Diamond & CBN Grinding Wheels

Please indicate the following information when placing a new order.

1. **Wheel specification** including bond type, shape code(please refer to the next two pages), dimension and grit size. It is better to give us your drawing or to show us the label of the wheel you bought from previous supplier and used well.
2. **Workpiece material and hardness.** It is very important information for deciding to use diamond or CBN.
3. **Machining parameters** such as spindle speed, feed rate, depth of cut and coolant type.
4. **Quantity and time for delivery**
5. **Other requirments** such as required surface roughness and required accuracy tolerance.

For repeated order, please provide the production number on the wheel or the label showed on the package as below

RW -P 14A1

RW: Bond type
-P: Symbol of buffer layer
14A1: Shape code

RW: Resin bond wheel
VW: Vitrified bond wheel
MW: Metal bond wheel
EW: Electroplated wheel

$175D \times 8^{U} \times 10^{T} \times 5^{X} \times 31.75^{H}$

Dimension of wheels

D 150

D: B:CBN, D:Diamond
150: Mesh Size

Choosing Diamond or CBN?

※Diamond

- Tungsten carbide, presintered carbide metal
- Tools & construction units.
- Oxide ceramic materials.
- Ferrite, ceramic magnetic materials.
- Refractory products.
- Stones,gem & semi-precious stones.
- Glass,porcelain,quartz.
- Graphite,carbon.
- Tiles,asbestos,asphalt,concrete.
- Plastics,FRP.
- Wear resistant coatings.
- Sapphire
- Diamond/PCD

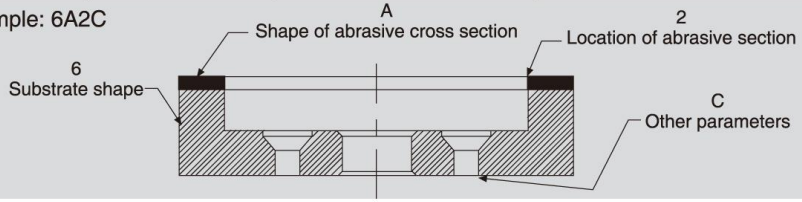
※CBN

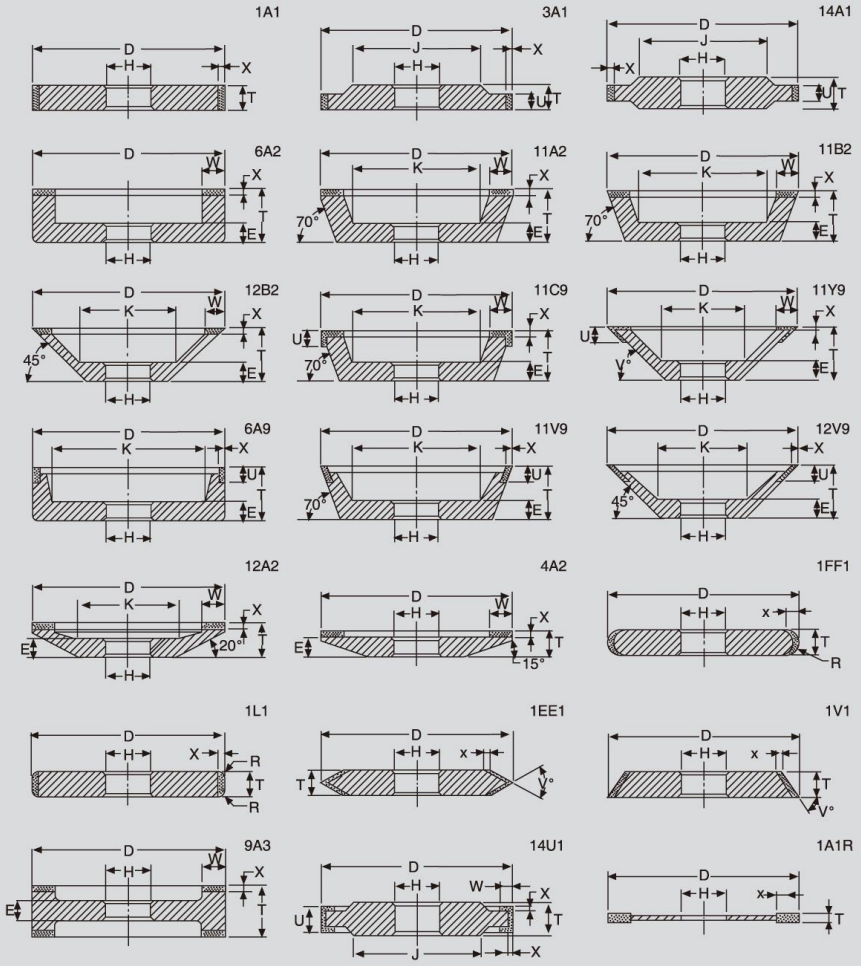
- High alloy steels (SK, SKS, SKH)
- High speed tool steels (HSS)
- Hot & cold working steels (SKD)
- Tempering steels
- Ball bearing steels
- Spring steels
- Cast iron
- Stainless steel (SUS)
- Hardened steel

Code standard (ISO)

Substrate shape	Shape of abrasive cross section	Location of abrasive section	Other parameters
1	A	1 Periphery	B Drill & counterbore
2	AH	2 Side	C Drill & countersunk
3	B	3 Both side	H Plain hole
4	C	4 Inside bevel or arc	T Screwed hole
6	CH	5 Outside bevel or arc	M Holes plain & screwed hole
9	D	6 Part of periphery	P One side thinned
11 (45-90°)	DD	7 Part of side	Q Working part inset
12 (0-45°)	E	8 Throughout	R Both sides thinned
14	EE	9 Corner	S Segmented abrasive section
15	F	10 Center bore	SS Segmented & slotted
	FF		V Inverted
	G		W On the spindle
	H		Y Inserted & inverted
	J		
	K		
	L		
	LL		
	M		
	P		
	Q		
	QQ		
	S		
	U		
	V		
	Y		

Code example: 6A2C





How to order a wheel?

1.For repeated order,just tell us the manufacturing number.

2.If you require us to design the wheels for you,please specify:

a.)Name, materials, hardness of workpiece.

b.)Name,type,horsepower,spindle speed of machine.

c.)Grinding conditions and precision.

3.If you have your own design,please order as below:

14A1,350D-10U-5X-25T-127H,B150,Wet grinding

Resin bond diamond (CBN) wheel as an important grinding method for tough materials,had widely used to the process of Tungsten Carbide and hardened steel etc.Now we have developed several new-style resin bond diamond wheels which have been used successfully to high precision,high efficiency and low cost processing of semiconductor materials

Applied on tool grinding machine,for grinding and formgrinding of the carbide tools.					
D	W	X	H	Grit size	
11A2	100	10	3	20;19.05	D200;400;600

Applied on tool grinding machine,for grinding and formgrinding of the carbide tools.						
D	W	X	U	H	Grit size	
11C9	100	8	1.5	5	20	D200;400;600

For tool grinding machine,to resharpen the carbide turning tools						
D	W	X	V°	H	Grit size	
12Y9C	125	8	1.5	45°;60° ;90°	25	D200;400;600

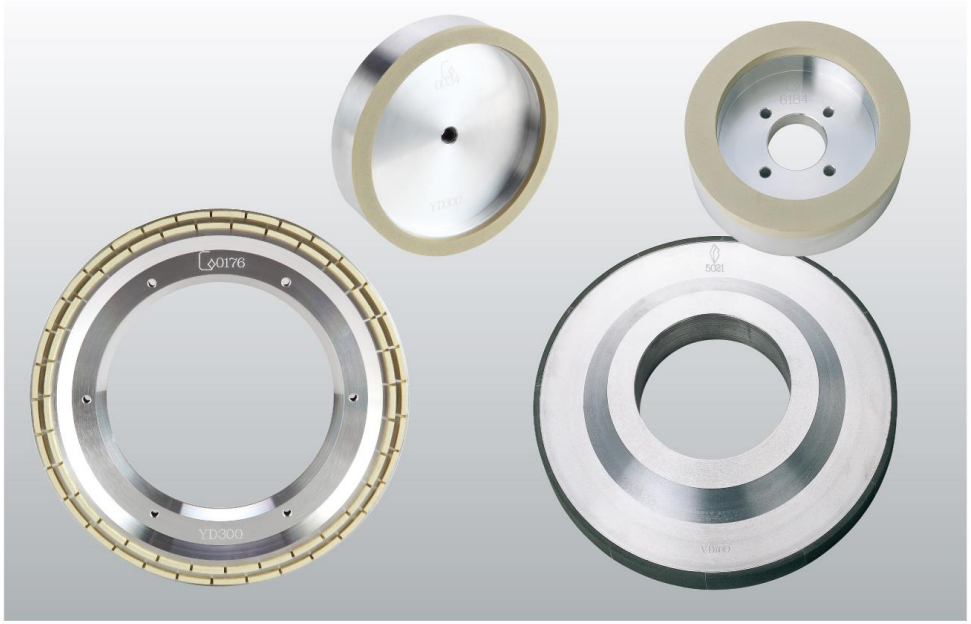
Applied on surface grinding machine,to grind carbide(use diamond-D) and hardened steels(use CBN-B)					
D	T	X	H	Grit size	
1A1	152	10	3;5	31.75	D150;D200;B150
	175	10	3;5	31.75	D150;D200;B150

Applied on surface grinding machine,to grind carbide(use diamond-D) and hardened steels(use CBN-B)						
D	T	X	U	H	Grit size	
14A1	152	10	3;5	0.6-8	31.75	D150;D200;B150
	175	10	3;5	0.6-8	31.75	D150;D200;B150
14A1	200	10	3;5	4;8	31.75	D150;D200;B150
	350	32	5	10;15	127	B150

Surface grinding of GaAs wafers.						
D	X	U	L	H	Grit size	
6A9	150	3	8	20	M12	D2000

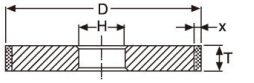
Cutting off tungsten carbide bars.					
D	T	X	H	Grit size	
1A1R	152	1	7	19.05;31.75	D120

Note: standard grit size,others depend on your request.



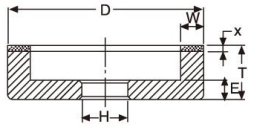
Resin bond diamond wheel and metal bond diamond wheel have played a very important role in the working of traditional materials (e.g. stone, TC, hardened steel, glass etc.) with the rapid growth of semiconductor industry and the development of automatic processing, apparently they cannot meet all the demands of new technics and precision work to some new materials. CP DIAMOND is always keeping to developing vitrified bond diamond wheels which are used to semiconductor industry and motor industry. Now we have many kinds of products which have been successfully applied to many new materials and technics for various customers. Hereunder are our specifications for your reference.

1A1



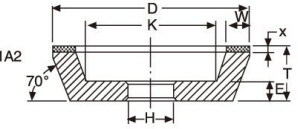
D(mm)	T(mm)	X(mm)	H(mm)	Grit size	Application
152	10	5	31.75	D150/B150	Split punch,precision machine parts, bearing to target coatedby hard layer etc.
175	10	5	31.75	D150/B150	
300-600	15-40	5	127	B150	
660	50	5-10	205	D300	Hard coated layer grinding of parts such as Injection machine charging ram

6A2



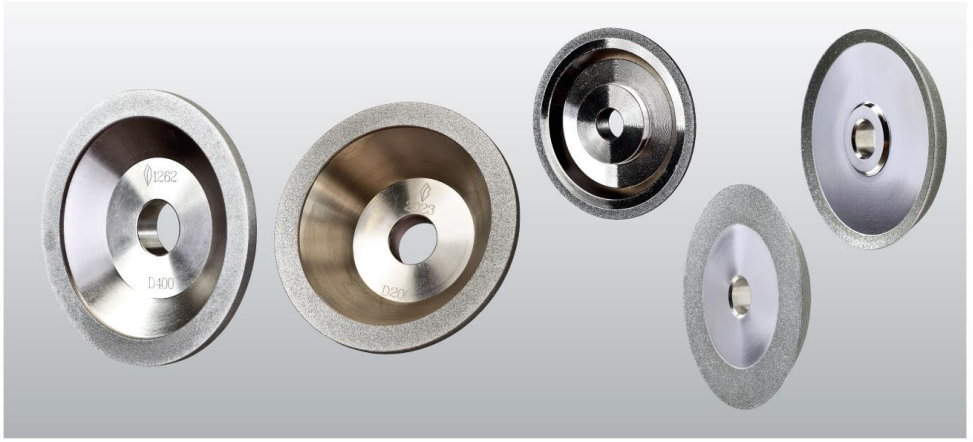
D(mm)	W(mm)	X(mm)	H(mm)	Grit size	Application
150	3-20	5-10	40	D200-1200	Diamond & PCD lathe tools
150	3-10	5-10	M12x1.75	D300-3000	GaAs & sapphire
254	4	8+1	155	D300-3000	Recycle of silicon wafers

11A2



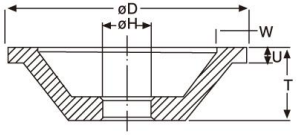
D(mm)	W(mm)	X(mm)	H/T(mm)	Grit size	Application
125	8	4	31.75/35	D300/600	PCD lathe tools

Note:when your workpiece is made of HSS or other hardened ferrous materials you should chose CBN wheels instead of diamond wheels



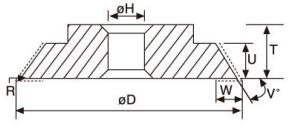
11C9 Cup wheels

Ideal for tungsten carbide tool' s grinding, forming and resharpening



Order No.	D	T	W	H	U	Grit size
E.W 11C9	100	22	10	20/19.05	5	#100
E.W 11C9	100	35	10	20	5	#150
E.W 11C9	100	35	10	19.05	5	#200
E.W 11C9	100	22	10	31.75	5	#300
E.W 11C9	100	35	10	31.75	5	#400

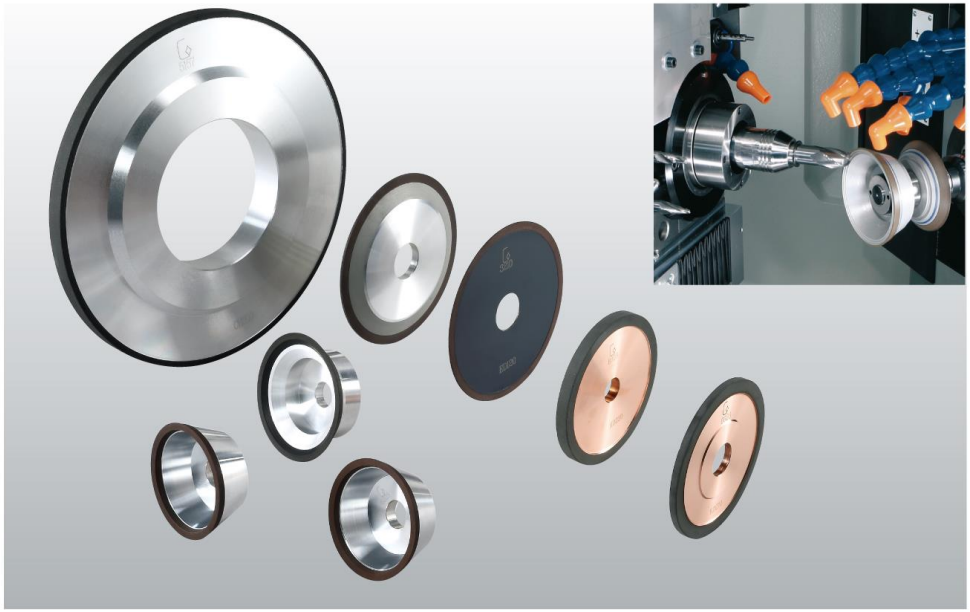
3Y1 wheels



Ideal for tungsten carbide saw blade cutter's grinding, forming and resharpening

D	U	T	W	H	V°	R	Grit size
150	4	9	5	25	45°	0.5	D150,D200
					40°	0.2	D150,D200

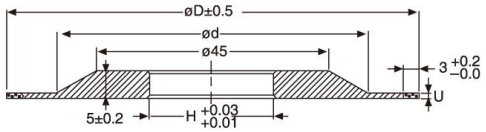
Note: Other specifications depend on your order.



Diamond Wheels for End Mill and Drill Grinding

Process stage	shape code	D	T	U/W	X	H	V°	Bond	Popular Mesh	Machine & Note
Cut-off	1A1R	152	1		7	19.05		AD/ED	#120	Automatic
		125	0.8		5	25.4		AD/ED	#120	cut-off machine
Ends Work	14A1	350	32	15	5-10	127		D/CD	#150,#200	Surface Grinder
O.D grinding	1A1	300-350	75-150		5-10	120		D/CD	#200,#400	Centerless grinder
Multi deck Grinding	3A1	200-290	20	17	5	31.75,50.8		AD/HD	#200,#250	CNC gringer
PCB drill bit Fluting	4A1Q-P	100	6	1.5	6	10		AD	#800	
		152	8	2,3	10	31.75			#1000	
End Mill Fluting	1A1	100	5-18		5,10	20	10°	Hybrid	#200	CNC Cutting Tool Grinder
	1V1	125				31.75	15°	AD	#250	
	1F1	150				or specified	20°	ED	#300	"Hybrid" bond is specially made of themostable resin which makes excellent performance for end mill fluting
	14A1	75-150	6-12	6-10	5,10			D		
Primary Relief Secondary Relief	11V9	75	20-40	3-10	3-5	20	20°	Hybrid	#200	
	11A2	100				31.75	30°	AD	#250	
	12V9	125				or specified	45°	ED	#300	
Gashing	1V1	75-150	6-12			20 or specified	20° /30° /45°	AD	#200	
	11V2	75-125	20-40	5-10	3-5	20 or specified	70°	ED	#250	
	11A2	75-125	20-40	5-10	3-5	20 or specified	90°	D	#300	

1.Rough Grinding Wheels



Standard specification as below

D	d	U	H	Bond	Grit Size
75	60	1.0	24.00	Resin	D200
	60	0.7			
	63	0.5			
80	64	1.0	22.23		D400
	64	0.7			
	68	0.5			

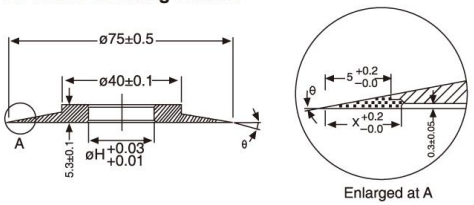
Application:

Rough grinding on profile grinding machine

Features:

1.Sharp, higher grinding speed.
2.Better self-sharpening ability, lower dressing frequency
3.Optimised technology prolongs lifetime by more than 30%

2.Precise Grinding Wheels



Standard specification as below:

D	H	θ	X	Bond	Grit Size
75	22.23	7°	7	Metal	D400
		10°			
	24.00	12°	10	Resin	D600
		15°			D800

Application:

Precise grinding on profile grinding machine

Features:

1.fine grain, lower ground surface roughness
2.high precision