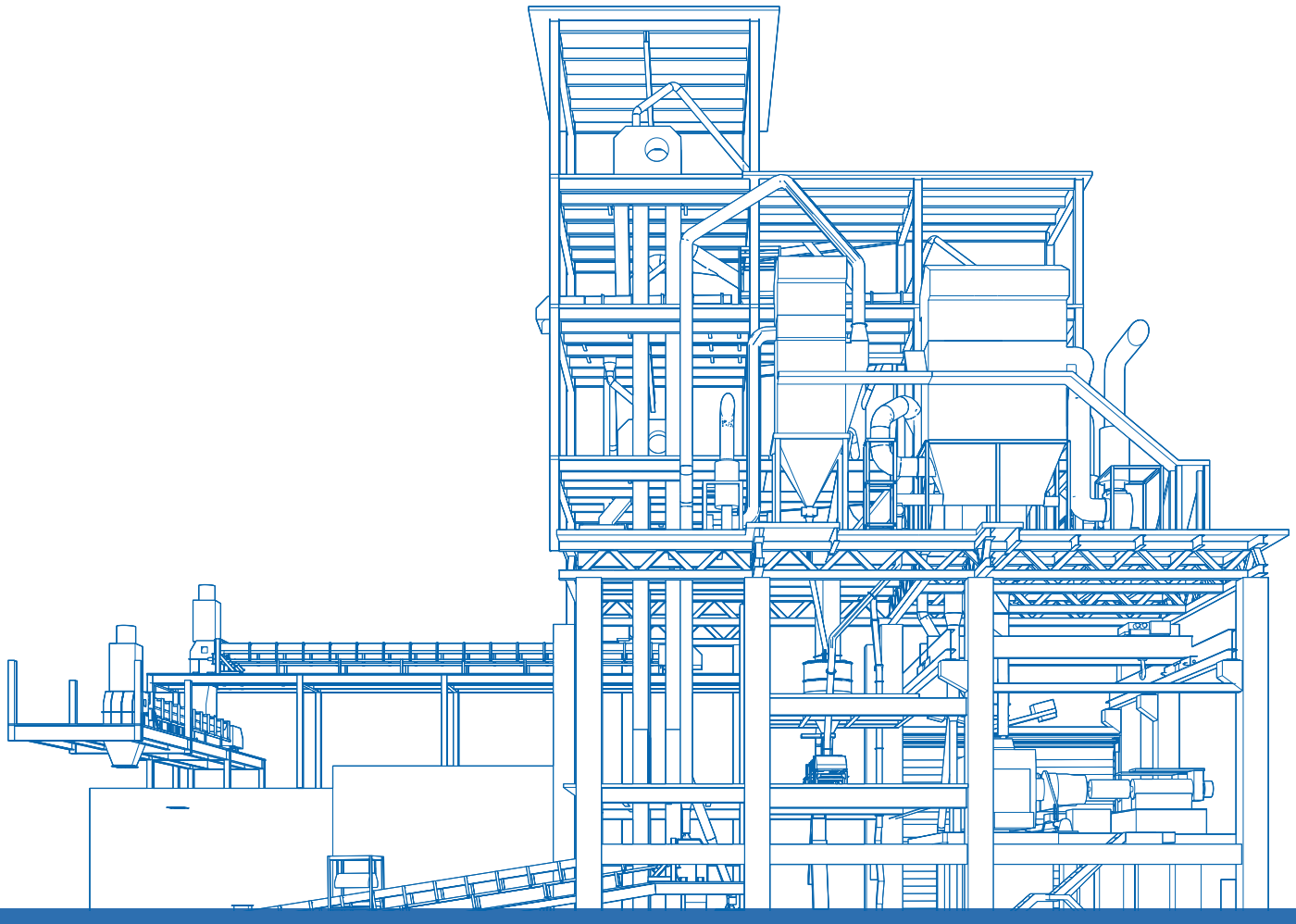
ABRASIVE SOLUTIONS



STEEL INDUSTRY

Grinding Wheels for Steel Roll Mills

Steel mill rolls shape and reduce steel thickness in hot and cold rolling mills, enduring extreme temperatures and pressures. Regular roll grinding restores surface geometry, enhances finish, and ensures durability by preventing uneven wear.

CUMI's advanced grinding solutions for work, backup, and intermediate rolls feature micro-crystalline abrasives and a B1363 bond system, delivering superior stock removal, precise form retention, and reduced cycle times for optimal performance.

Key Features

- Advanced microcrystalline grains for superior stock removal, reduced cutting energy, and continuous self-sharpening.
- Optimized grain-bond system for improved adhesion, cooler cutting, reduced wear, and longer wheel life.
- Special curing process ensures controlled wear and enhanced grinding performance.

Advantages & Benefits

- Higher Material Removal Rate (MRR), reducing grinding time and improving efficiency.
- Self-dressing SP25CE Micro Crystalline Grains minimize dressing frequency.
- Controlled wear and consistent performance for higher grinding ratios and excellent surface quality, delivering a smooth, scratch-free finish

Product Range

Operation	Grain Types	Grit Size	Dia - mm	Thickness - mm	Hardness	Structure	Bond	Speed
HRM	A, DA, GC, C, 55A, CE	24 - 36	400 to 1100	50 to 120	G - K	5 - 7	B1363 / B112R	45 mps
CRM	A, DA, SA, CE	36 - 120	400 to 1100	50 to 120	G - K	5 - 7	B916 / B384	45 mps

Grading Recommendations

Operation	Type of Roll	Good	Better	Best
Hot Strip Mills (HSM)	Work Roll	GC361 B112R	55A/GC30 J6 B1363/45	SP25CE30 J6 B1363/45
	Backup Roll	A30 J5 B384	55A/GC30 J6 B1363/45	SP25CE30 J6 B1363/45
Cold Rolling Mill (CRM)	Work Roll	A60 K5 B384	3SA60 H6 B916/45	3CE60 K5 B916
	Backup Roll	A46 J5 B384	DA543 K+5 B384/45	3CE60 K5 B384

STEEL INDUSTRY

Hot Press Wheels for Ingot / Slab / Bloom / Billet Grinding

Billets, blooms, slabs, and ingots are semi-finished steel shapes produced during the early stages of steelmaking. These products serve as the foundation for further processing into finished goods like sheet metal coils and flat products.

CUMI's heavy-duty billet grinding wheels are designed to refine and finish these semi-finished metal products. Grinding operations are crucial for improving surface quality, removing defects such as descaling oxidation layers, and preparing a smooth, clean surface for further processing, like rolling or forging.

Key Features

- High-performance abrasives suitable for carbon steel, stainless steel, mild steel, and aluminium.
- Modified phenolic resins for enhanced durability and thermal stability.
- Reinforced with steel rings for load handling and safety.
- Coarse grits with an anti-clogging design for aggressive stock removal.

Advantages & Benefits

- Engineered for robotic machines to handle heavy stock removal at high temperatures.
- High Material Removal Rate: Reduces cycle times for improved efficiency.
- Consistent Performance: Provides uniform grinding results across multiple billets.
- High Grinding Ratio (GR): Extends wheel life and minimizes frequent replacements.
- Optimized for wheel speeds up to 80 m/s.

Product Range

Opn	Grain Type	Grit Size	Dia - mm	Thickness (mm)	Hardness	Bond	Speed
HP Snagging	ZA	8- - 20	400 - 510	50 - 75	U - X	BHT64	Upto 45 m/s
HP Snagging	ZA, AZ,	6 - 16	600 - 660	75 - 105	X – Z+	BHT24, BHT25	Upto 80 m/s

Recommendation - for Swing Frame Machine

Material	Better Cutting Action	Higher Wheel Life
Alloy Steel (Low & High), Special Alloy Steels	AZA103 V BHT1	AZA103 W BHT53
SS 304, SS 304 L	AZA103 V BHT53	AZA103 W BHT53
SS 200	AZA103 V BHT50	Promax AZA103 X BHT8
Alloy Steel (Low & High), Special Alloy Steels, SS	Promax AZA103 X BHT8	Promax AZA103 X BHT8

STEEL INDUSTRY

CUMI NXT Cast Grinding Wheels for Fettling

Fettling and grinding refine metal castings by removing defects and rough edges, ensuring accuracy and superior finish. These processes are crucial for seamless downstream operations in foundries and metalworking industries.

CUMI NXT Wheels, engineered with high-performance abrasives and durable phenolic resins, deliver superior stock removal, thermal stability, and anti-clogging performance. Built for extreme loads and robotics, they ensure exceptional efficiency in foundry applications.

Key Applications :

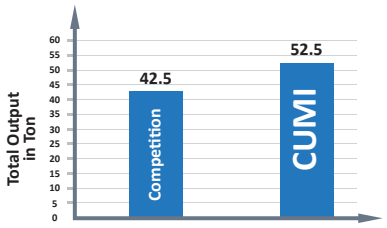
- Surface Smoothing: Achieves smooth surface finishes on castings.
- Defect Removal: Removes cracks, inclusions, and uneven spots from the surface.
- Dimension Control: Adjusts casting dimensions to meet precise tolerance requirements.
- Edge Deburring: Smoothens sharp edges for safe handling and use of castings.

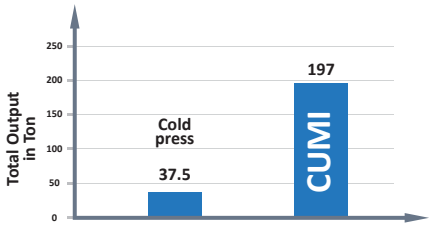
Key Features:

- Premium Abrasives: Zirconia, Aluminium Oxide, and Silicon Carbide ensure excellent grinding on Carbon, Stainless, and Mild Steel.
- Built for Durability: Modified phenolic resins provide outstanding thermal stability and long-term resilience in harsh conditions.
- Efficient Stock Removal: High porosity and steel reinforcement support rapid, heavy stock removal even under high temperatures.

Advantages & Benefits:

- 3X Wheel Life: Lasts at least three times longer than conventional snagging wheels.
- High MRR: Achieves lower cycle times for faster production.
- Consistent Performance: Maintains uniform results across multiple castings.
- Superior Grinding Ratio & Speed: Longer wheel life and optimal performance at wheel speeds up to 60 m/s





Product Range

Opn	Grain Type	Grit Size	Dia - mm	Thickness - mm	Hardness	Structure	Bond	Speed
CUMI NXT HOTPRESS	CAZA, CAZ	12 - 16	300 - 510	50 - 75	S - V	4 - 6	BHT54, BHT64	48, 60 m/s

Large Reinforced Cutting Wheels for Steel Industry

Abrasive cutting technology outperforms traditional methods in both performance and efficiency, especially in the steel industry. It meets the industry's evolving needs and offers clear advantages for modern manufacturing.

CUMI's large reinforced cutting wheels are built for the toughest steel manufacturing applications. Engineered for durability and precision, they easily cut billets, slabs, bright bars, tubes, and other semi-finished metal products with exceptional accuracy.

Key Features

- Premium Aluminium Oxide grains for fast, efficient cutting.
- Modified bond system designed for cold, warm, and hot cutting.
- Enhanced grain adhesion reduces wheel wear.

Advantages & Benefits

- Versatile: Works on steels, castings, non-ferrous, and special alloys.
- High-Speed Performance: Operates up to 100 m/s.
- Precise, clean, straight cuts with minimal surface hardening.
- Increased Productivity: Reduced cycle times and higher stock removal.
- Cost-Effective: No post-processing required, reducing per-component cost.
- Minimal burr formation compared to hot sawing.

Product Range

Grain Type	Grit Size	Dia - mm	Thickness - mm	Hardness	Structure	Bond	Speed
A	46 - 80	350 - 600	100 - 250	L - N	5	V-BB Spl	33, 45 m/s

STEEL INDUSTRY

Centreless Grinding Wheels for Bright Bars

Bright bars are cold-drawn steel bars with a smooth, polished surface finish, ideal for precision industrial applications. Their "bright" appearance results from the cold-drawing process, often enhanced by grinding for further surface refinement.

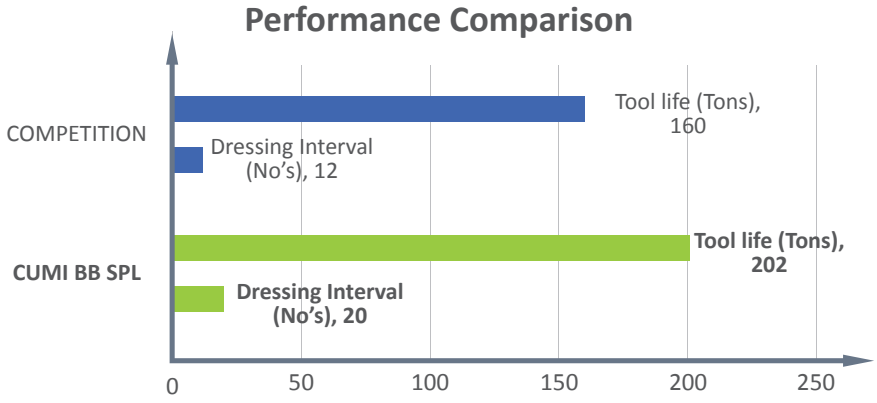
CUMI provides advanced centreless grinding solutions for bright bars made from carbon steel, alloy steel, engine valve steel, and stainless steel. The BB Spl Range grinding wheels offer up to 50% improved dressing frequency, particularly for carbon steels.

Key Features

- Blend of tough and friable grains for superior cutting performance.
- Free-cutting bond eliminates "bend and burn," enabling up to 15% higher stock removal than conventional wheels.
- Optimized for through-feed grinding of carbon steel bright bars.

Advantages & Benefits

- Boosts productivity by 15% with higher feed rates.
- Reduces grind injury, even with higher stock removal.
- Extends wheel life and increases parts per dress by 20%.
- Improves surface finish during roughing, ensuring consistent quality.



Product Range

Grain Type	Grit Size	Dia - mm	Thickness - mm	Hardness	Structure	Bond	Wheel Speed
A	46 - 80	350 - 600	100 - 250	L - N	5	V-BB Spl	33, 45 m/s