



### AMP TEKNIK A/S

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# Introduction



## DIAMOND TOOLS

Electroplated, electroformed, metal bonded and resin bonded diamond tools are used on various materials because of very fast clean cutting, long life, versatility of design and relatively low cost.

## INFORMATION

The information in this catalogue is given as a guide only and we reserve the right to alter, amend and delete prices, specifications and product availability without prior notice.

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# Introduction

## DIAMOND & CBN SUPERABRASIVES

The use of Superabrasives for cutting, grinding, drilling, profiling, reaming and polishing has become increasingly more important because of the tremendous benefits gained with quality, speed and cost saving of the final finished product.

**Diamond** is pure carbon in a cubic crystal structure. It is the hardest of all known materials. Many applications benefit by the use of diamond in the Engineering Industry for cutting, drilling, profiling, grinding and polishing etc. because it enables faster operation, extended life of the tool and allows accurate tolerances of shape and size. Used in industry it is either 'natural' diamond extracted from the ground, crushed and shaped to suit a particular requirement, or it is 'synthetic' man-made diamond for specific applications. Diamond is made and graded according to its size, shape and friability. Diamond is used for cutting or grinding hard brittle and abrasive materials, but it is not suitable for grinding steels due to iron having an affinity for carbon (which is what diamond is) at a high temperature.

**Cubic Boron Nitride** is man made like synthetic diamond and is a chemical bond of the elements boron and nitrogen with a cubic lattice structure, made in a high temperature/pressure process. It is available in different grades and sizes and is particularly designed for grinding hardened steels.

GRIT SIZE CONVERSION TABLE

BS5851 1ST SYSTEM SINGLE GRADE CODES (FEPA)	BS5851 2ND SYSTEM US STANDARD ASTM-E-11-70	BS1987
1181	16/18	14/16
1001	18/20	16/18
851	20/25	18/22
711	25/30	22/25
601	30/35	25/30
501	35/40	30/36
426	40/45	36/44
356	45/50	44/52
301	50/60	52/60
251	60/70	60/72
213	70/80	72/85
181	80/100	85/100
151	100/120	100/120
126	120/140	120/150
107	140/170	150/170
91	170/200	170/200
76	200/230	200/240
64	230/270	240/300
54	270/325	300/350
46	325/400	350/400

MICRON CONVERSION TABLE

SIZE REF.	APPROXIMATE RANGE	APPROXIMATE FEPA EQUIVALENT	APPROXIMATE EQT MESH SIZE
50	40/60	—	400
45	35/45	M40	500
35	30/40	—	600
25	20/30	M25	800
15	10/20	M16	1100
9	6/12	M10	1800
6	4/8	M6.3	3000
3	2/4	M2.5	8000

The above micron range is for guidance only.  
Other sizes are available on request.



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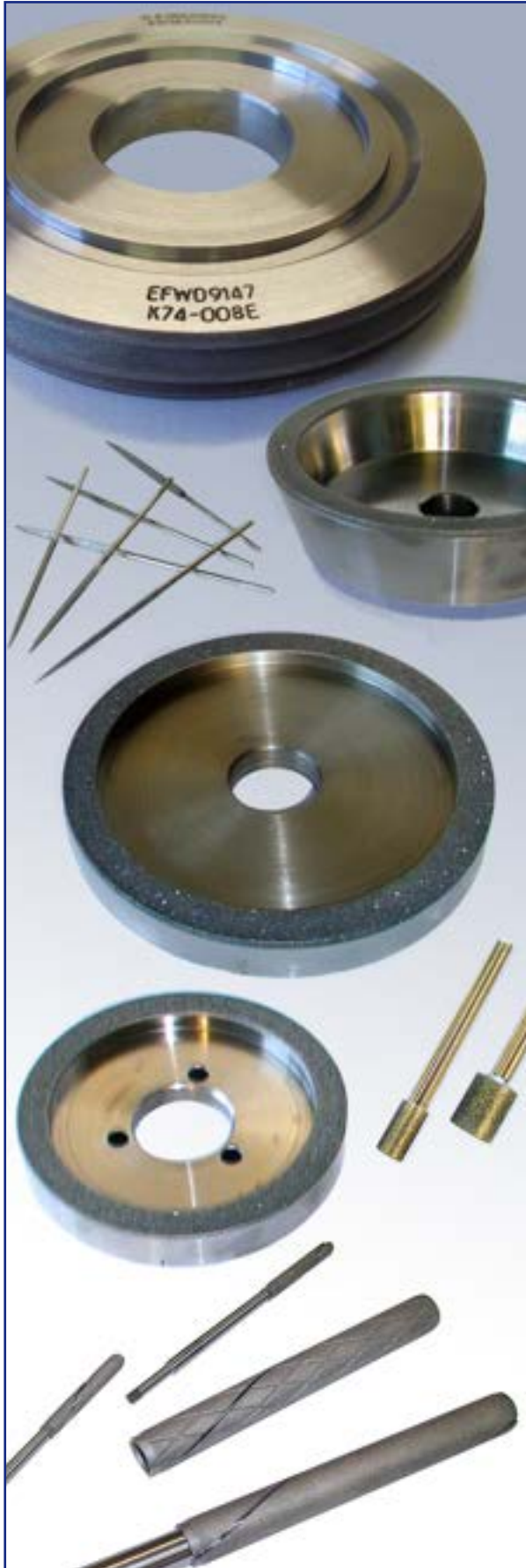
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# Electroplated diamond & cbn



## REPLATING

An extremely economical service can be boffered, subject to the body of the tool concerned being undamaged. Tools can be returned for strip and replating at a considerable cost reduction of the original tool price.

Our Technical Department will be pleased to give advice.

## APPLICATIONS

Electroplated diamond products have been used very successfully in a large number of applications. Some of the materials worked with diamond and CBN includes:

- Aluminium, Asbestos
- Beryllium Copper, Boron Carbide, Brass
- Carbon, Carbon Fibre, Ceramics, Cermet, Copper
- Ferrite, Frozen Foods
- Glass, Granite, Graphite
- Kevlar
- Leather
- Marble, Mild Steel
- Nimonic
- Pottery, PVC
- Reinforced Plastics, Rubber
- Slate, Stainless Steel, Stellite
- Tool Steel, Titanium, Tungsten Carbide
- Vanadium
- Wood

## GRIT SIZES

We can advise which grit sizes of diamond or CBN are recommended for optimum performance for each application.

Please see the Grit Size Table on Page I-ii.

# Electroplated diamond & cbn

## PRECISION PROFILE WHEELS

### DIAMOND & CBN

Diamond: tungsten carbide, ceramics, ferrites, glass, carbon, reinforced plastics and other nimonics.

CBN: high speed and tools steels, etc.

### APPLICATIONS

Carbide tooling and inserts, centreless profile grinding, circular form tools, crusher blocks, thread forms, thread milling tools, broach and cam grinding, gear forms, medical tools and devices and specialized applications.

### VERY ACCURATE TOLERANCES

As good as  $\pm 0.003$  mm dimensionally and  $\pm 3'$  on angles. Generally such tight tolerances are not required,  $\pm .01$  mm and  $\pm 10'$  are suitable for most tooling.

### NUMBER OF PROFILES

With certain profiles it is possible to make more than one form per wheel. This doubles, trebles or even quadruples the life of the wheel for relatively smaller increase in wheel cost. We will advise when submitting quotations where this is possible.

### EQUIPMENT & COOLANT

Profile wheels should be used in conjunction with a creep-feed grinding machine having adequate coolant supply. The absolute minimum supply of coolant is 50 litres per minute. The use of a centrifuge system delivering up to 135 litres per minute will lead to substantially improved wheel life and surface finish.

### SETTING UP

Each wheel is supplied with a clocking flange or clocking groove depending on wheel thickness. Wheels must be trued to these datum faces for both side and peripheral run-out. Run-out should not exceed 0.005 mm in either direction.

### CLEARANCE ANGLES

Top rake front clearance and helix angles are compensated for in the design of the wheel profile. A suitable wheel is produced from a customer's insert or drawing. If side clearance is required we can supply 'split' profile wheels.

### GRIT SIZE

The grit size on accurate profile wheels is determined by the profile tolerances minimum radii and depth of profile. We will recommend the most suitable grit size.

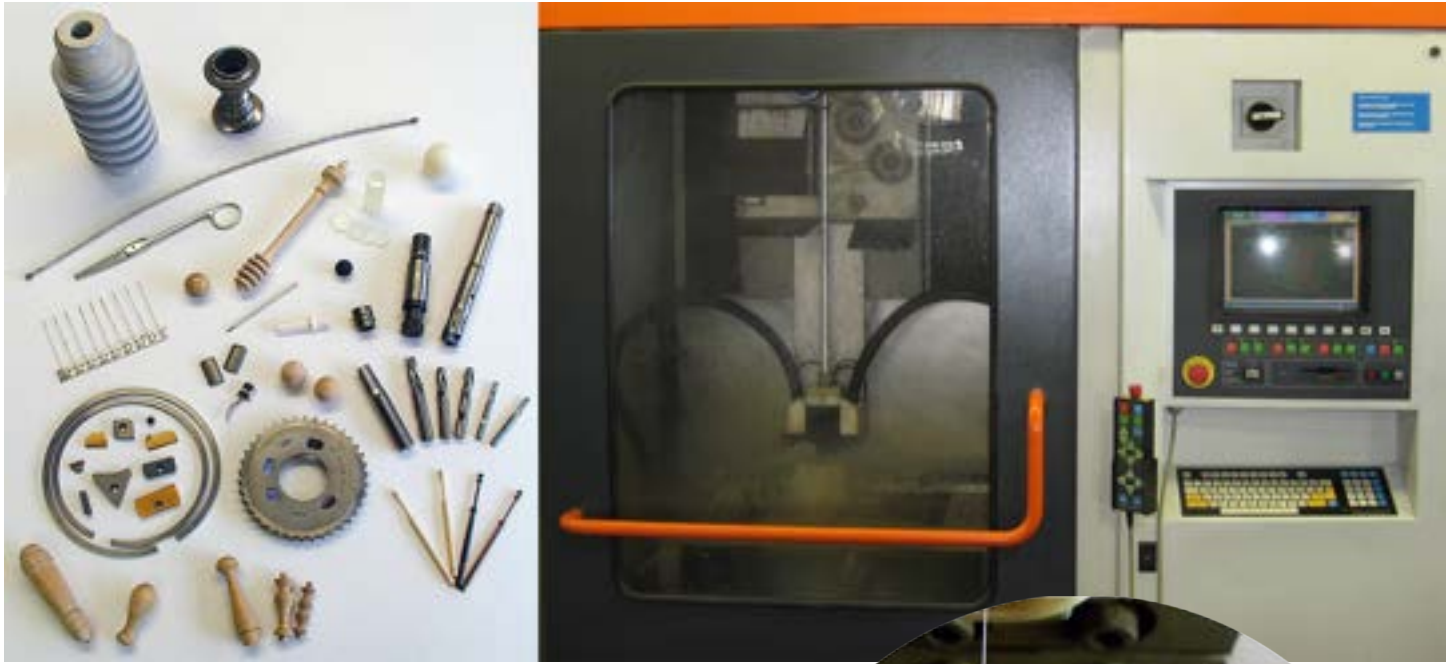
### REPEAT/STRIP & REPLATE

Repeat wheels are supplied at a substantially lower price than the original wheel. A strip and replate service is offered at very competitive prices.





## Electroplated diamond & cbn





# Electroplated diamond & cbn

## DIREXPANDER®

Diamond and CBN precision reamers for very accurate bore finishing.

The Direxpander® consists of a diamond coated helical sleeve mounted on a tapered mandrel which allows the final diameter of the tool to be adjusted to very fine limits. The combination of the sleeve and tapered mandrel produces a tool of great rigidity and the diamond coating ensures a consistent gauging over thousands of components.

Over the last three decades the Direxpander® has become the definitive tool for sizing and straightening the bores of cast components eg Hydraulic Transfer Valves. During these years our technicians have acquired a wealth of knowledge and expertise covering all aspects of the problems associated with this operation.

These precision reamers can be supplied in a standard range of sizes from 6 mm to 60 mm diameter, other sizes are available on request.

The Direxpander® will size a bore to within 0.002 mm on diameter and leave a standard finish of 0.4 RA (16 CLA) in one pass and at the same time correct the bore geometry.

Finishes between 0.2 RA (8 CLA) and 0.8 RA (32 CLA) can also be achieved.



Material	Roughing Reamer 0.8 RA (32 CLA)	Finishing Reamer 0.4 RA (16 CLA)
Cast Iron	0.038 mm (0.0015")	0.015 mm (0.0006")

### Reasons for using the DIREXPANDER®

- 75% Reduction floor-floor time
- Consistency of bore size
- Consistency of finish
- Correction of any bore misalignment
- Single pass operation
- Increased production rates
- Lower tool cost per component
- Unskilled operation
- Longer tool life
- Negligible component rejection



# Electroplated diamond & cbn

DIREXPANDER REAMERS

DIAMOND		ABRASIVE SLEEVE LENGTH										
Diameter	Arbor	50mm	65mm	70mm	90mm	100mm	120mm	150mm	170mm	200mm	250mm	300mm
10mm												
12mm												
14mm												
16mm												
18mm												
20mm												
22mm												
25mm												
28mm												
30mm												
32mm												
35mm												
38mm												
40mm												
42mm												
45mm												

- Extras
- Coolant Holes
  - Standard Nose Cone
  - Spiral Pattern
  - Rotating Bronze Nose Cone

# Electroplated diamond & cbn

## 1A1 PERIPHERAL WHEELS

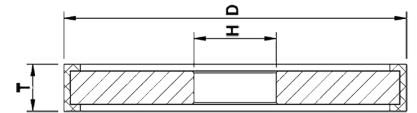
Electroplated diamond and CBN Peripheral Wheels are produced for use on Surface Grinding machines as well as Bench machines.

These wheels are manufactured in both diamond and CBN. The diamond wheels are used for grinding Tungsten Carbide, Ceramics and CBN wheels are for grinding HSS and Steels harder than 40 Hrc.

Benefits include:

- No reduction to wheel diameter or loss of shape during use.
- No need to dress wheel.
- No dust generated through wheel breakdown.
- Worn out wheels can be returned to be re-plated giving cost savings over new wheels.

DIAMETER	'T' DIMENSION	DIAMOND		
		COARSE 85/100	MEDIUM 100/120	FINE 200/240
100mm	3.2mm			
100mm	6mm			
100mm	10mm			
100mm	12.5mm			
125mm	6mm			
125mm	10mm			
125mm	12.5mm			
125mm	15mm			
125mm	20mm			
125mm	25mm			
150mm	6mm			
150mm	10mm			
150mm	12.5mm			
150mm	20mm			
150mm	25mm			
175mm	3.2mm			
175mm	6mm			
175mm	10mm			
175mm	12.5mm			
200mm	6mm			
200mm	12.5mm			
250mm	6mm			
250mm	12.5mm			



**When ordering .....**

please state all dimensions as illustrated.

# Electroplated diamond & cbn

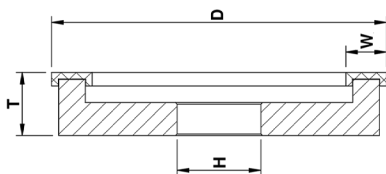
## 6A2/6A2C PLAIN CUP WHEELS

Diamond and CBN electroplated Plain Cup Wheels are manufactured for use on Surface Grinding machines and Bench machines.

These 6A2/6A2C cup wheels can be produced in both diamond and CBN. The diamond wheels are used for grinding Tungsten Carbide, Ceramics and CBN wheels are for grinding HSS and Steels harder than 40 Hrc.

Several benefits are available in using these types of wheels and include —

- No reduction to wheel diameter or loss of shape during use.
- No need to dress wheel.
- No dust generated through wheel breakdown.
- Worn out wheels can be re-plated, ask us for more information



DIAMETER	'W' DIMENSION	COARSE 85/100	DIAMOND	
			MEDIUM 100/120	FINE 200/240
75mm	10mm			
75mm	20mm			
100mm	10mm			
100mm	15mm			
100mm	20mm			
125mm	10mm			
125mm	20mm			
150mm	15mm			
150mm	25mm			
200mm	15mm			
200mm	25mm			
250mm	20mm			
300mm	20mm			



# Electroplated diamond & cbn

## 11A2 TAPER CUP WHEELS

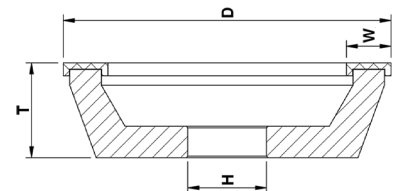
Electroplated Taper Cup Wheels are manufactured for use on Surface Grinding machines as well as Bench machines.

These wheels can be produced in both diamond and CBN. The diamond wheels are used for the grinding of Tungsten Carbide, Ceramics and CBN wheels for HSS and Steels harder than 40 Hrc.

Benefits include:

- No reduction to wheel diameter or loss of shape during use.
- No need to dress wheel.
- No dust generated through wheel breakdown.
- Worn out wheels can be re-plated, ask us for more information

DIAMETER	'W' DIMENSION	COARSE 85/100	DIAMOND	
			MEDIUM 100/120	FINE 200/240
75mm	6mm			
75mm	10mm			
90mm	10mm			
100mm	10mm			
125mm	6mm			
125mm	10mm			
150mm	6mm			
150mm	10mm			



**When ordering .....**

please state all dimensions as illustrated.

# Electroplated diamond & cbn

## INTERNAL GRINDING WHEELS

Electroplated internal grinders are widely used on Jig and Internal Grinding Machines. They are widely used in the production of Dies, Punches and cutting tools.

Available in standard sizes but specials are also readily available.  
Profiled internal grinders can also be manufactured.



	CODE		D (mm)	W (mm)	Y (mm)	L1 (mm)	L (mm)	GRIT
	Diamond	CBN						
TYPE 'A'	BEI005D	BEI005B	0.5	3	3	7	55	D91-170/200
	BEI007D	BEI007B	0.7	3	3	7	55	
	BEI010D	BEI010B	1.0	5	3	10	55	
	BEI015D	BEI015B	1.5	5	3	12	55	
	BEI020D	BEI020B	2.0	5	3	12	55	
	BEI025D	BEI025B	2.5	5	3	16	55	D126-120/150
	BEI030D	BEI030B	3.0	5	3	16	55	
	BEI035D	BEI035B	3.5	5	6	20	60	
	BEI040D	BEI040B	4.0	5	6	20	60	
	BEI050D	BEI050B	5.0	6	6	20	60	
TYPE 'B'	BEI060D	BEI060B	6.0	8	6	20	60	D181-85/100
	BEI070D	BEI070B	7.0	8	6	-	60	
	BEI090D	BEI090B	9.0	10	6	-	60	
	BEI100D	BEI100B	10.0	10	6	-	60	
	BEI120D	BEI120B	12.0	10	6	-	60	
	BEI150D	BEI150B	15.0	10	6	-	60	







DIAMOND CODE	C.B.N. CODE
BEI005D	BEI005B
BEI007D	BEI007B
BEI010D	BEI010B
BEI015D	BEI015B
BEI020D	BEI020B
BEI025D	BEI025B
BEI030D	BEI030B
BEI035D	BEI035B
BEI040D	BEI040B
BEI050D	BEI050B
BEI060D	BEI060B
BEI070D	BEI070B
BEI090D	BEI090B
BEI100D	BEI100B
BEI120D	BEI120B
BEI150D	BEI150B

Other shapes & sizes available on request

# Electroplated diamond & cbn

## NEEDLE FILES

A full range of quality diamond coated needle files is available in the most popular shapes and grits, fine, medium and coarse.

TYPE NO.	CODE	GRIT SIZE	DESCRIPTION
<b>Tapered</b>			
TF1	ENF020	120/150	Taper Flat
TF3	ENF080	120/150	3 Square
TF5	ENF140	120/150	Square
TF6	ENF170	120/150	Round
TF9	ENF260	120/150	Half Round
<b>Parallel</b>			
PF10	ENF290	120/150	Hand
<b>Handle</b>			
	Taper Flat		Round
	3 Square		Half Round
	Square		Hand (Parallel)



## ELECTROPLATED DIAMOND SPATULAS

Electroplated diamond spatulas suitable for cleaning contacts are available in three grades of diamond on the coated blades. Both sides of the file are coated electroplated diamond and are fitted with a flexible polythene colour coded handle for easy grade identification, blue being coated with coarse diamond, red with medium diamond and yellow with fine diamond.

CODE	DESCRIPTION	PRICE
*ECF189	Spatula DSB No. 147189 Coarse, Blue	
*ECF190	Spatula DSR No. 147190 Medium, Red	
*ECF191	Spatula DSY No. 147191 Fine, Yellow	



**When ordering .....**

please state code part numbers.

# Flexible diamond & cbn

## FLEXIBLE DIAMOND ELECTROFLEX FOR ENGINEERING

Flexible Diamond products combine the long life and aggressive cutting action of diamonds with a backing material which has strength and flexibility. This diamond impregnated material enables tools of various shapes to quickly and economically grind and polish a wide range of hard materials including hard metals.



## MANUFACTURING PROCESS

The manufacturing process produces diamond islands of identical size and shape with a regular spacing. This manufacturing process has been specifically designed to allow slurry to be freely washed away with the lubricant (water) without any clogging. The overall pattern produced gives the optimum rapid stock removal with the ability to achieve the desired honed or polished finish.

## ELECTROFLEX AND METAL (M)

Selected high quality diamonds are electroplated with a nickel matrix through special flexible stainless steel mesh, or a very strong flexible backing cloth, which achieves a very robust fast grinding and finishing product.

## WET WORKING

Electroflex and Electroplus products have been designed for wet use to achieve the maximum performance, finish and life.

## DRY WORKING

Some Electroflex and Electroplus products are available for dry working where appropriate.

## GRADE IDENTIFICATION

Colour coded for simplicity

COLOUR	TYPE	GRIT	MICRON
GREEN	METAL	60	250
BLACK	METAL	120	125
RED	METAL	200	74
YELLOW	METAL	400	40-50
WHITE	METAL	800	20-30
BLUE	METAL	1800	6-12

The above micron range is for guidance only.  
Resin grades are available on request for super fine finishing.



# Flexible diamond & cbn

## DIAMOND FLEXIBLE ELECTROFLEX HAND PADS

Diamond flexible material hand pads can be used for wet hand grinding and polishing the edges and surfaces of hard metals and other hard materials for the engineering industry. All diamond hand pads are colour coded with green, black red, yellow, white and blue foam backing for easy grade identification.

## FLEXIBLE CUSHIONED HAND PADS

The diamond flexible cushioned hand pads have a superior foam backing for a more comfortable grip. These diamond hand pads are suitable for wet grinding and polishing the edges, corners and flat surfaces of hard metals used in the engineering industry.

**Sizes —** 90 x 55mm and 100 x 55mm

**Electroflex:**

Metal Grades — 60 - 1800 grit

GRADE	CODE
90mm x 55mm	
M60	*BEPN202
M120	*BEPN212
M200	*BEPN217
M400	*BEPN222
M800	*BEPN223
M1800	*BEPN224
100mm x 55mm	
M60	*BEPN200
M120	*BEPN210
M200	*BEPN215
M400	*BEPN220
M800	*BEPN221
M1800	*BEPN228



Resin grades are available on request for super fine finishing.

**When ordering .....**

please state code part numbers.

# Flexible diamond & cbn

## FLEXIBLE FLAT HAND PADS

Diamond flat hand pads are a cost effective alternative to the cushioned type of hand pad and are ideal for hand grinding and polishing edges, corners and flat surfaces of hard metals. The flat hand pads have colour coded foam backing for easy grade identification.

Sizes — 75 x 75mm and 90 x 55mm

**Electroflex:**

Metal Grades — 60 - 1800 grit



GRADE	CODE	PRICE
75mm x 75mm		
M60	*BEPN165	
M120	*BEPN175	
M200	*BEPN180	
M400	*BEPN185	
M800	*BEPN187	
M1800	*BEPN189	
90mm x 55mm		
M60	*BEPN702	
M120	*BEPN712	
M200	*BEPN717	
M400	*BEPN722	
M800	*BEPN723	
M1800	*BEPN727	

Resin grades are available on request for super fine finishing.

# Flexible diamond & cbn

## DIAMOND FLEXIBLE ELECTROFLEX DISCS

Electroflex discs are suitable for wet grinding and polishing all types of hard materials in the engineering industry. All sizes, backings are metal grades are available with various fittings for hand and stationary machines.

## FLEXIBLE DIAMOND D-LOC DISCS

D-Loc quick release discs are for grinding, polishing and de-burring applications in the engineering industry.

Diameters — 25, 50 & 75mm

**Electroflex:**

Metal Grades — 60 - 1800 grit

GRADE	CODE	PRICE
<b>Ø25mm</b>		
M60	*BEPN900A	
M120	*BEPN900C	
M200	*BEPN900D	
M400	*BEPN900E	
M800	*BEPN900F	
M1800	*BEPN900J	
<b>Ø50mm</b>		
M60	*BEPN910A	
M120	*BEPN910C	
M200	*BEPN910D	
M400	*BEPN910E	
M800	*BEPN910F	
M1800	*BEPN910J	
<b>Ø75mm</b>		
M60	BEPN915A	
M120	BEPN915C	
M200	BEPN915D	
M400	BEPN915E	
M800	BEPN915F	
M1800	BEPN915J	

Resin grades are available on request for super fine finishing.

## D-LOC MANDRELS FOR DISCS

Quick release backup pads with 6mm diameter shank for D-Loc Electroflex discs.

CODE	DIAMETER
*BES900	Ø25mm
*BES910	Ø50mm
*BES915	Ø75mm



# Flexible diamond & cbn

## ELECTROFLEX FLEXIBLE DIAMOND BELTS

Flexible Diamond belts are being used extensively in wet grinding and polishing applications in the engineering industry. Advantages are consistent finish, increased productivity and reductions in downtime and abrasive costs.

Electroflex flexible belts are available in a wide range of grits and sizes and can be supplied in diamond or CBN.

High quality manufacturing processes allow for long life and good edge retention.

Applications for flexible belts can be as diverse as —

- Replacement knee joints
- Roll grinding for the paper industry
- Automotive Cam Shaft grinding/polishing
- Automotive Crank Shaft grinding/polishing





# Flexible diamond & cbn

## FLEXIBLE ABRASIVE SHEETS

Flexible diamond and CBN sheets for hand polishing all types of hard materials in the engineering industry. The colour coded flexible abrasive material can be supplied in Electroflex sheets of various sizes and backings, which can be easily cut with scissors to make customised tooling.

### **Electroflex:**

Metal Grades 60 - 120 – Sheet Dimensions 850 x 290mm

Metal Grades 200 - 1800 – Sheet Dimensions 3000 x 290mm

Resin Grades 800 - 12000 - Sheet Dimensions 650 x 290mm

### **Types of Backings -**

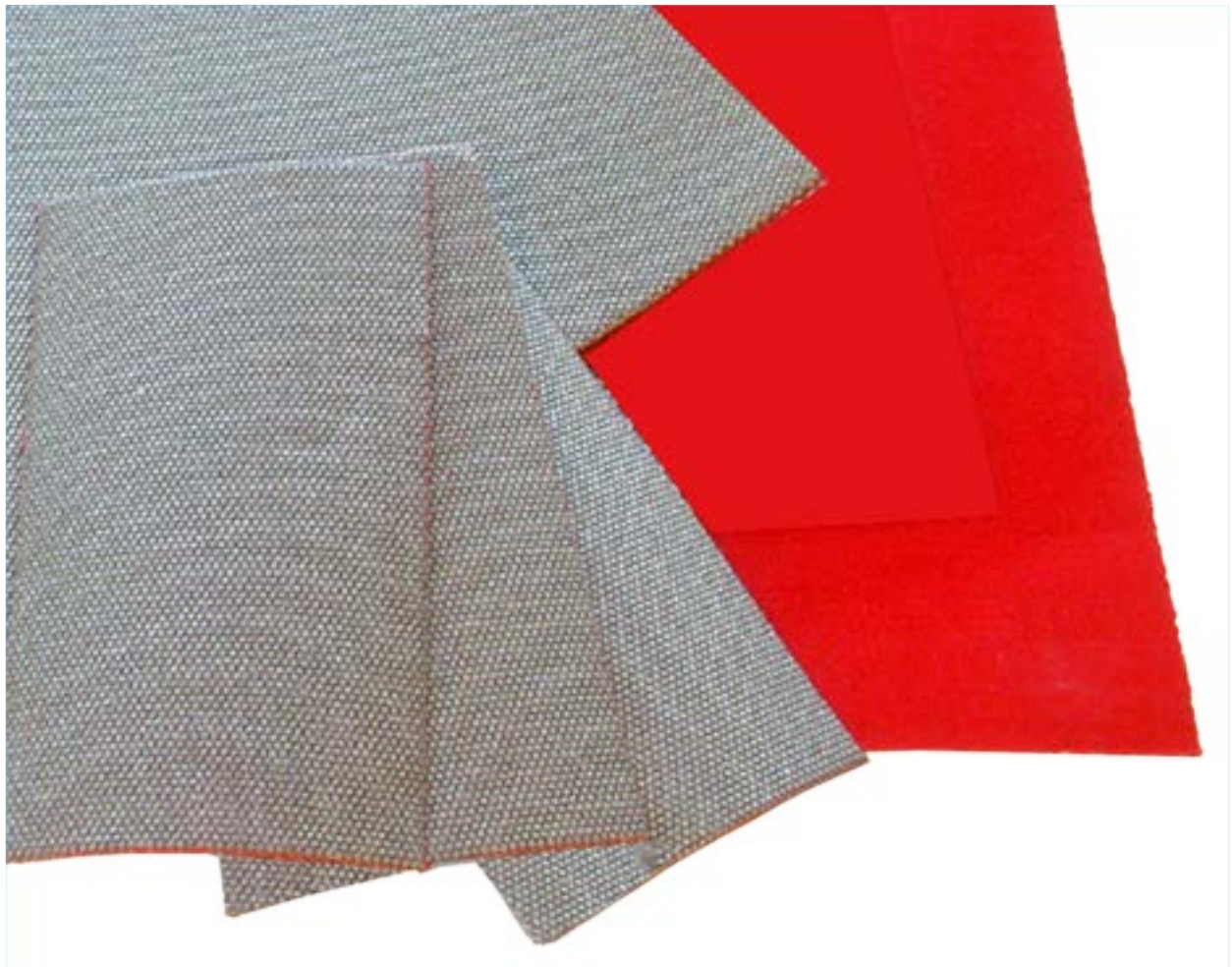
Unbacked (Canvas)

QRS (Quick Release System - Velcro(tm))

Self-Adhesive (S/A)

Plastazote (Foam Rubber)

Magnetic



# Resin/metoid diamond & cbn



## DIAMOND & CBN WHEELS

**Diamond wheels for** — Tungsten Carbide, Titanium Carbides and Ceramics.

**Cubic Boron Nitride (CBN/Borazon) wheels for** — High Speed Steels, Various Hardened Steels, Stellites and Cast Iron.

### DIAMOND WHEELS

The major use of resin bonded diamond wheels is for the grinding of cemented carbides. Results have proved that the resin bonded wheel provides the most economical method of grinding tungsten carbide when high stock removal, coupled with good surface finish is the prime consideration. These wheels find their use in all types of grinding operations such as surface, cylindrical, optical profile, slot grinding, saw grinding, multi-tooth cutter grinding and can be used wet or dry.

Our technical staff can recommend the correct bond and diamond type for your application.

### CUBIC BORON NITRIDE (CBN/BORAZON)

Cubic Boron Nitride is a synthetic abrasive produced by subjecting hexagonal Boron Nitride, in the presence of a catalyst, to a high pressure and temperature. The resulting crystals of CBN are considerably harder than the conventional silicon carbide and aluminium oxide abrasives and thermally more stable than diamond.

ABRASIVE	HARDNESS (Knoop Scale)
Diamond	7,000
CBN	4,700
Silicon Carbide	2,480
Aluminium Oxide	2,100

CBN resin bonded wheels were developed for grinding hard, tough, high speed tool and die steels and show the following advantages over conventional abrasives.

1. Wheel wear is very low and grinding can be done without wheel compensation.
2. Close tolerances can be maintained without interim checks.
3. More effective stock removal.
4. Increase production.
5. Cool cutting and lack of residual stress.
6. Generates less heat, less power required.
7. Can be used wet or dry

## METOID® BOND WHEELS

The Metoid® bonded range was developed for those difficult grinding operations where conventional resin bond wheels cannot be used effectively. The Metoid® bond is extremely tough combining the free cutting properties of resin bond wheels with a robustness normally found only in metal bonded wheels.

It is possible to undertake the dry grinding of brazed tooling when using a Metoid® diamond bond wheel and the dry grinding of tool steels using the CBN Metoid® wheels. These wheels are effective grinding ceramics, stellites, nimonic and a variety of other exotic materials. These wheels are extremely versatile and effective under both wet and dry conditions. Its outstanding corner holding characteristics make it ideally suited for production and creep feed grinding.

Metoid® bond wheels are available in a wide variety of shapes and sizes.

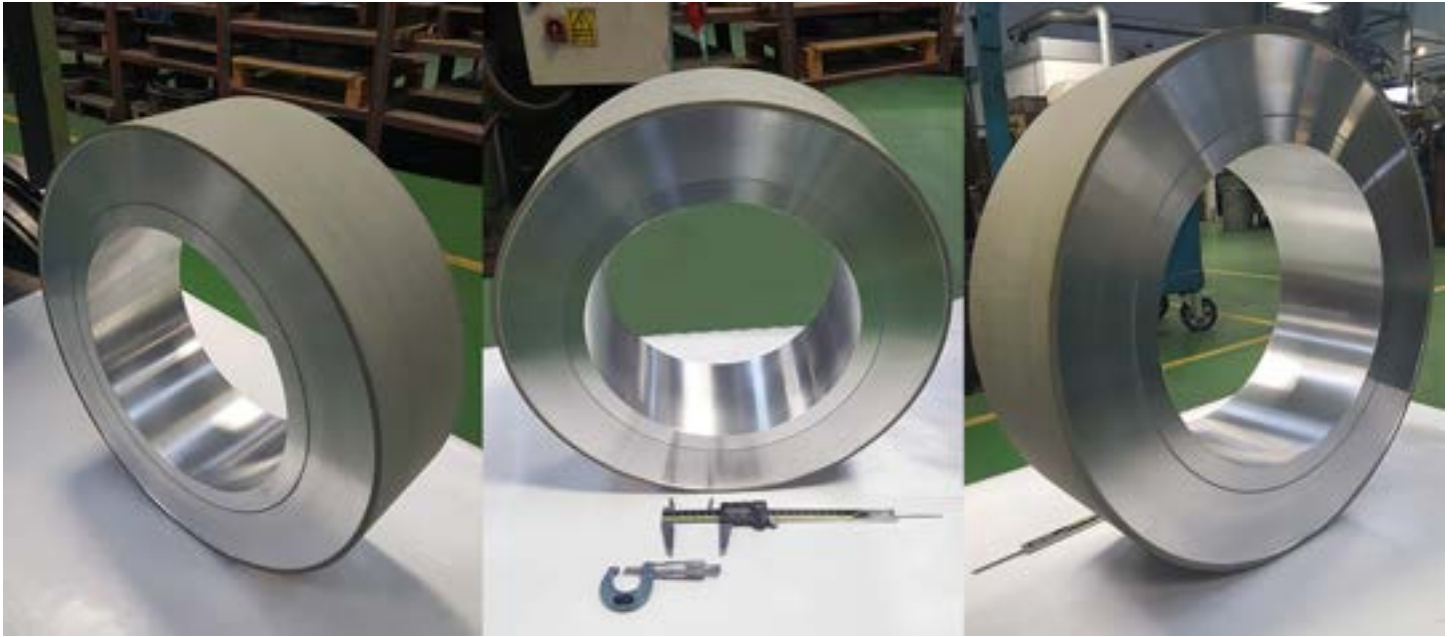
Complying with the FEPA international standards, wood working machine tool manufacturers standards or as specials. A full range of slitting discs are also available.

## POLYIMIDE BOND WHEELS

Polyimide Bonds wheels are particularly successful in the most arduous grinding processes including saw sharpening operations.









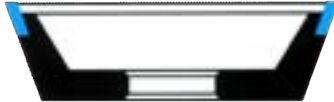

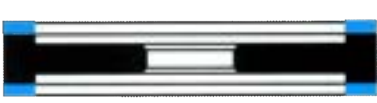












# Resin/metoid diamond & cbn



# Resin diamond & cbn

## STANDARD WHEEL SHAPES

<b>Peripheral Wheel</b>  <b>TYPE 1A1</b>	<b>Peripheral Wheel</b>  <b>SLITTING SAW</b> <b>TYPE 1A1R</b>	<b>Dish Wheel</b>  <b>TYPE 4A2</b>
<b>Dish Wheel</b>  <b>TYPE 4BT9</b>	<b>Dish Wheel</b>  <b>TYPE 4ET9</b>	<b>Dish Wheel</b>  <b>TYPE 12A2 20°</b>
<b>Peripheral Cup Wheel</b>  <b>TYPE 11A9</b>	<b>Peripheral Cup Wheel</b>  <b>TYPE 6A9</b>	<b>Flaring Cup Wheel</b>  <b>TYPE 11V9</b>
<b>Flaring Cup Wheel</b>  <b>TYPE 12V9 45°</b>	<b>Double Face Wheel</b>  <b>TYPE 9A3</b>	<b>Cup Wheel</b>  <b>TYPE 6A2</b>
<b>Taper Cup Wheel</b>  <b>TYPE 11A2</b>	<b>Dish Wheel</b>  <b>TYPE 12A2 45°</b>	<b>OPG Wheel</b>  <b>TYPE 14A1</b>
<b>OPG Wheel</b>  <b>TYPE 14F1</b>	<b>OPG Wheel</b>  <b>TYPE 3A1</b>	<b>Internal Grinding Wheel</b>  <b>TYPE 1A8W</b>
<b>Internal Grinding Wheel</b>  <b>TYPE 1A1W</b>	<b>Hand Hone</b>  <b>TYPE DHH1</b>	<b>Hand Hone</b>  <b>TYPE DHH2</b>



# Resin diamond & cbn

## FEPA - IDENTIFICATION CODE DIAMOND/CBN WHEEL SHAPES

FEPA diagrams are designed to describe the shape of a complete diamond or CBN wheel and is made up with four components see Analysis of a typical diamond/CBN wheel shape (Fig. 1), Basic Core Shape (Fig. 2), Shape of Diamond/CBN Cross Section (Fig. 3) and Location of Diamond/CBN section (Fig. 4).

Fig. 1. Analysis of a Typical Diamond or CBN Wheel Shape.

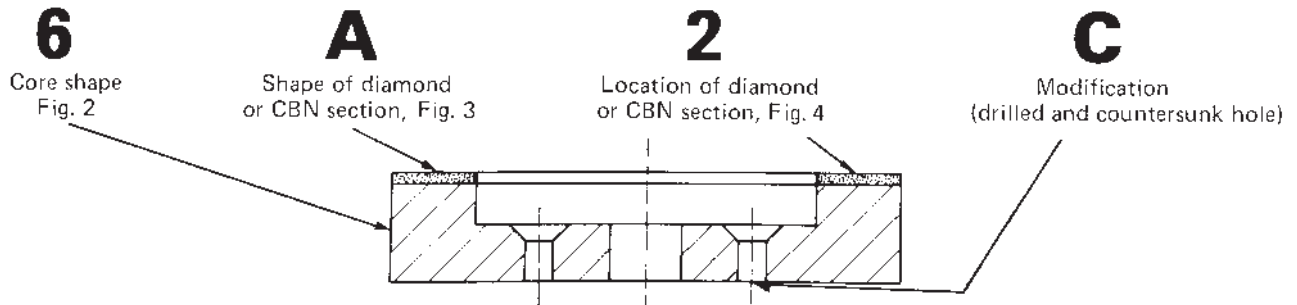


Fig. 2. Core Shapes and Designations.

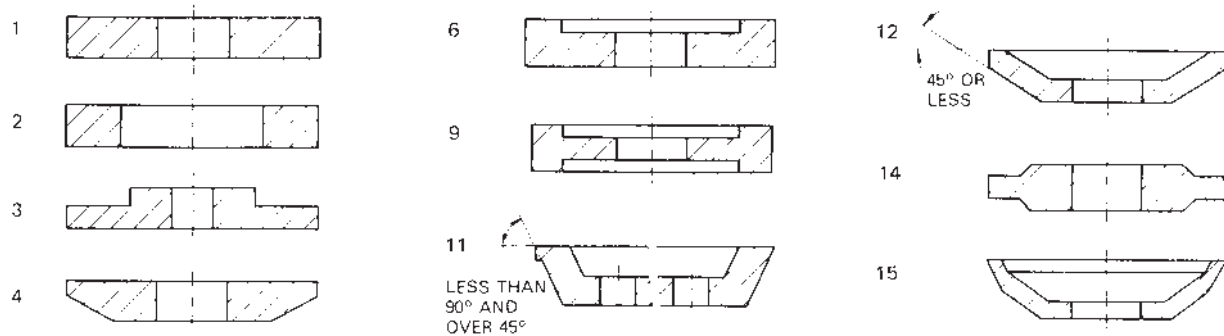
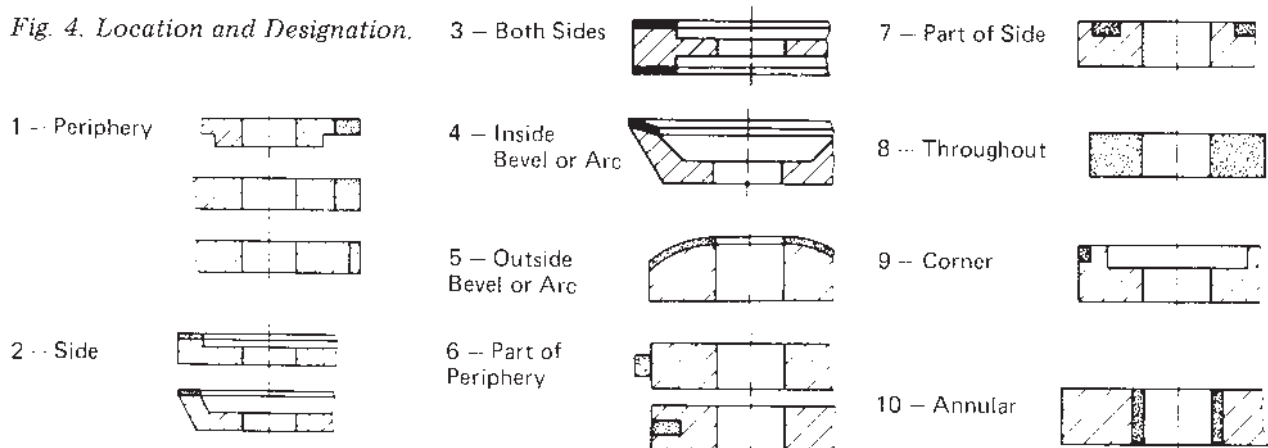


Fig. 3. Diamond or CBN Cross Sections and Designations.

			A	AH	B	C
H	D	DD	E	EE	F	FF
G	H	J	K	L	LL	M
P	Q	QQ	S	U	V	Y

Fig. 4. Location and Designation.



# Resin diamond & cbn



## RESIN BONDED SUPERABRASIVE WHEELS

A wide range of shapes and sizes is available for toolroom and production use. Many other shapes and sizes can be manufactured on request for special machines.

## RESIN BOND DIAMOND WHEELS

The main use is for grinding tungsten carbide tools and ceramics. A range of bonds is available to suit different applications including grinding glass, ferrites and other non-ferrous hard materials.

## RESIN BOND CBN WHEELS

CBN wheels can be used for the efficient grinding of hardened steels, super alloys and other similar materials.

## BONDS

Wheel performance and the economy of the grinding operation is determined to a large extent by the correct choice and the careful manufacture of the bond, as well as by the quality and size of the diamond/CBN grit.

The bond should give perfect diamond/CBN grit retention to ensure maximum utilisation and suitable wear characteristics to expose fresh diamond/CBN tips.

## SPECIFICATIONS

Please refer to our Technical Department to advise you on the best wheel specifications for your applications.

The variations are:

- Grit type - Diamond or CBN
- Grit size - See the grit size table on Page iii
- Concentration - grit per unit volume
- Body material and Bond type -  
Wheel body usually available in Aluminium, Resinal or Bakelite

## ORDERING

When placing orders it would be helpful to give the following information.

1. Wheel shape and description - see standard wheels shapes on Page 19.
2. Wheel size.
3. Type of Superabrasive - diamond or CBN.
4. Grit size.
5. Concentration.
6. Application.

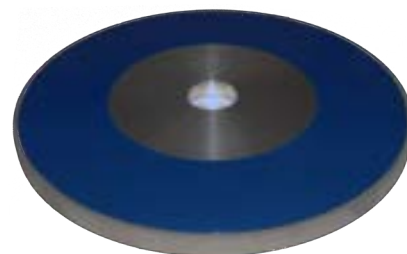
# Resin diamond & cbn

## PERIPHERAL WHEELS

Resin bond diamond and CBN peripheral wheels can be tailored to customers' specific grinding requirements within the engineering industry.

### Type 1A1 PERIPHERAL WHEELS

SIZE			DIAMOND			CBN		
D	T	X	50	75	100	50	75	100
25mm	3mm	3mm						
25mm	6mm	3.2mm						
25mm	10mm	3.2mm						
25mm	12mm	3.2mm						
30mm	3mm	3.2mm						
30mm	6mm	3.2mm						
30mm	10mm	3.2mm						
30mm	12mm	3.2mm						
40mm	3mm	3.2mm						
40mm	6mm	3.2mm						
40mm	10mm	3.2mm						
40mm	12mm	3.2mm						
50mm	3mm	3.2mm						
50mm	6mm	1.6mm						
50mm	6mm	3.2mm						
50mm	10mm	1.6mm						
50mm	10mm	3.2mm						
50mm	12mm	1.6mm						
50mm	12mm	3.2mm						
75mm	3mm	3.2mm						
75mm	6mm	1.6mm						
75mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
75mm	12mm	1.6mm						
75mm	12mm	3.2mm						
100mm	3mm	3.2mm						
100mm	6mm	1.6mm						
100mm	6mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
100mm	12mm	1.6mm						
100mm	12mm	3.2mm						



#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## PERIPHERAL WHEELS

### Type 1A1



SIZE			DIAMOND			CBN		
D	T	X	50	75	100	50	75	100
125mm	3mm	1.6mm						
125mm	3mm	3.2mm						
125mm	5mm	1.6mm						
125mm	5mm	3.2mm						
125mm	6mm	1.6mm						
125mm	6mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						
125mm	12mm	1.6mm						
125mm	12mm	3.2mm						
150mm	3mm	1.6mm						
150mm	3mm	3.2mm						
150mm	5mm	1.6mm						
150mm	5mm	3.2mm						
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12mm	1.6mm						
150mm	12mm	3.2mm						
175mm	3mm	1.6mm						
175mm	3mm	3.2mm						
175mm	6mm	1.6mm						
175mm	6mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						
175mm	12mm	1.6mm						
175mm	12mm	3.2mm						
175mm	20mm	1.6mm						
175mm	20mm	3.2mm						
200mm	5mm	1.6mm						
200mm	5mm	3.2mm						
200mm	6mm	1.6mm						
200mm	6mm	3.2mm						
200mm	10mm	1.6mm						
200mm	10mm	3.2mm						
200mm	12mm	1.6mm						
200mm	12mm	3.2mm						
200mm	15mm	1.6mm						
200mm	15mm	3.2mm						
200mm	20mm	1.6mm						
200mm	20mm	3.2mm						

**NOTE:**  
Other sizes available on request.

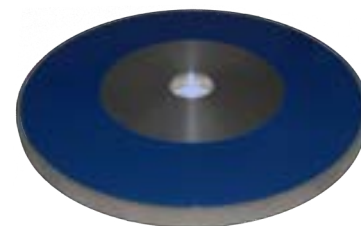


# Resin diamond & cbn

## PERIPHERAL WHEELS

### Type 1A1

SIZE			DIAMOND			CBN		
D	T	X	50	75	100	50	75	100
255mm	6mm	1.6mm						
255mm	6mm	3.2mm						
255mm	10mm	1.6mm						
255mm	10mm	3.2mm						
255mm	12mm	1.6mm						
255mm	12mm	3.2mm						
255mm	15mm	1.6mm						
255mm	15mm	3.2mm						
255mm	20mm	1.6mm						
255mm	20mm	3.2mm						
300mm	6mm	1.6mm						
300mm	6mm	3.2mm						
300mm	10mm	1.6mm						
300mm	10mm	3.2mm						
300mm	12mm	1.6mm						
300mm	12mm	3.2mm						
300mm	15mm	1.6mm						
300mm	15mm	3.2mm						
300mm	20mm	1.6mm						
300mm	20mm	3.2mm						
350mm	6mm	3.2mm						
350mm	10mm	3.2mm						
350mm	12mm	3.2mm						
350mm	15mm	3.2mm						
350mm	20mm	3.2mm						
400mm	20mm	3.2mm						
400mm	25mm	3.2mm						
400mm	30mm	3.2mm						
500mm	20mm	3.2mm						
500mm	25mm	3.2mm						
500mm	30mm	3.2mm						



#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## SLITTING SAWS

Slitting saws are used for precise cutting off, notching or grooving of a wide range of hard materials, including Tungsten Carbide, ceramic, glass, P.C.B. and hardened steel. We can manufacture these in both diamond and CBN and in a range of bonds to suit any wet or dry application.

### Type 1A1R



SIZE			DIAMOND			CBN		
D	T	X	50	75	100	50	75	100
75mm	1mm	3.2mm						
100mm	1.2mm	3.2mm						
100mm	1.2mm	6mm						
125mm	1.2mm	3.2mm						
125mm	1.2mm	6mm						
150mm	1.5mm	3.2mm						
150mm	1.5mm	6mm						
175mm	1.5mm	3.2mm						
175mm	1.5mm	6mm						
200mm	1.5mm	6mm						

**NOTE:**  
Other sizes available on request.

## DISH WHEELS

High quality diamond or CBN dish wheels are manufactured to customers' specific specifications for grinding applications in the toolroom or in a production environment. When ordering please specify the application and grinding requirements including grit, bond, body type.

### Type 4A2



SIZE				DIAMOND			CBN		
D	W	X	T	50	75	100	50	75	100
100mm	5mm	1.6mm	6mm						
100mm	5mm	3.2mm	6mm						
100mm	6mm	1.6mm	6mm						
100mm	6mm	3.2mm	6mm						
125mm	5mm	1.6mm	7mm						
125mm	5mm	3.2mm	7mm						
125mm	6mm	1.6mm	7mm						
125mm	6mm	3.2mm	7mm						
150mm	5mm	1.6mm	9mm						
150mm	5mm	3.2mm	9mm						
150mm	6mm	1.6mm	9mm						
150mm	6mm	3.2mm	9mm						

**NOTE:**  
Other sizes available on request.

# Resin diamond & cbn

## DISH WHEELS

### Type 12A2 — 45°

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
40mm	5mm	1.6mm						
40mm	5mm	3.2mm						
50mm	3.2mm	1.6mm						
50mm	3.2mm	3.2mm						
50mm	5mm	1.6mm						
50mm	5mm	3.2mm						
75mm	5mm	1.6mm						
75mm	5mm	3.2mm						
75mm	6mm	1.6mm						
75mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	1.6mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	5mm	1.6mm						
100mm	5mm	3.2mm						
100mm	6mm	1.6mm						
100mm	6mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
100mm	12.5mm	1.6mm						
100mm	12.5mm	3.2mm						
125mm	5mm	1.6mm						
125mm	5mm	3.2mm						
125mm	6mm	1.6mm						
125mm	6mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						
125mm	12.5mm	1.6mm						
125mm	12.5mm	3.2mm						
125mm	15mm	1.6mm						
125mm	15mm	3.2mm						



#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## DISH WHEELS



### Type 12A2 — 45°

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
150mm	5mm	1.6mm						
150mm	5mm	3.2mm						
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12.5mm	1.6mm						
150mm	12.5mm	3.2mm						
150mm	15mm	1.6mm						
150mm	15mm	3.2mm						
150mm	20mm	1.6mm						
150mm	20mm	3.2mm						
175mm	5mm	1.6mm						
175mm	5mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						
175mm	12.5mm	1.6mm						
175mm	12.5mm	3.2mm						
175mm	15mm	1.6mm						
175mm	15mm	3.2mm						
175mm	20mm	1.6mm						
175mm	20mm	3.2mm						
175mm	25mm	1.6mm						
175mm	25mm	3.2mm						
200mm	10mm	1.6mm						
200mm	10mm	3.2mm						
200mm	12.5mm	1.6mm						
200mm	12.5mm	3.2mm						
200mm	15mm	1.6mm						
200mm	15mm	3.2mm						
200mm	20mm	1.6mm						
200mm	20mm	3.2mm						

**NOTE:**  
Other sizes available on request.



# Resin diamond & cbn

## DISH WHEELS

### Type 12A2 — 20°

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
40mm	5mm	1.6mm						
40mm	5mm	3.2mm						
50mm	3.2mm	1.6mm						
50mm	3.2mm	3.2mm						
50mm	5mm	1.6mm						
50mm	5mm	3.2mm						
75mm	5mm	1.6mm						
75mm	5mm	3.2mm						
75mm	6mm	1.6mm						
75mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	1.6mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	5mm	1.6mm						
100mm	5mm	3.2mm						
100mm	6mm	1.6mm						
100mm	6mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
100mm	12.5mm	1.6mm						
100mm	12.5mm	3.2mm						
125mm	5mm	1.6mm						
125mm	5mm	3.2mm						
125mm	6mm	1.6mm						
125mm	6mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						
125mm	12.5mm	1.6mm						
125mm	12.5mm	3.2mm						
125mm	15mm	1.6mm						
125mm	15mm	3.2mm						



#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## DISH WHEELS



### Type 12A2 — 20°

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
150mm	5mm	1.6mm						
150mm	5mm	3.2mm						
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12.5mm	1.6mm						
150mm	12.5mm	3.2mm						
150mm	15mm	1.6mm						
150mm	15mm	3.2mm						
150mm	20mm	1.6mm						
150mm	20mm	3.2mm						
175mm	5mm	1.6mm						
175mm	5mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						
175mm	12.5mm	1.6mm						
175mm	12.5mm	3.2mm						
175mm	15mm	1.6mm						
175mm	15mm	3.2mm						
175mm	20mm	1.6mm						
175mm	20mm	3.2mm						
175mm	25mm	1.6mm						
175mm	25mm	3.2mm						
200mm	10mm	1.6mm						
200mm	10mm	3.2mm						
200mm	12.5mm	1.6mm						
200mm	12.5mm	3.2mm						
200mm	15mm	1.6mm						
200mm	15mm	3.2mm						
200mm	20mm	1.6mm						
200mm	20mm	3.2mm						

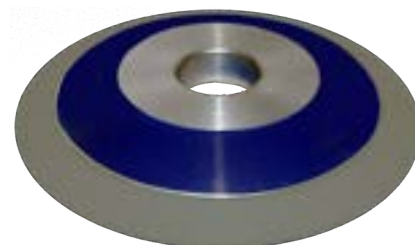
**NOTE:**  
Other sizes available on request.

# Resin diamond & cbn

## DISH WHEELS

### Type 4BT9

SIZE				DIAMOND			CBN		
D	W	X	T	50	75	100	50	75	100
75mm	10mm	1mm	8mm						
100mm	10mm	1mm	10mm						
125mm	10mm	1mm	12mm						



#### NOTE:

Other sizes available on request.

### Type 4ET9

SIZE				DIAMOND			CBN		
D	W	X	T	50	75	100	50	75	100
75mm	6mm	1mm	6mm						
100mm	6mm	2mm	8mm						
125mm	10mm	2mm	8mm						



#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS

Diamond or CBN cup wheels can be made to customers' specific requirements. Grits, bonds and body types are tailored to the customers' applications and grinding requirements. We can manufacture a resin bond cup wheel that can work within the machine parameters and finish required in the toolroom or production environments in a relatively short lead time.

### Type 11A9



SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						

**NOTE:**  
Other sizes available on request.



### Type 6A9

SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						

**NOTE:**  
Other sizes available on request.

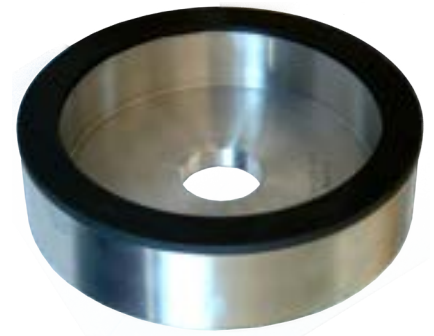


# Resin diamond & cbn

## CUP WHEELS

### Type 6A2

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
40mm	5mm	1.6mm						
40mm	5mm	3.2mm						
50mm	3.2mm	1.6mm						
50mm	3.2mm	3.2mm						
50mm	5mm	1.6mm						
50mm	5mm	3.2mm						
75mm	5mm	1.6mm						
75mm	5mm	3.2mm						
75mm	6mm	1.6mm						
75mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	1.6mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	5mm	1.6mm						
100mm	5mm	3.2mm						
100mm	6mm	1.6mm						
100mm	6mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
100mm	12.5mm	1.6mm						
100mm	12.5mm	3.2mm						
125mm	5mm	1.6mm						
125mm	5mm	3.2mm						
125mm	6mm	1.6mm						
125mm	6mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						
125mm	12.5mm	1.6mm						
125mm	12.5mm	3.2mm						
125mm	15mm	1.6mm						
125mm	15mm	3.2mm						

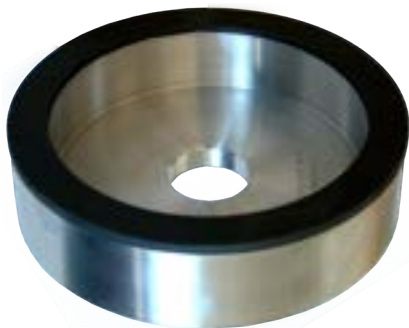


#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS



### Type 6A2

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
150mm	5mm	1.6mm						
150mm	5mm	3.2mm						
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12.5mm	1.6mm						
150mm	12.5mm	3.2mm						
150mm	15mm	1.6mm						
150mm	15mm	3.2mm						
150mm	20mm	1.6mm						
150mm	20mm	3.2mm						
175mm	5mm	1.6mm						
175mm	5mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						
175mm	12.5mm	1.6mm						
175mm	12.5mm	3.2mm						
175mm	15mm	1.6mm						
175mm	15mm	3.2mm						
175mm	20mm	1.6mm						
175mm	20mm	3.2mm						
175mm	25mm	1.6mm						
175mm	25mm	3.2mm						
200mm	10mm	1.6mm						
200mm	10mm	3.2mm						
200mm	12.5mm	1.6mm						
200mm	12.5mm	3.2mm						
200mm	15mm	1.6mm						
200mm	15mm	3.2mm						
200mm	20mm	1.6mm						
200mm	20mm	3.2mm						

**NOTE:**  
Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS

### Type 11V9

SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
50mm	6mm	1.6mm						
50mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	2mm						
100mm	10mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	2mm						
125mm	10mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						



**NOTE:**

Other sizes available on request.

### Type 11V9 “D”

The 11V9 “D” wheel has a Dural body and unsupported rim. The body is a good heat conductor and due to the unsupported design the operator is able to fully use the impregnated section without dressing back the body. Due to the construction of this wheel it is ideal for general tool and cutter grinding and sharpening of (diamond) Tungsten Carbide tools, (borazon) high speed steel tools, but is not recommended for very heavy work. This wheel can only be manufactured in the following sizes with diamond grit in any mesh size and concentration. Speed range upto 6,500 sfpm.

SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
75mm	10mm	3.2mm						
90mm	6mm	3.2mm						
90mm	10mm	3.2mm						
100mm	10mm	3.2mm						
125mm	10mm	3.2mm						
150mm	10mm	3.2mm						



**NOTE:**

Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS



### Type 12V9 45°

SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
30mm	6mm	1.6mm						
30mm	6mm	3.2mm						
38mm	6mm	1.6mm						
38mm	6mm	3.2mm						
38mm	7mm	1.6mm						
38mm	7mm	3.2mm						
40mm	4mm	1.6mm						
40mm	4mm	3.2mm						
50mm	6mm	1.6mm						
50mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	2mm						
100mm	10mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	2mm						
125mm	10mm	3.2mm						
150mm	£10.00	1.6mm						
150mm	£10.00	3.2mm						

**NOTE:**  
Other sizes available on request.



# Resin diamond & cbn

## CUP WHEELS

### Type 11A2 TAPER CUP WHEELS



SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
40mm	5mm	1.6mm						
40mm	5mm	3.2mm						
50mm	3.2mm	1.6mm						
50mm	3.2mm	3.2mm						
50mm	5mm	1.6mm						
50mm	5mm	3.2mm						
75mm	5mm	1.6mm						
75mm	5mm	3.2mm						
75mm	6mm	1.6mm						
75mm	6mm	3.2mm						
75mm	10mm	1.6mm						
75mm	10mm	3.2mm						
90mm	6mm	1.6mm						
90mm	6mm	3.2mm						
90mm	10mm	1.6mm						
90mm	10mm	3.2mm						
100mm	5mm	1.6mm						
100mm	5mm	3.2mm						
100mm	6mm	1.6mm						
100mm	6mm	3.2mm						
100mm	10mm	1.6mm						
100mm	10mm	3.2mm						
100mm	12.5mm	1.6mm						
100mm	12.5mm	3.2mm						
125mm	5mm	1.6mm						
125mm	5mm	3.2mm						
125mm	6mm	1.6mm						
125mm	6mm	3.2mm						
125mm	10mm	1.6mm						
125mm	10mm	3.2mm						
125mm	12.5mm	1.6mm						
125mm	12.5mm	3.2mm						
125mm	15mm	1.6mm						
125mm	15mm	3.2mm						

#### NOTE:

Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS



### Type 11A2 TAPER CUP WHEELS

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
150mm	5mm	1.6mm						
150mm	5mm	3.2mm						
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12.5mm	1.6mm						
150mm	12.5mm	3.2mm						
150mm	15mm	1.6mm						
150mm	15mm	3.2mm						
150mm	20mm	1.6mm						
150mm	20mm	3.2mm						
175mm	5mm	1.6mm						
175mm	5mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						
175mm	12.5mm	1.6mm						
175mm	12.5mm	3.2mm						
175mm	15mm	1.6mm						
175mm	15mm	3.2mm						
175mm	20mm	1.6mm						
175mm	20mm	3.2mm						
175mm	25mm	1.6mm						
175mm	25mm	3.2mm						
200mm	10mm	1.6mm						
200mm	10mm	3.2mm						
200mm	12.5mm	1.6mm						
200mm	12.5mm	3.2mm						
200mm	15mm	1.6mm						
200mm	15mm	3.2mm						
200mm	20mm	1.6mm						
200mm	20mm	3.2mm						

**NOTE:**  
Other sizes available on request.

# Resin diamond & cbn

## CUP WHEELS

### Type 9A3 DOUBLE FACE CUP WHEELS

SIZE			DIAMOND			CBN		
D	W	X	50	75	100	50	75	100
150mm	6mm	1.6mm						
150mm	6mm	3.2mm						
150mm	10mm	1.6mm						
150mm	10mm	3.2mm						
150mm	12.5mm	1.6mm						
150mm	12.5mm	3.2mm						
150mm	15mm	1.6mm						
150mm	15mm	3.2mm						
150mm	20mm	1.6mm						
150mm	20mm	3.2mm						
175mm	5mm	1.6mm						
175mm	5mm	3.2mm						
175mm	6mm	1.6mm						
175mm	6mm	3.2mm						
175mm	10mm	1.6mm						
175mm	10mm	3.2mm						



#### NOTE:

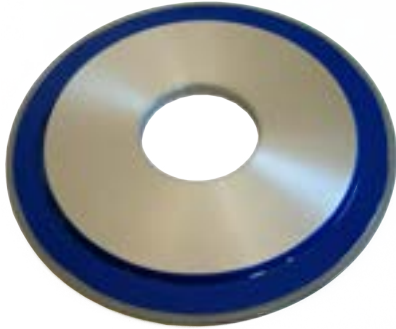
Other sizes available on request.

# Resin diamond & cbn

## OPTICAL PROFILE WHEELS

A variety of optical profile wheels are available to customers specific grinding applications, the square edged 14A1 or 3A1 and the rounded edge 14F1 shapes can be manufactured in either CBN or diamond according to the type of material to be ground. When ordering please state wheel diameter (D), grinding width (U), layer thickness (X), layer thickness radius if required (R), body thickness (T), bore size (H) and flange diameter if required (J). Grinding parameters are also required to enable correct grit size and bond type to be advised.

### Type 14A1 OPG WHEELS

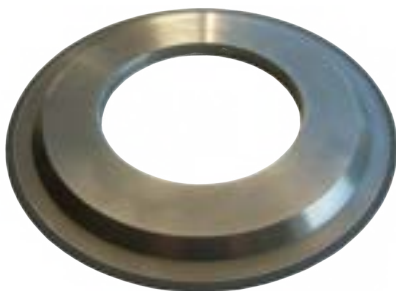


SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
125mm	1.5mm	6mm						
125mm	2.5mm	6mm						
125mm	3mm	3.2mm						
125mm	3mm	6mm						
125mm	5mm	3.2mm						
125mm	5mm	6mm						
150mm	1.5mm	6mm						
150mm	2.5mm	6mm						
150mm	3mm	3.2mm						
150mm	3mm	6mm						
150mm	5mm	3.2mm						
150mm	5mm	6mm						
200mm	6mm	3.2mm						
200mm	6mm	6mm						
255mm	6mm	3.2mm						
255mm	6mm	6mm						
255mm	10mm	3.2mm						
255mm	10mm	6mm						

#### NOTE:

Other sizes available on request.

### Type 3A1 OPG WHEELS



SIZE			DIAMOND			CBN		
D	U	X	50	75	100	50	75	100
125mm	1.5mm	6mm						
125mm	2.5mm	6mm						
125mm	3mm	3.2mm						
125mm	3mm	6mm						
125mm	5mm	3.2mm						
125mm	5mm	6mm						
150mm	1.5mm	6mm						
150mm	2.5mm	6mm						
150mm	3mm	3.2mm						
150mm	3mm	6mm						
150mm	5mm	3.2mm						
150mm	5mm	6mm						

# Resin diamond & cbn

## OPTICAL PROFILE WHEELS

### Type 14F1 OPG WHEELS

SIZE			DIAMOND			CBN		
D	X	R	50	75	100	50	75	100
40mm	3.2mm	1mm						
40mm	3.2mm	1.5mm						
40mm	3.2mm	2mm						
50mm	3.2mm	1mm						
50mm	3.2mm	1.5mm						
50mm	3.2mm	2mm						
50mm	5mm	1mm						
50mm	5mm	1.5mm						
50mm	5mm	2mm						
75mm	3.2mm	1mm						
75mm	3.2mm	1.5mm						
75mm	3.2mm	2mm						
75mm	5mm	1mm						
75mm	5mm	1.5mm						
75mm	5mm	2mm						
100mm	3.2mm	1mm						
100mm	3.2mm	1.5mm						
100mm	3.2mm	2mm						
100mm	5mm	1mm						
100mm	5mm	1.5mm						
100mm	5mm	2mm						
125mm	3.2mm	1mm						
125mm	3.2mm	1.5mm						
125mm	3.2mm	2mm						
125mm	5mm	1mm						
125mm	5mm	1.5mm						
125mm	5mm	2mm						
150mm	3.2mm	1mm						
150mm	3.2mm	1.5mm						
150mm	3.2mm	2mm						
150mm	5mm	1mm						
150mm	5mm	1.5mm						
150mm	5mm	2mm						



#### NOTE:

Other sizes available on request.

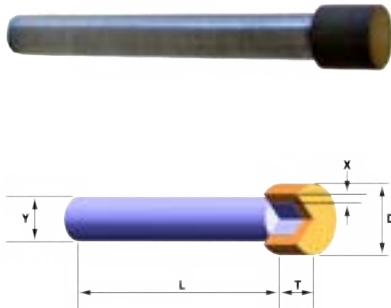


# Resin diamond & cbn

## INTERNAL GRINDING WHEELS

Diamond resin bonded 1A8W and 1A1W internal grinding wheels are manufactured to customers' specifications. These grinding tools can be used on a wide variety of engineering applications and are available in either CBN or diamond.

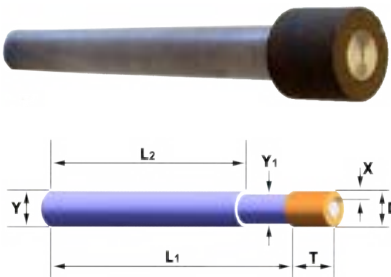
### Type 1A8W INTERNAL WHEELS



**NOTE:**

Other sizes available on request.

CODE	SIZE			DIAMOND 100	CBN 100
	D	T	X		
RIG003D	3mm	4mm	0.75mm		
RIG005D	5mm	6mm	1mm		
RIG006D	6mm	6mm	1.5mm		
RIG106D	6mm	8mm	1.5mm		
RIG008D	8mm	8mm	1.5mm		
RIG010D	10mm	8mm	2mm		
RIG012D	12mm	10mm	3mm		



### Type 1A1W INTERNAL WHEELS

CODE	SIZE			DIAMOND 100	CBN 100
	D	T	X		
RIG015D	15mm	10mm	3mm		
RIG020D	20mm	10mm	3mm		
RIG025D	25mm	10mm	3mm		

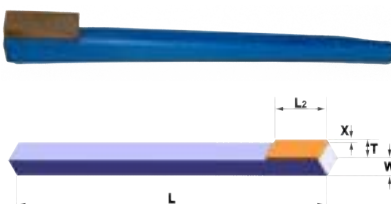
**NOTE:**

Other sizes available on request.

## HAND HONES

Diamond and CBN hand hones can be made to customer specific requirements. These high quality hand laps are tailor made according to the customer's individual lapping applications, when ordering please state material to be honed, finish required and hand hone dimensions.

### Type HH1 HAND HONES

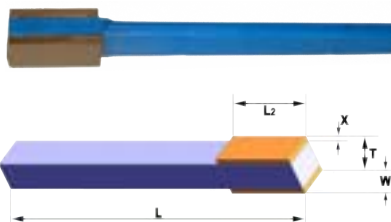


**NOTE:**

Other sizes available on request.

TYPE	SIZE			DIAMOND 50	DIAMOND 100
	L <sup>2</sup>	W	X		
HH1	25mm	10mm	1.5mm		
HH1	25mm	10mm	3mm		

### Type HH2 HAND HONES



TYPE	SIZE			DIAMOND 50	DIAMOND 100
	L <sup>2</sup>	W	X		
HH2	25mm	10mm	1.5mm		
HH2	25mm	10mm	3mm		

# Ceramic diamond & cbn

## CERAMIC INTERNAL GRINDERS

Ceramic internal grinding wheels are available in diameters 4mm to 25mm and are supplied with or without a shank. The diamond wheels are for grinding carbides and ceramics and the CBN wheels are for grinding hardened steels. Ceramic grinders are extremely tough and have a porous structure which has the following advantages:

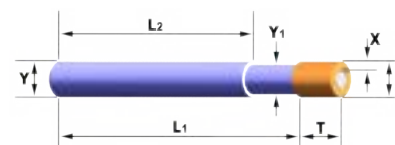
1. Extremely fast cutting with low wear.
2. Cool cutting with improved surface finish when used dry.
3. Outlasts electroplated wheels by up to 20 times whilst cutting 25% faster.

DIAMOND		C.B.N.	
CODE		CODE	
VIG004D		VIG004B	
VIG006D		VIG006B	
VIG008D		VIG008B	
VIG010D		VIG010B	
VIG012D		VIG012B	
VIG015D		VIG015B	
VIG020D		VIG020B	
VIG025D		VIG025B	



## INTERNAL GRINDING WHEEL DIMENSIONS

CODE	D	T	X	Y	L1	Y1	L1-L2
VIG004	4	5	1	3	50	2	6
VIG006	6	5	1.5	3	50	-	-
VIG008	7	8	2.5	6	50	4	10
VIG010	10	8	2.5	6	50	5	10
VIG012	12	10	3	6	50	-	-
VIG015	15	10	3	6	50	-	-
VIG020	20	10	3	10	50	-	-
VIG025	25	10	3	10	50	-	-



### NOTE:

Other shapes of wheels and sizes are available on request.

**When ordering .....**

please state all dimensions as illustrated.

# Polycrystalline diamond & cbn

## POLYCRYSTALLINE TOOLS

Many materials can be machined successfully with Polycrystalline diamond and CBN tools which include:

**DIAMOND:** Light Alloys, Bronzes, Composite Products,  
Precious Metals, Plastics, Rubber, Ceramics, Porcelain,  
Granite and Sandstone.

**CBN:** Hardened Steels and Hardened Super Alloys.

The benefits of using Polycrystalline are:

1. Longer life.
2. Higher cutting speeds.
3. Consistent precise defined surface finishes.

These tools are available as Tips to fit standard throw away tools, Turning Tools, Boring Tools, Boring and Facing Tools, Microbores, Drills, Routers and Reamers.



CODE	DESCRIPTION
BMPE	Custom made tools and inserts

# Wheel preparation

## DIAMOND/CBN WHEEL PREPARATION

### *Wheel mounting*

As with any grinding wheel it is very important that diamond or C.B.N. wheels are mounted true with the aid of a clock dial indicator.

### *Trueing & dressing*

It is essential with diamond and C.B.N. wheels, that they are trued on the machine and properly dressed to expose the abrasive particles.

## BRAKE DRESSER

The Brake Dresser is a simple but fast and effective method of wheel trueing and dressing and is supplied with two dressing wheels. It is a fully self-contained unit which can be used on any grinding machine. Using the Brake Dresser will improve both the working life of your wheels and the quality of the surface finish.

The Brake Dresser consists of a cast body containing a shaft, which is controlled by a centrifugal braking system. A silicon carbide wheel is mounted on the shaft. Due to its simplicity, the unit requires virtually no maintenance.



CODE	DESCRIPTION
*BMP002	Self-contained Trueing/Dressing Unit
*BMP005	Dressing Wheels 3" x 1" x 1/2" C150 IV

## MICROTOUCH

The Microtouch Audible Signal Detector has been designed to inform the machine operators precisely when the cutting tool makes contact with the surface by audible or visual means. It eliminates operator fatigue when machining to super fine tolerances by taking the guesswork and tension out of the operation.

A very simple and easy system to use, by switching on the Microtouch and attaching the magnetic head of the accelerometer to the workpiece, any vibration that is applied to the workpiece will be immediately and clearly distinguishable through the earphones enabling control of the machine to micron dimensions.



CODE	DESCRIPTION
*MMT005	Model M240 (240 volt)
*MMT030	Type P (Battery)
*MMT050	Headphones
*MMT055	VP7 Pickup

## ALUMINIUM OXIDE STICKS

Dress diamond wheels with a wet grade 100 grit aluminium oxide stick and C.B.N. wheels aggressively dress with a wet 220 grit aluminium oxide stick.

DRESSING STICKS		
CODE	SIZE	GRADE
*BMP010	1" x 1" x 6"	100 mesh
*BMP015	1" x 1" x 6"	220 mesh



\*denotes ex-stock.

# Dressing tools

GRADE		DIAMOND QUALITY
KE	Economy	A very economic robust quality of irregular shape with usually one to two points.
KA	Quality Industrial	General toolroom quality of good shape with five working points.

## SINGLE POINT DRESSING TOOLS



The 'Single Point' is the traditional diamond dressing tool for straight grinding of conventional grinding wheels. A single natural diamond is used which can usually be reset several times so that new cutting points can be exposed once a point becomes blunt. The size of the diamond used can vary in weight, normally from 0.25 carats each to 5 carats or more. The diamonds are selected from a wide range of qualities and shapes to suit each working application.

### Ordering and Resetting Service

Please give shank dimensions, quality and size of diamond when placing orders. Contact our technical department for advice.  
A fast reliable dressing tool reset service for the KA grade is available.

CODE	DESCRIPTION
BMPAB	Single Point Natural Diamond Dresser

## MULTI POINT DRESSING TOOLS



The Multi Point is used for straight dressing of conventional grinding wheels or very simple profiles. They can be supplied in various diamond sizes to suit wheels to be dressed. These dressers are often used in place of a Single Point where fast dressing or stock removal is required. Fine diamonds can be used where high finish or sharp corners are required.

The dressing load is divided on a number of natural diamond particles which are set in a strong matrix. These tools do not require re-setting. Various designs are available. A cost effective dresser in the production environment where used as a disposable tool. Special custom tools can be made on request.

CODE	DESCRIPTION
BMPAB	Multi Point Diamond Disposable Dresser

## INDEX DRESSERS



A cost effective Single or Multi Point Dresser which comprises of multiple diamonds which are set in a strong matrix around the circumference of the wheel. After the diamonds in one position have become worn the wheel is easily indexed to the next line of diamonds and locked into position. These can be used one after the other by simply rotating the tool. Can be made to dress straight or profile wheels.

CODE	DESCRIPTION
BMPAB	Single or Multi Point Diamond Dresser



## DIAFORM CHISELS

The Diaform Diamond Chisels are used with grinding wheel forming equipment and the diamond chisels can be built into the machine design. Mainly used for precision profiling of grinding wheels, sometimes in conjunction with Blade Dressers which can be used to rough out a form.

Specially selected diamonds are used to produce these tools and can be supplied in various size tip radii and normally with 40 or 60 degree angles, shank size to customers specification. The natural diamond used is high quality, can be re-set and relapped also there is a remake service available.



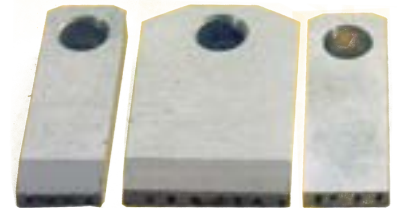
CODE	DESCRIPTION
BMPAB	Natural Diamond Diaform Chisel

## BLADE DRESSERS

Diamond Blade Dressers can be used for both straight or profiling of grinding wheels. These diamond dressers can be used to rough profiles before finishing with a Chisel Point Dresser.

The diamond blade dresser provides a robust and cost effective alternative to the single stone diamond chisel. It maintains a consistent, thin diamond cutting edge throughout its working life.

Blade Dressers are produced in a number of widths to suit requirements and adjustable, re-useable or fixed head holders are available for mounting the diamond blade dresser.



CODE	DESCRIPTION
BMPAB	Diamond Blade Dressing Tool

## KD DRESSERS

Metal bonded disposable diamond dressing tools for dressing medium to coarse grained grinding wheels by hand or mounted in a suitable holder. No resetting required.

Manufactured using higher quality coarse natural diamonds to give long life and continuously produce an 'open' grinding wheel.



CODE	DESCRIPTION
BMPAB	Metal Bond diamond disposable dresser

**AMP TEKNIK A/S**

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[www.amp-teknik.dk](http://www.amp-teknik.dk)