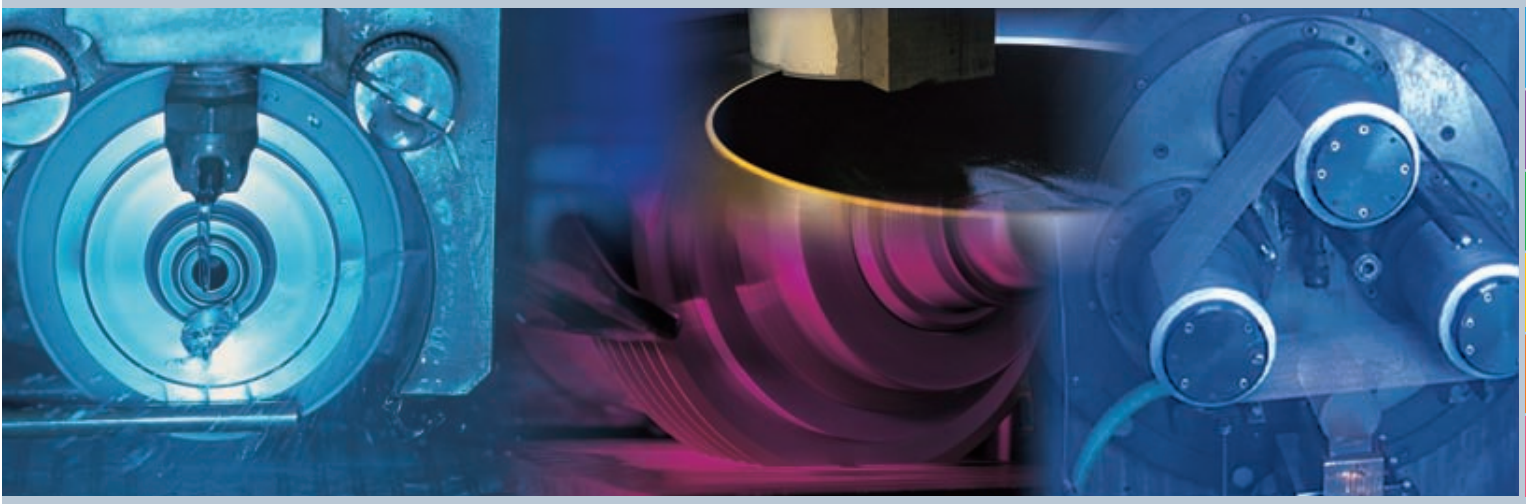
ASAHI DIAMOND



Precision Cutting Tools

B-10-3

Sintered blades

Metal bond (AD-2U)

Metal bond blades, using sintered metal powder as the bonding agent, have the excellent ability to hold its shape for a longer period of time and increase the life of the blade.

Standard metal bond

(Bond label: M303, MST)

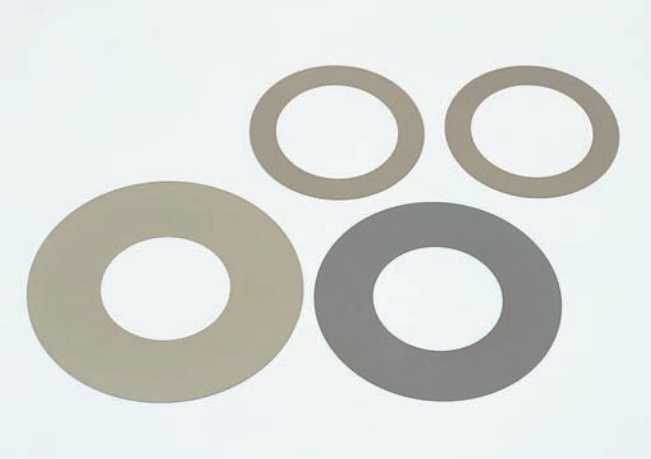
Standard metal bond blades are used for high precision grooving/cutting of materials such as; semiconductor packages, glass, ceramics, and magnetic materials used in the hard drive industry.

High rigidity metal bond

(Bond label: TC, TCR)

High rigidity metal bond blades cut equivalent to electro-formed nickel blades. This makes them excellent for holding their shape when precision dicing is required. And it is possible to meet to request for thinner blade.

Applications: Package cutting, profiled contouring etc.



High elasticity metal bond

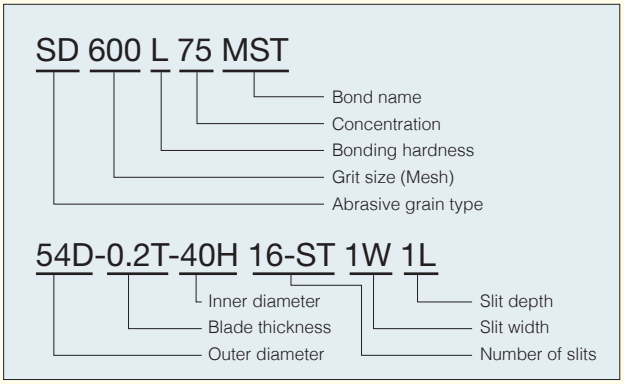
(Name: SUNNOVEL, Bond label: ML)

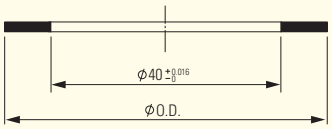
High elasticity metal bond blades combine the strength of a metal bond with the cutting performance of a resin bond blade.

Applications: Quartz, crystal, LT, LN, sapphire, etc.

Specifications and sizes

Specification code





Abrasive grain type

SD	DIAMOND
B	CBN

Concentration

25	Low ↕ High
50	
75	
100	

Bonding hardness

J	Soft ↕ Hard
L	
N	
P	
R	
S	

*Application range is limited by a bond type.

Grit size (mesh and μm)

6000	1-2μm
4000	2-4μm
3000	2-6μm
2500	4-6μm
2000	4-8μm
1500	5-10μm
1200	8-16μm
1000	10-20μm
800	15-25μm
600	20-30μm
500	30-40μm
400	40-60μm
325	#325/400
270	#270/325
230	#230/270
200	#200/230
170	#170/200

Bond name

Standard	
M303	MR303
MST	MRST
MS2	MRS2
MS4	MRS4
High rigidity type	
TC30	TCR30
High elasticity type	
ML520	ML520R

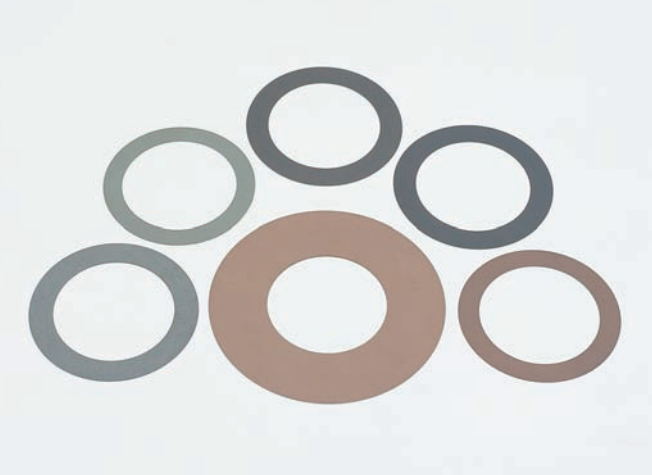
		Outer diameter (mm)			Grit size (Mesh) / tolerance of blade thickness			
		49-77	78-105	106-110	800-6000	400-600	230-325	170-200
					T±0.005	T±0.01	T±0.015	T±0.02
Blade thickness (μm)	75	●			●			
	100	●	●	●	●	●		
	150	●	●	●	●	●	●	
	250	●	●	●	●	●	●	●
	300	●	●	●	●	●	●	●
	400	●	●		●	●	●	●
	500	●			●	●	●	●

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

Resin bond (AD-2U, AD-2J)

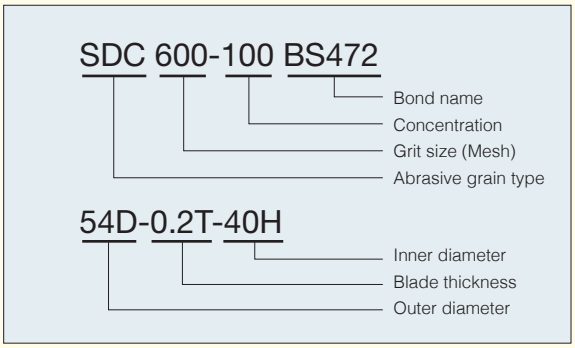
Resin bonded blades have excellent cutting ability that help reduce chipping, fractures, and achieve smooth surface finish. Various bond types and controlled diamond concentration make resin bond blades suited for dicing of hard, fragile material.

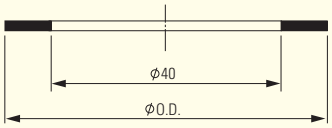
Applications: Crystal, ceramics, glass, etc.



Specifications and sizes

Specification code





Abrasive grain type

SD	Diamond
SDC	Coating diamond
B	CBN
BC	Coating CBN

Concentration

50	Low
75	
100	
125	High

Grit size (mesh and μm)

6000	1-2μm
4000	2-4μm
3000	2-6μm
2500	4-6μm
2000	4-8μm
1500	5-10μm
1200	8-16μm
1000	10-20μm
800	15-25μm
600	20-30μm
500	30-40μm
400	40-60μm
325	#325/400
270	#270/325
230	#230/270
200	#200/230
170	#170/200

Bond name

BG2	
BGS11	BGS13
B38	B382
BJ5	BSJ5
B472	BS472
B662	BS662
B66T	BS66T
BG47	BGS47
BAT	BSAT
BN31	B1484

		Outer diameter (mm)				Grit size (Mesh) / tolerance of blade thickness				
		49-56	57-62	63-80	81-110	800-6000	500-600	325-400	230-270	170-200
						T±0.005	T±0.005	T±0.01	T±0.01	T±0.01
Blade thickness (μm)	50	■				●				
	75	■	■			●				
	100	■	■	■		●	●			
	150	■	■	■	■	●	●	●		
	200	■	■	■	■	●	●	●	●	
	250	■	■	■	■	●	●	●	●	●
	300	■	■	■	■	●	●	●	●	●
	400	■	■	■	■	●	●	●	●	●
	500	■	■	■	■	●	●	●	●	●
	1000	■	■	■		●	●	●	●	●
	2000	■	■			●	●	●	●	●

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

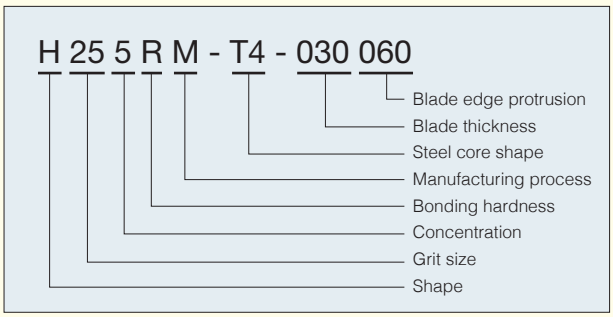
Electroforming blades

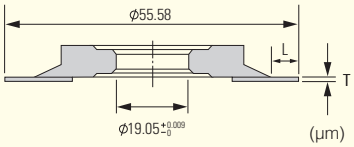
Hub type (AD-2H)

Hub type nickel plated blades were developed for dicing of silicon wafers, and compound semiconductor wafers such as GaAs and SiC. The aluminum hub allows for easy handling of ultra thin blades. A wide variety of standard and custom specifications are available for tough applications such as cutting ultra-thin wafers, as well as wafers with metals in the street.

Specifications and sizes

Specification code





Shape

H	Standard

Concentration

3	Low
5	Standard
7	High

Bonding hardness

J	Soft
N	Standard
R	Hard

Grit size (mesh and μm)

70	7000	1-2
60	6000	0.5-3
50	5000	1-3
40	4000	2-4
35	3500	2-5
33	3300	3-5
30	3000	2-6
27	2700	3-6
25	2500	4-6
23	2300	3-8
20	2000	4-8
18	1800	6-8
15	1500	5-12
12	1200	8-16

Core shape

T3	Standard
T4	For high peripheral speed

Manufacturing process

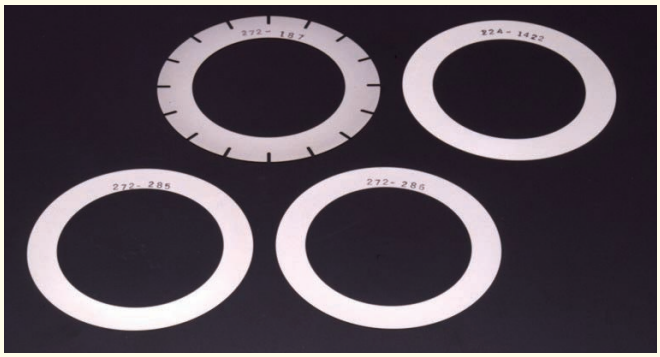
M
N
S
P
V

			Blade edge protrusion (X10μm)										
			030	040	050	060	070	080	090	100	110	120	130
			±50										
Blade thickness (μm)	15	±2	015030	015040	015050								
	20		020030	020040	020050	020060	020070						
	25		025030	025040	025050	025060	025070	025080					
	30		030030	030040	030050	030060	030070	030080	030090				
	35		035030	035040	035050	035060	035070	035080	035090	035100			
	40			040040	040050	040060	040070	040080	040090	040100	040110		
	45				045050	045060	045070	045080	045090	045100	045110	045120	
	50				050050	050060	050070	050080	050090	050100	050110	050120	
	55	±5				055060	055070	055080	055090	055100	055110	055120	
	60					060060	060070	060080	060090	060100	060110	060120	60130
	65					065060	065070	065080	065090	065100	065110	065120	65130
	70					070060	070070	070080	070090	070100	070110	070120	70130
	75						075070	075080	075090	075100	075110	075120	75130
	80						080070	080080	080090	080100	080110	080120	80130
	85						085070	085080	085090	085100	085110	085120	85130
	90						090070	090080	090090	090100	090110	090120	90130
	95						095070	095080	095090	095100	095110	095120	95130
	100							100080	100090	100100	100110	100120	100130
	105							105080	105090	105100	105110	105120	105130
	110							110080	110090	110100	110110	110120	110130
	115							115080	115090	115100	115110	115120	115130
	120							120080	120090	120100	120110	120120	120130
	125							125080	125090	125100	125110	125120	125130
	130							130080	130090	130100	130110	130120	130130
	135							135080	135090	135100	135110	135120	135130
	140							140080	140090	140100	140110	140120	140130
	145							145080	145090	145100	145110	145120	145130
	150							150080	150090	150100	150110	150120	150130

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

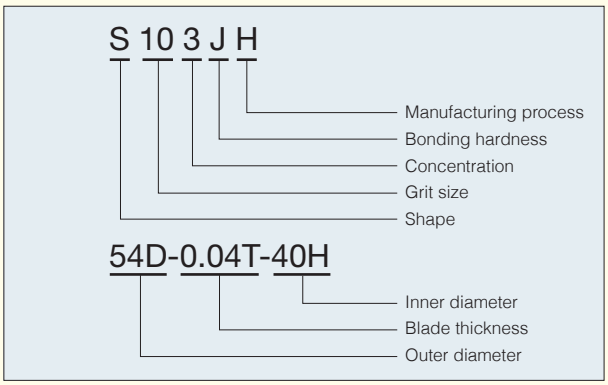
Ring type I (AD-2U)

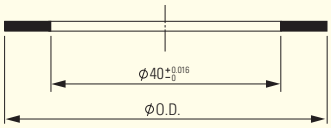
Ring type I blades are suitable for various cutting and grooving applications, such as silicon wafers, compound semiconductor wafers, etc. Nickel plating is the bonding material and with the proper diamond size, blades as thin as 15µm in thickness are available. The various specifications available, make it possible to choose the best blade for your requirements.



Specifications and sizes

Specification code





Shape

S	Standard
T	With slits

Concentration

3	Low
5	Standard
7	High

Bonding hardness

J	Soft
N	Standard
R	Hard

Grit size (mesh and µm)

70	7000	1-2
60	6000	0.5-3
50	5000	1-3
40	4000	2-4
35	3500	2-5
33	3300	3-5
30	3000	2-6
27	2700	3-6
25	2500	4-6
23	2300	3-8
20	2000	4-8
18	1800	6-8
15	1500	5-12
12	1200	8-16
10	1000	10-20
08	800	12-25
07	700	15-25
06	600	20-30

Manufacturing process

F
G
H

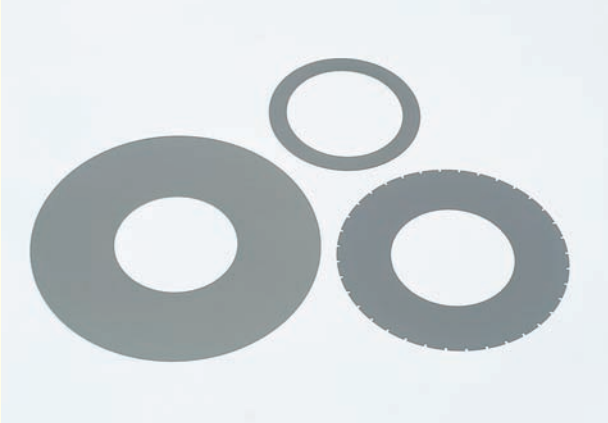
			Outer diameter (mm)			Grit size							
			49-58	70-77.8	90-110	20 ····· 70	18	15	12	10	08	07	06
Blade thickness (µm)	15	±2	●			●							
	20		●			●	●	●					
	25		●			●	●	●					
	30		●	●		●	●	●	●				
	35		●	●		●	●	●	●				
	40		●	●		●	●	●	●				
	45		●	●		●	●	●	●				
	50		●	●	●	●	●	●	●	●			
	55		●	●	●	●	●	●	●	●			
	60		●	●	●	●	●	●	●	●			
	65		●	●	●	●	●	●	●	●	●		
	70	±5	●	●	●	●	●	●	●	●	●		
	75		●	●	●	●	●	●	●	●	●		
	80		●	●	●	●	●	●	●	●	●	●	●
	85		●	●	●	●	●	●	●	●	●	●	●
	90		●	●	●	●	●	●	●	●	●	●	●
	95		●	●	●	●	●	●	●	●	●	●	●
	100		●	●	●	●	●	●	●	●	●	●	●
	105		●	●	●	●	●	●	●	●	●	●	●
	110		●	●	●	●	●	●	●	●	●	●	●
	115		●	●	●	●	●	●	●	●	●	●	●
	120		●	●	●	●	●	●	●	●	●	●	●
	125		●	●	●	●	●	●	●	●	●	●	●
	130		●	●	●	●	●	●	●	●	●	●	●
	135		●	●	●	●	●	●	●	●	●	●	●
	140		●	●	●	●	●	●	●	●	●	●	●
	145		●	●	●	●	●	●	●	●	●	●	●
	150		●	●	●	●	●	●	●	●	●	●	●

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

Electroforming blades

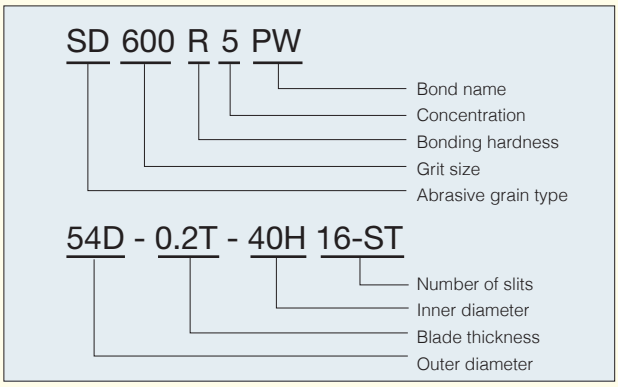
Ring type II (AD-2G)

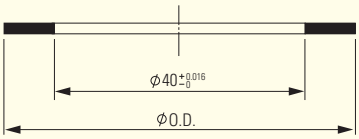
Ring type II blades are available when a blade thicker than 100μm, and larger diamond sizes are required. These nickel bond blades are more rigid and durable then metal bond blades. Suitable for cutting and grooving of ceramics, semiconductor packages, and other hard or brittle materials.



Specifications and sizes

Specification code





Abrasive grain type

SD	DIAMOND

Concentration

5	Standard

Bonding hardness and bond name

N	PS (Soft)
R	PW (Standard)

Grit size (mesh and μm)

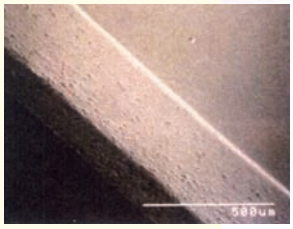
7000	1-2μm
6000	0.5-3μm
5000	1-3μm
4000	2-4μm
3000	2-6μm
2500	4-6μm
2000	4-8μm
1500	5-12μm
1200	8-16μm
1000	10-20μm
800	12-25μm
600	20-30μm
500	30-40μm
400	40-60μm
325	#325/400

			Grit size				
			800 ····· 7000	600	500	400	325
Blade thickness (μm)	100	±3〜5	●				
	110		●				
	120		●				
	130		●				
	140		●				
	150		●	●			
	160		●	●			
	170		●	●			
	180		●	●			
	190		●	●			
	200		●	●	●		
	210		●	●	●		
	220		●	●	●		
	230		●	●	●		
	240		●	●	●		
	250 ⋮ 500		●	●	●	●	●
Outer diameter (mm)	49-60		▬	▬	▬	▬	▬
	61-80		▬	▬			
	81-110		▬				

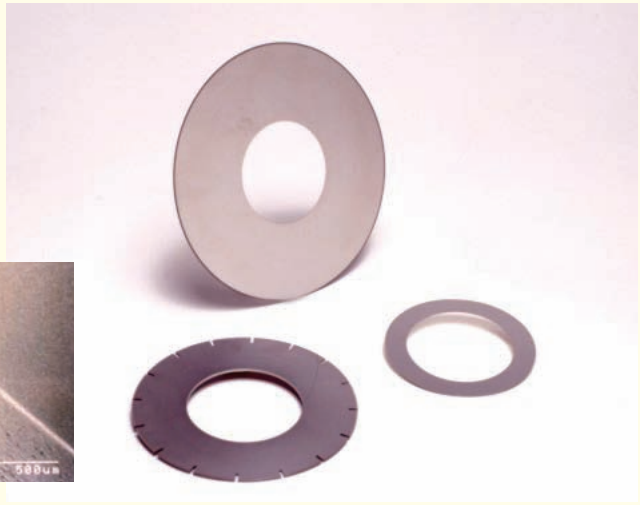
*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

With steel core type (SUNMIGHTY) (AD-2H)

The SUNMIGHTY blades have a high tensile strength stainless steel core with nickel bonded diamonds on the outside edge. The recess between the core and abrasive layer help to improve coolant flow, and easy removal of the particles generated during dicing. This achieves reduced blade wear to the side of the cutting edge. Excellent for applications where tight final die size tolerance is required. Suitable for cutting and grooving of ceramics, and semiconductor packages.



Close up of blade edge



Specifications and sizes

Specification code

SD 600 N 1 PS1

- Bond name
- Concentration
- Bonding hardness
- Grit size
- Abrasive grain type

54D - 0.2T - 40H 16-ST

- Number of slits
- Inner diameter
- Blade thickness
- Outer diameter

Abrasive grain type

SD	DIAMOND

Concentration

1	Low
3	Standard

*The adjustment except low and standard is possible.

Bonding hardness

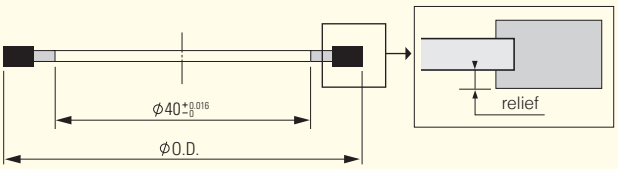
L	Soft
N	Standard

Grit size (mesh and µm)

1500	5-12µm
1200	8-16µm
1000	10-20µm
800	12-25µm
600	20-30µm
500	30-40µm
400	40-60µm
325	#325/400

Bond name

PS1
PS3



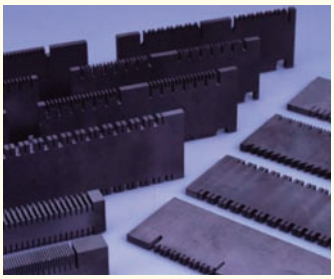
			Grit size				
			800 ····· 1500	600	500	400	325
Blade thickness (µm)	100	±10	●	●			
	150		●	●	●	●	●
	200		●	●	●	●	●
	210 ⋮ 2000		●	●	●	●	●
Outer diameter (mm)	52, 54, 55, 56, 58, 63		■	■	■	■	■
	70, 76.2, 78		■	■	■	■	■
	100		■	■	■	■	■

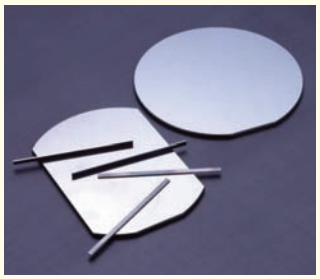
*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

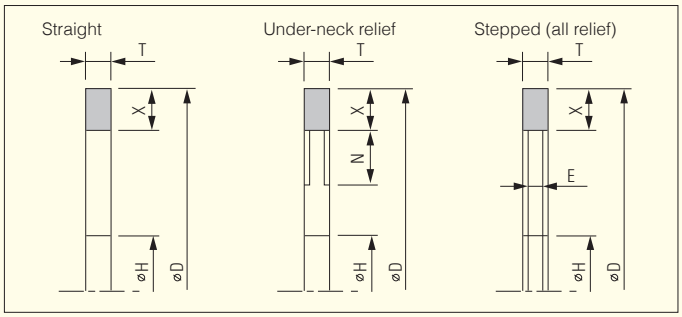
Sintered cutting wheels

Single type (AD-2A)

Single type cutting wheels have a steel core with a diamond or CBN abrasive grain on the outer rim. Available with various selections of grains (diamond or CBN), bond (metal, resin, electroplated), cutting edge shape (V, R-shape) and core design (Straight, Under-neck relief, All relief).

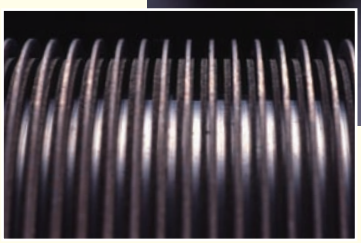


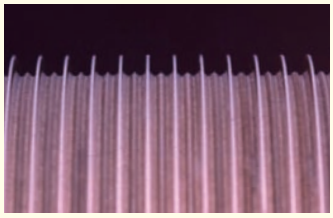




Multi type (AD-26)

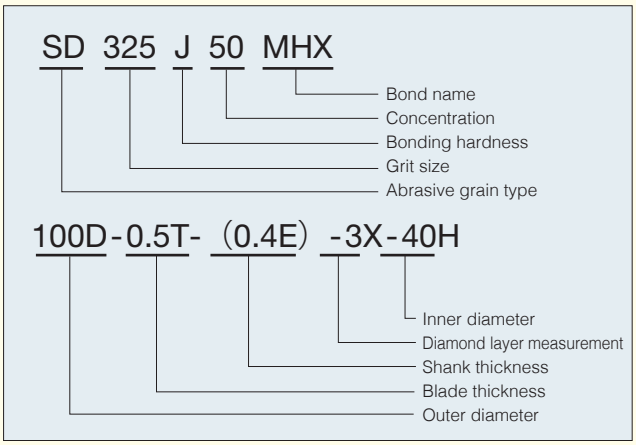
Multi set blades are best suited for mass production applications requiring high precision cutting and grooving. Asahi Diamond's advanced manufacturing technology, ensure high quality of blade edge shape, pitch accuracy and cumulative accuracy.





Metal bond

Specification code



Abrasive grain type

SD	Diamond
B	CBN

Concentration

25	Low
50	
75	
100	
125	High

Bonding hardness

G	Soft
J	
L	
M	
N	
P	
R	
S	Hard

Grit size (mesh and μm)

1500	5-10μm
1200	8-16μm
1000	10-20μm
800	15-25μm
600	20-30μm
500	30-40μm
400	40-60μm
325	#325/400
270	#270/325
230	#230/270
200	#200/230
170	#170/200
140	#140/170
120	#120/140
100	#100/120
80	#80/100
60	#60/80

Bond name

Standard	
MHX	MRHX
MYD	MRYD
MS2	MRS2
MHX25	MRHX25
SUNNOVEL	
ML820	

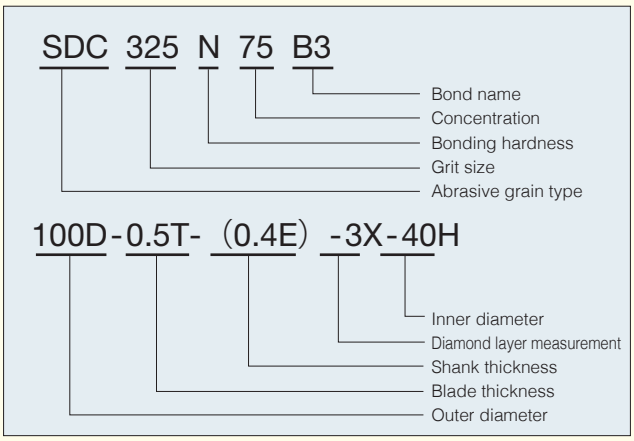
T \ O.D.	52-120	125-150	152-180	200-205	Grit size (Mesh)
0.2	●				230-1000
0.25	●	●			200-1000
0.3	●	●			170-1200
0.4	●	●	●		100-1500
0.5	●	●	●	●	100-1500
0.6 ~ 1.0	●	●	●	●	80-1500
1.01 ~ 1.6	●	●	●	●	60-1500
1.61 ~ 10.0	●	●	●	●	60-1500

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

(Unit: mm)

Resin bond

Specification code



Abrasive grain type

SD	Diamond
SDC	Coating diamond
B	CBN
BC	Coating CBN

Concentration

50	Low
75	
100	
125	High

Bonding hardness

J	Soft
N	
P	
R	Hard

Grit size (mesh and μm)

6000	1-2μm
4000	2-4μm
3000	2-6μm
2500	4-6μm
2000	4-8μm
1500	5-10μm
1200	8-16μm
1000	10-20μm
800	15-25μm
600	20-30μm
500	30-40μm
400	40-60μm
325	#325/400
270	#270/325
230	#230/270
200	#200/230
170	#170/200
140	#140/170
120	#120/140
100	#100/120
80	#80/100
60	#60/80

Bond name

B66	DS03
B662	BG
B3	BGX
BH	BG2
SN100	B50
BMD16	BA
BMS03	BC
BGS36	

T \ O.D.	25-155	175-205	215-230	250-300	305-400	450-550	600-650	700-760	Grit size (Mesh)
0.3	●								230-6000
0.4 ~ 0.7	●	●							170-6000
0.8 ~ 0.9	●	●	●						80-6000
1.0 ~ 1.3	●	●	●	●					60-6000
1.4 ~ 1.9	●	●	●	●	●				60-6000
2.0 ~ 2.3	●	●	●	●	●	●			60-6000
2.4 ~ 2.9	●	●	●	●	●	●	●		60-6000
3.5 ~ 5.0	●	●	●	●	●	●	●	●	60-6000

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

(Unit: mm)

Electroplated diamond wire “EcoMEP”

Electroplated diamond wire (AD-2Y)

Using a unique electroplating technology Asahi is able to diamond coat high tensile wire very precisely. This manufacturing technology provides a significant improvement over conventional slurry type wire saw. Observed advantages are reduced cutting time, less kerf loss, improved flatness when sawing silicon, sapphire and other hard and brittle materials.

The use of water soluble coolant can now be possible to reclaim swarf to reduce production cost and to meet ever increasing environmental requirements. Technical support can also be provided through our R&D sections own sawing equipment to the meet your specific needs.

Electroplated diamond wire sizes

Application	Uncoated wire size (mm) - grain (μm) (finished diameter mm)	Length (km)
Si	φ0.14-10-20（φ0.160）	10~50
	φ0.14-8-16 （φ0.155）	
	φ0.12-10-20（φ0.140）	
Sapphire Glass Neodymium ferrous SIC	φ0.18-30-40（φ0.260）	
	φ0.16-30-40（φ0.240）	
	φ0.14-30-40（φ0.220）	

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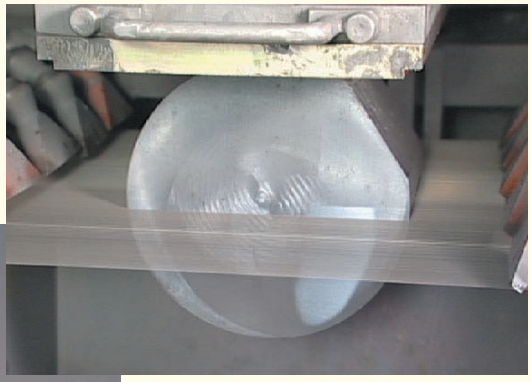
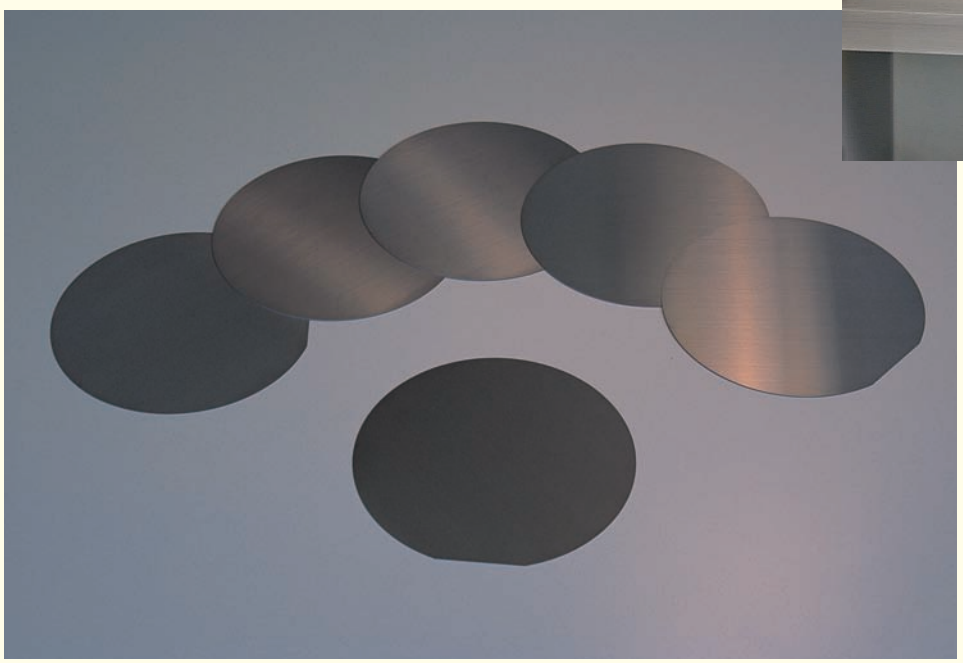
If there is a combination you need and it is not listed, please contact our local sales representative.

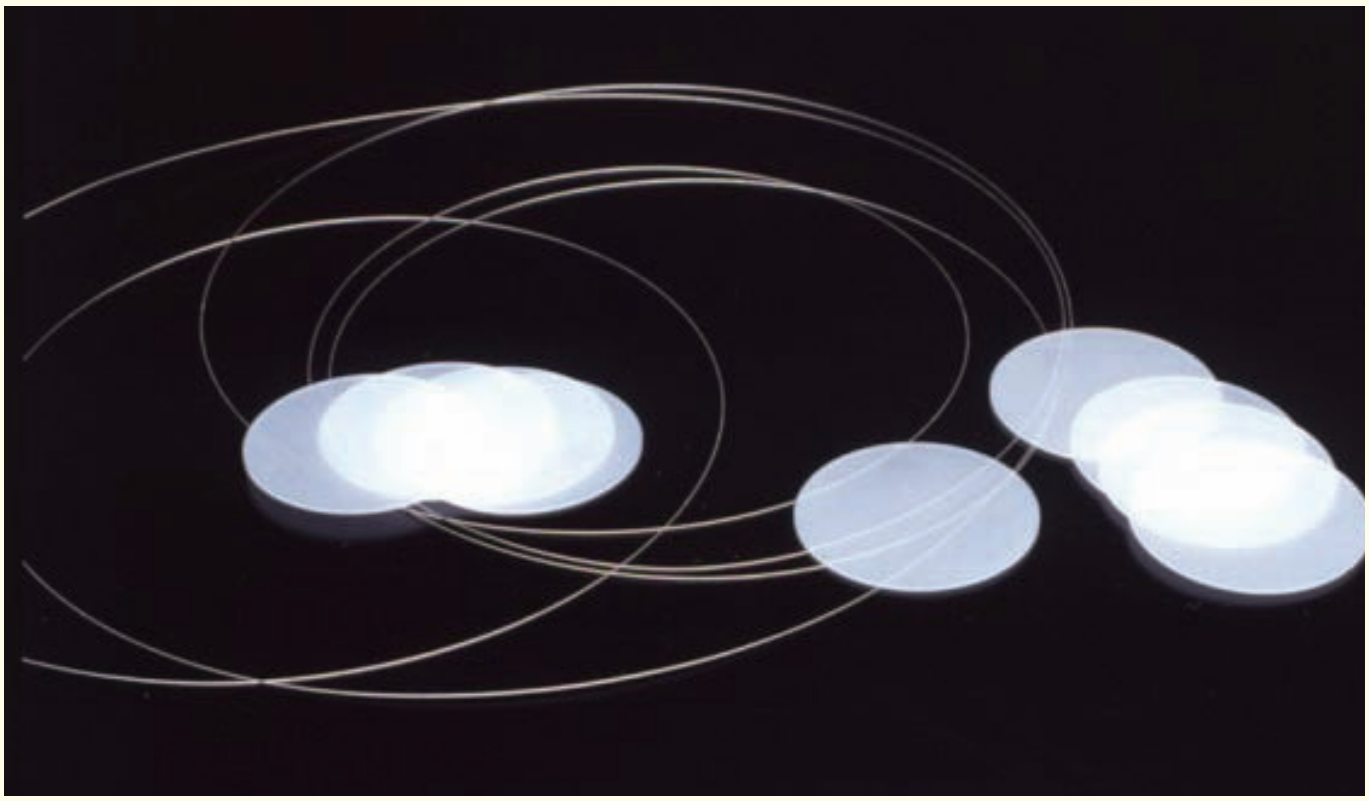
Silicon slicing



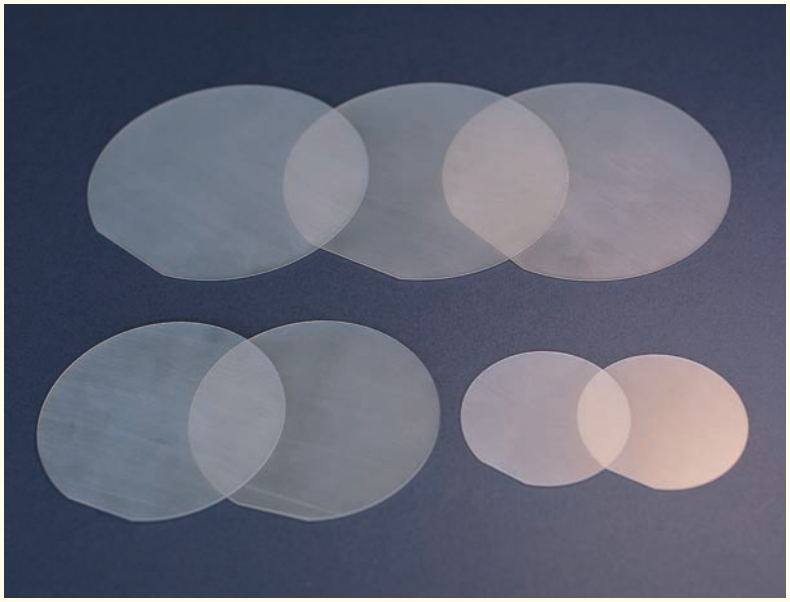


A diamond electroplated wire slices a six-inch silicon ingot.

Sapphire slicing



A diamond electroplated wire slices a sapphire ingot.



Sapphire wafer (2", 3", 4")

Band saws

Electroplated band saws (AD-2B)

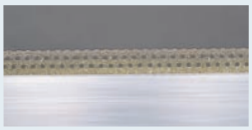
Electroplated band saw provides precision, accuracy and high efficiencies when the optimal blade edge configuration is selected.

Size

Sizes	Length (mm)	Steel core width (mm)	Steel core thickness (mm)
Narrow Type	500～3,000	3～25	0.15～1.33
Wide Type	2,500～9,000	26～125	0.15～1.33

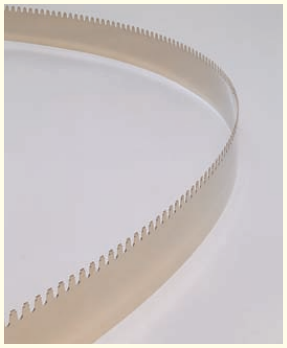
*The above table is our standard product line-up.
If there is a combination you need and it is not listed, please contact our local sales representative.

Blade edge shapes

Type	Abrasive grain layer	Features
Continuous		■ Standard continuous band saw provide good surface finish and are available in a variety of widths to meet your cutting application needs. ■ Very suitable for dry cutting of hard carbon materials, ceramics and glass.
Segmented (Half moon type)		■ Band saw width 26mm and wider, providing excellent cutting ability and life of cutting hard and brittle materials. ■ Suitable for precision and efficient cutting of mono-crystal silicon. ■ Customized segment design (half moon size, pitch), back-taper is also available.
Serrated		■ For band width 26mm and wider ■ Suitable for soft materials etc., which are prone to loading with standard band saw. ■ Excellent cutting ability for hard materials.
Saw blade		■ Diamond plated on metal application band. Provides excellent cutting ability.
Porous		■ Excellent cutting ability provided by porous edge. ■ Can be cut to size fit to vertical cutting band saw. ■ High performance cutting of small optical glass cores.

Metal bond band saws (AD-2B)

Segmented metal bond diamond band saw offers more rigidity verses electroplated band saws while providing excellent large diameter cutting performance. Available with band width of 50 up to 150mm. Mainly used for large horizontal saws.

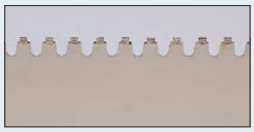


Size

Length (mm)	Steel core width (mm)	Steel core thickness (mm)
3,700～9,800	50～155	0.5～1.25

*The above table is our standard product line-up.
If there is a combination you need and it is not listed, please contact our local sales representative.

Blade edge shape

Metal	Abrasive grain layer	Features
Serrated		■ Serrated slots to avoid brazing heat effect. ■ Selection of Diamond grit size, bond is available to suit various materials and cutting requirement.

Band type selection by materials

The type of material must be taken into consideration when selecting electroplated band saws or metal bonded saws. Refer to the chart below.

Selection guidelines

Electroplated band saws	Metal bond band saws	Features
Silicon (single crystal)		Electroplated band saw Metal band saws can also be used
	Silicon (multi crystalline)	Metal band saw Because this material is generally used in large sizes for solar cells
Quartz glass		■ Small sizes → Electroplated band saw can also be used ■ Large sizes → Metal band saw
Carbon		■ Standard method is to dry cut with electroplated band saw
Synthetic quartz		■ High yield cutting → Electroplated band saw Small sizes ■ Large sizes → Metal band saw
Firebrick		■ Dense brick → Electroplated band saw ■ Normal brick → Metal band saw
Precious stone (Sapphire)		■ Yield given priority → Electroplated band saw ■ Tool life given priority → Metal band saw
Ferrite		■ High yield cutting → Electroplated band saw ■ Tool life given priority → Metal band saw
Ceramic		■ Green ceramic Small sizes → Electroplated band saw Large sizes → Metal band saw

Working conditions

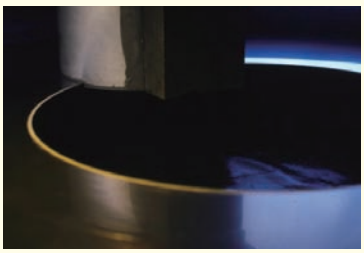
Item	Electroplated band saws	Metal bond band saws
Peripheral speed	150～1,500m/min	850～1,000m/min
Tension	100～200N/mm^2	150～200N/mm^2
Cutting speed	5～50mm/min	5～30mm/min

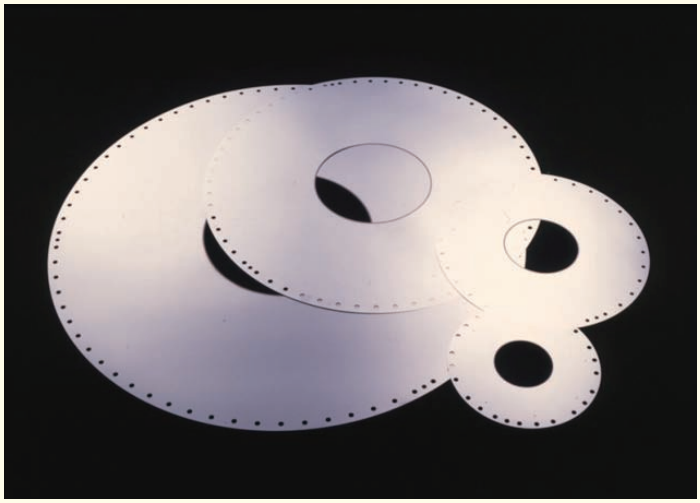
*Cutting speed is adjusted according to type and size (width) of material.

ID Blades

ID Blades (AD-2I)

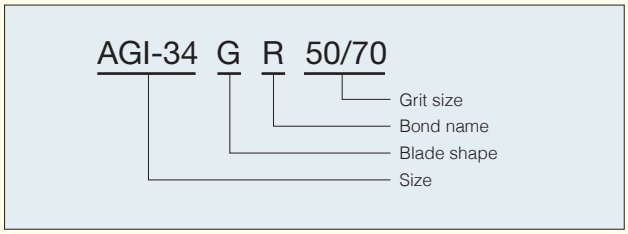
ID blades slicing applications of silicon wafers, semiconductors, glass and magnetic materials such as neodymium ferrous and ferrite are very common. The high tensile strength stainless steel core provides excellent cutting quality and increased yield. Asahi provides a wide selection of diamond mesh size, kerf thickness, kerf shape, bond hardness for various precision applications.

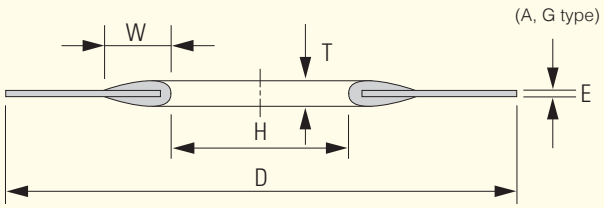




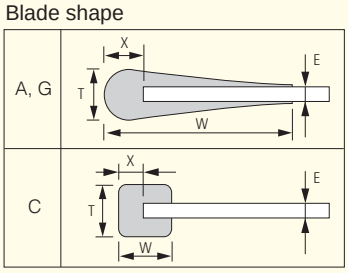
Specifications and sizes

Specification code





Blade shape



Bond name

R	Soft
Q	↕
U	↕
K	Hard

ID Blade (AD-2I) sizes

Size	Outer diameter (D: mm)	Inner diameter (H: mm)	Core thickness (E: mm)	Blade width (W: mm)	Blade thickness (T:μm)	Grit size (μm)
AGI-11	246	91	0.10, 0.12, 0.13, 0.15, 0.18	2	210-260	30/50, 40/60
AGI-15	380	130		2		
AGI-16	422	152		2	260-350	40/60, 50/70
AGI-17	434	152		2		
AGI-21	546	184		2, 3		
AGI-21		203		2		
AGI-22	559	203		2, 3		
AGI-22		240		3		
AGI-23	597	204		2, 3		
AGI-25	648	220		2, 3		
AGI-27	690	240		2, 3, 5		40/60, 50/70, 60/80
AGI-34	860	305	0.13, 0.15, 0.18	3, 5	290-400	50/70, 60/80
AGI-46	1180	410	0.18	4	360-400	60/80

*The above table is our standard product line-up. If there is a combination you need and it is not listed, please contact our local sales representative.

Selection guide of diamond and bond specification by application

Abrasive grain type

Diamond grain

Both natural diamonds and synthetic diamonds are available. Synthetic type diamond is more prevalent for diamond tool use rather than natural diamonds, which are used for cutting glass, ferrite, ceramics, semiconductor materials such as Si, GaAs, GaP etc, tungsten carbide and other hard brittle materials. Metal coated diamond grains are often used with resin bonds in order to provide a mechanical bonding of the diamond grains to prevent grain pull out.

CBN grain

CBN is the second hardest materials to diamond providing excellent heat resistance, when grinding/cutting of various steel materials (Sendust, Permalloy, Al-Ni-Co, hardened steel, High speed steel etc). Metal coated CBN grains are used with resin bond in order to hold CBN grains securely.

Dressing wheels and plates

Various dressing wheels and plates are available for dressing applications.

Ring type dicing blade flanges

Outer diameter specifications

ϕ 49.6 X 40H	ϕ 48.0 X 40H
ϕ 49.2 X 40H	ϕ 47.6 X 40H
ϕ 48.8 X 40H	ϕ 47.2 X 40H
ϕ 48.4 X 40H	

Bond types

Resin bond (B)

A Phenolic resin bond provides excellent surface finish such as roughness and edge quality, although metal bond is superior to resin bond in wear rate. Also Polymide resin bond provides superior heat resistance and the Resi-Metal bond which combines the characteristics between metal and resin bonds are also available.

Metal bond (M)

Metal (bronze, steel and etc) is used as bond material, which has excellent wear rate and is suitable for precision form-grooving applications.

Electroplated (P)

Diamond or CBN is plated with a nickel bond. Diamond or CBN single layer has excellent grain exposure, which provide excellent cutting ability.

Electroforming (P)

The cutting edge has multi-layered diamonds formed with Asahi nickel plating technology. Suitable for ultra-thin dicing blades which requires high rigidity in the cutting edge and long tool life.

Work piece and bonds

WORK PIECE	APPLICATIONS (example)	BONDS		
		B	M	P
Silicon (single crystal)	IC, Discrete			●
GaAs, GaN, GaP	IC, Opto-electronics device			●
SiC (single crystal)	IC, Opto-electronics device		●	●
Glass-Epoxy plate+Resin	BGA, CSP		●	●
Copper plate+Resin	QFN	●	●	●
Ceramics plate+Resin	BGA, CSP	●	●	●
Polyimide plate+Resin	TBGA	●	●	
LTCC, HTCC	Package plate	●	●	
Ferrite (single crystal)	VTR head	●	●	●
Soft-Ferrite	Transformer, Inductor	●	●	●
Neodymium ferrous	Magnet	●	●	●
ALTiC	MR head		●	●
Crystal	Oscillator, Filter	●	●	
Sapphire	LED plate, LD plate	●	●	●
Lithium Tantalate, Lithium Niobate	SAW device		●	●
PZT	Piezoelectric material		●	●
Barium titanate	Condenser		●	●
Potassium titanate	Heat resisting material		●	●
Aluminum nitride	Heat sink	●	●	
Quartz	Optical Fiber	●	●	
Glass	Optical pick-up	●	●	
Borosilicate glass	LCD panel	●	●	

I.D.A.会員

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ISO 9001 :JCQA-0096
ISO 14001:JCQA-E-0530

Mie Factory
Chiba Tsurumai Factory
Chiba No.2 Factory
Yamanashi Asahi Diamond Industrial Co., Ltd.

Shape the Innovation
私達の革新で、お客様の革新をカタチにする

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