订购砂轮时，请指明以下事项

1. 砂轮规格，包括：结合剂、形状代号（请参照下两页）、尺寸和粒度。最好能提供您的设计图纸或您满意的砂轮的标识。
2. 工件材料和硬度，这是决定使用CBN还是钻石的重要信息。
3. 加工参数，如：主轴转速、走刀速度、进刀量和冷却方式。
4. 数量和交期
5. 其他要求，如所需的表面光洁度和精度。

对于重复订购的砂轮，只要将砂轮包装盒上的标签资料（如下）或砂轮上标识的生产单号告诉我们就行了。

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 175D X 8^{U} X 10^{T} X 5^{X}X 31.75^{H} D 150

RW: Bond type
-P: 缓冲层标志 Symbol of buffer layer
14A1: 砂轮形状代号 Shape code
175D X 8^{U} X 10^{T} X 5^{X}X 31.75^{H}: 砂轮外形尺寸 Dimension of wheels
D: B:CBN D:钻石 Diamond
150: 粒度 Grit Size

R.W:树脂砂轮 RW: Resin bond wheel
V.W:陶瓷砂轮 VW: Vitrified bond wheel
M.W:金属砂轮 MW: Metal bond wheel
E.W:电铸砂轮 EW: Electroplated wheel

使用钻石与氮化硼的选用/Choosing Diamond or CBN?

※钻石

- 碳化钨，半烧结碳化钨工具及另件
- 陶瓷工具及另件
- 氧化铁等磁性材料
- 耐火材料及其制品
- 石材、宝石及半宝石、贝壳
- 玻璃、石英、瓷器
- 矽、锗等电子另件
- 碳、石墨及其制品
- 磁砖、沥青、混凝土、石棉
- 塑胶、加强塑料(FRP)
- 耐磨耗披覆材料

※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.

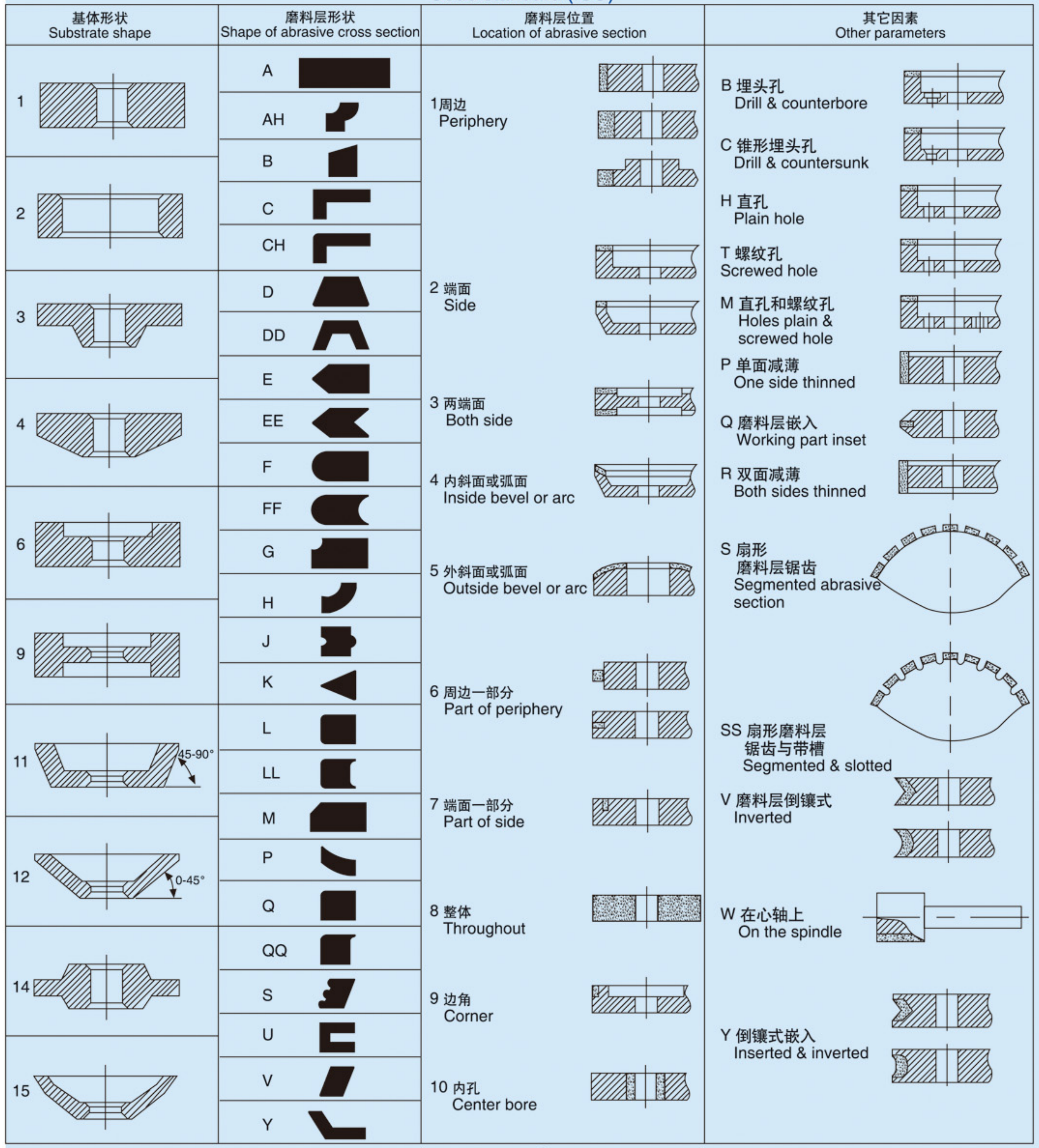
※氮化硼

- SK,SKS,SKH等切削工具及另件
- SKD,Stellite等耐磨工具钢材
- SCM.SNCM.SCr,SUJ等构造用钢
- SUS(不锈钢)等耐蚀金属
- SUH钛合金等耐热金属
- 铸铁

※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)

形状代号标准
Code standard (ISO)



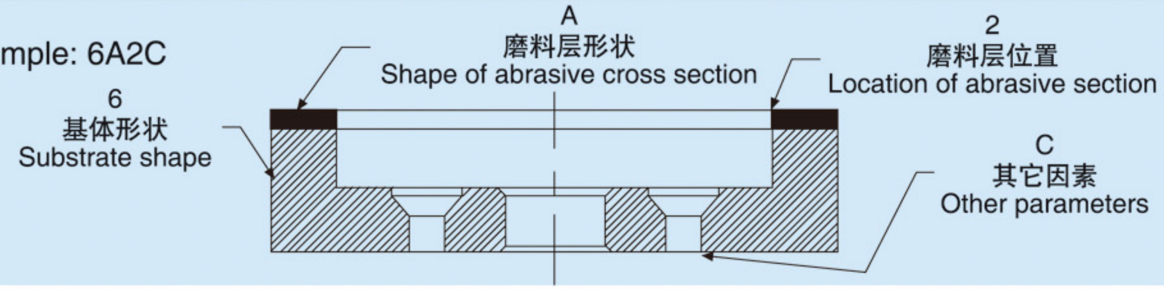
基体形状 Substrate shape:
1, 2, 3, 4, 6, 9, 11 (45-90°), 12 (0-45°), 14, 15

磨料层形状 Shape of abrasive cross section:
A, AH, B, C, CH, D, DD, E, EE, F, FF, G, H, J, K, L, LL, M, P, Q, QQ, S, U, V, Y

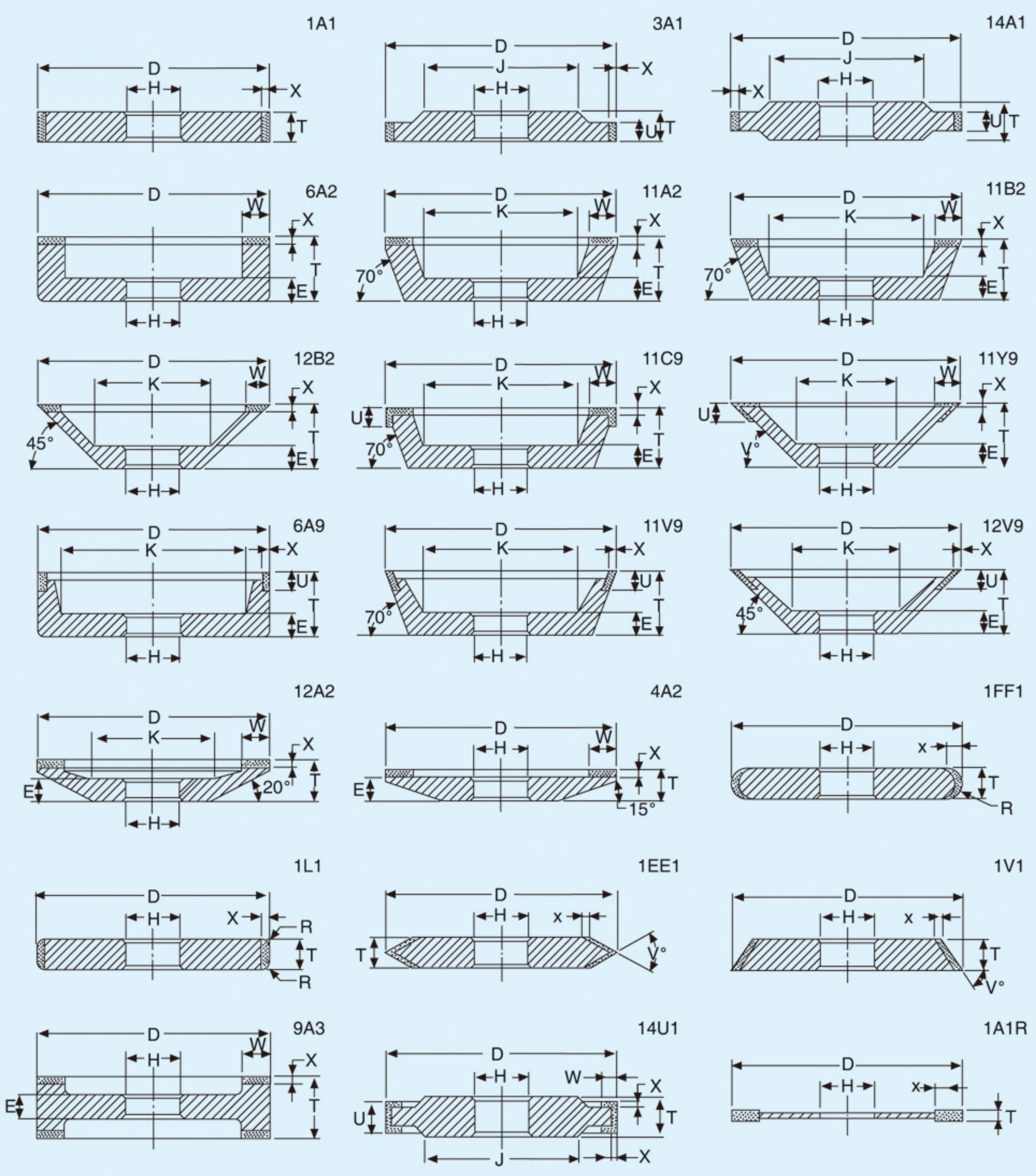
磨料层位置 Location of abrasive section:
1 周边 Periphery
2 端面 Side
3 两端面 Both side
4 内斜面或弧面 Inside bevel or arc
5 外斜面或弧面 Outside bevel or arc
6 周边一部分 Part of periphery
7 端面一部分 Part of side
8 整体 Throughout
9 边角 Corner
10 内孔 Center bore

其它因素 Other parameters:
B 埋头孔 Drill & counterbore
C 锥形埋头孔 Drill & countersunk
H 直孔 Plain hole
T 螺纹孔 Screwed hole
M 直孔和螺纹孔 Holes plain & screwed hole
P 单面减薄 One side thinned
Q 磨料层嵌入 Working part inset
R 双面减薄 Both sides thinned
S 扇形 磨料层锯齿 Segmented abrasive section
SS 扇形磨料层 锯齿与带槽 Segmented & slotted
V 磨料层倒镶式 Inverted
W 在心轴上 On the spindle
Y 倒镶式嵌入 Inserted & inverted

代号举例
Code example: 6A2C



常用砂轮形状及尺寸标示
COMMON WHEEL SHAPES AND RELEVANT CODES



砂轮订制方法

1.若是重复订制，请告知工作单编号即可。
2.若需我们为您设计砂轮，则请告知：
  a.)工件名称、材质、硬度
  b.)机器名称、型式、转速及马力
  c.)加工条件及加工精度
3.若自行设计砂轮，则告知如下例：
  14A1,350D-10U-5X-25T-127H,B150,湿磨

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

树脂砂轮标准品
RESIN BOND DIAMOND & CBN WHEELS

树脂结合剂钻石(CBN)砂轮作为难加工材料的加工利器，早已大量应用于硬合含金、淬火钢等材料的加工。现本公司已配合晶圆加工厂商开发用于晶圆精密研磨的树脂结合剂金刚石砂轮，成功用于半导体材料的高速/高精度/低成本研磨。

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

适用于工具磨床，钨钢刀具研磨及成型
Applied on tool grinding machine,for grinding and formgrinding of the carbide tools.

	D	W	X	H	粒度/Grit size
11A2	100	10	3	20;19.05	D200;400;600

适用于工具磨床，钨钢刀具研磨及成型
Applied on tool grinding machine,for grinding and formgrinding of the carbide tools.

	D	W	X	U	H	粒度/Grit size
11C9	100	8	1.5	5	20	D200;400;600

适用于自动车床刀具研磨机，钨钢车刀研磨
For tool grinding machine,to resharpen the carbide turning tools

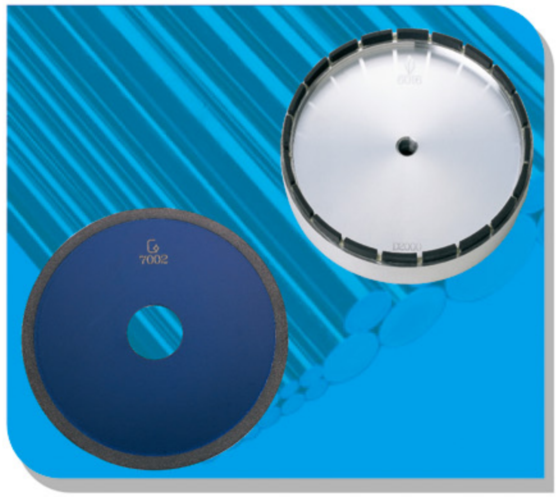
	D	W	X	V°	H	粒度/Grit size
12Y9C	125	8	1.5	45°;60° ;90°	25	D200;400;600

适用于平面磨床，研磨钨钢、陶瓷(选用钻石–D)，硬化钢材(选用氮化硼–B)
Applied on surface grinding machine,to grind carbide(use diamond-D) and hardened steels(use CBN-B)

	D	T	X	H	粒度/Grit size
1A1	152	10	3;5	31.75	D150;D200;B150
	175	10	3;5	31.75	D150;D200;B150

适用于平面磨床，研磨钨钢、陶瓷(选用钻石–D)，硬化钢材(选用氮化硼–B)
Applied on surface grinding machine,to grind carbide(use diamond-D) and hardened steels(use CBN-B)

	D	T	X	U	H	粒度/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



适用于GaAs等半导体材料的平面研磨
Surface grinding of GaAs wafers.

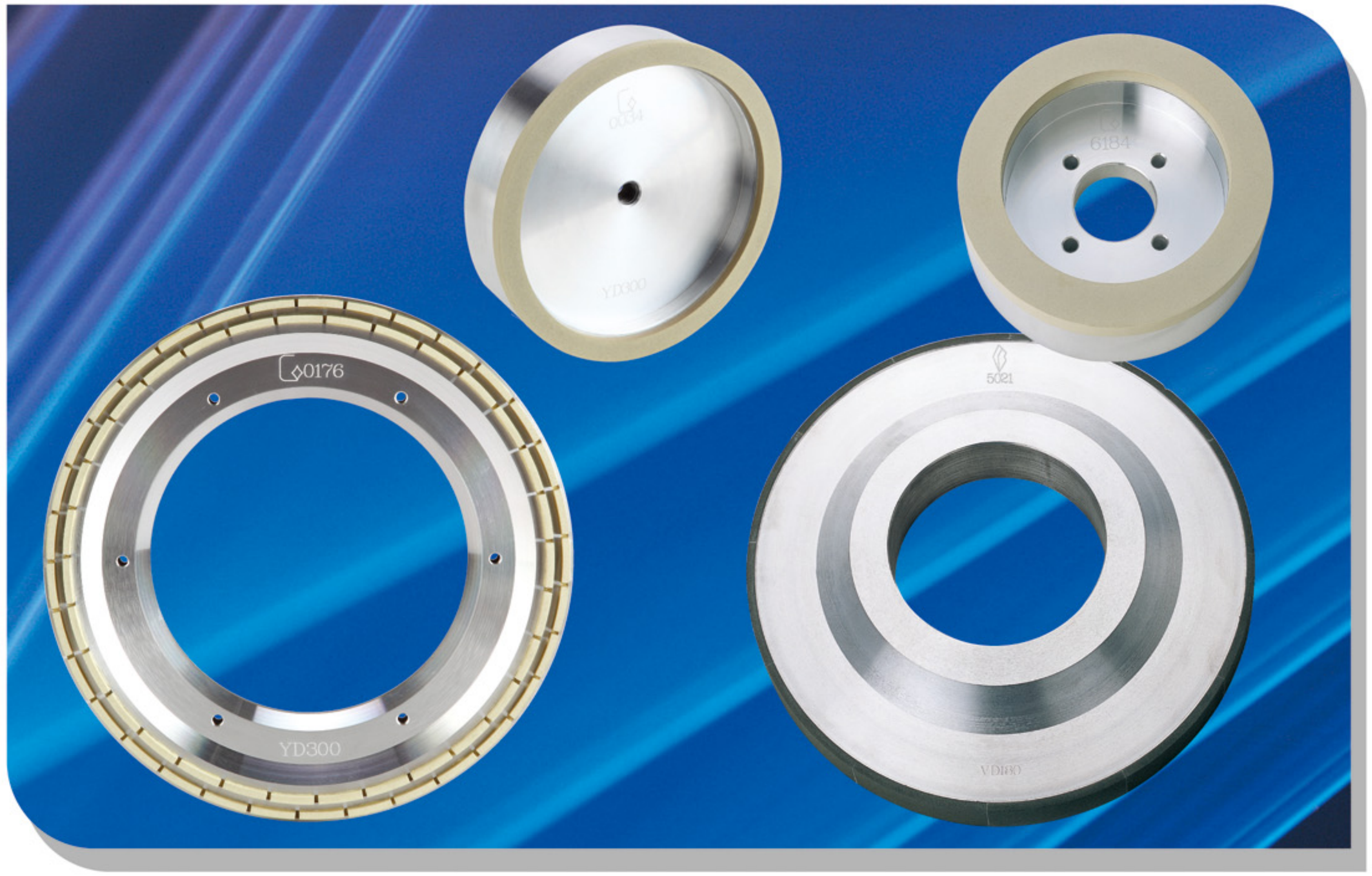
	D	X	U	L	H	粒度/Grit size
6A9	150	3	8	20	M12	D2000

适用于硬质合金下料，棒料切断
Cutting off tungsten carbide bars.

	D	T	X	H	粒度/Grit size
1A1R	152	1	7	19.05;31.75	D120

说明:标准粒度，其余粒度请指明订购
Note: standard grit size,others depend on your request.

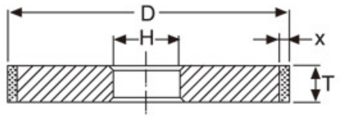
陶瓷砂轮
VITRIFIED BOND DIAMOND WHEELS



在传统材料（如：石材、碳化钨、热处理钢）的加工中，树脂结合剂和金属结合剂砂轮发挥了很重要的作用，随着自动化工业生产的不断发展和半导体产业快速兴起，树脂和金属结合剂砂轮已不能完全解决新工艺及新材料的精密加工要求。自上世纪末，佳品就致力于开发半导体产业及各种耐磨零部件（如：喷涂料杆）磨削用陶瓷砂轮，经过公司技术人员的不懈努力，现已成功配合多个行业特殊材料及特殊工艺的加工要求。以下列出的是公司已建立的标准规格：

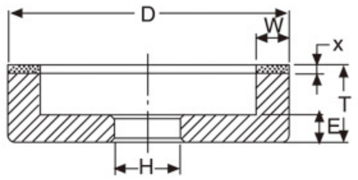
Resin bond diamond wheel and metal bond diamond wheel have played a very important role in the working of traditional materials (e.g. stone, TC, hardened steel, glass etc.) with the rapid growth of semiconductor industry and the development of automatic processing, apparently they cannot meet all the 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



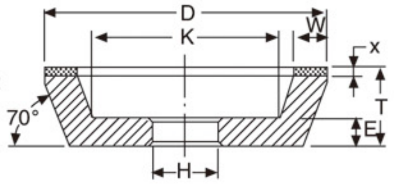
D(mm)	T(mm)	X(mm)	H(mm)	粒度／Grit size	用途／Application
152	10	5	31.75	D150/B150	组合冲压模板、精密机械零部件、轴承等 Split punch,precision machine parts, bearing to target coatedby hard layer etc.
175	10	5	31.75	D150/B150	
300-600	15-40	5	127	B150	
660	50	5-10	205	D300	表面喷涂零件如：大型注塑机料杆 Hard coated layer grinding of parts such as Injection machine charging ram

6A2



D(mm)	W(mm)	X(mm)	H(mm)	粒度／Grit size	用途/Application
150	3-20	5-10	40	D200-1200	钻石/PCD刀具 Diamond & PCD lathe tool
150	3-10	5-10	M12x1.75	D300-3000	蓝宝石/砷化镓　GaAs & sapphire
254	4	8+1	155	D300-3000	硅晶圆回收/Recycle of silicon wafers

11A2

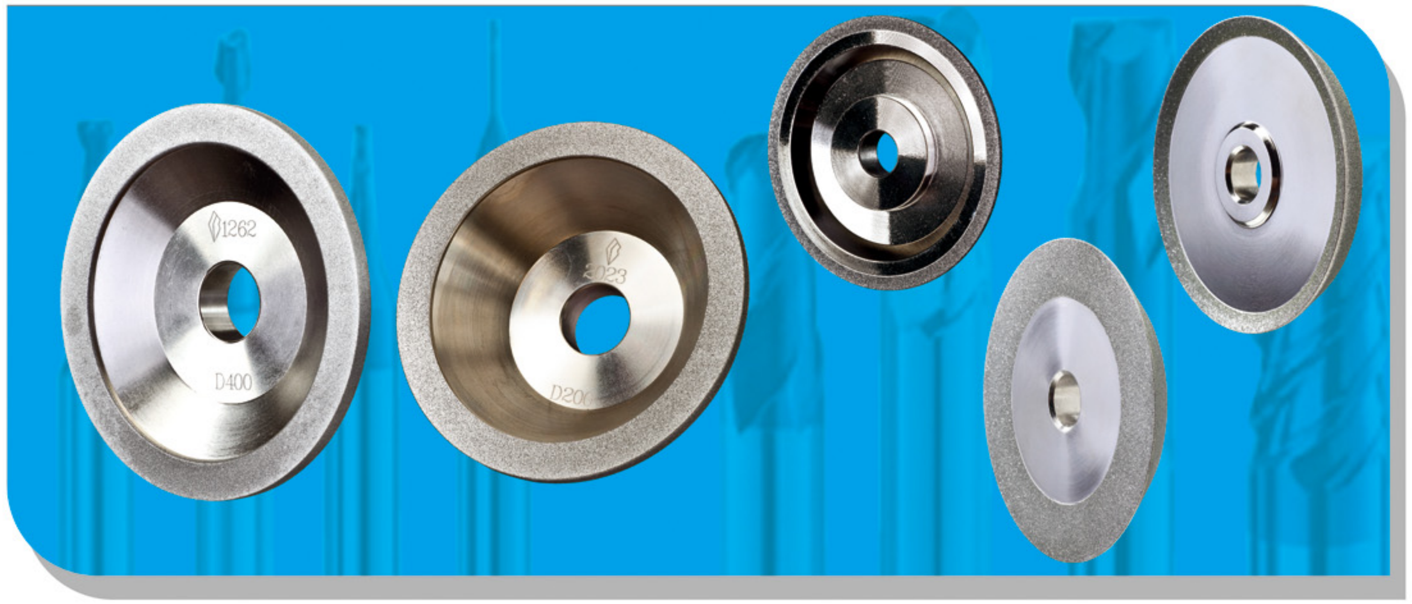


D(mm)	W(mm)	X(mm)	H/T(mm)	粒度／Grit size	用途/Application
125	8	4	31.75/35	D300/600	PCD刀具／PCD lathe tools

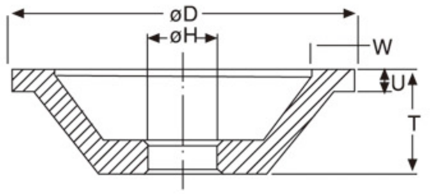
电镀钻石砂轮
ELECTROPLATED DIAMOND WHEELS

注意：钻石砂轮不适用于高速钢或其它含铁硬质材料的研磨，若需研磨此类材料应指明订制CBN砂轮。

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



11C9碗型砂轮
Cup wheels

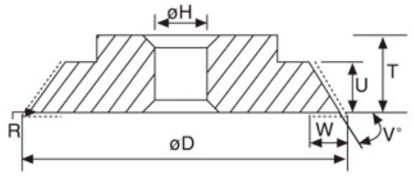


适合钨钢工具之研磨，成型用。

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

产品代号 Order No.	D	T	W	H	U	可供粒度 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砂轮
3Y1 wheels



适合钨钢圆铣刀片的成型、修锐。

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

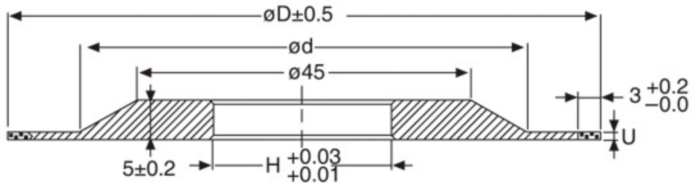
D	U	T	W	H	V°	R	备选粒度 Grit size
150	4	9	5	25	45°	0.5	D150,D200
					40°	0.2	D150,D200

钨钢钻头铣刀专用砂轮
T.C TOOLS GRINDING WHEELS

生产工序 procedures	砂轮形状 Shape of wheel	D	T	U	X	H	V°	备选粒度 Grit size	配合设备 Equipment
下料切断 Cutting	1A1R	152	1		7	19.05		D120	切断专机不同孔径 Specialized grinding machine which has various bore diameter
		125	0.8		5	25.4		D120	
总长加工 Length grinding	14A1	350	32	15	5	127		D150,D200	平面磨床 Surface Grinding Machine
柄径研磨 Shank grinding	1A1	300-350	100		5	120		D200,D400	无芯磨床 Centerless Grinding Machine
头径研磨 O.D grinding	3A1	200-290	20	17	5	31.75/50.8		D200,D400	专用磨床 Specialized Grinding Machine
PCB钻头切槽 Grooving of PCB drill bit	4A1Q-P	100	6	1.5	6	10		D800	CNC磨床 CNC grinding machine
	4A1Q-P	152	8	2-3	10	31.75		D1000	
铣刀切槽加工 Grooving of end mills	14A1	75	6-12	2-8	5	客户指定 Customer order		D150	CNC磨床 CNC grinding machine
	1V1	85		3-10			10,15	D200	
	3V1	90					20,30	D300	
	14V1	100					45	D400	
	11V9	125		5-10	3		70	D600	
	12V9	152					45	D800	

投影研磨(PG)砂轮
PROFILE GRINDING WHEELS

1、粗磨砂轮
Rough Grinding Wheels



粗磨砂轮规格如下

Standard specification as below

D	d	U	H	结合剂 Bond	备选粒度 Grit Size
75	60	1.0	24.00	树脂 Resin	D200
	60	0.7			
	63	0.5			
80	64	1.0	22.23		D400
	64	0.7			
	68	0.5			

用途: 粗磨

特点: 1.锐利，研磨速度快

2.自锐性好，修整次数少

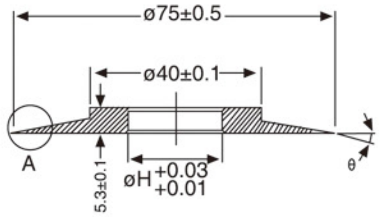
Application:Rough grinding on profile grinding machine

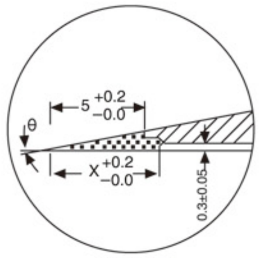
Features: 1.Sharp, higher grinding speed.

2.Better self-sharpening ability, lower dressing frequency

3.Optimised technology prolongs lifetime by more than 30%

2、精磨砂轮
Precise Grinding Wheels





A处放大

Enlarged at A

精磨砂轮规格如下

Standard specification as below:

D	H	θ	X	结合剂 Bond	备选粒度 Grit Size
75	22.23	7°	7	金属 Metal	D400
	24.00	10°			D600
		12°	10	树脂 Resin	D800
		15°			

用途: 精修

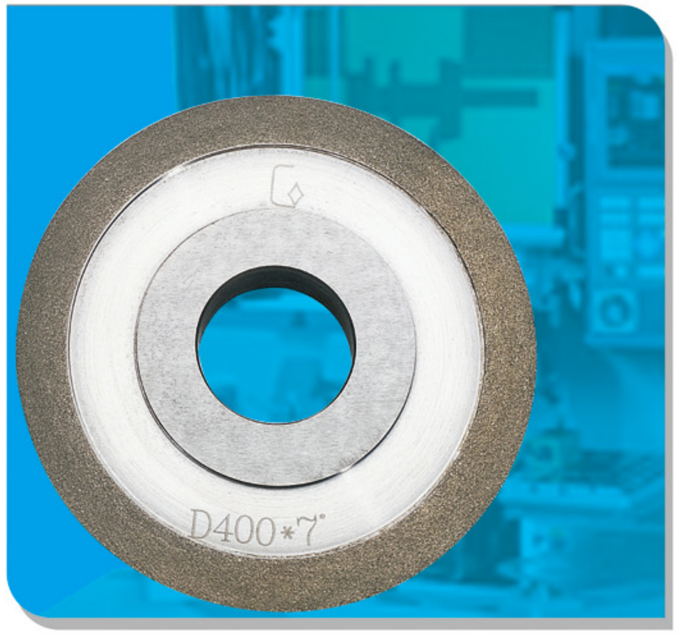
特点: 1.粒度细，研磨后的表面光洁度高

2.精度高

Application: Precise grinding on profile grinding machine

Features: 1.fine grain, lower ground surface roughness

2.high precision



研磨膏及钻石微粉
DIAMOND COMPOUNDS AND MICRON POWDERS

研磨膏(5g)
Diamond compounds

说明：
1. 标准规格品为油溶性，若需水溶性研磨膏，请指明订购。
2. 5克以针管罐装，10克以铝管罐装。
3. 若需稀释使用，本公司亦提供稀释油。

Remark:
1.Oil soluble is standard carries,other carries depend on your request.
2.Containers:5g/pc with plastic syringes,10g/pc with aluminium tube.
3.High concentrations diamond compounds is also available,depend on your requirement.

钻石微粉标准
Standard of micron powders

编号/Order no.		颗粒尺寸 Micron range (μm)	相等筛目 Mesh size (approx)
10Carat	50Carat		
DR-1280	DR-5280	0.5(0-1)	#28,000
DR-1140	DR-5140	1(0-2)	#14,000
DR-1080	DR-5080	3(2-4)	#8,000
DR-1050	DR-5050	4.5(3-6)	#5,000
DR-1030	DR-5030	6(4-8)	#3,000
DR-1018	DR-5018	9(6-12)	#1,800
DR-1012	DR-5012	15(10-20)	#1,200
DR-1008	DR-5008	25(20-30)	#800
DR-1006	DR-5006	35(30-40)	#600
DR-1004	DR-5004	50(40-60)	#400
DR-1002	DR-5002	90(80-100)	#200

钻石微粉
Micron powders

研磨膏标准
Standard of diamond compounds

编号 Order no.	颗粒尺寸 Micron range (μm)	相等筛目 Mesh size (approx)	标示颜色 Color code
PDR-600	0.125(0-0.25)	#60,000	深灰/Dark grey
PDR-280	0.5(0-1)	#28,000	灰/Grey
PDR-140	1(0-2)	#14,000	白/White
PDR-080	3(2-4)	#8,000	黄/Yellow
PDR-050	4.5(3-6)	#5,000	浅棕/Light brown
PDR-030	6(4-8)	#3,000	橙/Orange
PDR-020	8(5-10)	#2,000	浅紫/Lilac
PDR-018	9(6-12)	#1,800	绿/Green
PDR-015	13(10-16)	#1,500	粉红/Pink
PDR-012	15(10-20)	#1,200	蓝/Blue
PDR-010	17.5(15-20)	#1,000	深绿/Dark green
PDR-008	25(20-30)	#800	咖啡/Brown
PDR-006	35(30-40)	#600	红/Red
PDR-004	50(40-60)	#400	紫/Purple
PDR-002	90(80-100)	#200	黑/Black

研磨膏(10g)
Diamond compounds

说明：

1.佳品钻石微粉及经过精密设备严格筛选，粒度精确，颗粒结晶形状统一。它适用于各种钢模、超硬合金、陶瓷、宝石、半宝石等之精密抛光或镜面抛光。

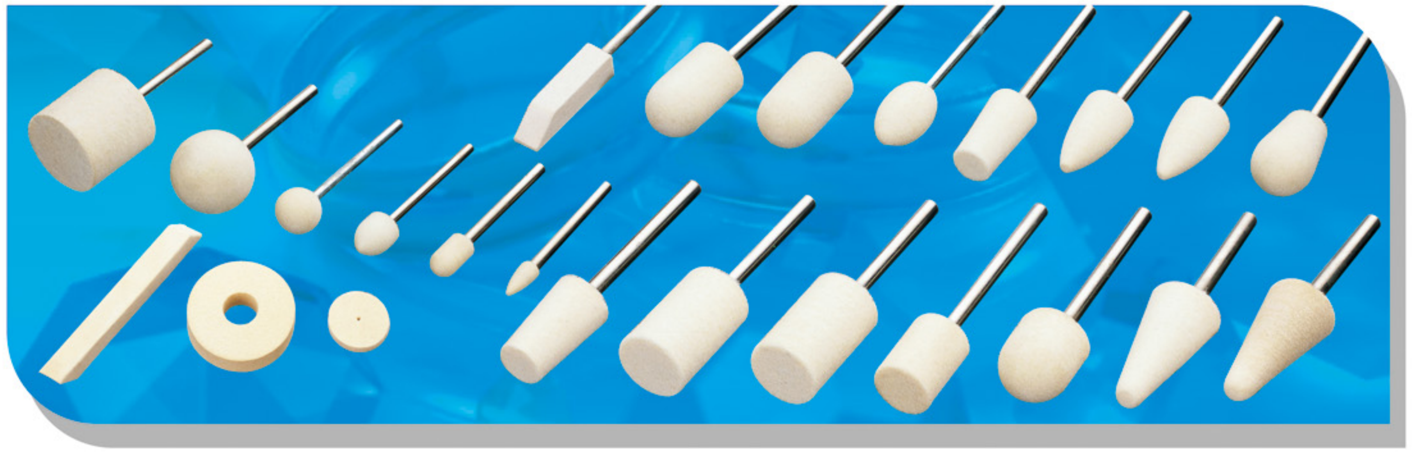
2.对于某些需求更精密或更均匀表面抛光之要求，请在订购时，特别指明，本公司将提供更精密颗粒尺寸之微粉供选用。

Remark:

1.Cpdia micron powders are exactly graded from virgin material and especially designed for lapping and polishing operations.Particularly,those requiring the strictest dimensions accuracy and the finest surface finish.

2.For work which requires ultra high finish,we also supply powders with a narrower distribution range upon your request.

羊毛磨棒
FELT BOBS

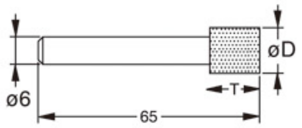


用途：
配合研磨膏等抛光磨料用于各种材质模具制品的抛光作业。

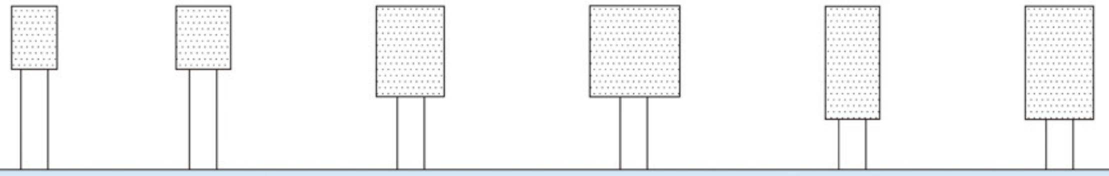
特点
a、采用进口羊毛板制作，不会带来杂质破坏抛光表面
b、精确的加工成型，保证使用时无震动感

Application:
Polishing various moulds with diamond compounds and other polishing materials

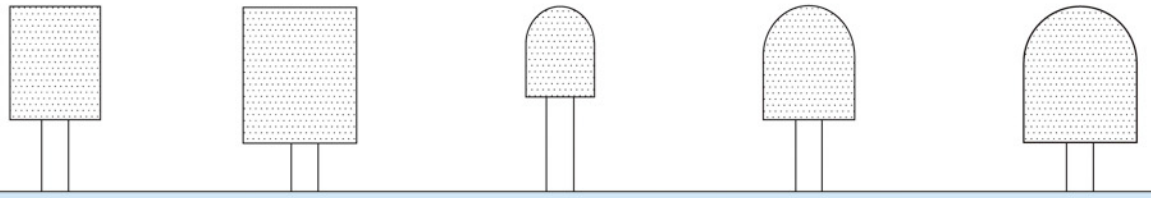
Features:
a、Imported wool-board. There are no impurities to damage polishing surface.
b、Precision forming technoloy ensures non-vibration sense during operation.



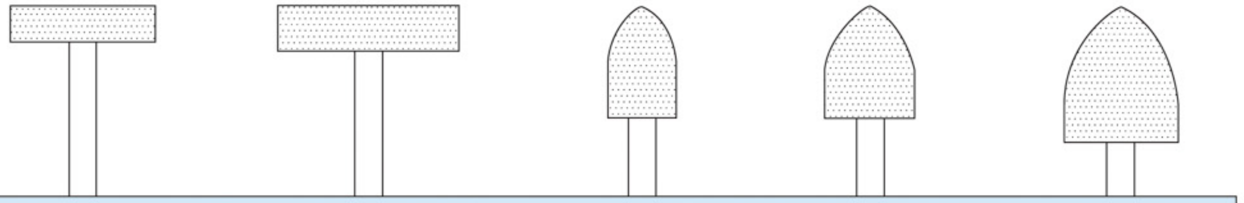
单位:mm
Unit:mm



型号 Order No.	FK-1014A	FK-1214A	FK-1520A	FK-2020A	FK-1225A	FK-1525A
刀径øD	10	12	15	20	12	15
刀长T	14	14	20	20	25	25

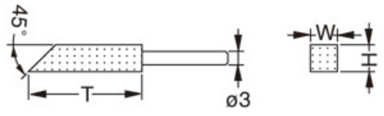


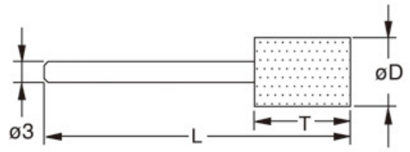
型号 Order No.	FK-2025A	FK-2530A	FK-1520C	FK-2025C	FK-2530C
刀径øD	20	25	15	20	25
刀长T	25	30	20	25	30



型号 Order No.	FK-3208E	FK-4010E	FK-1520K	FK-2025K	FK-2530K
刀径øD	32	40	15	20	25
刀长T	8	10	20	25	30

型号 Order No.	AB-R6	AB-R10	AB-R12
刀径WxH	6x6	10x10	12x12
刀长T	25	35	45





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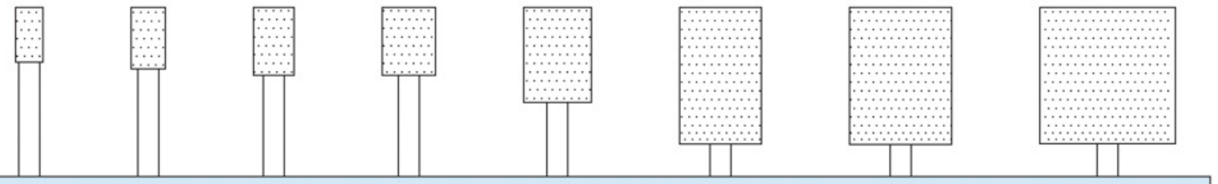
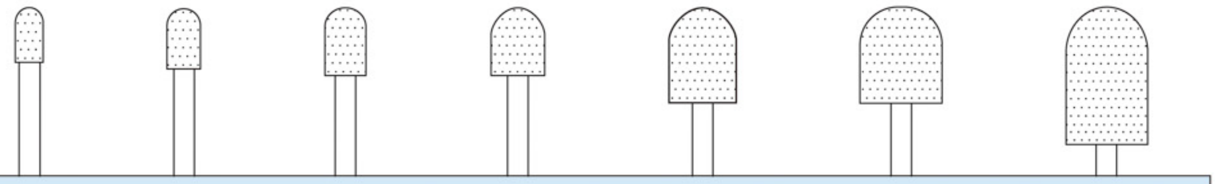
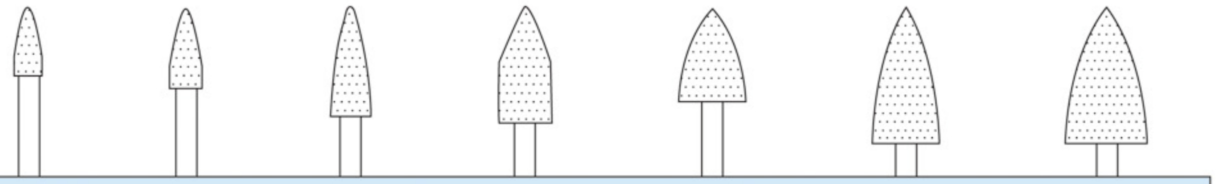
Unit:mm



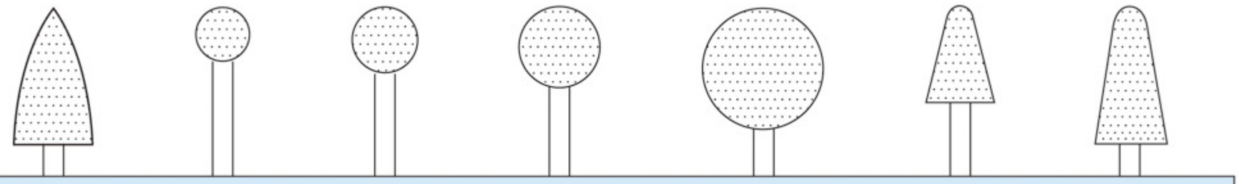
型号 Order No.	AB-0408A	AB-0509A	AB-0610A	AB-0810A	AB-1014A	AB-1220A	AB-1520A	AB-2020A
刀径øD	4	5	6	8	10	12	15	20
刀长T	8	9	10	10	14	20	20	20



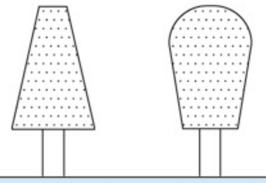
型号 Order No.	AB-0408C	AB-0509C	AB-0610C	AB-0810C	AB-1014C	AB-1214C	AB-1220C
刀径øD	4	5	6	8	10	12	12
刀长T	8	9	10	10	14	14	20

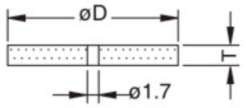


型号 Order No.	AB-0410J	AB-0512J	AB-0616J	AB-0817J	AB-1014J	AB-1020J	AB-1220J
刀径øD	4	5	6	8	10	10	12
刀长T	10	12	16	17	14	20	20



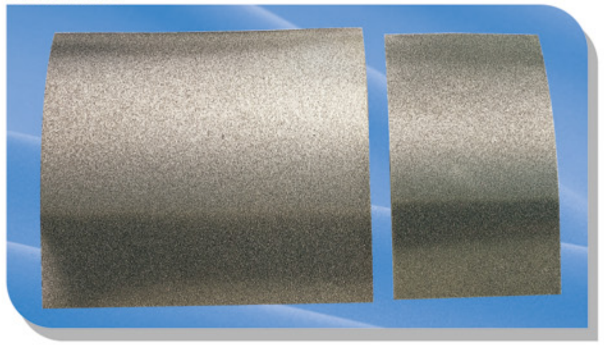
型号 Order No.	AB-1225J	AB-08B	AB-10B	AB-12B	AB-18B	AB-1014R	AB-1225R
刀径øD	12	8	10	12	18	10	12
刀长T	25	-	-	-	-	14	25





型号 Order No.	AB-1218T	AB-1218H	2503E	2504E	2505E
刀径øD	12	12	25	25	25
刀长T	18	18	3	4	5

钻石箔
Diamond foil



结合方式：电镀镍

用途：各种材料打磨，抛光，清理。

特点：a、柔软；b、锐利；c、寿命长；d、使用方便。

Flexible and self-adhesive diamond coated metal foils with galvanic bonding. It can be easily cut to the required size and shape which makes them excellent for making tools adapted to special applications.

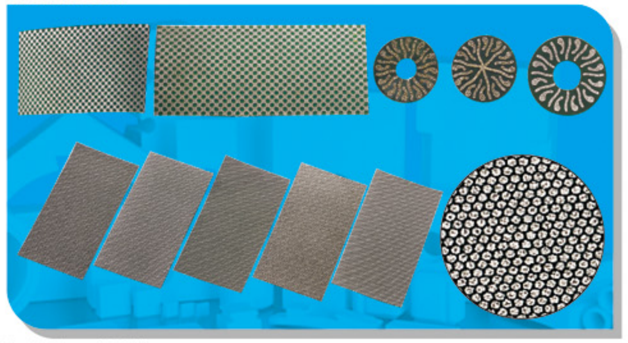
钻石箔结构
Structure of diamond foil

钻石占面积100%
Diamond Covers 100% of area

mm

钻石箔标准尺寸 Standard size	可选粒度 Grit size
50Wx100L	#60 #100 #120 #150 #200 #300 #400 #600 #800 #1200···
100Wx100L	
200Wx200L	

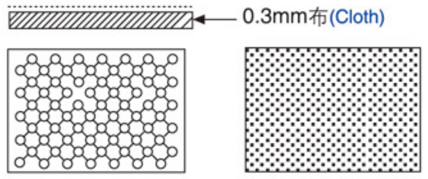
钻石布
Diamond cloth



结合方式：电镀镍
用途：各种材质的粗磨、精磨。如：石英，陶瓷等。
特点：a、柔软、不易断；b、网状设计易逃屑，不易塞目，更锐利；
c、有背胶可直接贴于各种制具。

Bond: Electroplated Nickel
Application: It is flexible and can be easily cut to the required size and shape which makes them excellent for making tools adapted to special applications.
Features:
a. Soft, uneasily cracked;
b. Sharp and better chip removal ability
c. Available to be sticked on different kinds of tools.

钻石布结构
Structure of diamond cloth



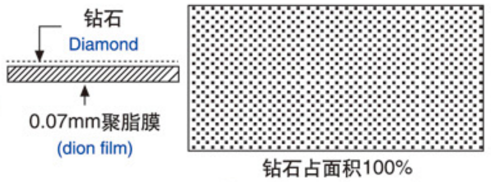
网状或圆点结构，钻石占面积50%
Net or dot structure diamond covers 50% of area

单位:mm
unit:mm

钻石布标准尺寸 standard dimension	可选粒度 Grit size
50Wx100L	#150 #200 #400 #600 #800
100Wx100L	
200Wx300L	
ø25x8H	
ø30x11H	

钻石膜
Diamond film

钻石膜结构
Structure of diamond film



钻石占面积100%
Diamond covers 100% of area

结合方式：胶结合

用途：用于各种材料的抛光，如：光纤接头。对塑胶模具消除橘皮现象有明显作用。

特点：质地柔软，更贴合于各种制具进行抛光作业。

Bond: Glue
Application: Polishing for a variety of materials such as: optical fiber connector. This can effectively eliminate the plastic mold cellulite phenomenon
Features: So soft that it is easy to get a perfect polishing quality.

单位:mm
unit:mm

钻石膜标准尺寸 Standard dimension		50x100	200x300	20x2500		100x40000	ø110	ø127	
可选粒度/Grit size	#1800	#2000	#3000	#5000	#8000	#10000	#14000	#28000	#60000
粒径/micron range(μm)	6/12	5/10	4/8	3/6	2/4	1.5/3	0/2	0/1	0/0.25
对应颜色/Color	绿 Green	紫 Purple	桔 Orange	棕 Brown	黄 Yellow	黄 Yellow	白 White	灰 Gray	深灰 Dark gray

钻石纤维油石及带柄油石
DIAMOND FIBER STONES AND HAND STONES

一、钻石纤维油石

用途：超声波研磨机使用，用于电火花或放电加工后粗糙面的整修

Diamond fiber stones

Application: For EDM-scale removal. It is better to fit in with ultrasonic lapping machine.

特点

a、比陶瓷纤维油石更锐利

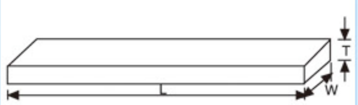
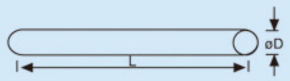
b、以钻石为磨料，碳纤维为增韧材料。比陶瓷纤维油石能适合加工的材质更多。如碳化钨、玻璃、陶瓷等。

Featuress:

a、Sharper than ceramic fiber stones

b、Made of diamond and carbon fiber, can be used to process harder materials such as tungsten carbide, glass and ceramic.

标准规格：
Standard specifications:

形状 Shape	尺寸 Dimension			粒 度 Grit Size	备注 Remarks
	2.0W 4.0W 6.0W 8.0W 10.0W	x1.0Tx	100L 50L	#200 #400 #600 #800	"————"表示为常规使用规格。 "————"Show the spec.used often.
	ø3x100L			#200 #400 #600 #800	

我们也可以提供塑胶手柄来装夹使用如下图

We also supply plastic handle in your needs.

二、带柄油石
Diamond hand stones

编号 Order No.	油石尺寸 Size (WxXxL)	手柄长 Handle length	说明 Description	可供粒度 Grit size
RSH-01	10x2x40	160	塑胶柄 Plastic handle	#200 #400 #600 #800 #1000 #2000 #3000 #5000 #8000
RSH-02	5x2x40	150	铁柄 Iron handle	
RSH-03	5x2.5Rx4x40			

用途：带柄油石特别适合在线修整刀具刃部

Application: We offer a wide range of honing and lapping tools for all kinds of polishing and super finishing

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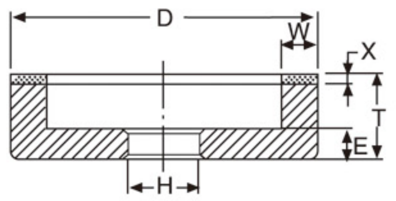
LED 基板研磨砂轮
DIAMOND GRINDING WHEELS FOR LED WAFERS

在半导体元器件的前段加工中，晶圆基板的减薄研磨需要用各种各样的钻石砂轮，常用的LED基板有砷化镓(GaAs)和人造蓝宝石（即单晶氧化铝），在对这两种材料的减薄研磨中，必须保证基板的平行度和表面粗糙度，同时整个晶圆不得有任何细微的裂纹，这就对所使用的钻石砂轮提出了很高的要求，我们经过与公司客户密切合作，开发出了适合这两种材料的砂轮.

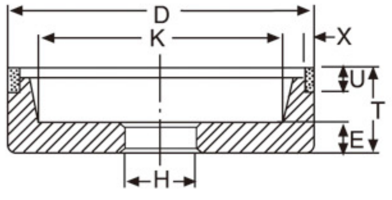
The common LED wafers are made of GaAs or sapphire crystal,the thinning process needs many diamond wheels.The ground surface of wafers should be smooth and have no any crack,the parallelism between two surfaces of wafers must be very high.We have developed many kinds of diamond wheels for grinding of LED wafers by the cooperation with our customers.

部分规格列表如下：
Specifications:

6A2



6A9



结合剂/Bond	形状/Shape	D(mm)	W(mm)	X(mm)	H(mm)	粒度/Grit size	用途/Application
陶瓷 vitrified 金属 metal	6A2	150	3-10	5-10	M12 x 1.75	D300-3000	蓝宝石／砷化镓 Sapphire/GaAs
	6A9S	254	4	8+1	155	D300-3000	硅晶圆回收/Recycling of wafers
	6A9S	254	3-4	10+2	155	D300-400	蓝宝石 Sapphire

结合剂/Bond	形状/Shape					适用于GaAs等半导体材料的平面研磨 Surface grinding of GaAs wafers.	
		D	X	U	L	H	粒度/Grit size
树脂Resin	6A9	150	3	8	20	M12	D400-D2000

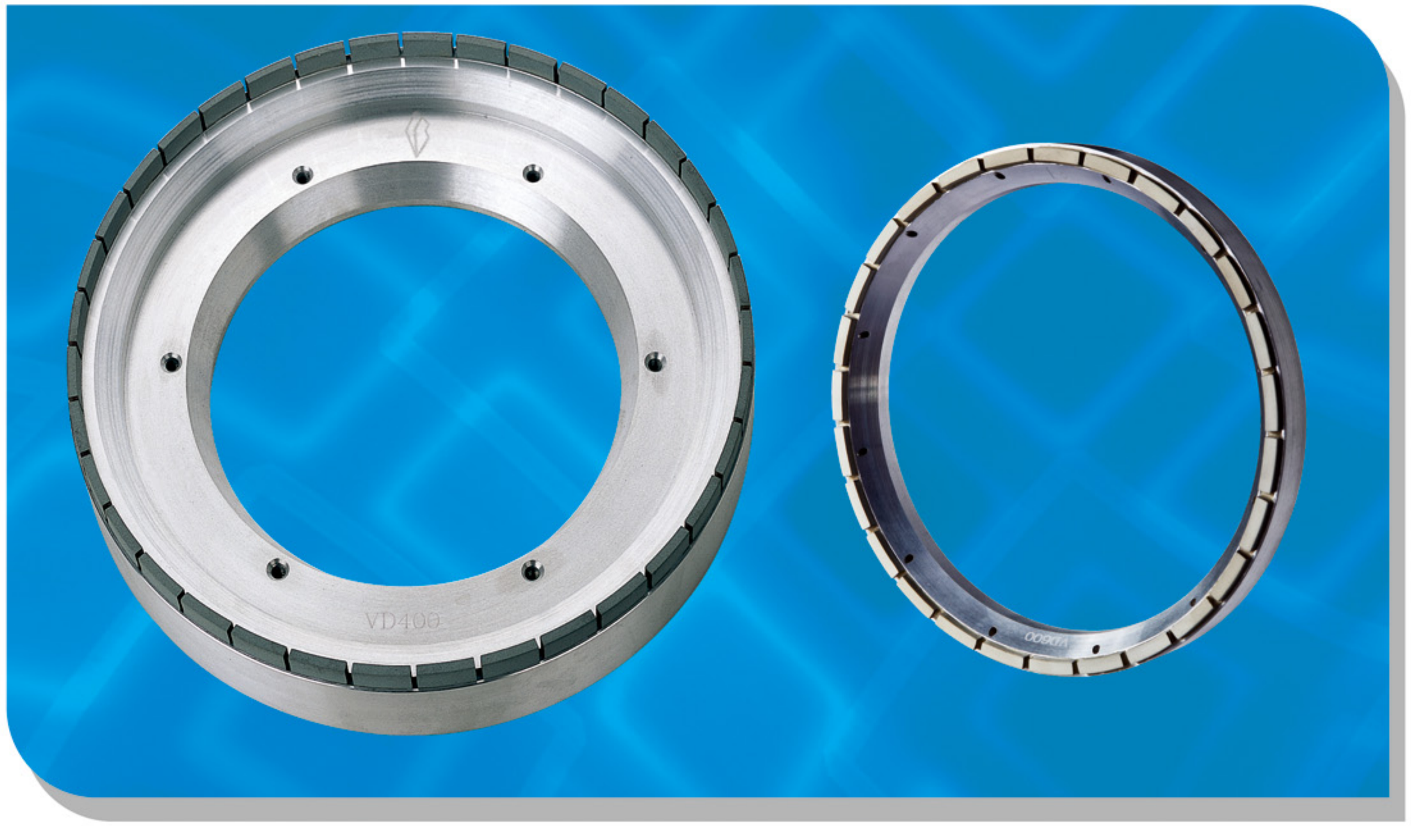
其它规格可根据客户的要求制作

We can offer other specifications according to your drawing or sample

晶圆背磨砂轮
BACK GRINDING WHEELS

半导体封装时，第一步需将晶圆进行背面减薄加工，减薄后的晶圆再进行切割及灌胶等作业。减薄时钻石砂轮必须保证在粗精磨时保持稳定的研磨速率和表面加工质量，以保证晶圆厚度一致性，从而确保高的封装良率。

In IC packing process, the first step is back-grinding. After back-grinding wafers will be cut into small chips, then these chips will be packed to be ICs, It is rafher vital to maintain a stable grinding rate and qualified surface. When wafers are ground to be thinner, to keep a good thickness uniformity is very important to get a higher packing yield.



用途：硅晶圆和半导体化合物晶圆的背面减薄加工。

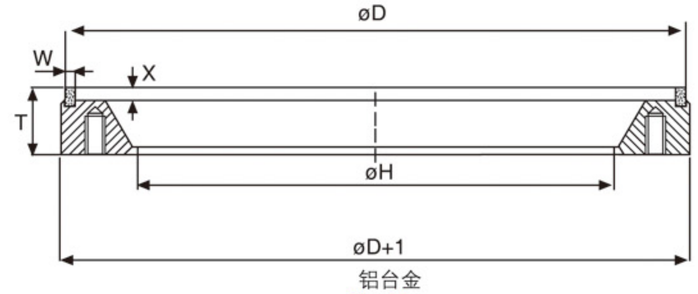
Application: Back grinding of silicon and compound semiconductor wafers

特点：

1.独特的结合剂设计保证及制作工艺稳定的切削速度。
2.良好的自锐性降低研磨阻力，降低破片风险。
3.精确的钻石分级和生产控制严格的保证减薄后晶圆的表面质量的稳定性。
4.通过当地化生产，我们可以提供高性价比的产品。

Features:

1.Specialised bond design and manfacturing technology guarantee the cutting rate stability
2.Excellent grinding wheels self-sharpen ability helps to reduce the risk of wafer breaking
3.Accurate graded diamord and strict production managment enable customors to get a stable ground surface quality of waters



铝合金
Aluminium

粒度 Grit Size	D(mm)	W(mm)	X(mm)	H(mm)
#325 (D54/80) │ #8000 (D2/4)	ø200 │ ø400	2~5	5	155 158 190 235

钻石CMP修整器
DIAMOND CMP PAD CONDITIONERS

用　途

用于半导体加工行业晶圆抛光垫的修整。

特　点

- 用单层钎焊工艺，钻石与钎料以化学键结合，钻石不脱落；
- 钻石出露量高，露出一致；
- 钻石排列有序，利用率高，修整速度快；
- 使用寿命长；
- 加工平面度好；

Application

The dressing of polishing pad for semiconductor wafer

Features:

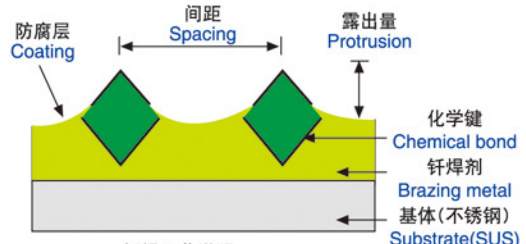
- The single layer brazing technics grows the chemical bond between diamond and brazing metal to ensure that no diamond will be lost during working time
- High emergence and uniformity of diamond particles achieve high polishing removal rate
- Diamond with ordered array helps to get a stable wafer uniformity
- Qualified working life
- With good planeness
- No break in process needed, shorten downtime

标准规格列表
Standard specifications:

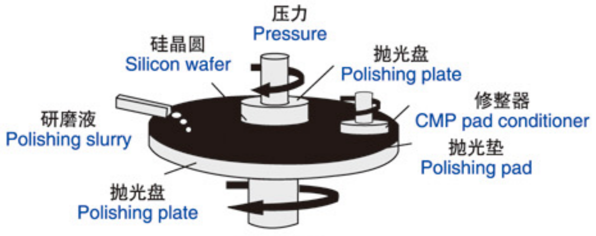
型号规格 Specification	外经 O.D.(mm)	钻石层宽度 Width of grit(mm)	厚度 Thickness(mm)	钻石分布 Distribution pcs/cm^2	钻石尺寸 Diamond size	涂层种类 Coating
ø108x6.6T	108	25	6.6	156±5	#60/70,70/80	Ni
ø50x8.3T	50	/	8.3	156±5	#60/70,70/80	Ni
ø20x7.3T	20	/	7.3	180±5	#60/70,70/80	Ni

注：其它规格可根据用户要求定制。
Note:Other specifications depend on your orders.

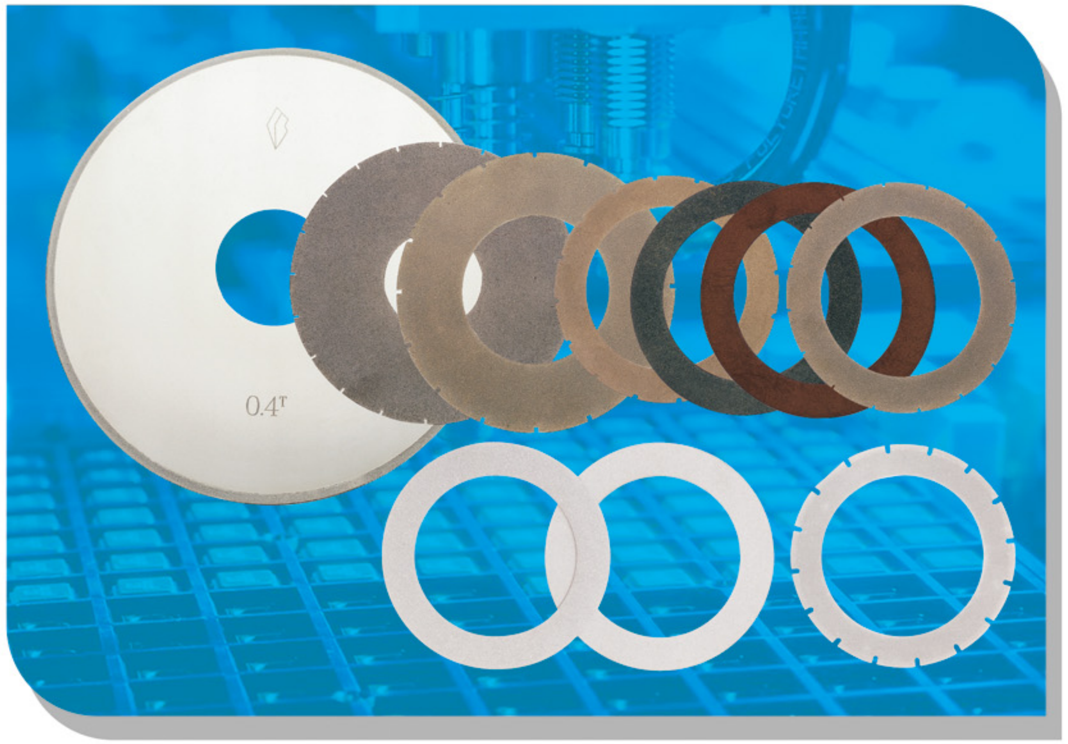
钎焊及应用示意图
Brazing and sketch of working:



钎焊工艺说明
Brazing illustration



应用示意图
Sketch of working



用途

晶圆、晶粒精密切割
半导体封装后分切
光学玻璃/石英/蓝宝石切割
印刷电路板切割加工
精密陶瓷材料加工

特点

切割精度高
切割效率高
加工过程热影响区小
切片寿命长，可降低生产成本
切缝整洁平滑

Applications

Silicon Wafers
crystals
Semiconductor packages
Glass
quartz
sapphire
Printed circuit board
Ceramics

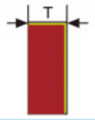
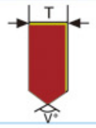
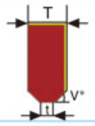
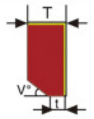
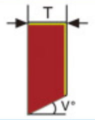
Features

High cutting precision
High working efficiency
Lower heat-affected area
Low blade wear
Smooth and regular kerf

标准规格列表
Standard specifications

结合剂类型 Bond types	形状代号 Shape code	外径 O.D.(mm)	内径 I.D.(mm)	切片厚度 Thickness(mm)	厚度公差 Thickness tolerance(mm)	钻石粒度 Diamond mesh	钻石粒径 Diamond size (μm)
树脂结合(RB) Resin bond(RB) 金属结合(MB) Metal bond(MB) 镀镍结合(NB) Nickel bond(NB)	1A8 1E8 1M8 1N8 1V8	ø56 ø75 ø125	ø40 ø25.4 ø31.75	0.10 0.15 0.20 0.25 0.30 0.35 0.40 0.45 0.50	±0.003 ±0.005(★) ±0.01	D2000	5-10
						D1500	8-15
						D1200	10-20
						D800	20-30
						D600(★)	30-40
						D400(★)	36-54
						D300	50-65
						D200(★)	65-85
						D170	75-97
						D150(★)	90-116
						D120	107-139

形状代号说明如下
Shapes of edge:

形状代码/Edge shape No.	1A8	1E8	1M8	1N8	1V8
形状/Shape					

选用说明书

- RB(不开槽)更适合加工脆薄的材料，MB(开16-20槽)较适合加工硬厚的材料。
- 外径、内径、切片厚度、粒度应由客户根据加工要求指定，但在指定粒度时请留意厚度应大于最大粒径的3倍。
- 表中所列为本公司标准规格。
- “★”为本公司推荐优选项，在切割加工中比较常见。
  指定规格示例：RB 1A8 ø56 x 40Hx0.20T±0.005xD400

Ordering instruction

- RB (no slots) is better for thin and brittle materials,MB(with 16-20 slots)is better for processing of thick and hard materials.
- Please specify the O.D.,I.D.,thickness of blade and the size of diamond according to the condition of cutting when ordering,but please ensure the thickness should be bigger than 3 times of diamond grit size.
- The standard specifications have been shown in the table above.
- "★"means which often be used for cutting process by our customers.
  Example: RB 1A8 *56x40Hx0.020TxD400

一、用途：

用于印刷电路板(PCB)清理刷轮的修锐

二、粒度：

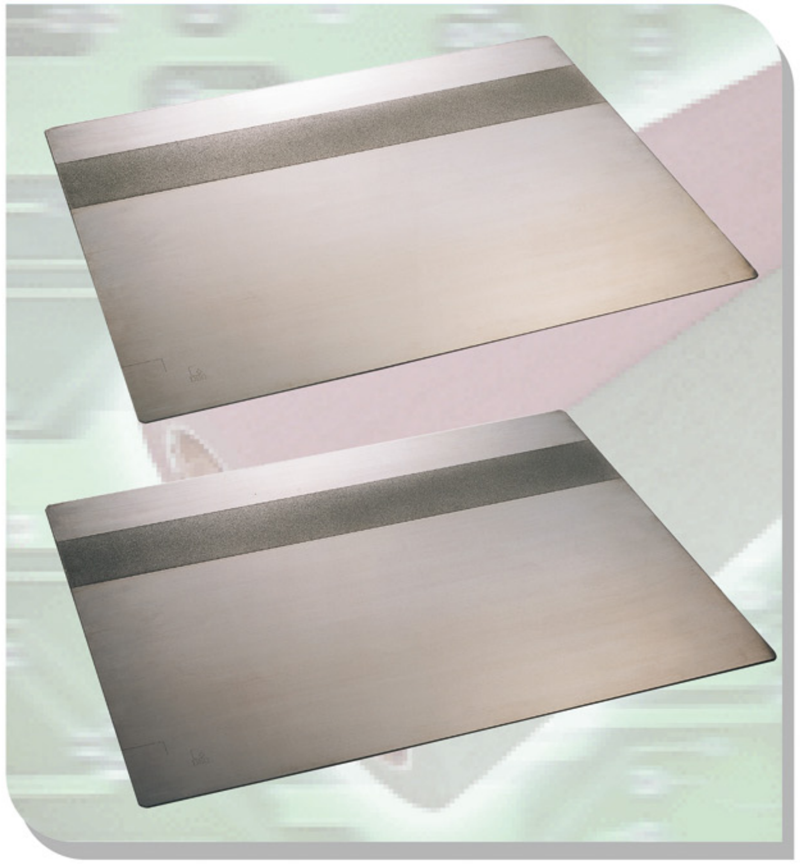
#80用于修整不织布刷轮，#200用于修整陶瓷刷轮

Application:

The dressing of PCB deburring wheels

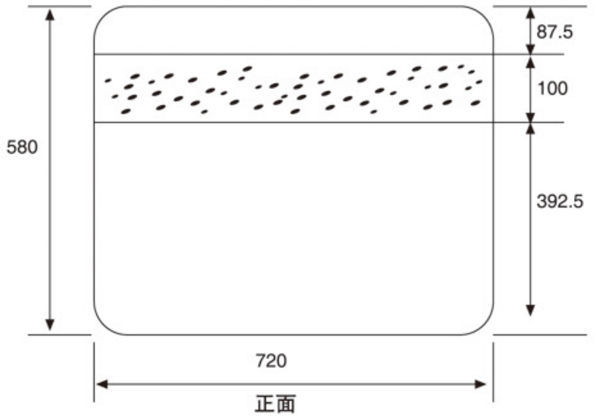
About grit size:

#80 mesh for dressing of top wheels(non-woven buff rolls)
#200 mesh for dressing of ceramic wheels

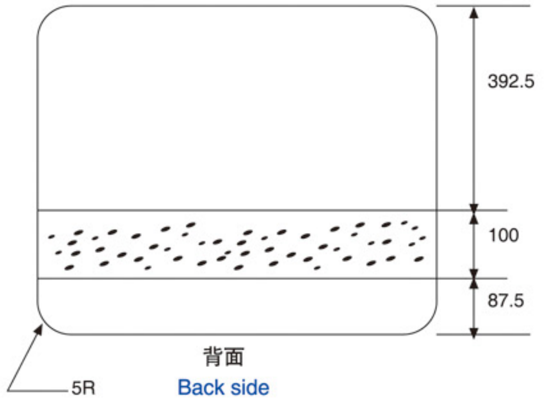


三、规格
Specifications

720x100双面同粒度
Two sides with same grit size

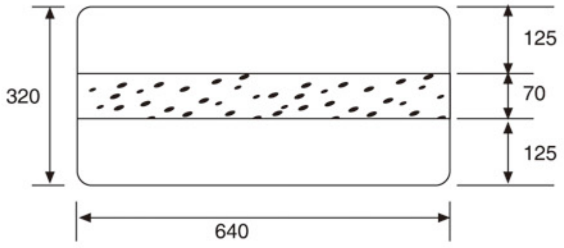


正面
Front side

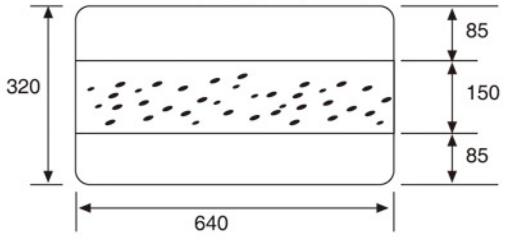


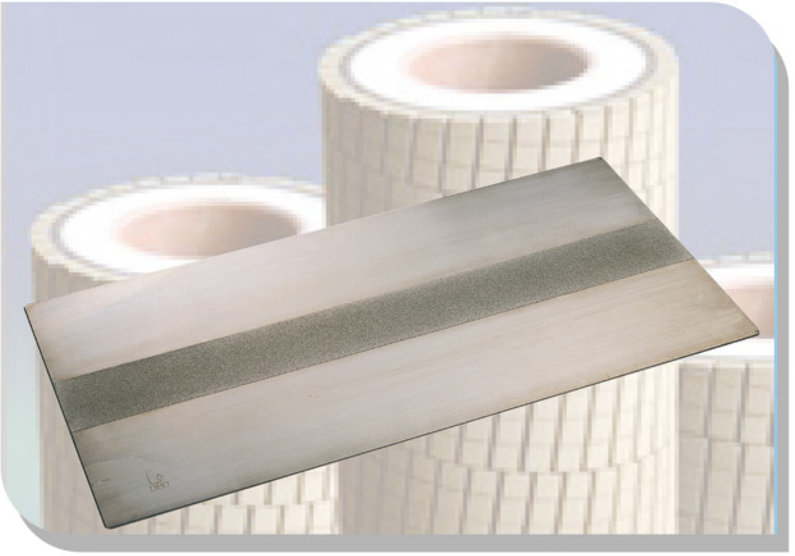
背面
Back side

640x70(单面/Single-side)



640x150(单面/Single-side)





数量3片以上的非标规格可接受订制
Available for non-standard orders more than 3 pieces

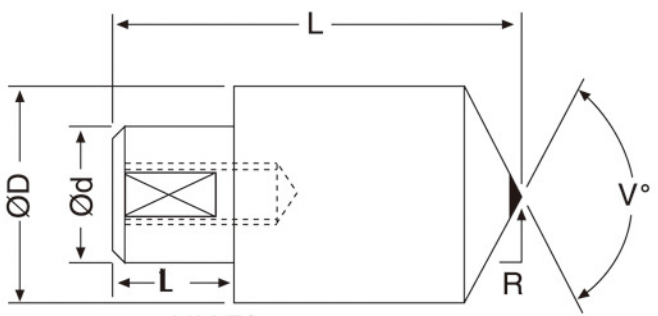
钻石硬度针
DIAMOND INDENTER

用途：
用于洛氏硬镀计，测定材料的HRC值。

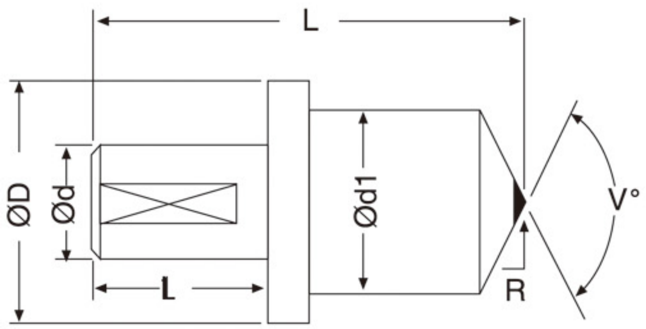
特点：
采用高品质钻石原料确保使用寿命。
精密的车磨加工保证精准稳定的量测结果。
高效量产工艺确保交付能力及极具竞争力的价格优势。

Application:
Rockwell Diamond Indenters to determine accurate hardness of hardened metals

Features:
Longer service life as using the high quality diamond materials.
Precision grinding ensures the measurement results accurate and stable.
Timely delivery and competitive price due to the high producing efficiency.



HIA型
Type HIA



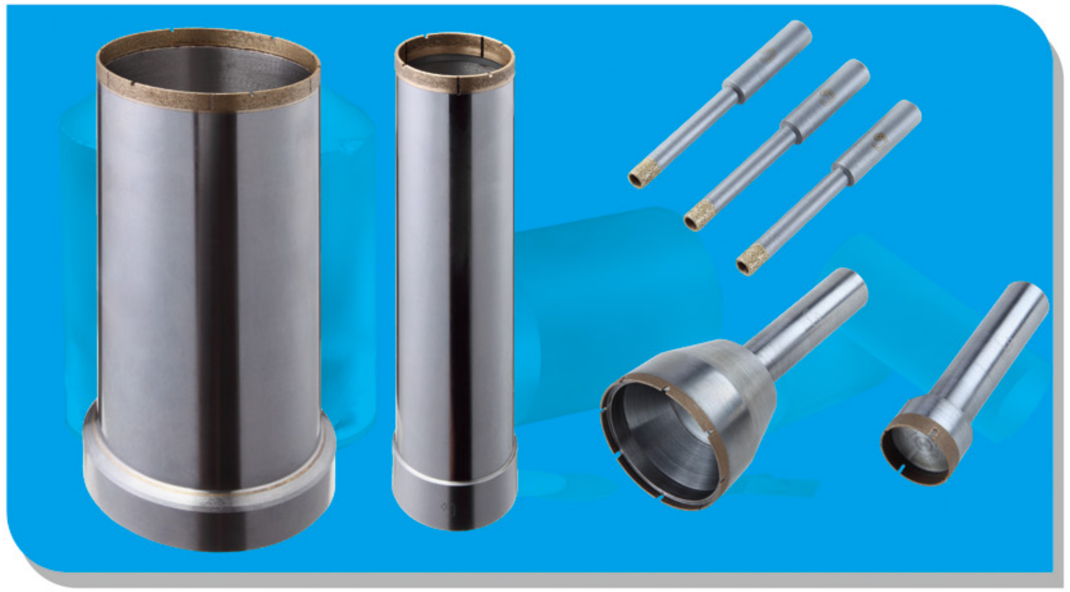
HIB型
Type HIB

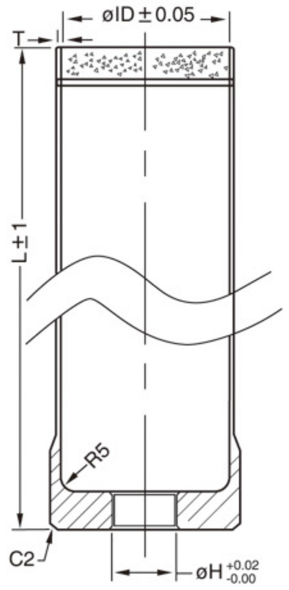
标准规格
Standard Specifications

型式 Product type	D	d	d1	L	L1	V±0.20°	R±0.01	钻石大小 Diamond weight
HIA	10	6.34	--	21	6.3	120°	0.2	0.1ct
HIB	12	6.34	10	27	11	120°	0.2	0.1ct

金属钻管和金属锉
DIAMOND CORE DRILLS & SINTERED DIAMOND FILES

一、金属钻管
Diamond core drills





用途：陶瓷、玻璃和石英等钻孔，LED用人造蓝宝石套料。
特点：特殊的烧结工艺保证更好耐磨性。
高精密研磨工艺实现更高的钻孔质量。

Applications: Core drilling of ceramics, sapphire, glass and quartz.
Features:
Special sintered technic ensures higher durability.
High precision grinding process achieves higher drilling quality.

标准规格
Standard Specifications

ID(mm)	T(mm)	H(mm)	L(mm)	结合剂/Bond
53.5	1.5~1.9	20	185+30~300+30	金属/Metal
103	1.7~2.3	20		
154	1.9~2.5	20		

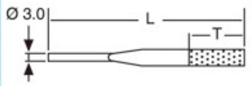
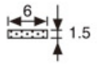
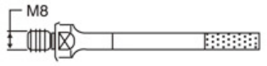
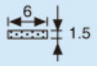
其余非标准钻石可依客户要求订做
Other specifications can be ordered depending on your drawing or sample.

二、金属结合钻石锉刀
Sintered Diamond Files

用途：电动及气动超声波研磨机专用。
特点：
a、寿命长、 b、硬度高、强度好、不易弯、

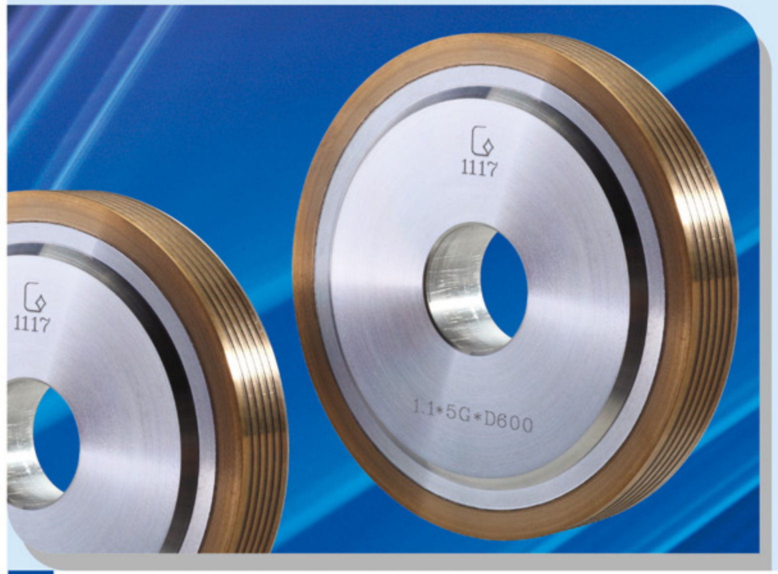
Application: Special design for air or ultrasonic lapping machine.
Features:
a、Long life time
b、Higher hardness and flexibility

标准规格
Standard Specifications:

	L	T	形 状 Cross-section	粒 度 Grit size	编 号 Order No.
	72	20		#200	MMF-615F
				#400	MMF-615V
				#600	MMF-615X
	54	20		#200	MDT-02F
				#400	MDT-02V
				#600	MDT-02X

触屏玻璃磨边砂轮
Touch panel glass edge-grinding wheel

触屏玻璃抛光砂轮
Touch panel glass polishing wheel



金属磨边砂轮
用途：TFT-LCD玻璃磨边

Sintered diamond grinding wheels
Application: For touch panel glass edge-grinding