ADAMAS (THAILAND) CO., LTD.







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Superior Quality, Global Standards

Adamas Thailand Co., Ltd. has been manufacturing of Diamond and CBN Tools since 1994, and we are committed to providing our customers with the highest quality products and services.



Fig 1. Adamas (Thailand) Co., Ltd.

The benefits, advantages, and cost-effectiveness of using Diamond and CBN Tools: Diamond and CBN Tools are a versatile tool that can be used for a variety of applications, including grinding, cutting, and polishing.

They are extremely durable and can last for a long time, making them a cost-effective investment.

They are capable of producing smooth, precise cuts, which can save time and improve the quality of the finished product.

They are also safer to use than other types of cutting tools, as they produce less dust and sparks.



Fig 2. Sample products of Adamas (Thailand) Co.,Ltd.

In addition to manufacturing Diamond and CBN Tools, Adamas Thailand Co., Ltd. also produces spacer and collar with a low tolerance of the thickness only 3-5 micrometer. We also offer services of repair shape of the grinding wheel and rework cup wheel. General principles of cutting, grinding, and polishing materials require the use of harder materials. Let's do it with a softer material. To achieve efficient and accurate cutting, grinding and polishing of various materials.



Fig 3. Hardness of key material

As shown in Fig 3., Diamond is the hardest material, followed by CBN. Both materials have good cutting, grinding, polishing, and other properties. Therefore, they are used to make diamond wheels for various purposes, such as:

- Cutting hard materials such as metal, stone, and glass.
- Grinding materials to be smooth, such as metal workpieces and jewelry.
- Polishing materials to be shiny, such as metal workpieces and jewelry.
- Grinding surfaces to be smooth, such as concrete surfaces and metal surfaces.

Diamond and CBN Tools are therefore important tools in various industries, such as the metal and machinery industry, the jewelry industry, the construction industry, and other industries.

Properties of Diamond and CBN

Property	Diamond	CBN	Unit
Density	3.52	3.48	g/cm ³
Hardness (Mohs)	10	9-10	-
Hardness (Knoops)	7000	<mark>470</mark> 0	kgf/mm ²
Thermal stability	600-700	1100- <mark>14</mark> 00	°c
Chemical property	С	BN	625

Table 1. Physical properties of Diamond and CBN

Although diamond is the hardest material and is harder than CBN, but diamond is still not suitable for grinding metal materials. This is because during metal grinding, high grinding resistance occurs due to friction between the workpiece and abrasive grits. It causes a high temperature in that area. For diamonds, when the temperature is around 600 C°, a chemical reaction will occur, Oxidation or there is a combustion occurring, because diamond contains carbon, a flammable element. This causes it to lose its size and shape, unlike CBN which can withstand temperatures as high as 1,200 C°. CBN does not chemically react with metals so it retains its size and shape.

Therefore, steel materials should use CBN, and general hard and brittle materials should use diamond.

Hardness of bonding

It is the strength of the bonding that holds the abrasive grits and how strong it is. This strength affects the overall efficiency of use, such as the quality of the workpiece. The surface of the workpiece, edges of cuts, chipping, cracking, etc., time spent working and production costs.

From Figure 4. it shows an illustration of the hardness of bonding.

Picture (A) is too weak and the clamping force is too weak, causing it to fall off easily. Resulting in a short work life.

Picture (B) shows that strength is the best. There is a protrusion from the bond of the abrasive grits, making grinding work better. During use, the Bond breaks and the abrasive grits pops out. Keep it sharp all the time.

Picture (C) is too hard so the abrasive grits doesn't come out. You must waste time doing dressing often, but the lifespan will be the longest.

Therefore, in determining the hardness The user must consider the overall performance. Which way to choose? Between wanting to focus on good quality work or choose to focus on low production costs for work.

We have 3 sizes of hardness to choose from: soft, medium, and hard, using the letters J, N, and R respectively.



Fig 4. Hardness of bonding

Structure of grinding wheel



Fig 5. This illustration shows grinding wheel structure, abrasive grits, bond, porosity, and filler components.

The structure of the Diamond Wheel consists of Abrasive Grits, Bond, Filler and Pore as shown in the Fig 3. Each one has the following functions.

- Abrasive Grains, Its function is to grinding the work piece.
- Bond, Its function is to holds the abrasive grits
- Filler, It is small amounts of various materials or elements added to the main material of Bond material to increase special properties such as increased strength, wear resistance, and better heat dissipation. electrical conductivity, etc.
- Pore, it is porous and contains chip pockets. Acts as a bag for collecting scraps from grinding. To increase grinding efficiency. But if there is too much, it will make the structure not strong.

Bonding Type

Our company offers three types of bonds, Resin bond, Metal bond, and Vitrified bond. Each type of bond has different properties. Therefore, it is necessary to consider the use, workpiece material, grinding method, wheel shape, and tools or machines used. See the Table 3. Application of diamond grinding wheels on page 10 for reference.

Resin Bond

Resin bonds are manufactured with a mixture of phenolic or polyimide resins and fillers. Phenolic resin is strong. It has moderate hardness and heat resistance. While polyimide resin is very strong. It has high hardness and heat resistance. Used to increase the wear resistance of grinding wheels. Phenolic resin wheels are used for medium grinding or final grinding of DIAMOND/CBN grinding wheels. However, the addition of filler gives both types of resin good grinding quality and can be used in both grinding modes, wet and dry.

Resin Bond Structure



Abrasive Grits

Resin Bonding



Metal Bond



Metal bonds are produced by Brazing process of the compound of various metal powders such as Tin, Brass, Copper, Cobalt, Iron, Nickel, Tungsten, Silver and so on. They are well known for its excellent shape holding ability, high wear resistance, strength with a longer life of wheels for brittle materials (glass, ferrite, Si Ge and ceramics).

However, they do require periodic of truing and dressing during use.

Vitrified Bond

Vitrified bond is formed by Fritted glass, which is glass that is porous to allow gases or liquids to pass through. Made by burning glass particles together at high temperatures until they become a hard but porous substance.

This, also known as ceramic bond. It has strong bonding between resin bond and metal bond.

Vitrified bond wheels are free cutting. Provides good surface roughness, good wear resistance, maintains straightness and shape. The porosity (pores) or open structure of vitrified grinding wheels can be controlled to provide chip pocket, allow coolant in and protect. Wheels can be widely used in automobile parts, Bearings, Camshafts, Injection parts, Engine cylinders, Gear boxes, CVJ etc..

Vitrified Bond Structure



100 μm

Concentration

Its definition is the amount of abrasive grits contained in a volume of 1 cubic centimeter (cm³). The larger amount of abrasive grits will directly affect the greater the cutting ability, sharpness, cutting time and service life, of course, the price will increase as well. But choosing the concentration You need to consider the quality of the cut, such as chipping and cracking.

Especially in very brittle materials such as glass, if you choose to use a concentration too much will result in poor quality, such as chipping of the cutting edge. The optimum value is 30 to 50 %.

Choosing concentration the user must consider two main things, efficiency (such as cutting time, service life, etc.) and price. Concentration value our standard sizes are 25, 50, 75, 100, 125 and 150, which can be seen from Table 2.



Fig 6. Concentration of grits in 1 cm³

Concentration (%)	25	50	75	100	125	150
cts/cm ³	1.1	2.2	3.3	4.4	5.5	6.6
Grit. Vol. (%)	6.25	12.5	18.75	25	31.25	37.5

Table 2. Concentration

		GRINDI	NG METHO	D OR SHA	PE OF ABBI	RASIVES	APPLICATION		
WORKPI	ECE MATERIAL	ST TYPE	CUP TYPE	CUTTING TYPE	FLUNGE TYPE	CORE DRILL	MACHINERY	OTHERS	
TUNGSTEN	T.C. ALLOYS	B, M	B, M, V	B, M	Ρ	м	ALL KINDS OF CUTTING TOOLS		
CARBIDE AND OTHERS	SINTERED T.C. ALLOYS	Ρ	P	Ρ	B, P	P	WEAR RESISTANT PARTS		
	CERMET, PCD, PCBN	B, V, M	B, V, M	B, M	M, B	M, B	T.A TIP		
	REFRACTORY MATERIAL	м	м	м	M, P	М		TILE	
	GRAPHITE	м	м	M, P	B, M, P	M		MATERIAL FOR FURNACE	
CERAMIC	Al ₂ O ₅ , Zro ₂ , ETC	B, M	<mark>B,</mark> M	B, M	B, M, P	м	THROW-AWAY TIP CUTTER		
	LINBO, ETC	B, M	B, M	B, M	B, M, P	м	THROW-AWAY TIP CUTTER		
	SiC, SiN, ETC	В	В	B, M	M, P	М		6	
	OPTICAL GLASS	м	B, M	M	M, P	М		2	
AUTOMOBILE	FLAT GLASS	м	B, M	B, M			BACK MIRROR WINDOW GLASS	MIRROR, WINDOW FURNITURE	
GLASS	TUBE GLASS	М	B, M	B, M	M, P			PHYSICAL INSTRUMENT	
	QUARTS GLASS	М	B, M	B, M, P	М	М			
	OTHERS	М	М	М		М		INDUSTRIAL PRODUCTS	
BUILDING AND	STONE		<mark>B,</mark> M	м		м		TOMB STONE BUILDING MATERIAL	
CONSTRUCTION	CONCRETE ASPHALT			м		М		ROAD & BUILDING	
MATERIAL	SYNTHETIC MATERIAL	М	М	М		M		MATERIAL FOR WALL	
	DIAMOND	B, M, V	B, M, V				WEAR RESISTANT PARTS	MEDICAL SUPPLIES	
JEWELRY AND	RUBY	B, M, V	B, M, V						
SEMIJEWELKY	CRYSTAL	B, M	B, M, V						
	SEMI-JEWELRY	М	B, M	М	M, P	М		INDUSTRIAL PRODUCTS	
	PERMANENT MAGNET	м	м	М	Ρ				
FERRITE	AUDIO-FREQUENCY	B, M	B, M	B, M	B, M, P				
	HIGH-FREQUENCY	в, М	B, M	В, М	B, M, P				
SEMI	St, Ge	М	B, M, V, P	B, M, P	М	1			
CONDUCTOR	Ga. AS, OTHERS	м	B, M, V, P	B, M, P	М				
	ACRILIC RESIN	M, P	M, P	M, P	M, P	Ρ		INDUSTRIAL PRODUCTS	
PLASTIC	FRP	M, P	M, P	M, P	P	P		INSTRUMENT	
PERSINC	PLASTIC	Ρ	P	32			BRAKE LINING		
	RUBBER	P	Р	P	P		TIRE		
OTHERS	SHELL	P	Р	P	Р	P		"PADUK" STONE	
UTTERS	TEETH	Р	Р		Ρ			DENTAL INSTRUMENT	
	CASTIRON	B, M	B, M	3) X					
METAL	SEMI-ALLOYS		•	M, P			MACHINERY PART		
5	Sn-Co		В	B, M, P					

APPLICATION OF DIAMOND GRINDING WHEELS

M: Metal bond B: RESIN BOND V: VITRIFIED BOND P: ELECTROPLATED BOND

CREDITED: DIPROTEX

Table 3. Application of diamond grinding wheels

APPLICATION OF CBN GRINDING WHEELS

				APPLICA	TION	
WORKPIECE MATERIAL			INTERNAL- COMBUSTION ENGINE	NORMAL MACHINERY PARTS	TOOLS	ELECTRONIC PARTS
	H.S.S. (SK)		VANE-PUMP PARTS	ROLL SPINDLE		
HARDENED	HARDENED	SKS		MICROMETER	DAILE HOB. BITE	
1002	ALLOY	SKD		ROLL, GAUGE	MOLD & DIES	
	CARBON	STEEL		KNIFE, RAZOR BLADE	MOLD	
	S-C	:		MISSION PARTS	1	
STRUCTURAL ALLOY	SCM SNC SNCM SACM		FULL GEAR INJECTION	PRESSURE CYLINDER MISSION PARTS		
			CRANK GEAR PARTS FOR PUMP		MOLD	
BEARING STEEL	SU.	J		BEARING		
CAM IRON			OIL SEAL CAM	COMPRESSOR PARTS MACHINE TOOL PARTS		
SINTERED	METAL (WITH	ł Fc)	POWER STEERING PARTS	COMPRESSOR PARTS		
MAGNETIC ALLOY	Sn-0	Co				VIDEO DRUM HEAD MAGNET
SU	PER ALLOY			JET ENGINE		

CREDITED: DIPROTEX

Table 4. Application of CBN grinding wheels

How to order Diamond and CBN Tools

To meet your requirements, We need the following information.

- 1) Shape and dimension of them
- 2) Grit size of Diamond or CBN
- 3) Concentration
- 4) Bond (Resin, Metal, Vitrified)
- 5) Working Condition
 - Machine name & Power
 - RPM of Diamond or CBN Tools
 - RPM of workpiece
 - Table speed (mm/min.)
 - Depth/pass (mm/min.)
 - Infeed (mm/min.)
 - Total stock removal
 - Wet or Dry application
 - Cycle time
 - Grinding method (through, feed, Infeed)
 - Coolant
 - Dressing method
- 6) Work piece
 - Material of workpiece
 - Shape of workpiece (dimension)
 - Hardness of workpiece
- 7) Required quality
 - Surface roughness
 - Concentricity
 - Straightness
 - Others
- 8) Special requirements
 - Marking

Diamond and CBN Grinding Wheel Parameter

A	Abrasive type		Hardness grade		ade	Bond type		
SD (S SDC (S CBN (C	SD (Synthetic diamond) SDC (Synthetic metal coated) CBN (Cubic Boron Nitride)		J : Soft I) N : Medium R : Hard		n	B : Resin M : Metal V : Vitrified		
	SDC	. 17 Grit	7 () N	100 Concentra	B		
	↓							1 I
Application	US (JIS) MESH	FEPA (µm)		Application	US (JIS) MESH	FEPA (µm)	%	ct/cm ³
Application	US (JIS) MESH 30/40#	FEPA (µm) D602		Application	US (JIS) MESH 500#	FEPA (µm) 30-40	% 25 50	ct/cm ³ 1.1 2.2
Application	US (JIS) MESH 30/40# 40/50#	FEPA (µm) D602 D427		Application	US (JIS) MESH 500# 600#	FEPA (μm) 30-40 22-36	% 25 50 75	ct/cm ³ 1.1 2.2 3.3
Application	US (JIS) MESH 30/40# 40/50# 50/60#	FEPA (μm) D602 D427 D301		Application	US (JIS) MESH 500# 600# 800#	FEPA (μm) 30-40 22-36 20-30	% 25 50 75 100 125	ct/cm ³ 1.1 2.2 3.3 4.4 5.5
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80#	FEPA (μm) D602 D427 D301 D252		Application LAPPING	US (JIS) MESH 500# 600# 800# 1000#	FEPA (μm) 30-40 22-36 20-30 15-25	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100#	FEPA (μm) D602 D427 D301 D252 D181		Application LAPPING	US (JIS) MESH 500# 600# 800# 1000# 1200#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120#	FEPA (μm) D602 D427 D301 D252 D181 D151		Application LAPPING	US (JIS) MESH 500# 600# 800# 1000# 1200# 1500#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140#	FEPA (μm) D602 D427 D301 D252 D181 D151 D126		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1500# 1800#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 140/170#	FEPA (μm) D602 D427 D301 D252 D181 D151 D126 D107		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1500# 1800# 2000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 140/170# 170/200#	FEPA (μm) D602 D427 D301 D252 D181 D151 D126 D107 D91		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1500# 1800# 2000# 3000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10 4-8	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
Application	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 120/140# 1140/170# 170/200# 200/230#	FEPA (μm) D602 D427 D301 D252 D181 0151 0151 0126 D107 091 076		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1200# 1800# 2000# 3000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10 4-8 3-6	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
GRINDING	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 120/140# 140/170# 200/230# 230/270#	FEPA (μm) D602 D427 D301 D252 D181 D151 D126 D107 D91 D91 D76 D64		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1200# 1500# 1800# 3000# 5000# 8000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10 4-8 3-6 2-4	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
GRINDING	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 120/140# 140/170# 200/230# 230/270# 230/270#	FEPA (μm) D602 D427 D301 D252 D181 D151 D151 D126 D107 D91 D91 D91 D76 D64 D54		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1200# 1500# 2000# 3000# 5000# 8000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10 4-8 3-6 2-4 1-3	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6
GRINDING	US (JIS) MESH 30/40# 40/50# 50/60# 60/80# 80/100# 100/120# 120/140# 120/140# 120/140 200/230# 230/270# 230/270# 2270/325# 325/400#	FEPA (μm) D602 D427 D301 D252 D181 D151 D126 D107 D107 D91 091 076 D64 D64 D54		Application	US (JIS) MESH 500# 600# 800# 1000# 1200# 1200# 1500# 1800# 2000# 3000# 5000# 8000# 12000#	FEPA (μm) 30-40 22-36 20-30 15-25 10-12 8-16 6-12 5-10 4-8 3-6 2-4 1-3 0-2	% 25 50 75 100 125 150	ct/cm ³ 1.1 2.2 3.3 4.4 5.5 6.6

Remark : GRIT SIZE (µ) = 15000/MESH SIZE

other sizes, please contact the sales department.

The Shapes Coding System of Diamond and CBN Tools



Wheel Shapes



Type : 1A1



D : Wheel diameter

T : Wheel thickness

- X : Depth of abrasive section
- H : Hole diameter

	B : Resin Bond	M : Metal Bond	V	:	Vitrified	Bond
_						

D	T	x	н	Available bonds
20 - 15	2 15	3,5,10		В
30~+5	2~15	5,10		M
	2 ~ 40	3,5,10,15,20	. n	В
50,75,100	2 ~ 15	5,10,15,20	y yo	м
Contraction of the second s	<mark>5 ~ 40</mark>	5,10,15,20	d be	V
	<mark>5 ~ 4</mark> 0	3,5,10,15,20	difie	В
125,150,175	<mark>5 ~ 15</mark>	5,10,15,20	spe	м
CONTROL AND A	<mark>5 ~ 40</mark>	5,10,15,20	As	V
200.220	<mark>5 ~ 15</mark>	5 10 15 20		M
200,220	<mark>5 ~ 4</mark> 0	5,10,15,20		B,V

Type : 1A1R



- D : Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- E : Back thickness
- H : Hole diameter

D	т	x	E	H	Available bonds
75 100	0.4 ~ 0.7	2 5	0.3 ~ 0.6	λc	В
75,100	0.5 ~ 1.0	3,3	0.4 ~ 0.9	ed l	B M
125 150 175	0.5 ~ 2.0	3,5	0.4 ~ 1.9	scifi you	P M
123,130,175	1.0 ~ 2.0	3,5,8	0.8 ~ 1.9	ds s	D,IVI
200,220	1.0 ~ 2.0	3,5,8	0.8~1.9	A	B,M

B : Resin Bond M : Metal Bond V : Vitrified Bond



- D : Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- V : Rim angle
- H : Hole diameter

D	т	x	v	н	Available bonds
		3	<mark>≥</mark> 90°		В
	3	5	<mark>≥60°</mark>		B,M
75 100 125 150		8	≥30°	hou	B,M
75,100,125,150	5	5	<mark>≥90°</mark>	λq	
		5	8	<mark>≥60°</mark>	fied
		10	≥45°	Deci	87
		5	≥90°	Is st	
175,200,220	5	8	≥60°	+	B,M
		10	≥45°		a)

B : Resin Bond M : Metal Bond V : Vitrified Bond

Type : 1EE1



- D : Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- V : Rim angle
- H : Hole diameter

B: Resin Bond M: Metal Bond V: Vitrified Bond

D	т	x	v	н	Available bonds
	3,5		≥30°	λ	
75,100,125,150,175	10	3,5	≥45°	ed b	B,M
	15		≥60°	/ou	
200.220	5,10	25	≥60°	spe	D.M.
200,220	15	3,5	≥90°	As	B,IVI

Type : 1V1



- D: Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- V : Rim angle
- H : Hole diameter

B : Resin	Bond	M : Metal	Bond	V: Vitrified	Bond

D	т	x	v	н	Available bonds
75	5 ~ 20		30° ~ 45° 3,5	. n	В
75	5 ~ 15	2.5		y yo	М
100 125 150	<mark>5 ~ 20</mark>	5,5		cified b	В
100,123,130	5 ~ 15	.0.0.9	15 45		М
175 200 220	5 ~ 20	257	15 ~ 15	As spe	В
175,200,220	5 ~ 15	3,3,7	15 45		М
175,200,220 * Othe	5 ~ 15 er sizes, please contact	3,5,7 the sales de	15° ~ 45°	As s	М

Type: 1FF1



- D : Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- R : Rim radius
- H : Hole diameter

	B : Resin Bond	M : Metal Bond	V	: Vitrified Bond
-		and the second		

D	т	x	R	н	Available bonds
50.75	2 10	3,5,10		<u>с</u> .	В
30,75	5~10	5,10	0.5T	As specified by yo	м
100 125 150	3 ~ 20	3,5,10			В
100,123,130	3~15	5,10			м
175 200 220	5 ~ 20	3,5,7			В
175,200,220	5~15	5,7			м

Type: 3A1



- D : Wheel diameter
- T : Wheel thickness
- X : Depth of abrasive section
- J : Hub diameter
- U : Face thickness
- H : Hole diameter

В	:	Resin	Bond	M : Metal	Bond	٧:	Vitrified	Bond

D	т	U	x	н	Available bonds	
70	10.15.20	25	3,5	•	В	
75	10,13,20 5,5 5	3,5	15,20 5,5	5	Nor	М
400	10.15 20.25	3 5 10	3,5,8	hq	В	
100	10,15,20,25	5,5,10	5,8	fied	M,V	
125		3,5,10	5,8,10	Deci	B,M,V	
150,175	10,15,20,25,30	5,10,15	5,10,15	ts st	B,M,V	
200,220		5,10,15	5,10,15	4	B,M,V	

Type: 4A2



D : Wheel diameter

T : Wheel thickness

- W : Rim width
- X : Depth of abrasive section
- J : Hub diameter
- Z : Back thickness at rim
- H : Hole diameter

B: Resin Bond M: Metal Bond V: Vitrified Bond

D	т	w	x	H	Available bonds	
75,100	8~15	3,5	3,5	ed u .		
125,150	10 ~ 25	3,5,10	3,5,7	As ecifi	B,M,V	
175,200,220	15 ~ 25	5,10,15	3,5,7	ds fa		



- D : Wheel diameter
- T : Wheel thickness
- W : Rim width
- X : Depth of abrasive section
- V : Rim angle
- H : Hole diameter

B: Resin Bond M: Metal Bond V: Vitrified Bond

D	т	w	x	v	н	Available bonds
100	7	5,8,10	1.5~2		ed u .	
125	7 ~ 10	5,8,10,12	1.5~3	15°, 30°, 45°	5°, 30°, 45° 🖌 🖓 🖓	
150,175,200	7 ~ 12	5,8,10,12	1.5~3		ds d	2
	* Other sizes, pl	ease contac	t the sa	les department.	*	

Type : 6A9



- D : Wheel diameter
- T : Wheel thickness
- U : Length of insert
- X : Depth of abrasive section
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	U (x	E	н	Available bonds
75 100 125	25,30 5~12 1.5,3 10	10	ed u .	В		
75,100,125		5~12	3	10	As ecifi	M,V
150,175,200,220	30,35	5~12	3	10,20	d d	B,M,V

B : Resin Bond M : Metal Bond V : Vitrified Bond

Type : 6A2, 6A2C





- D : Wheel diameter
- T : Wheel thickness
- W: Rim width
- X : Depth of abrasive section
- E : Back thickness
- H : Hole diameter
- * B.C. : Pitch circle diameter(P.C.D.)
 - * nd : Number of holes and diameter



B: Resin Bond M: Metal Bond V: Vitrified Bond

Type: 9A3



- D : Wheel diameter
 - : Wheel thickness
- W : Rim width
 - : Depth of abrasive section
 - : Back thickness
- H : Hole diameter

B : Resin Bond	M : Metal Bond	V: Vitrified Bond
----------------	----------------	-------------------

D	т	w	x	E	н	Available bonds
100,125	20.20	5,10	1.5,2,3	10	cified ou .	D M
150,175,20 <mark>0,220</mark>	20~30	5,10 <mark>,1</mark> 5	1.5,2,3,5	10	As spe by y	B,IVI
	* Other sizes, pleas	e contact	the sales c	lepartme	nt. *	

Type : 11A2



- D : Wheel diameter
- T : Wheel thickness
- W : Rim width
- X : Depth of abrasive section
- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	w	x	E	н	Available bonds
75	25~30	5,10	5,8		σ	
100,125	30~35	5,10	5,8,10	10	cifie .	PMV
150,175	35~40	5,10,15,20	5,10,15,20	10	you	D,IVI,V
200,220	40~45	5,10,15	5,10,15		As	

B : Resin Bond M : Metal Bond V : Vitrified Bond



B : Resin Bond	IVI : IVIetal Bond	v: vitrified Bond
		Available

I M MELTE IN

D	т	w	x	s	E	н	Available bonds
75	25~30	<mark>5,1</mark> 0	<mark>5,</mark> 8	70°		fied J.	
100,125	25~30	5,10	5,8,10	60°,70°	10	As speci by you	B,M,V
150,175,200,220	25~40	5,10,15	5,8,10	45°,60°,70°			
	* Other si	zes, please o	contact th	e sales depar	tment. *	30	

Type : 11C9



- D : Wheel diameter
- T : Wheel thickness
- W: Rim width
- U : Face thickness
- X : Depth of abrasive section
- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	w	U	x	E	н	Available bonds
75,100	25~30		<mark>3,5</mark>			ed J.	-2
125,150	25~35	10,15	3,5,10	3,5	10	As ecifi y you	B,M
175,200,220	30~40		3,5,10			d d	

B : Resin Bond M : Metal Bond V : Vitrified Bond

Type : 11V9



- D : Wheel diameter
- T : Wheel thickness
- U : Length of insert
- X : Depth of abrasive section
- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

B: Resin Bond M: Metal Bond V: Vitrified Bond

D	т	U	x	E	н	Available bonds
75	25~ <mark>30</mark>		¢		ied	
100	30~ <mark>3</mark> 5	5~10	3,5	10	specif y you	B,M
125,150	30~40				As a	

Type : 11Y9



- D : Wheel diameter
- T : Wheel thickness
- W : Rim width
- U : Face thickness
- X : Depth of abrasive section
- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	w	U	x	E	н	Available bonds
75,100	25~30	5,10	5,7	2,3			
125,150	25~35	5,10	5,7	2,3	10	oecif / you	B,M
175,200,220	30~40	5,10,15	5,7,9	2,3,5		As sy by	
	* Other siz	es, please co	ontact the	sales de	partmen	t. *	

B: Resin Bond M: Metal Bond V: Vitrified Bond



- D : Wheel diameter
- T : Wheel thickness
- W : Rim width
- X : Depth of abrasive section

- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	w	x	E	н	Available bonds
75	25~30	5,10	5		q	
100,125	30~35	5,10	5,8	10	· ifie	DAN
150,175	30~40	5,10,15,20	5,8,10	10	spec	D,IVI,V
200,220	30~45	5,10,15	5,8,10		As	

* Other sizes, please contact the sales department. *

B : Resin Bond M : Metal Bond V : Vitrified Bond

-			
TV	no	٠	121/9
	PC		TTAN



- D : Wheel diameter
- T : Wheel thickness
- U: Length of insert
- X : Depth of abrasive section
- J : Hub diameter
- K : Inside flat diameter
- E : Back thickness
- H : Hole diameter

D	т	U	x	E	н	Available bonds	
75	20,25				ed .		
100	20,25	510 35 10 50	2.5 10		2.5 10		BM
125,150	25,30	5,10	5,5	5,5	spe by y	0,111	
175,200	25,30,35				As		

R · Resin Bond M · Metal Bond V · Vitrified Bond

Type : 14A1



D : Wheel diameter

- T : Wheel thickness
- U : Face thickness
- X : Depth of abrasive section
- J : Hub diameter
- K : Total hub diameter
- H : Hole diameter

1.2~5.0			P M		
	8		D,IVI		
5~8			you	v	
1.2~15	35	yd be	B,M		
5~15	3,5	0,0	0,0	ecifie	v
1.2~15	1	As sp	B,M		
5~15	-		v		
	1.2~15 5~15 1.2~15 5~15	1.2~15 3,5 5~15 1.2~15 5~15 5~15	1.2~15 3,5 5~15 3,5 1.2~15 3,5 5~15 3,5		

Type: 14EE1



- D : Wheel diameter
- T : Wheel thickness
- U : Face thickness
- X : Depth of abrasive section
- V : Rim angle
- J : Hub diameter
- K : Total hub diameter
- H : Hole diameter

D	T	U	x	v	н	Available bonds			
		3,5		≥30°	λc				
75,100,125,150,175	<mark>15~30</mark>	10	3,5	3,5	3,5	3,5	≥45°	ed l	
		15		≥60°	scifi /ou	B,M			
200 220	45 20	5,10	2 5	≥60°	spe				
200,220	15~30	15	3,5	≥90°	As				
*	Other sizes, please	contact the sa	les <mark>depar</mark>	tment. *					

B: Resin Bond M: Metal Bond V: Vitrified Bond



- D : Wheel diameter
- T : Wheel thickness
- W : Rim width
- U : Face thickness
- X : Depth of abrasive section
- J : Hub diameter
- K : Total hub diameter
- H : Hole diameter

D	т	w	U	x	н	Available bonds
100,125	15~20	5,10		3	ified u .	
150,175	20~30	5,10,15	10	3,5	speci	B,M
200,220	20~40	5,10,15		3,5	As	

B: Resin Bond M: Metal Bond V: Vitrified Bond

Type : 3A2 Core drill



- D : Wheel diameter
- W : Rim width
- X : Depth of abrasive section
- L : Mandrel length
- Y : Mandrel diameter
- T : Core length

B: Resin Bond M: Metal Bond V: Vitrified Bond

D	w	x	т	Y	L	Available bonds
20~25	5~8		ed by	ed by		
30~40	5~10	2~5	pecifi	pecifi you	80~100	B,M
45~60	5~15		Ass	As s		

Others Products and serviced 1. Spacer and collar

The spacer that use for separating multiple cutting wheel or other types of work that require a spacer as a separator. The collar is used to splice the workpiece on both sides, which is used for work that must be assembled on a round shaft. We can produce both of them. The main materials used to make are aluminum, steel and stainless steel. The standard tolerance and special tolerance that we can make are within 5 micrometers and 3 micrometers respectively.

The Fig 4. and Fig 5. shows an example of the use of spacer and collar in assembling a stack cutting wheel. Table 5. are the sizes of spacer and collar that our company can do.



Fig 4. Example of using Spacer and collar in a stack cutting wheel



Fig 5. Re-assembly part of a Stack cutting wheel, 3 and 5 are collar and spacer respectively

	Max	Min
OD (mm.)	200	25
Thickness (mm.)	40	0.18

Table 5. . Shown the size of S28er and Collar that we can do

2. Repair shape of the grinding wheel

The shape of new grinding wheel is the same as in the template, but after a period of use, There will be wear and causing the shape of the grinding wheel to be different from the original. But we can solve this problem, using a profile grinding machine, the shape returns to the same as in the template. Our company provides this service as well.

In Table 6. are the sizes of the grinding wheel that we can do.





Principles of repairing shape of a grinding wheel with the profile grinder machine

Profile grinding machine

	Max	Min
OD (mm.)	250	25
Thickness (mm.)	20	0.5

Table 6. shown the size of the grinding wheel that we can do

3. Rework cup wheel

Because large cup wheels are expensive, only the diamond chip parts wear out but the body parts can still be reused many times. We just need to replace the diamond chip with a new one. We can save a lot of money on using it. Our company also provides this service. In Table 7. are the sizes of a cup wheel that our company can do.



3. Apply special glue and put new diamond chip, then grind and adjust to the size according to the specified design.

	Max	Min
OD (mm.)	400	15
Thickness (mm.)	150	10

4. Cup wheel after rework.

Table 7. shown the size of a cup wheel that we can do

Applications (Example)

1) Cutting or Slicing



Cutting or Slicing Machine



Surface Grinding Machine

4) Sharpen Drill







6) Sharpen circular saw blade

7) Sharpen Electric Planer blade



8) Sharpen endmill







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