

ZYINDUSTRIAL

SUPERABRASIVE DIAMOND / CBN GRINDING WHEELS

CATALOG



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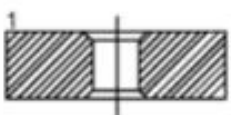
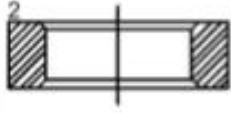
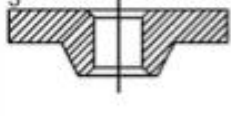
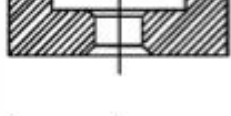
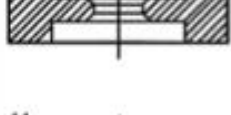
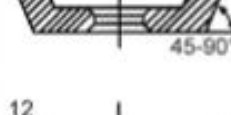
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Diamond Abrasive	CBN Abrasive (Cubic Boron Nitride)
High hardness and excellent wear resistance make diamond the preferred abrasive for non-ferrous hard materials and superhard materials. Not suitable for grinding ferrous materials due to chemical reaction at high grinding temperatures.	A synthetic superabrasive with excellent thermal stability and chemical resistance. Compared with diamond, CBN performs better when grinding ferrous materials, especially hardened steels above HRC40.
Applications	
Tungsten Carbide PCD / PCBN Ceramic Glass Graphite Silicon Carbide Sapphire Gemstone	Hardened Steel Tool Steel HSS Bearing Steel Spring Steel Alloy Steel Cast Iron

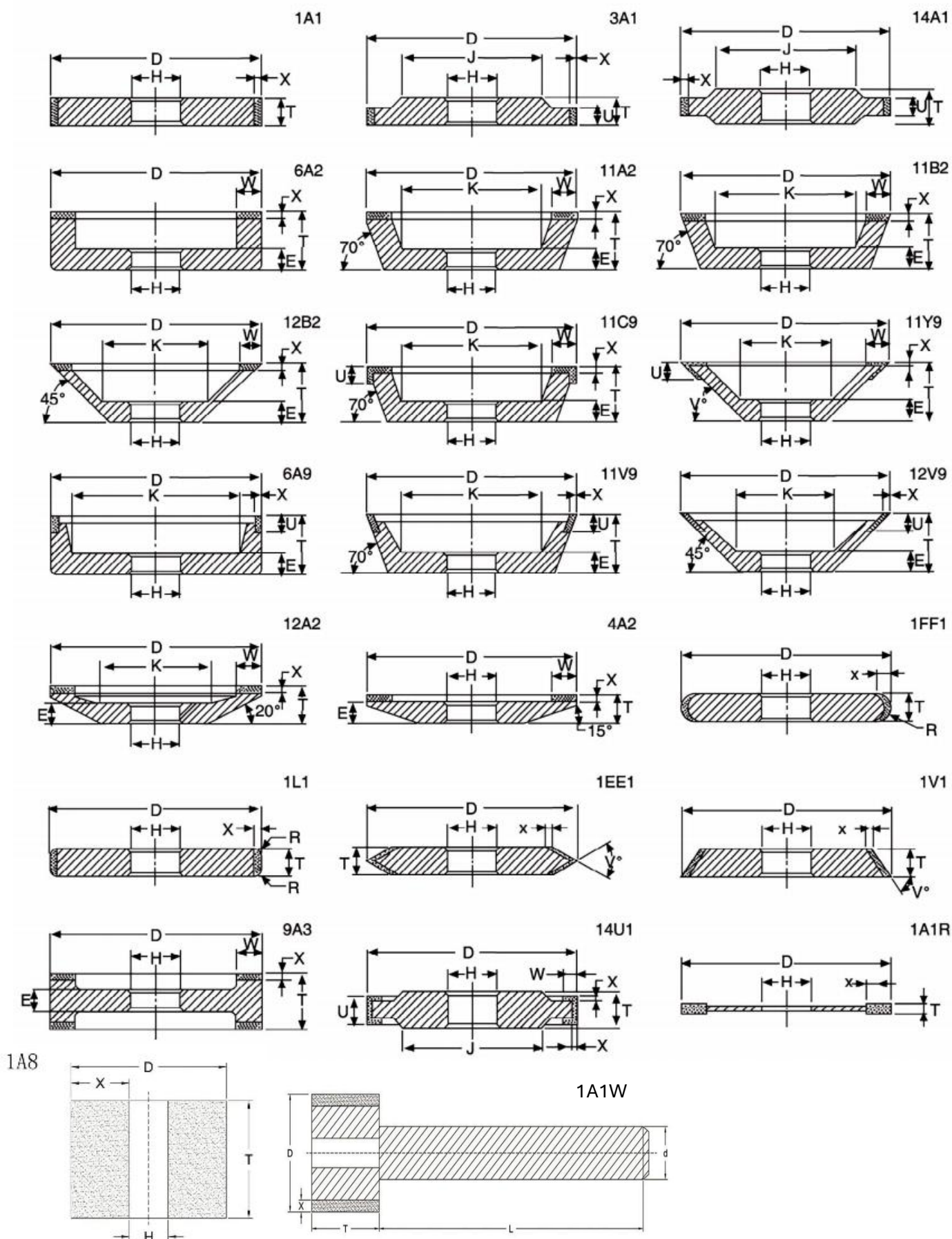
Abrasive Grain Size Conversion Guide			
Grinding	FEPA Code (D = Diamond B = CBN)	Grain Size (µm)	Approx. Mesh
Rough Grinding	D181 / B181	181–150	80/100
Medium Grinding	D151 / B151	150–125	100/120
	D126 / B126	125–106	120/140
Precision Grinding	D107 / B107	106–90	140/170
	D91 / B91	90–75	170/200
	D76 / B76	75–63	200/230
Finest Grinding	D64 / B64	63–53	230/270
	D54 / B54	53–45	270/325
	D46 / B46	45–38	325/400
The correct selection of the grain type and size guarantees optimal operation of abrasive tool and enables required surface roughness. The smaller the grain size, the lower the roughness of the grinding surface.			

Abrasive Grain Concentration Guide			
Diamond		CBN	
Grain Concentration	Density (carat/cm ³)	Grain Concentration	Density (carat/cm ³)
C50	2.2	V120	2.09
C75	3.3	V180	3.13
C100	4.4	V240	4.18
C125	5.5	V300	5.22
Selection Reference: Higher concentration is recommended for heavy stock removal, deep grinding, narrow abrasive layers, and applications requiring high profile accuracy. Lower concentration may be selected for easier cutting action and reduced grinding force.			

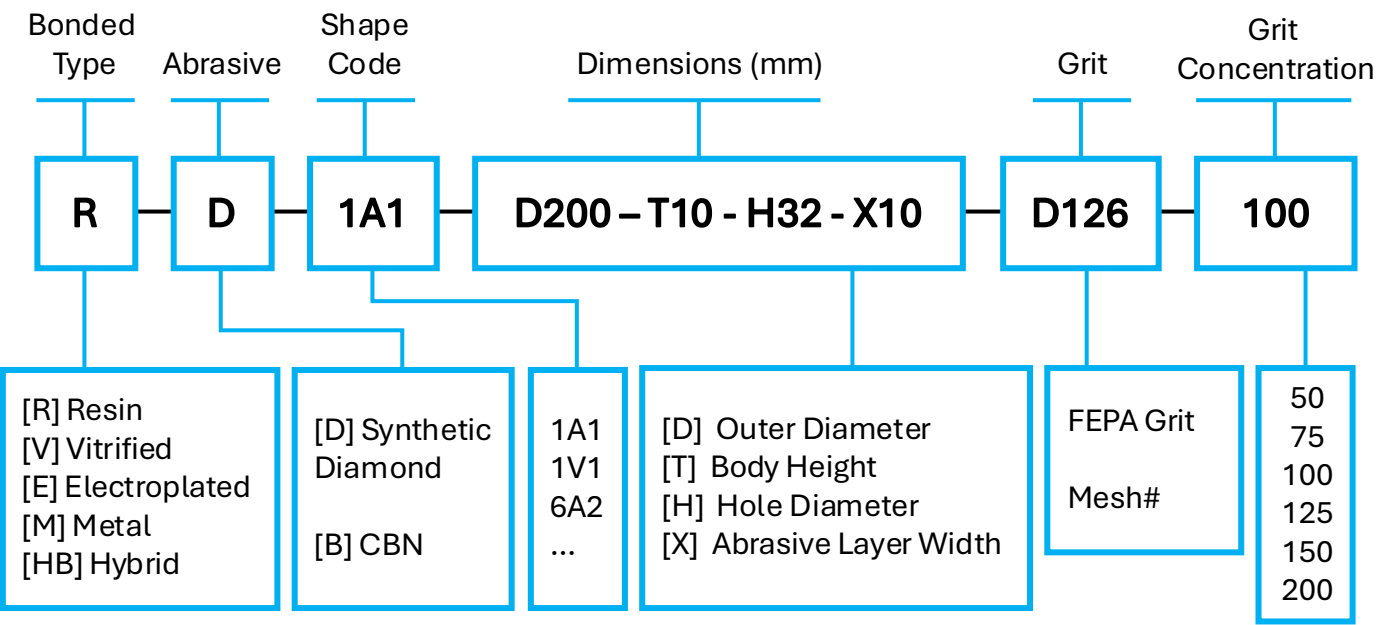
STANDARD DESCRIPTION OF WHEEL SHAPE
CODE STANDARD (ISO)

Substrate shape	Shape of abraive cross section	Shape of abraive cross section	Other parameters
	A	1 Periphery	B Drill & counterbore
	AH		C Drill & countersunk
	B		H Plain hole
	C	2 Side	T Screwed hole
	CH		M Holes plain & screwed hole
	D	3 Both side	P One side thinned
	DD		Q Working part inset
	E	4 Inside bevel or arc	R Both sides thinned
	EE	5 Outside bevel or arc	S Segmented abrasive section
	F	6 Part of periphery	SS Segmented & slotted
	FF	7 Part of side	V Inverted
	G	8 Throughout	W On the spindle
	H	9 Ccorner	Y Inserted & inverted
	J	10 Center bore	
	K		
	L		
	LL		
	M		
	P		
	Q		
	QQ		
	S		
	U		
	V		
	Y		

POPULAR WHEEL SHAPES AND RELEVANT CODES



GRINDING WHEEL ORDER CODE GUIDELINE



Code Example RD, 1A1, D200-T10-H32-X10, D126, 100

How to order?

1. For repeated order, please tell us the code number.

2. For new orders, please specify your wheel code using the format above.
- If you are unsure of the wheel code, please provide the following and we will recommend the right configuration:

 - Workpiece material and hardness
 - Machine type, horsepower, and spindle speed
 - Required grinding precision and surface finish

GRINDING METHOD



TOP GRINDING



COMMON SPECIFICATIONS
6AA2、12A2、
4A2、6AA9



FACE GRINDING



COMMON SPECIFICATIONS
12V9、12V2、
15V9、1A2、4A2



SIDE GRINDING



COMMON SPECIFICATIONS
1A1、3A1、
14A1、6A2、6A9

RESIN BOND DIAMOND CBN GRINDING WHEEL



Resin bond diamond and CBN grinding wheels are designed for precision processing of difficult-to-machine materials, such as tungsten carbide, hardened steel, and semiconductor materials. They offer excellent cutting ability, low grinding force, and high surface quality, making them ideal for high-precision and high-efficiency grinding applications.

1A1		Bond	Resin Bond	Grinding Method	Sharpening, Fluting, Gashing, OD/Cylindrical Grinding
6A2		Abrasive Type	Synthetic Diamond, CBN	Target Workpieces	End Mills, Drills, Reamers, Cutters, Woodworking Tools
11A2		Wheel Shape	1A1, 1V1, 6A2, 11V9, 11A2, 12V9, 12A2, 1A1R and others	Workpiece Materials	Diamond: Tungsten Carbide, Cermet CBN: HSS, Hardened Steel (HRC 45+)
11V9		Wheel Diameter	75, 100, 125, 150, 200mm / Custom (3" - 8" / custom)	Suitable Machines	Manual Universal Grinders & CNC Tool Grinders
1V1		Grit Size (Mesh / FEPA)	Mesh: 80# – 600# (Custom available) FEPA: D25 – D181 / B25 – B181	Coolant / Mode	Wet or Dry Grinding (Manual & CNC)
12V9		Concentration	75%, 100%, 125%, 150%	Machine Brand	ANCA, Walter, SCHUTTE, EWAG, SCHNEEBERGER, HUFFMAN, STAR, VOLLMER, ISELLI and others

VITRIFIED BOND DIAMOND CBN GRINDING WHEEL



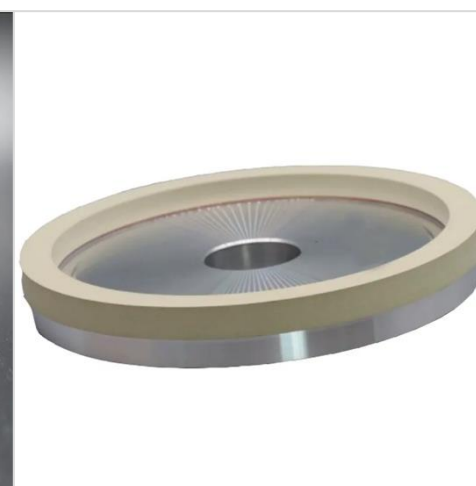
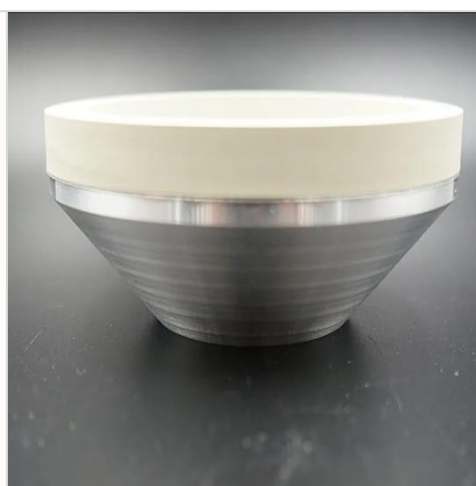
Vitrified bond diamond and CBN wheels offer the highest aggressiveness and longest service life among all bond types. The rigid matrix maintains form and cutting action at high abrasive concentration — ideal for precision grinding of PCD, PCBN, hardened steel, and tungsten carbide where tight tolerances and high stock removal rates are required.

	Bond	Vitrified Bond	Grinding Method	Precision Profile Grinding, PCD/PCBN Processing, Internal Grinding
	Abrasive Type	Synthetic Diamond, CBN	Target Workpieces	PCD/PCBN Inserts, Precision Bearings, Mold Components, Fuel Injectors
	Wheel Shape	1A1/1A8, 1V1, 6A2, 6A9, 11V9, 11A2, 12V9, 12A2, 1A1W(Internal), Custom	Workpiece Materials	Diamond: PCD, PCBN, Ceramics, Tungsten Carbide CBN: Alloy Steel, Bearing Steel, Hardened Steel
	Wheel Diameter	75, 100, 125, 150, 200mm / Custom (3"- 8" / Custom)	Suitable Machines	Precision CNC Grinding Machines & PCD/PCBN Tool Grinders
	Grit Size (Mesh / FEPA)	Mesh: 80# – 600# (Custom available) FEPA: D25 – D181 / B25 – B181	Coolant / Mode	Wet Grinding Preferred (High Precision CNC)
	Concentration	75%, 100%, 125%, 150%, 200%	Machine Brand	EWAG, Coborn, Farman, Walter, ANCA, VOLLMER, ISELLI, and others

Vitrified Bond Diamond Grinding Wheels

Built for precision grinding of the hardest materials — PCD, PCBN, CVD diamond, and tungsten carbide.

- **Self-sharpening** — worn grits release automatically, keeping the cutting surface consistently sharp
- **High form retention** — rigid matrix maintains dimensional accuracy throughout wheel life
- **Low spindle load** — self-sharpening action reduces feed force, protecting machine rigidity
- **Long wheel life** — high abrasive concentration for extended, consistent performance



Vitrified Bond CBN Grinding Wheels Custom Shapes & Profiles Available



Built for precision grinding of hardened steel, HSS, and other ferrous materials.

- **Excellent thermal stability** — CBN retains hardness at high temperatures, preventing workpiece burn
- **High form retention** — rigid vitrified matrix maintains wheel profile throughout the grinding cycle
- **Self-sharpening** — worn grits release cleanly, sustaining consistent cutting action
- **Long wheel life** — high CBN concentration delivers superior wear resistance over extended use

External / OD Grinding



Internal Grinding



Bearing Grinding · Compressor Grinding (1/2)



Bearing Grinding · Compressor Grinding (2/2)



Transmission / Gearbox Grinding



Face Grinding



CNC TOOL
GRINDING
WHEELS



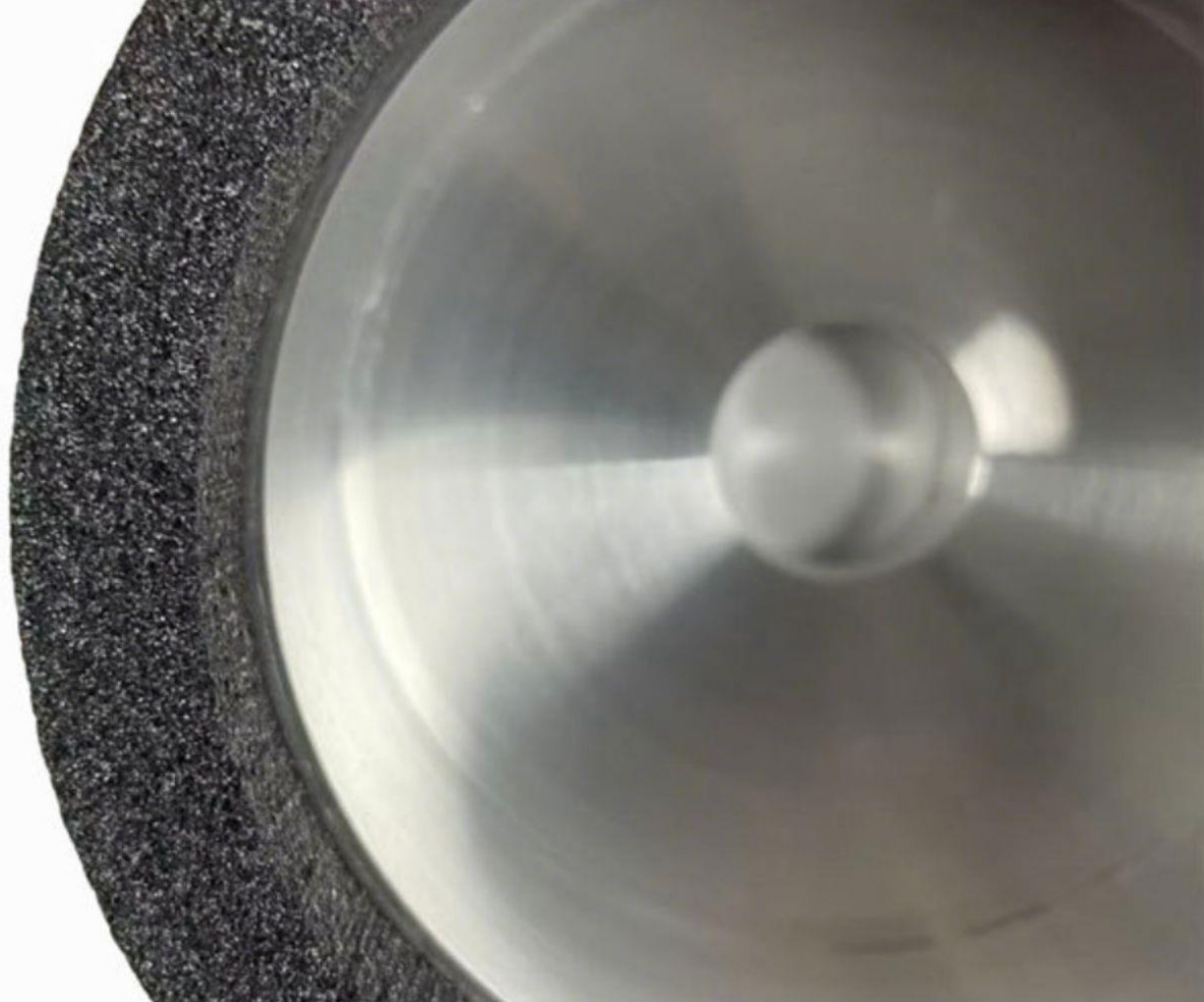
Operation	Recommended Shapes	Wheel Diameter (D)	Grit Size	Bond	Note
Fluting	1A1, 1V1, 3A1, 14A1, 14V1	75 / 100 / 125 / 150 mm	FEPA: D181–D33 / B181–B33 (Mesh: 80#–600# / Custom)	Hybrid / Metal / Resin / Electroplated	• Hybrid Bond: metal/vitrified - reinforced resin matrix offering superior shape retention and cooling for heavy 5-axis fluting.
Gashing	1V1, 3V1, 14V1, 11V2			Resin / Electroplated	
OD Grinding	1A1, 14A1, 11A2			Resin / Vitrified	
Relief & Point Grinding	11A2, 11V9, 12V9			Hybrid / Metal / Resin / Electroplated	

METAL BOND DIAMOND GRINDING WHEEL



The **metal bonded diamond grinding wheel** is a high-performance grinding wheels & tools. Its main feature is that it uses diamond particles as abrasive particles and metal powder (such as nickel, cobalt, iron, etc.) as a bonding agent, and is sintered under high temperature and high pressure. This type of grinding wheel is favored for its excellent wear resistance, high temperature stability and high profile retention.

Bond	Metal Bond	Grinding Method	Wet Grinding (Continuous Flow)
Abrasive Type	Synthetic Diamond	Target Workpieces	Architectural & Furniture Glass, Stone Slabs, Ceramics, Solar Glass
Wheel Shape	Flat Edge, Pencil Edge, Bevel Edge, Segmented / Toothed, Custom Profiles	Workpiece Materials	Architectural Glass, Quartz, Ceramics, Granite, Marble, Jade, Hard Alloys
Wheel Diameter	80, 100, 150, 175, 200mm / Custom (3"- 8" / Custom)	Suitable Machines	Glass Straight-line Edging Machine, Double-edger, Beveling Machine, CNC Workcenter
Grit Size (Mesh / FEPA)	Mesh: 80# – 400# (Custom available) FEPA: D181 – D46	Coolant / Mode	Water-soluble Coolant / Emulsion (High-pressure wet cooling)
Concentration	75%, 100%, 125%, 150%, 200%	Machine Brand	Bavelloni, Bottero, Dialeader, Glassline, Domestic China Edging Machines



WhatsApp



Wechat



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