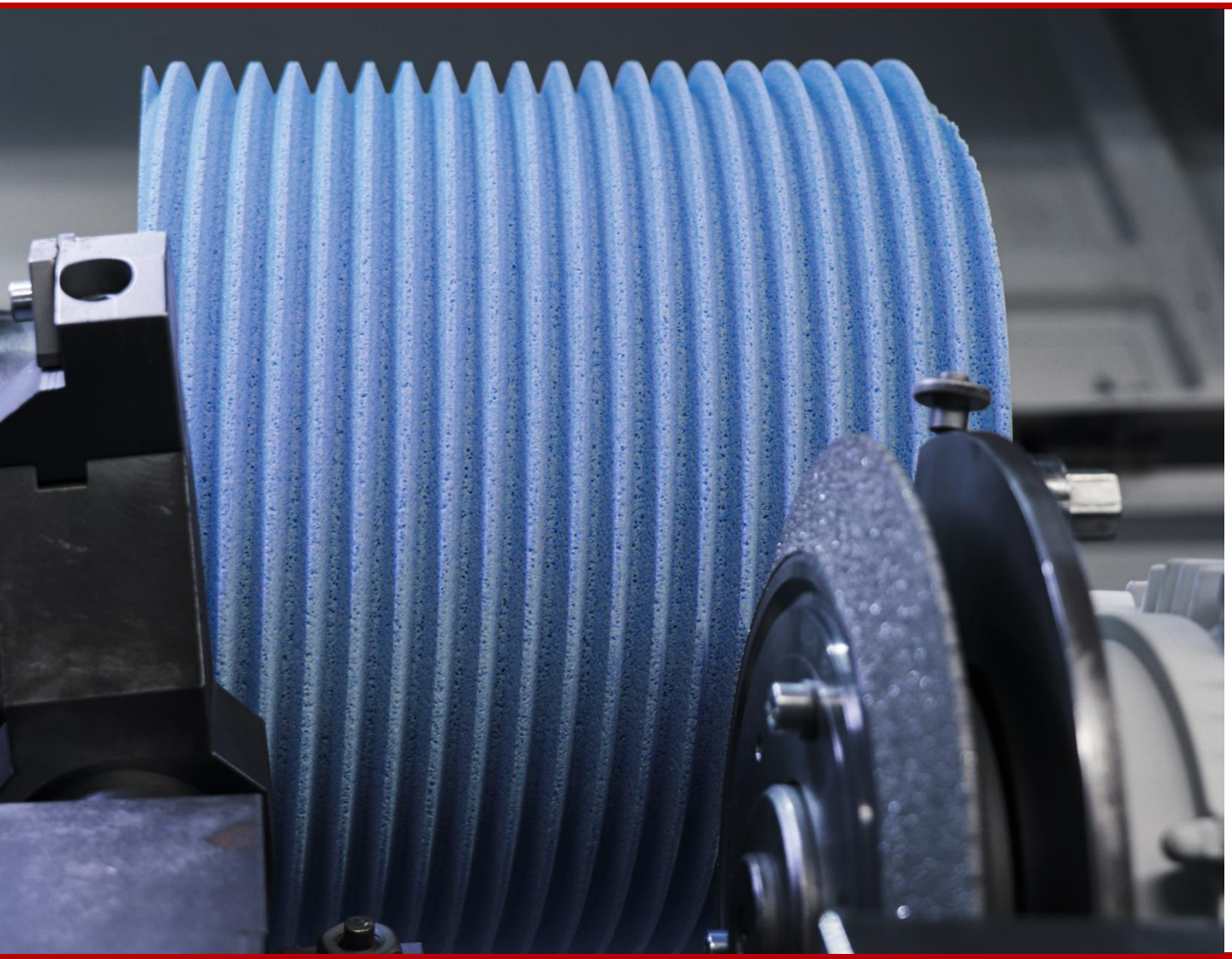
Application engineering support

- Process analysis
- Bespoke grinding wheel recommendation
- Test and optimisation on-site

Technical customer support

- On-site technical support
- Basic & special training courses in grinding and dressing technology
- Customer specific on-site workshops

Consistent & high product quality



Consistant quality

- Defined and bespoke solutions
- Permanent monitoring of firing cycles
- ISO-9001 certified quality management system
- oSa-certified production system

High product quality

- Best raw materials
- Own developement of bonds through R&D
- Bespoke qualities
- State-of-the-art production equipment

Management-System

Quality-Management-System

- ISO-9001 quality management system
- Continuous improvement process (CIP)
- Testing according to DIN EN 12413 and DIN EN 13236
- Founding member of oSa

Environmental-Management-System

- EMAS environmental management system
- Supply chain management according to due diligence obligations in supply chains

Training and further education

- Safety trainings and drills
- Employee training and qualification

Sustainable corporate development

Sustainability-Management-System

- We are a multi-generational family company - Sustainability is in our DNA
- EMAS environmental management system
- We source responsible
- We produce efficiently and we reduce waste
- We behave in an appreciative and respectful manner
- We care for our community
- We always strive for a better solution

5
EV-CHARGING STATIONS

70.000
kWh ANNUAL ELECTRICITY PRODUCTION

100 %
NAPHTALINE FREE PRODUCTS SINCE 2015

91 %
OF OUR WASTE GETS RECYCLED

21.094
SQM SEALED AREA

27.450
SQM NATURAL AREA

400
SQM PHOTOVOLTAIC PANEL-SYSTEM

Innovative through R&D

ARBEITSKREIS SCHLEIFTECHNIK

FORSCHUNGSGEM. SCHLEIFTECHNIK

FRAUNHOFER INSTITUTES

WZL GEAR RESEARCH CIRCLE MEMBER

SAE INTERNATIONAL

GERMAN AEROSPACE CENTER

AGMA MEMBER

Innovative through

- Strong team in R&D
- Modern test field
- Own R&D grinding machines
- Development of own grain- and bonding systems
- Optimisation of production processes

Cooperation with

- Research institutes
- Universities
- Customers
- Machine manufacturers

Mechanics need precise components – close tolerances by innovative grinding technology

WIND ENERGY

HEV/PHEV, EV, ICE

MACHINERY GEAR

POWER & PROPULSION

HEAVY MACHINERY

MARINE INDUSTRY

MINING, OIL & GAS

MEDICAL TECHNOLOGY

E-DRIVE TECHNOLOGY

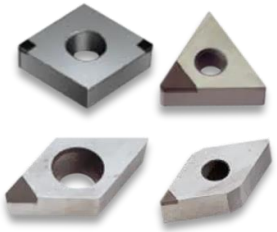
FOOD INDUSTRY

Highest surface quality with advanced grinding technology

ICE POWERTRAIN COMPONENTS

PROSTHESES & IMPLANTS

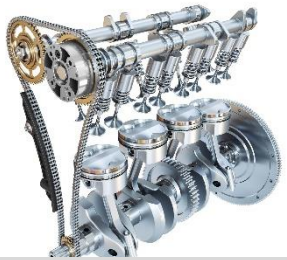
ROLLER BEARINGS



SUPERHARD MATERIALS

TOOL & MOLD PRODUCTION

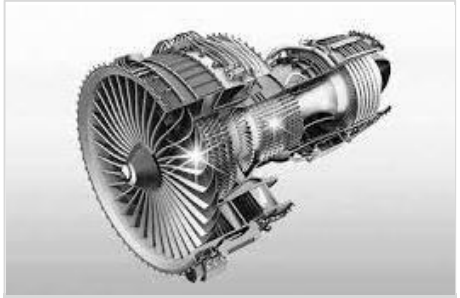
ROLLS



COMBUSTION ENGINES

INJECTION TECHNOLOGY

BLADES & CUTTING TOOLS



TURBINE BLADES

KREBS & RIEDEL offers a wide range of solutions

GRINDING WHEELS

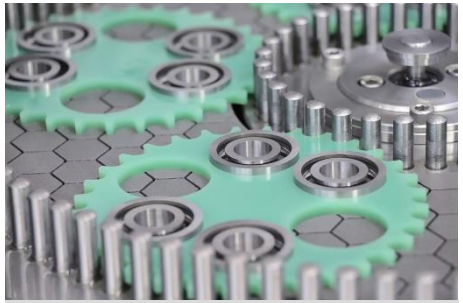
GEAR GRINDING WHEELS

CBN & DIA SUPERABRASIVES

CUTTING DISCS & WHEELS

CUPS & RINGS

FINISHING & POLISHING



DOUBLE DISC GRINDING

SHARPENING RINGS

SEGMENTS

SPECIAL SOLUTIONS

Conventional vitrified grinding tools

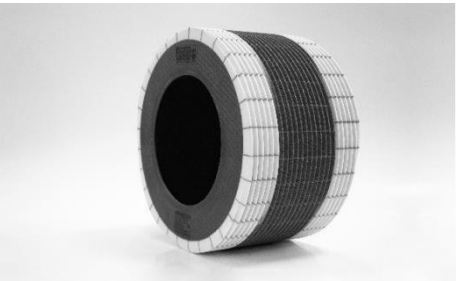
Vitrified bond

- ⌀ 30 up to 915 mm
- Grinding wheels, grinding worms, segments, cups, rings, cut-off wheels, sharpening rings
- Speeds up to 80 m/s
- Grit size F16 - F500
- Aluminum oxide, ceramic grain, silicon carbide, special blends
- Natural and induced porosity

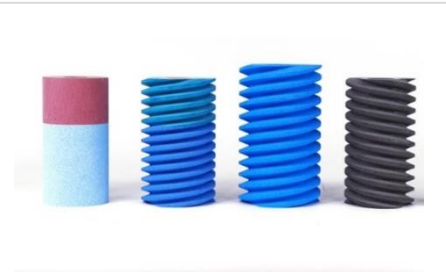
Gear and transmission parts grinding

WORM WHEELS

COMPOSITE WORM WHEELS

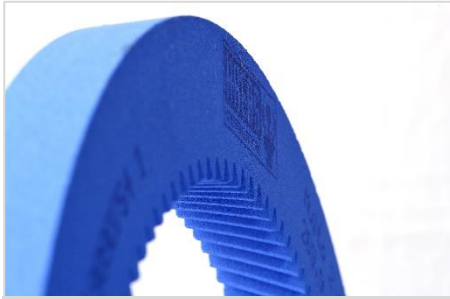


CBN COMPOSITE WORM WHEELS



WORM WHEELS FOR INTERFERING CONTOURS

BEVEL GEAR GRINDING WHEELS



POWER HONING RINGS

PROFILE GRINDING WHEELS

ID GRINDING APPLICATION

GEAR SHAFTS CBN

GEAR SHAFTS CONVENTIONAL

Grinding cups and rings

Resinoid and vitrified bond

- Grinding rings ⌀ from 125 mm up to 450 mm
- Grinding cups ⌀ 50 mm up to 180 mm
- Bevel gear grinding ⌀ 105 mm up to 555 mm
- Other dimensions on request
- For wet and dry grinding
- Grit size F36 - F400
- Aluminum oxide, silicon carbide, ceramic grain, special blends

Applications

- Bevel gear grinding
- Tool and die grinding
- Grinding of engraving and milling gravers
- Grinding of milling cutters, drills and broaches
- Grinding and sharpening of knives and blades (straight and round)

Grinding segments

Resinoid and vitrified bond

- Wide variety of forms
- Rectangular, straight, trapezoidal, curved, half-round and high-round
- Special shapes upon request
- Grit sizes from F24 up to F500
- Aluminum oxide, silicon carbide, ceramic grain, special blends

Applications

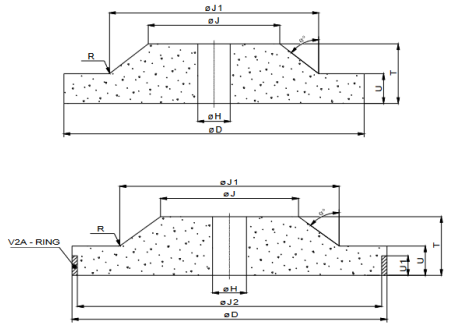
- Surface grinding and large flat surfaces
- Straight knife grinding

Materials

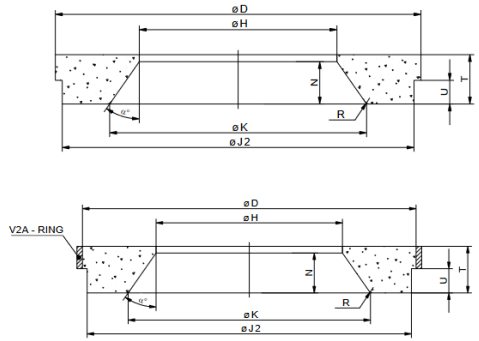
- Hardened and Unhardened steels
- High-alloy steel
- Stainless steel
- Non-ferrous metals (bronze, aluminum, brass)

Milling stones

Rotor disc type I & II



Stator disc type I & II



Details

- Rotor ⌀ 60 mm up to 320 mm
- Stator ⌀ 65 mm up to 330 mm
- Aluminumoxide
- Other dimensions on request
- Grit size F16 - F120

Applications

- Mustard
- Tahina
- Nut and seed pastes
- Cocoa nibs
- Soft gel fillings
- Pigment slurries
- Agrochemicals

FOOD SAFE

Super abrasive grinding tools

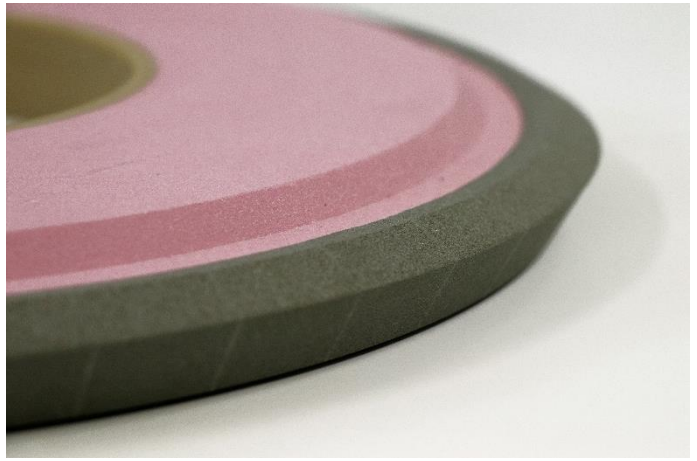
CBN & DIA in vitrified bond

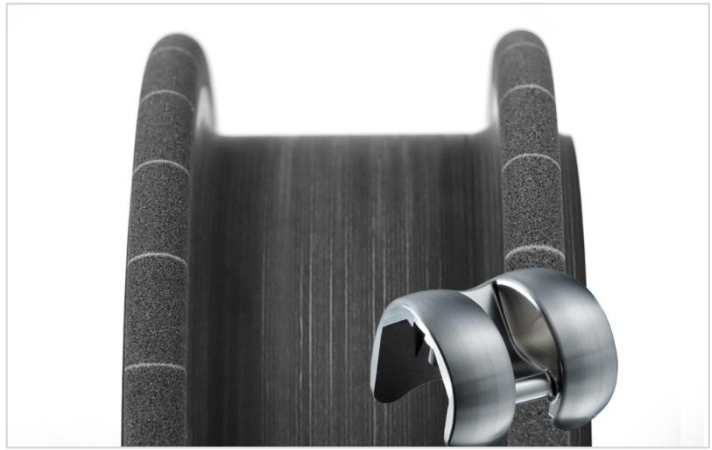
- ⌀ 2,5 up to 900 mm
- Grinding wheels, ID grinding tools, grinding worms, plate wheels, grinding cups
- Speeds up to 150 m/s
- Macro grits 46 – 251 µm
- Micro grits 10 – 33 µm
- Multi-layer grinding segments
- Carriers: Ceramic, aluminum, steel, carbon

Applications

- Cylindrical grinding
- Surface grinding
- Creep feed / Deep grinding
- Profile grinding
- Roll grinding
- Non-round grinding

Super abrasive grinding tools





ID bore and jig grinding wheels

CBN & DIA

- Macro grits 46 – 251 µm
- Micro grits 10 – 33 µm

Vitrified bond

- CBN: V81, V111, V112, V116, V117
- DIA: V83, V121, V122, V126, V127

Applications

- Internal cylindrical longitudinal grinding
- Bore grinding
- Jig grinding
- Polygon grinding

Double disc grinding

System supplier

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

- Double disc grinding wheels from ⌀ 270 - 1500 mm
- Macro grits 46 – 251 µm
- Micro grits 10 – 33 µm
- Sharpening rings, AL2O3 white, AL2O3 pink and SiC
- ⌀ 100 mm to 600 mm; F80 to F600
- Delivery from stock possible
- Two-layer version practicable

Cut-off wheels

Resinoid Bond

- ⌀ 50 mm up to 800 mm, (fiber reinforced ⌀ 300 mm up to 600 mm)
- Width from 0,4 mm
- Grit size F12 – F500
- Speeds up to 80 m/s, (fiber reinforced 100 m/s)
- Aluminum oxide, ceramic grain, silicon carbide, special blends
- With depressed or straight centers
- For dry and wet grinding

Applications

- Tool cutting
- Linear guides and low tolerance grooves
- Castings polluted with sand or ore
- Removal of risers and gates
- Cutting turbine blades
- Cutting engine valve systems
- Cutting high alloy parts
- Laboratory cut-off wheels

Rough grinding wheels

Resinoid Bond

- ⌀ 50 mm up to 915 mm, (fiber reinforced ⌀ from 300 mm to 600 mm)
- Width 50 mm up to 100 mm, (fiber reinforced from 20 mm to 80 mm
- Grit size starting at F12
- Aluminum oxide, silicon carbide, zirconia alumina
- Speeds up to 63 m/s, (fiber reinforced 80 m/s)

Applications

- On hand-operated machines straight / bi-conical
- Floor stand grinders
- Swing frame grinding machines
- Bench grinders
- Grinding manipulators (Andromat)
- Floor stand grinders

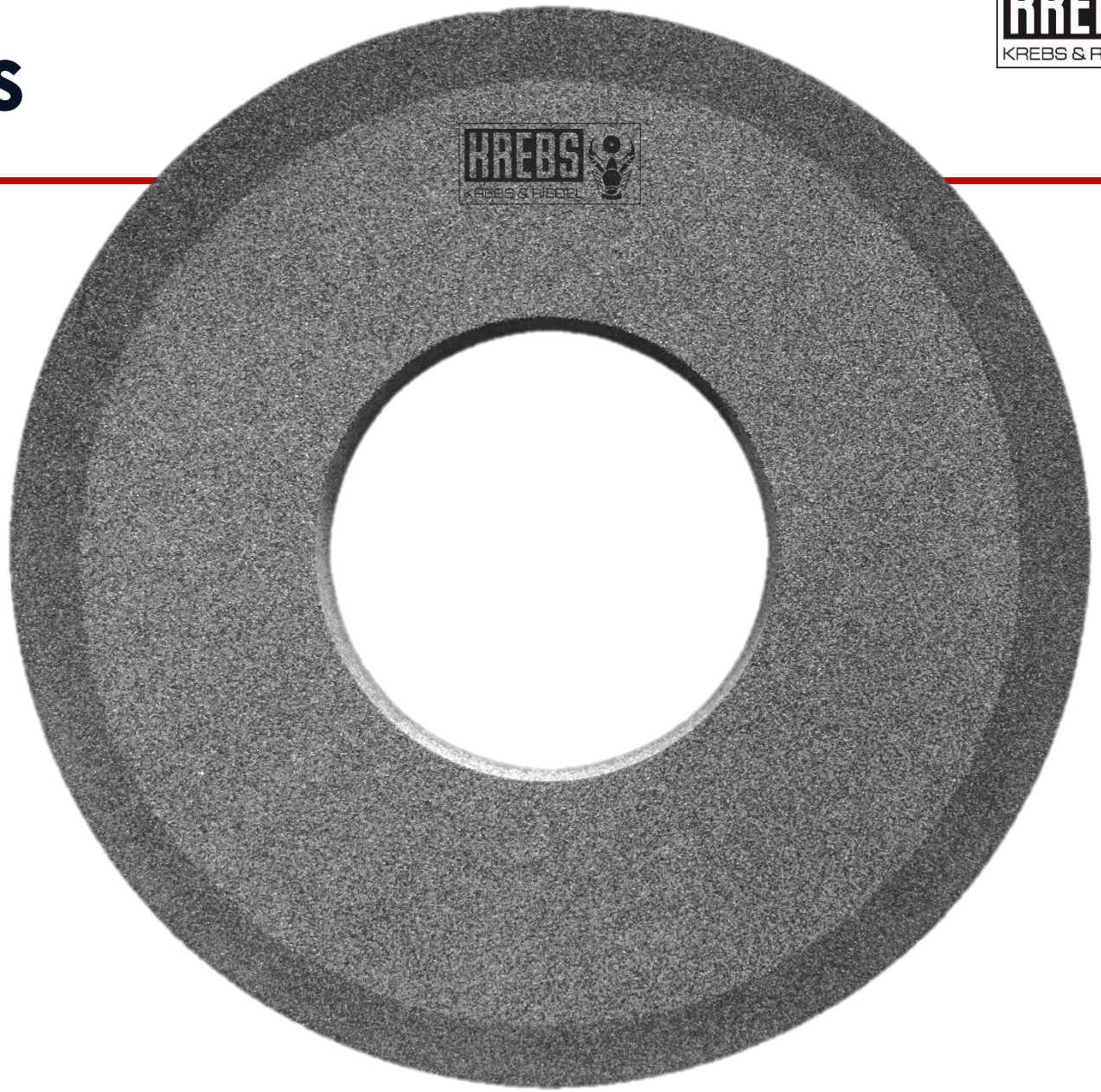
Roll grinding wheels

Resinoid bond and vitrified bond

- ⌀ up to 915 mm
- Conventional abrasives grit size F24 – F180
- Superabrasives macro grits 46 – 251 µm
- Superabrasives micro grits 10 – 33 µm
- Other dimensions on request
- Aluminum oxide, ceramic grain, silicon carbide, special blends
- Working speeds up to 63 m/s

Applications

- Hot working rolls
- Cold working rolls
- Backup rolls
- Paper rolls
- Printing rolls
- Profile grinding of corrugating rolls



Fine grinding & polishing tools

Polyurethane bond

- ⌀ up to 800 mm
- Wheels, rings, ID tools
- Silicon carbide, aluminum oxide
  - Grit size F180 - F1500
- DIA & CBN
  - Grit size 1 - 46 µm

Applications

- Polishing of gears
- Tool polishing
- Knife and blade polishing
- Glass and ceramic processing
- Metallographic smaple preparation
- Watches

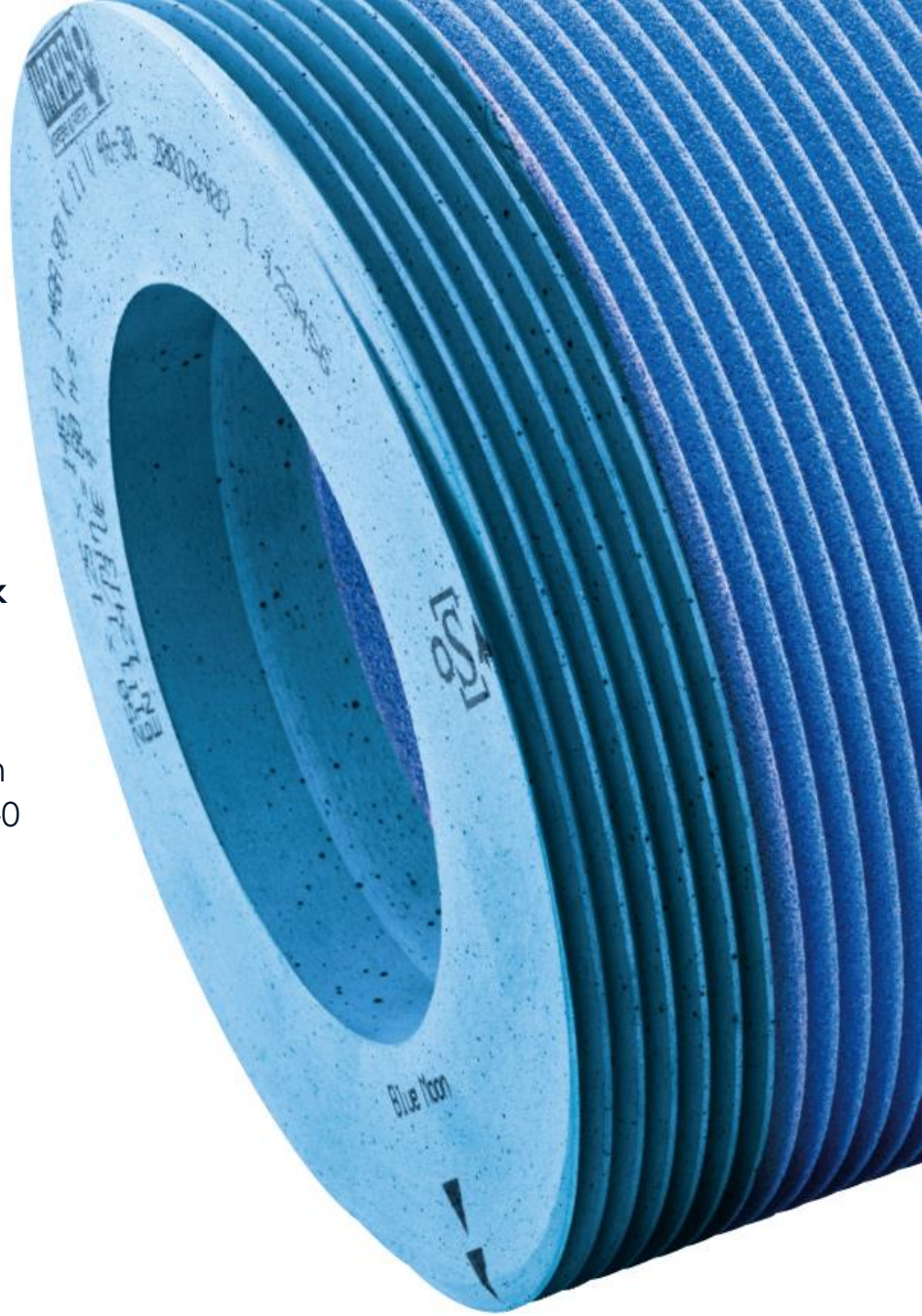
Mobile dressing spindle

For vitrified CBN and DIA grinding wheels

- For machines without rotating dressing device
- Wide speed range
- Speed detection with readjustment
- Left & right rotation
- Easy to use
- Quick installation

KREBS & RIEDEL

Schleifscheibenfabrik GmbH & Co. KG



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