



**ABRASIVES SOLUTIONS
FOR BEARING INDUSTRY**

Materializing the focus on 3E - Energy, Engineering & Environment by continuously improving our products and processes

At CUMI, our vision of "Making Materials Matter" drives our commitment to creating impactful material science solutions that enhance millions of lives across diverse industries. Our research and product design focus on sustainability—achieving more with less, extending product life cycles, improving efficiencies, reducing costs, and minimizing environmental impact.

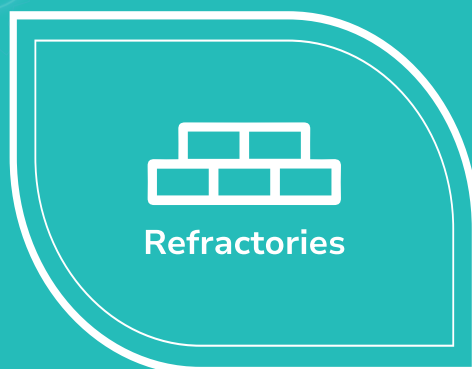
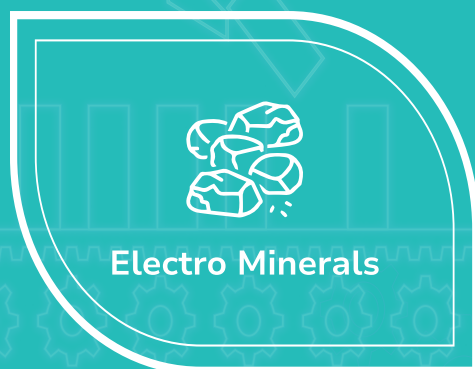


History of CUMI

Carborundum Universal Limited (CUMI), founded in 1954 and part of the Murugappa Group, is a global leader in materials science and engineering. Rooted in India, CUMI combines a deep understanding of both domestic and global markets. From mining to manufacturing, the company delivers integrated solutions in abrasives, ceramics, electro minerals, refractories, and energy storage. With over 5,500 employees and a presence across six continents, CUMI proudly exports to over 50 countries, serving diverse industries, including automotive, steel, power, and aerospace.



Verticals of CUMI



Presence in
06
Continents

Over
10,000
Stock-Keeping Units

Sold in over
50
Countries

04
Business
Verticals

2nd Largest
producer of Silicon
Carbide worldwide

One of the Largest
producers of the
full range of
Electrominerals
worldwide

One of the
Market Leaders in
abrasives, in India
and Russia

World's
2nd Largest
player in metallised
cylinders

07

Decades in
Business

10,000+

Stock-Keeping Units

40+

Presence in
Countries

Over
1 Million+

Happy Clients

DSIR

Certified
R&D centres

ISO

Certified
Mfg. Locations

CUMI Abrasives

With over 70 years of experience and a global reach, we're committed to building strong customer relationships. We measure our success by how well we help your business grow, and we're here to provide the best abrasive solutions with top-tier service. By understanding your challenges, we create solutions that fit your specific needs. Through value chain integration, CUMI has developed into a company that oversees the entire process from material-to-delivery.



Global Presence

"CUMI's global expansion drives innovation across industries, no matter the geography!"



Manufacturing Facility
 Marketing Office

Strategic Business Units
 Subs via CIL (CUMI International Limited)
 Direct Subs

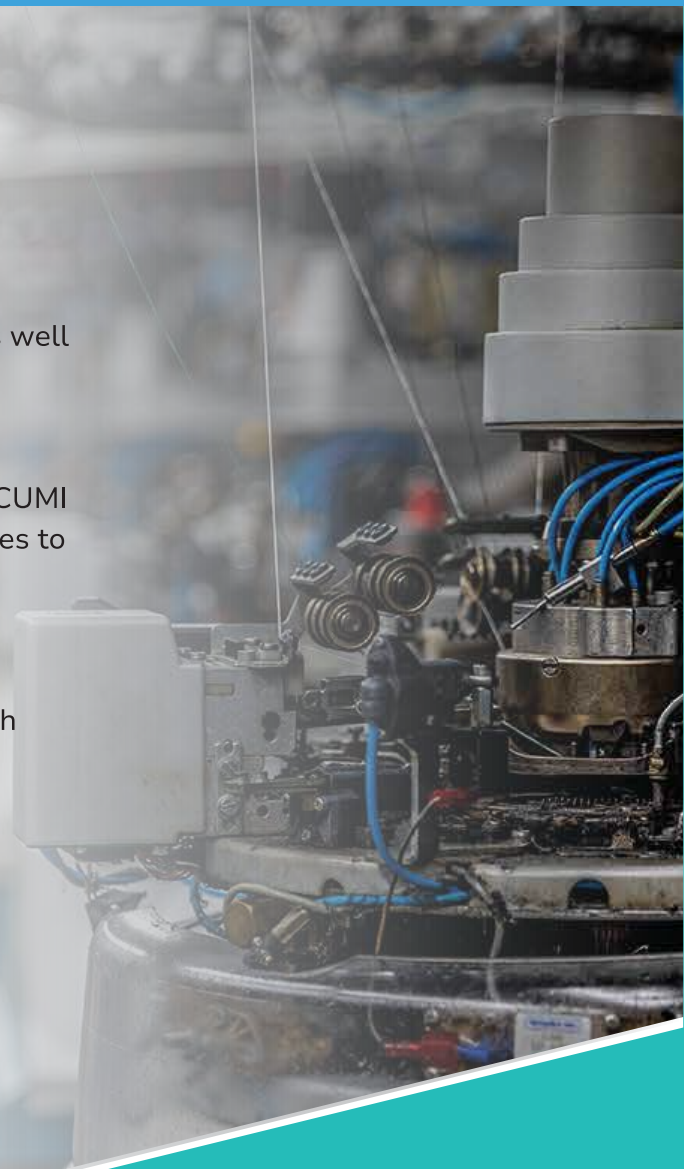
JVs
 ASSOCIATES

CUMI'S Manufacturing capabilities and R&D

CUMI Abrasives operates ten advanced manufacturing facilities in strategic locations such as Sriperumbudur, Thiruvottriyur, Maraimalainagar, Roorkee, and Hosur, as well as globally. This extensive footprint enables a deep understanding of domestic and international markets, ensuring high-quality, tailored solutions. With a comprehensive range of bonded and coated abrasives, CUMI integrates advanced technology and innovative processes to deliver unmatched precision and reliability.

Its Surface Technology center drives innovation through precision grinding simulations, rapid prototyping, and real-time testing, ensuring first-time-right solutions with exceptional accuracy and efficiency.

CUMI's commitment to excellence in manufacturing, combined with continuous investment in research and development, positions the company as a leader in the global abrasives market.



We Promise Quality



Integrated Grinding Solutions

Grinding Wheels

CUMI offers a diverse range of Grinding Wheels for each application.



Metal Working Fluids

CUMI offers a diverse range of Grinding Solutions tailored for Bearing Applications. CUMI solutions are engineered to reduce tool wear, enhance surface finish quality, and provide lower CPC.



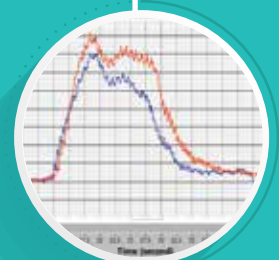
Diamond Dressers

High-performance diamond dressers deliver precise contouring and efficient dressing for optimal surface quality in the bearing industry.



Process Optimization

As a part of Integrated Grinding Solutions for Bearing Industries CUMI also provides Services in terms of Process optimisation and monitoring the health of Grinding process



RINGS

Outer Ring



Inner Ring





CUMI Face Grinding Wheels

Benefits



Free Cutting Action



More Parts/Dressing



Better OEE

Diameter Range

100-800 mm

Grit Range

60 - 100

Hardness Range

H - N

Wheel Speed

33, 45 m/s

Bonds

Resinoid



CUMI F-Type wheels, with advanced grain-bond technology, provide free cutting action, more parts per dressing, and better OEE. They deliver exceptional performance in high feed rate and material removal applications, ensuring precise tolerances, controlled heat, superior finishes, and enhanced cutting efficiency.

Common Machines: Gardner, Diskus, Lidkoping, Hanbee

GOOD

DA80 N7 B14F
(DGBB)

A80 M7 BRT
(TRB)

BETTER

AA80 B14F
(DGBB)

DA46 H5 B14F
(TRB - Small face)

DA60 L5 B14F
(TRB - Large face)

A60 K/L B1190
(Taper roller)

BEST

55A80 N7 BRT
(DGBB)

55A46 H5 BRT
(TRB - Small face)

55A60 L5 BRT
(TRB - Large face)



CUMI Centerless Grinding Wheels

Benefits



Higher Stock Removal



Higher Through Feed Rate



Better Geometry Control & Better OEE

Diameter Range

350-610 mm

Grit Range

46-60 (Rough)

60-80 (Semi Finish)

80 & above (Finish)

Hardness Range

I to M

Wheel Speed

33 to 60 m/s

Bonds

Vitrified



CUMI centerless grinding wheels, with premium abrasive grains and specially designed vitrified, resin, and rubber bond systems, offer higher stock removal per pass, increased through-feed rate, better geometry control, and improved OEE for optimal performance in through-feed, end-feed, and in-feed processes.

Common Machines: Cincinnati, Lidkoping, WMW, Mikrosa, Micron





CUMI Track Grinding Wheels



Benefits



Wheel Speeds up to
100 MPS



More Parts
Dressing



Superior Surface
Finish

Diameter Range

350-610 mm

Grit Range

80 to 120

Hardness Range

I – L for TRB
J-L for Ball brg

Wheel Speed

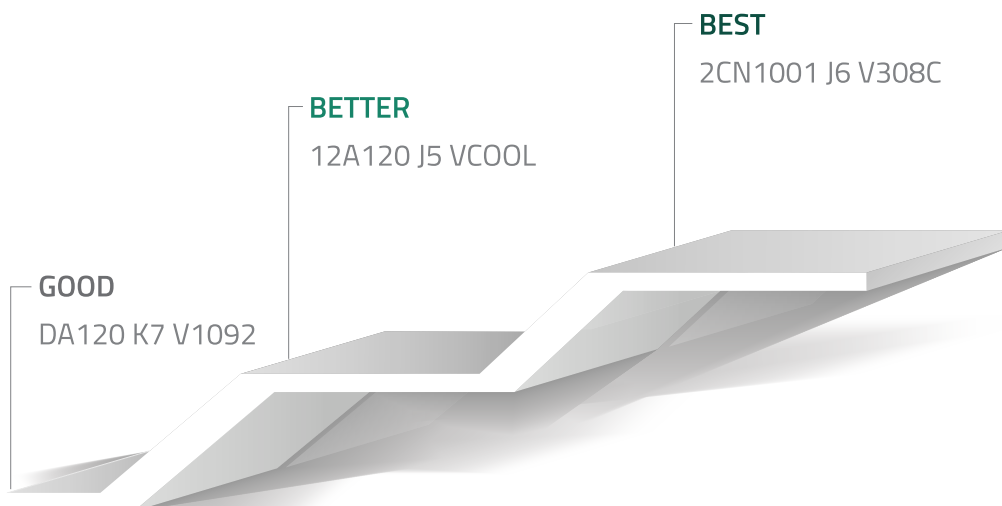
45 to 80 m/s

Bonds

Vitrified

CUMI Track Grinding Wheels are crafted with a specialized fusible glassy bond and sharp abrasive grains, ensuring exceptional form retention and efficient material removal in high-contact applications. The advanced manufacturing process guarantees consistent hardness, delivering reliable performance and safety throughout the wheel's lifespan.

Common Machines: Izumi, Cincinatti, Nova



CUMI Internal Grinding Wheels



Benefits



Lower Grinding
Cost



Visual Finish
Better



Lower Cycle
Time

Diameter Range

10-110 mm

Grit Range

80 to 120

Hardness Range

J to M

Wheel Speed

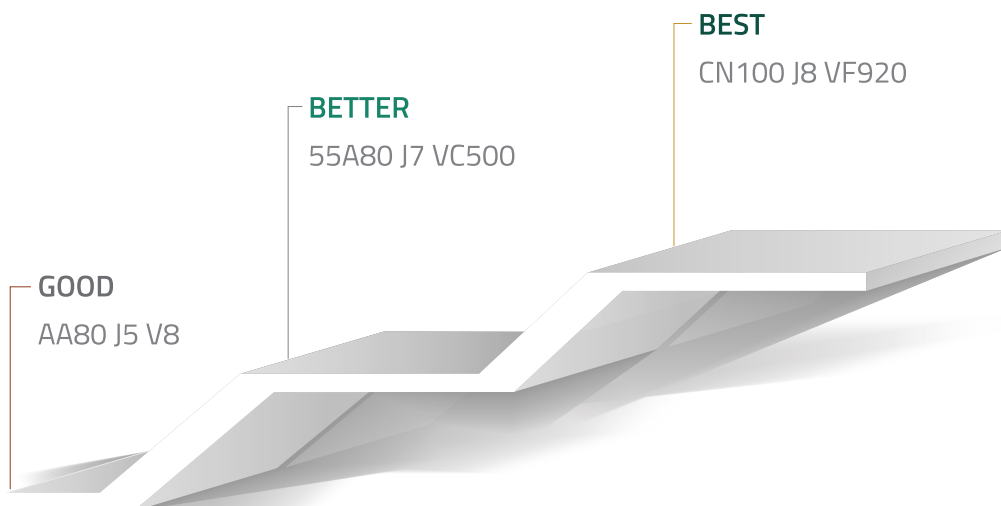
60-80 m/s

Bonds

Vitrified

CUMI Internal Grinding Wheels are precision-engineered for critical bearing manufacturing, tackling challenges like glazing, rubbing, and reduced grain fracturing while addressing taper, chatter, size variation, and surface finish issues to ensure consistent and superior performance.

Common Machines: Jung, Izumi, Bryant, Nova



CUMI Track Grinding Wheels



Benefits



Lower Grinding
Cost



Better Size
Control



Lower Cycle
Time

Diameter Range

10-150 mm

Grit Range

80 to 120

Hardness Range

J to M

Wheel Speed

45 to 80 m/s

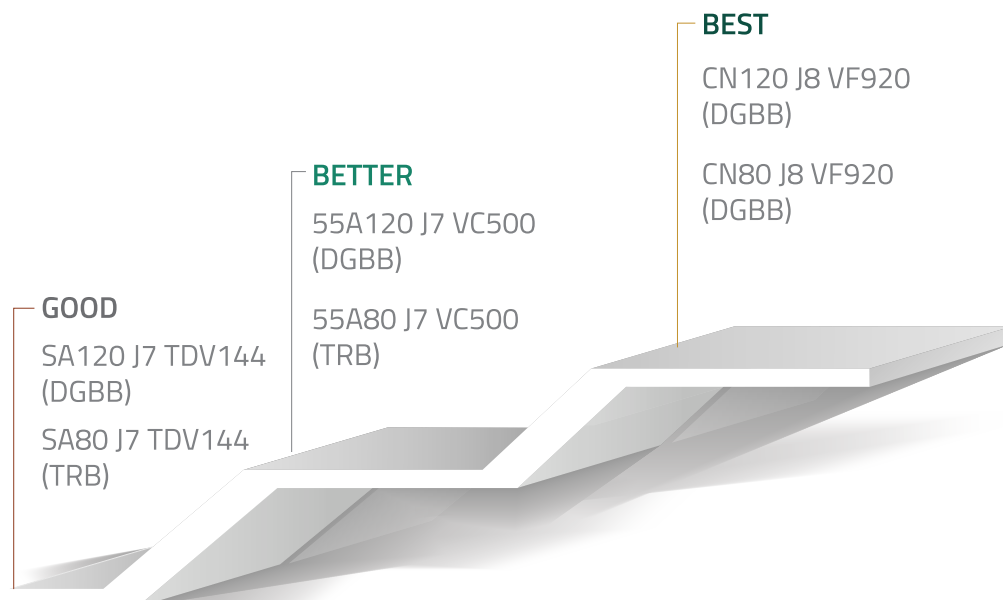
Bonds

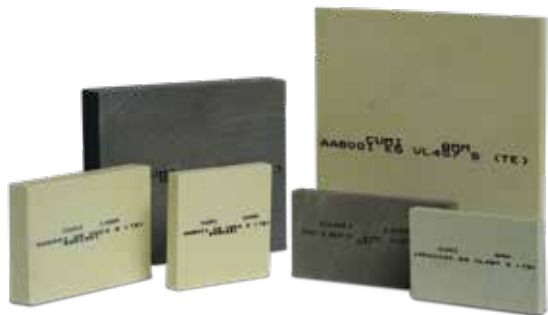
Vitrified



CUMI Track Grinding Wheels are optimized for efficient material removal in outer race track grinding, using straight or angular plunge grinding based on ring type, while maintaining high-quality standards and enhancing wheel life.

Common Machines: Jung, Izumi, Bryant, Nova





Super Finishing

Benefits



Better
Size Control



Lower
Cycle Time

Diameter Range

25-150 L
5-150 W
5-20 Thickness

Grit Range

600-1200

Hardness Range

E to J

Bonds

Vitrified



CUMI Super Finishing Stones are designed to achieve surface finishes of (less than $0.02 \mu\text{m}$). Available in square, rectangular, or custom shapes, they are used in 2 to 3 stages. Roughing is done with Aluminium Oxide (Al_2O_3) stones (grit size – 800, 1000) followed by finishing with Silicon Carbide (SiC) stones (grit sizes 800, 1000, 1200).

BETTER

Roughing - AA
Finishing - CGC

BEST

Roughing - MCA
Finishing - MCA



ROLLERS

Taper Roller Bearing



Cylindrical Roller Bearing



Spherical Roller Bearing





CUMI Centerless Grinding Wheels

Benefits



Higher Stock Removal



Higher Through Feed Rate



Better Geometry Control & Better OEE

Diameter Range

350-610 mm

Grit Range

60 (Roughing)
60-80 (Semi Finishing)
80 & above (Finishing)

Hardness Range

I to M

Wheel Speed

33 to 60 m/s

Bonds

Rubber/Resin



CUMI's OD and Centerless grinding wheels ensure precise geometry, superior surface finish, and uniform wear, delivering exceptional performance in through-feed, end-feed, and in-feed applications tailored to stringent bearing industry standards.

Common Machines: Cincinnati, Lidkoping, Mikrosa, Micron, Nissin

GOOD

A80 L RT1/DA80 K5
V2020 (OD Roughing)
A80 L RT1
(OD Semi Finishing)
A100 M RT1
(OD Finishing)

BETTER

A80 L RT30
(OD Roughing)
A80 L RT30
(OD Semi Finishing)
A100 M RT30/DA100 K5
V202 (OD Finishing)

BEST

53MA80 L7 B600/45
(OD Roughing)
53MA80 L7 B600/45
(OD Semi Finishing)
65MA100 M RT1/45
(OD Finishing)

CUMI Face Grinding Wheels



Benefits



High Profile
Accuracy



Form Retention



Better Surface Finish
and Geometry

Diameter Range

150 - 350 mm

Grit Range

150, 280, 320

Hardness Range

P

Wheel Speed

33, 45 m/s

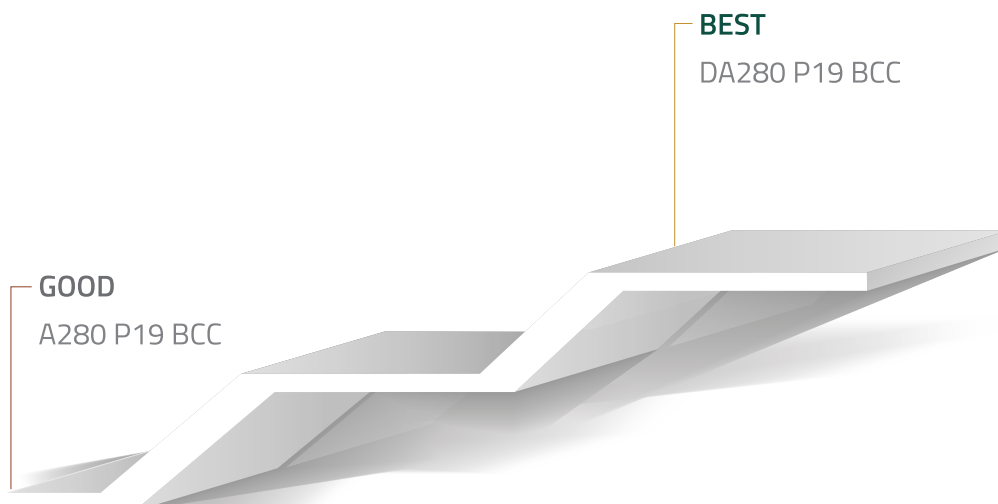
Bonds

Resinoid



CUMI's face grinding wheels for taper roller bearings provide high stock removal, tight size tolerances, and fine surface finishes while effectively managing heat dissipation, resulting in excellent performance in demanding bearing industries.

Common Machines: Modler, Seibu



FACE GRINDING (BOTH CYLINDRICAL & SPHERICAL ROLLER BEARING)



CUMI Face Grinding Wheels



Benefits



Higher Stock Removal



Higher Through Feed Rate



Better Geometry Control & Better OEE

Diameter Range

355 - 600 mm

Grit Range

60 - 100

Hardness Range

J - M

Wheel Speed

33 m/s

Bonds

Resinoid/Epoxy

CUMI's face grinding wheels ensure precise flatness, superior surface finish, and high stock removal, meeting stringent tolerances with advanced grain-bond technology for unmatched performance in demanding bearing applications.

Common Machines: Modler, Seibu





CUMI Centerless Grinding Wheels



Benefits



Higher Stock Removal



Higher Through Feed Rate



Better Geometry Control & Better OEE

Diameter Range

350 - 610 mm

Grit Range

60 (Roughing)

60-80 (Semi finishing)

80 & above (Finishing)

Hardness Range

I to M

Wheel Speed

33 to 60 m/s

Bonds

Rubber/ Resin

CUMI's OD and Centerless grinding wheels offer accurate dimensions, uniform wear, and exceptional surface polish, and are designed to fulfill the severe requirements of high-performance bearing applications using sophisticated bond systems and premium grains.

GOOD

A60 K5 V2020
(OD Rough Centerless)

A100 J5 V2020
(OD Finish Centerless)

BETTER

DA80 K5 V2020
(OD Rough Centerless)

DA100 J5 V2020
(OD Finish Centerless)

BEST

1CSA80 J6 VC500
(OD Rough Centerless)

1CSA100 J6 VC500
(OD Finish Centerless)





CUMI OD Profile Grinding Wheels



Benefits



Higher Stock Removal



Higher Through Feed Rate



Better Geometry Control & Better OEE

Diameter Range

455 - 610 mm

Grit Range

60 - 120

Hardness Range

J - K

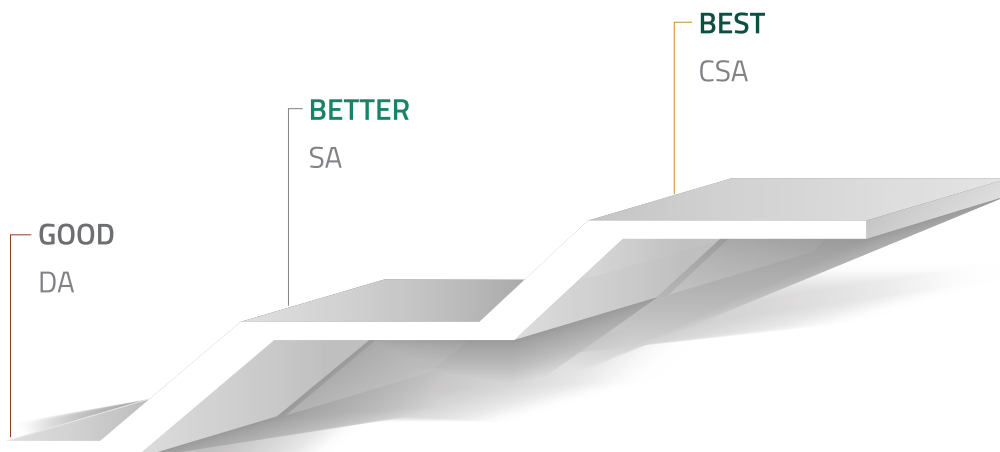
Wheel Speed

45 - 80 m/s

Bonds

Vitrified

CUMI's OD profile grinding wheels provide consistent profiles, high surface quality, and consistent performance, satisfying the stringent requirements of spherical roller bearing applications with revolutionary grain-bond technology.



CUMI Ball Grinding Wheels



Benefits



Consistent Quality
Layer to Layer



Superior Ball Quality



Overall Low Grinding
Cost Per Ball

Diameter Range

660 - 1000 mm

Grit Range

80 - 400

Hardness Range

X - Z

Wheel Speed

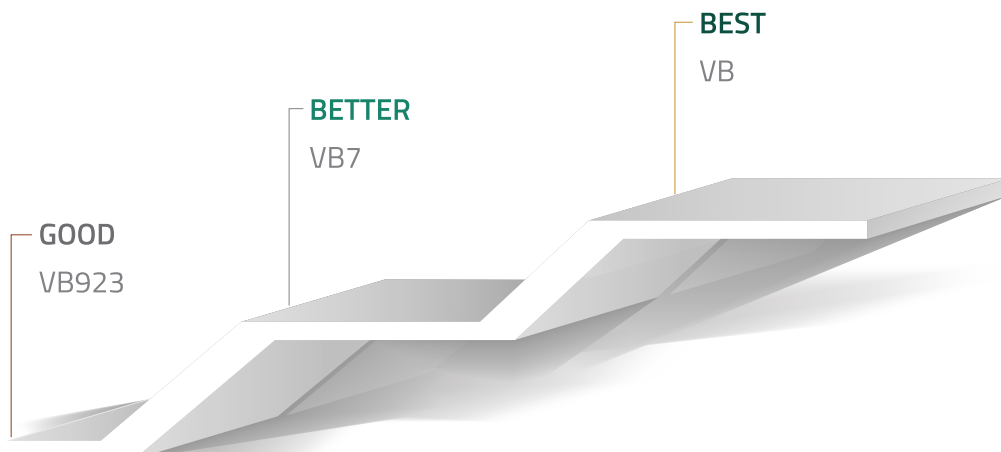
33 m/s

Bonds

Vitrified

CUMI delivers premium ball finishing solutions for the bearing industry, designed to meet exacting standards and ensure superior quality. Our High-Density Vitrified Grinding Wheels feature specially conditioned raw materials, a unique bond system for flawless surfaces, and precision-controlled processes for unmatched consistency across layers and wheels.

Common Machines: MRB Romania, SLM, Lipkoping, Blanchard





CUMI Ball Lapping Wheels



Benefits



Unique Process for Product Consistency



Excellent Surface Finish



Higher Productivity due to High Material Removal Rate

Diameter Range

400 - 915 mm

Grit Range

320 to 2000

Hardness Range

Z+

Wheel Speed

33 m/s

Bonds

Resinoid

CUMI provides premium ball finishing solutions for the bearing industry with Micro-Grit Resinoid Lapping Wheels. Designed for excellence, these wheels feature closely graded aluminum oxide grains, advanced hot press technology, and modified resins to ensure superior surface quality, high material removal rates, and minimal wear.

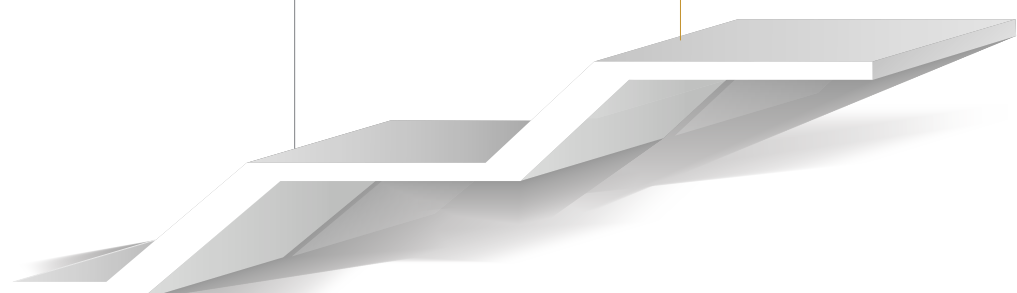
Common Machines: Giles of Sweden, AKS Japan, XINJI, GEISS

BETTER

CA600 Z4 BL393SC,
CA12001 Z4 BL393SC

BEST

CWA 4001 Z+4 BL15,
WFA 1500 Z+4 BL15,
WFA 2000 Z+4 BL15





METAL WORKING FLUIDS



CUMI Metal Working Fluids



CUMI offers a diverse range of Metal Working Fluids (MWF), designed specifically for metal-cutting operations. These coolants reduce tool wear, increase surface finish quality, and offer cost-effective solutions. They are formulated with safe, physiologically harmless additives that enhance tool performance by minimizing friction and deformation.

Metal Working Fluid	Grinding Application	Bearing Part
<i>Low Viscous Neat Oil</i>	Super Finishing	Rings
<i>Water Soluble Semisynthetic</i>	Centerless	Rings
		Roller
	Disc Grinding	Roller
	Disc Rough Grinding	Ball
	Face Grinding	Rings
		Roller
OD Grinding	Rings	
	Roller	
<i>Water Soluble Semisynthetic Emulsion</i>	ID Grinding-Traversal	Rings
	ID Grinding-Plunge	Rings
<i>Water Soluble Synthetic/ Semisynthetic</i>	Disc Rough Grinding	Ball

DIAMOND DRESSERS

CUMI Diamond Dressers

Diamond dressers, crafted using the reverse plating method, offer exceptional performance and durability due to the active involvement of diamond grains in the dressing action. This design ensures an extended service life, making these tools ideal for intricate profiles, tighter tolerances, and applications that demand superior surface finishes across various profile types.



Benefits



Capability To Manufacture Dressing Complex & Intricate Profiles



High Precision Rolls With Pt Value Up To 1.5 Microns And Best In Class On Tolerances



Controlled Exposure Of Diamond Grits, Creates A Free Cutting Dressing Roll



Better Form Holding

CUMI's application engineers deploy the innovative Grind Trak device to monitor Grinding Cycles. This advanced instrument tracks the complete grinding performance, providing smart insights,

- It helps to optimize the grinding process for improved efficiency and precision.
- Helps in identifying the most appropriate product offerings.

GRINDTRAK-ONE DEVICE, MULTIPLE SOLUTIONS.

Grind Trak provides you with insights to optimise the grinding process with data for improved decision-making.



OBJECTIVE:

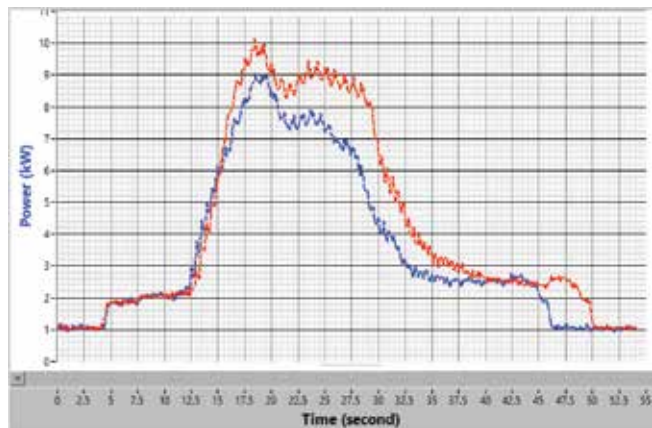
Cycle time reduction

TRIALS:

Higher feed rates with existing stock removal with progressive cutting action

RESULT:

Reduced cycle time by 10% with lower power drawn





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