DESSAU

DIAMOND DRESSING TOOLS

DESSAU
SINCE 1841

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DESSAU INTERNATIONAL... QUALITY RECOGNIZED AROUND THE WORLD

Since 1841 Dessau International has strived to be there for our customers. Responding to our customers needs, reducing costs and most importantly respect our customers.

Excellence, Integrity ... First, Last, Always ...

It is our passionate pursuit of perfection that has enabled us to succeed in becoming the best at what we do. But we will never rest, or be complacent in what we have achieved. There is so much more to be done. So many more ways to assist our customers, and evolve our products. So many that we haven't even thought of them yet. But give us time. We may not know what a diamond dressing tool will look like in another 100 years, but if it's state of the art... it will be DESSAU.

NATURAL DIAMONDS

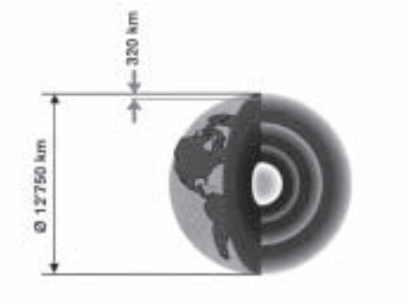
Natural diamonds were formed about 2000 to 4000 million years ago at a depth 150 to 300 km within the Earth's crust. Under immense pressure and temperatures of 900 to 1300°C, carbon atoms combined to crystallise and grow as diamonds within rocks called peridotite and eclogite. Molten magma, forced up by similar pressures, was forced up through diamond bearing rock. It partly melted the peridotites and eclogites, capturing the diamonds and carrying them to the surface through deep and narrow fissures. Nearer to the Earth's surface, the magma encountered ground water resulting from a series of violent explosions. Fragmented by explosions, the magma erupted at the Earth's surface to form a pipe, expelling ash which was rich in diamonds. Over millions of years the ash within the pipe solidified to become a diamond bearing rock called tuff. Source: Australian Geographic, No. 42, January to March, 1996)

Diamond deposits are mined in the following countries:

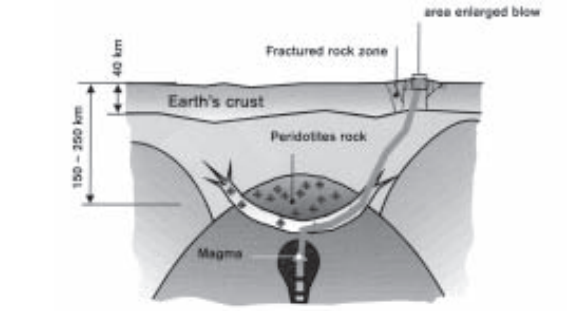
Australia	40	Mio.	carat
Brazil	1.5	Mio.	carat
Russia	1.5	Mio.	carat
South Africa	1.1	Mio.	carat
Zaire	1.9	Mio.	carat
Angola	2	Mio.	carat
Botswana	14	Mio.	carat

(Figures are 1994 estimates, source: "Australian Geographic", March 1996)

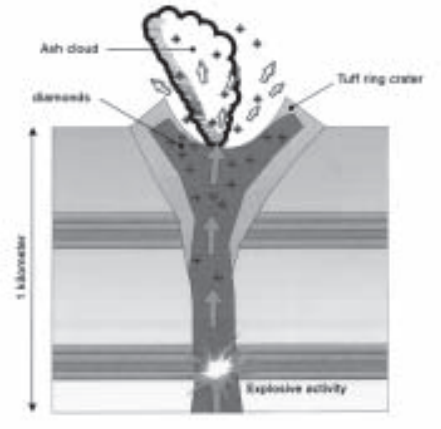
1. Depth



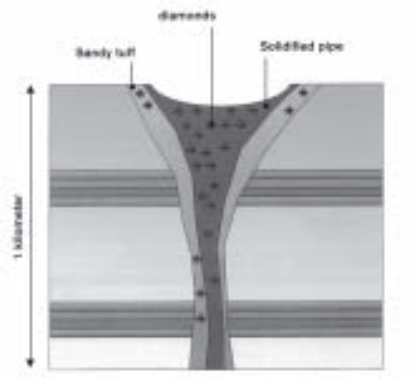
2. Forming of Diamonds



3. Volcanic Activity



4. Today's Situation



NATURAL DIAMONDS

EVERYTHING STARTS WITH THE DIAMOND

A number of factors enter into the performance of a diamond wheel dresser. Each is important, but, particularly with single and multiple point tools, there's nothing more important than the diamond itself.

Diamonds are the hardest naturally occurring substances. While they all consist of pure carbon, their shape, size and quality can vary enormously, and each variant has its own effect on tool performance and economy.

Quality

Among naturally formed diamonds, all but the most expensive, gem quality stones will have flaws. These can be evidenced as slight discolorations, which only rarely affect the performance of the diamond, or they can be seen as cracks and fissures. Whether located near the stone's surface or deep in its core, even the slightest crack can cause poor performance and premature failure.

Why?...because heat, friction, and impact with a fast-moving wheel place enormous stresses on a diamond. Heat causes expansion which in turn causes the cracks and fissures to grow. As they reach the diamond's surface, impacts and vibrations generated during the dressing process can cause the diamond to shatter, and a valuable tool is lost.

Typically ceramic and silicone carbide wheels require the highest, near gem quality diamonds. Lesser quality — and lower cost — diamonds are suited for general purpose uses on aluminum oxide wheels.

Diamond Dressing Tool Stones Nominal Size and Tolerance

Carat	Decimal	Tolerance
1/5	.20	(.17~.23)
1/4	.25	(.21~.29)
1/3	.33	(.29~.39)
1/2	.50	(.40~.62)
3/4	.75	(.63~.87)
1	1.00	(.88~1.14)
1 1/4	1.25	(1.15~1.34)
1 1/2	1.50	(1.35~1.74)
2	2.00	(1.75~2.25)

- *Weight tolerances conform to A.S.A. Standards B-67, -1965*
- *In quantity orders, the average weight will fall within the specified tolerances. Industrial classification of raw materials results in some size overlap among stones smaller than 1/3 carat.*

Shape

Diamonds come in a variety of shapes, and provide from one to six usable points. A usable point is one with sufficient height and sharpness for proper performance that will not fracture during operation. With six such points, the stone can be rotated up to five times, each time exposing a new point.

Stones with a higher number of usable points have a higher initial cost. With proper use and periodic point rotation, however, the higher initial cost is rewarded with longer tool life and eventually greater economy.

Shape & Quality Classification

Grade	Description
#2 Gem	Sound, smooth dodecahedrons with no detrimental cracks or flaws
#3 Ultra	Sound stones, predominately octahedral, with no major cracks or flaws
#4 Premium	So und, semi-blocky and octahedral stones with smooth, frosted or slightly irregular surface, having 3 or more points and no major cracks or flaws
#5 AAA	Semi-blocky, octahedron and dodecahedron stones with at least three usable points
#5 AA	Semi-blocky and irregular shapes with 1 or 2 good points
#5 A	Irregular shaped stones with 1 good point
#6 B (Toolroom)	Possibly resettable stone, rough surface, with 1 good point
#7 TA (throw away)	Disposable non-resettable stone

NATURAL DIAMONDS

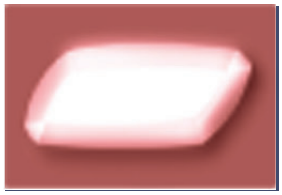
EVERYTHING STARTS WITH THE DIAMOND

Dodecahedron — a multi-sided diamond which, if regularly shaped, produces points measuring 35° to 40° — far more acute than the 60° angle of a perfectly formed octahedron. While perfectly formed dodecahedrons have little use in wheel dressing, irregularly shaped ones are used, and provide as many as six usable points.

The dodecahedron is less blocky than an octahedron. This allows it to dissipate heat faster. Its more gracile shape, however, also makes it more susceptible to damage from shocks and abusive handling. This often limits its use to shallower cuts and finer grained wheels.

Octahedron — an eight-sided, full bodied diamond with from one to six usable points. Sturdy construction makes them less susceptible to damage from heat, shock and abusive handling.

Crystal — a flat-sided, sharply formed octahedron. Its sharp points are suited for profiling, i.d. wheels, or for exceptionally tight tolerances and super fine finishes.



Elongated Tool Stone — a cigar-shaped stone which is at least three times as long as it is wide. Its unique shape dissipates heat faster than other diamond shapes. Top quality elongated stones are excellent for cone pointed tools, and are used in applications where passes are shallow and the wheel is smooth.

Maacle — a flat diamond, usually triangular in shape, and used typically for chisel-type tools.

Hardness

Although all diamonds are chemically identical, differences in hardness do occur. Stones mined in Africa, for example, tend to be the hardest. These are followed closely by stones from Russia, Australia, and Brazil. In terms of color, white or yellow diamonds tend to be the hardest.

Size

Larger diamonds are needed for larger wheels. As a rule of thumb, we recommend selecting the largest diamond a budget can afford; and as a minimum, at least a half carat for every inch of wheel face. Other factors influence the selection of a diamond's size.

These include:
- wheel diameter
- rigidity of the machine or dressing device
- use of coolants
- grain coarseness
- bond hardness
- dressing wheel speeds

Larger stones offer several advantages. First, with more of the stone contacting the wheel, the dressing operation is completed faster. Second, with greater surface area, heat is dissipated more rapidly. Third, larger stones are sturdier, and can withstand more abusive conditions. And finally, they last longer.

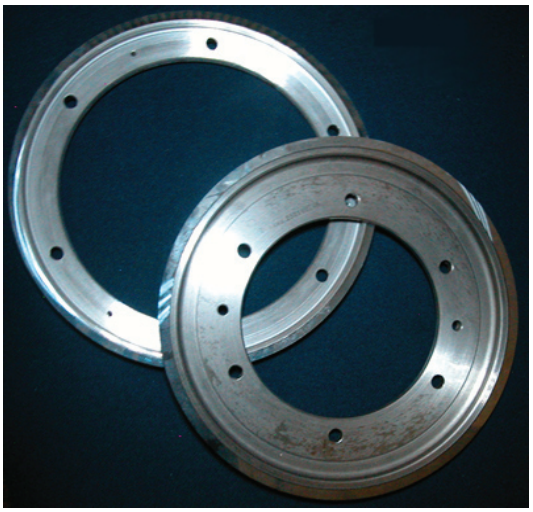
HOW TO DETERMINE DIAMOND SIZE

A diamond should be large enough such that its surface area is sufficient to give off all detrimental heat to its surrounding holder. Any built-up heat may lead to the destruction of the diamond. Diamond size is given in carat (1 carat = 0.2g). The following is to be taken as a rule of thumb:

Wheel diameter	Wheel width	Recommended size in carat
100	12	0.25
150	12	0.30
175	12	0.50
250	40	0.75
350	30	1.00
400	30	1.25
450	50	1.75
600	50	2.00
600	75	2.50
750	75	3.00
750	100	3.50

DESSAU FEATURED ITEMS

Carbide Bottom Bands



Carbide Inlay Bottom Bands

- Carbide Inlay Bottom Bands from Dessau, offer longer run times between blade changeout, superior cut quality, surface finish and minimal wear on the top slitter blades.
- Just the right balance of Cobalt and Tungsten in bottom bands results in blades that are safe to run at any speed while still maximizing the amount of time between sharpening.
- Internal tolerances of bands are tighter than actual machine OEM tolerances to maintain a consistent nip point which guarantees a superior cut quality.
- Uniquely designed locking device secures carbide inlay ring to carrier metal preventing rings from coming apart at any speed.
- We custom manufacture according to you specific needs with single or double cutting edges.
- Exceptional finished cutting edges with a mirror finish reduce friction between bottom band and top slitter ensuing reduced blade wear and prolonged run times.
- Optional “Roll Saver” Carriers available to help protect roll. This feature also helps eliminate sheet marking and protects the bottom band from damage when top slitters jump their track.

DESSAU FEATURED ITEMS

Diamond Blades

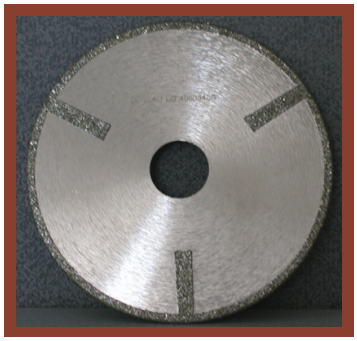
Dessau Diamond Blades are manufactured in a variety of sizes and configuration to suite your specific needs.

- **DB - 405034 CR**
  CONTINUOUS RIM
  4 x 050 x 3/4

- **DB - 405034 S**
  SLOTTED
  4 x 050 x 3/4

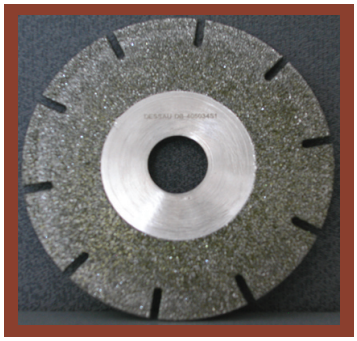
DESSAU FEATURED ITEMS

Diamond Blades



- **DB - 405034 SS**
  SIDE SPOKE
  4 x 050 x 3/4

- **DB -405034 SSS**
  SLOTTED, SIDE SPOKE
  4 x 050 x 3/4



- **DB - 405034 S1**
  SLOTTED
  4 x 050 x 3/4 -1″ wrap

- **MDB - 3382 SS**
  SIDE SPOKE
  3 x 3/8 x 2

DESSAU FEATURED ITEMS

Tungsten Carbide Knife

- BHS - 240 TC
  Tungsten Carbide Knife
  240 x32 x 1.2mm

- MHI - 280 TC
  Tungsten Carbide Knife
  280 x 202 x 1.5 mm

- MRQP - 260 TC
  Tungsten Carbide Knife
  260 x 168.3 x 1.2 mm

Tungsten Carbide Razor Knife

Advantages of TC razor knife

Compared to HSS, and D2, Tungsten Carbide has many advantages which are suitable for many slitting applications. The most important advantage is very long running life. In many situations, it can be as much as 10 to 20 times as seen in the corrugated container industry. The mirror finish provides protection from glue adhering to the knife which in turn protects against knife breakage caused by uneven pressure. The sharper cutting edge produces less dust, making for a cleaner working environment. Although the Tungsten Carbide knife is brittle, the high cobalt content increases overall strength. In addition, the new process HIP, (High Isothermal Pressure) improves knife stability dramatically.

Specification of key products

1. TC knife in Corrugating Container Industry

OEM	ODmm	IDmm	THmm	Assemble hole: Number*d
BHS	Φ240	Φ32	1.2	2*Φ8.5
Peters	Φ250	Φ150	0.8	No holes
Fosber -1	Φ230	Φ110	1.1	6*Φ9
Fosber-2	Φ291	Φ203	1.0	6*Φ8.7
Agnati-1	Φ240	Φ115	1.0	3*Φ9
Agnati-2	Φ220	Φ115	1.0	3*Φ9
Marquip	Φ260	Φ168.35	1.2	8*Φ10.32 (not even)
Isowa	Φ260	Φ140	1.0	6*Φ9.5
Mitsubishi -1	Φ280	Φ202	1.5	6*Φ7.6
Mitsubishi-2	Φ280	Φ160	1.0	6*Φ8.1

2. Diamond wheels for above TC knife

Supplied for following OEM: Marquip, Agnati, BHS, Fosber, Mitsubishi, Isowa.

Placing order

When placing order, please mention the OEM name and the dimension of OD*ID*Thickness

Application Instruction

Please carefully read the Application Instruction of our corporation before purchasing and application. It would be attached in the shipment, because the TC razor knife is very brittle. If it is not assembled and used properly, it will be easily broken.

DESSAU DOCTOR BLADES

Premium pre-ground doctor blade -SCHNEIDER

High Grade Material

High Grade Material: SCHNEIDER

Ground ink doctor is made of high quality refined steel specialized for ink doctor from famous Swedish factories . The refined steel has extreme purity which can ensure the degree of finish on surface of the ink doctor. The content of chromium is 2 to 3 times that of the conventional ink doctor, which ensures the high toughness and high-wearing features of the doctor. It's straightness reaches high standard with deviation lower than 0.6mm within 3000mm, which ensures the consistent doctoring effect..

Precision Equipment

Precision Equipment:

Advanced equipment is prerequisite to manufacturing high quality ink doctors. With scientific production and technology management, the company has introduced a few sets of high precision and advanced grinders and fine polishing machines to make sure the precision of doctor blade is in uniformity.
The blade tolerance in thickness gets between +/-0.005.
The blade of ink doctor is polished by special technology, which reduces whiskering and streaking, so its service life is effectively expanded. In addition, it won't scratch the cylinder and you may achieve perfect printing. The company offers special blades of all thickness and angles to meet the customers needs

Quality Control

Quality Control:

The strict quality management is the powerful guarantee of high quality. Regarding customers needs as their obligation, the whole company perform strictly in conformity with ISO9001:2000.
Every inch of doctor is tested and checked by a number of instruments to ensure that the quality is stable and reliable.
The company has especially designed the double protection packaging case to protect the blade from accidental damage during transportation and make sure that the high quality ink doctor can be delivered to the customer without damage..

DESSAU DOCTOR BLADES

Premium pre-ground doctor blade -SCHNEIDER

The mode of edge:

Type A:

Lamella Edge, for Gravure printing

Type B:

30°Radius Edge, for Flexo printing

Type C:

Bevel Edge, for Coating and Polishing

Standard Doctor Blades

0·152 x 10mm
0·152 x 20mm
0·152 x 22mm
0·152 x 25mm
0·152 x 30mm
0·152 x 35mm
0·152 x 40mm
0·152 x 50mm
0·152 x 60mm

Thick Doctor Blades

0·203 x20mm
0·203 x 30mm
0·203 x 40mm
0·203 x 50mm
0·203 x 60mm

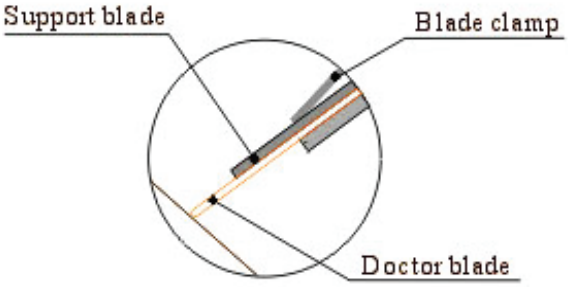
Chambered Doctor Blades

0·076 x10mm
0·102 x10mm

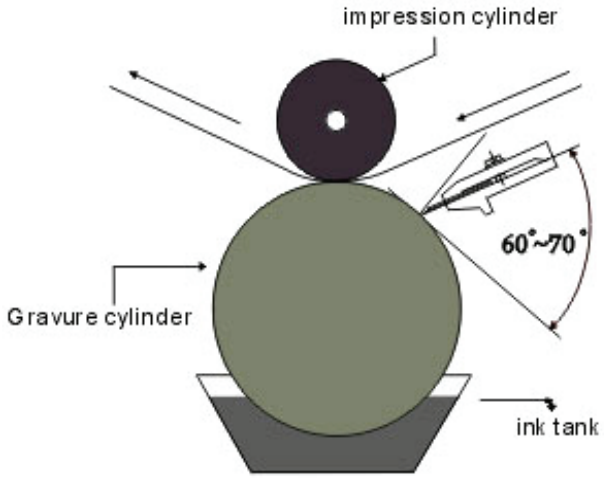
Support blade

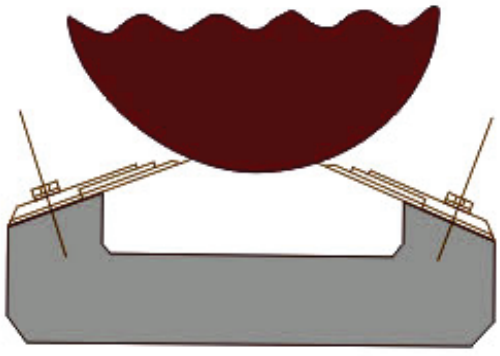
0·152 x 8mm

Tensile strength: 1960N/mm²
Hardness: 580HV±15
Blade thickness: 0.152mm/0.203mm
Blade width: 10mm-60mm
Tip thickness: 0.075mm-0.10mm
Tip width: 1.3mm-1.5mm
Packaging: 100M/box or customized
(Double protection packaging with especially design)



For Conventional Gravure Chambered doctor blade system





DESSAU DOCTOR BLADES

Pre-ground doctor blade -SND

SND *with high carbon spring steel imported from Sweden and excellent producing craft, SND is offering different kinds of doctor blades, which are suitable for flexo, rotogravure and coating.*

SND *wide range of products can meet each company's individual printing needs. We won high reputation from our customers for the doctor blades are providing consistent quality and high durability.*

BLADE EDGE

SND Lamella edge

This kind of doctor blade is most widely used. The unique shape of the lamella keeps a constant contact with the cylinder which minimizes print problems effectively and ensures a high printing quality. No resharpening is required and the lamella ends in a smooth taper reduces vibrations and fatigue.

SND Radius edge

This kind of doctor blade is designed for flexographic printing. The radius edge prolongs the using life of doctor blade as well as reduces the abrasion of cylinder. It is suitable for coating and polishing.

SND Bevel edge

This designed bevel edge makes little destruction of doctor blades. The small contact area can provide an optimal printing result and reduce the breakage of the edge. The bevel angle is from 4° to 15° and suitable for short plate printing layer.

DESSAU DOCTOR BLADES

Pre-ground doctor blade -SND

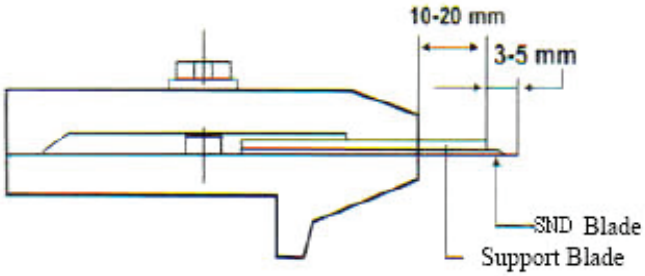
TECHNICAL SUPPORT

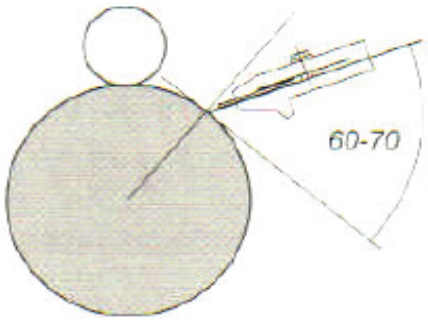
Installation :

The blade holder and support blade must be kept clean.

The SND Doctor Blade must be mounted straight without ripples.

The Doctor Blade must be parallel to the support blade.





The optimum contact angle of the blade and the cylinder is between 60° —70° ,which allows for the least pressure on blade tip and at the same time gives the best wiping result. But according to different kinds of printing machine, doctor blade holder or cylinder type, the angle should be adjusted a little.

STANDARD SPECIFICATION

Technical data	specification
☆ Tensile strength: 1960N/mm²	10×0.15×0.07/1.3mm
☆ Hardness: 580HV±15	20×0.15×0.07/1.3mm
☆ Blade thickness: 0.15mm / 0.20mm	30×0.15×0.07/1.3mm
☆ Blade width: 10mm ~60mm	35×0.15×0.07/1.3mm
☆ Tip thickness: 0.07mm / 0.10mm	40×0.15×0.07/1.3mm
☆ Tip width: 1.3mm	50×0.15×0.07/1.3mm
☆ Packing: 50m, 100m or by request	60×0.15×0.07/1.3mm
※Available upon request	20×0.20×0.10/1.4mm
	30×0.20×0.10/1.4mm
	40×0.20×0.10/1.4mm
	50×0.20×0.10/1.4mm
	60×0.20×0.10/1.4mm

DESSAU DOCTOR BLADES

Standard Doctor Blade-GNUI

Gravure/ Flexo printing

Coating / polishing

High quality material:

German pure special steel as material to achieve a more sound quality.

Precise equipment:

Meticulous workmanship of imported high precise grinder with high quality polishing machine to ensure a better uniform precision of blade tips.

Correct choice:

Many kinds of precision blades with different thickness and tips are offered to meet the needs for different type and speed of equipment as well as printed materials of all clients. Clients can correctly select better accuracy, durability and appropriateness blades.

Rapidness of convenience:

Brands are printed on all blades surface and accurate thickness, hardness and type are definitely marked and specially designed on each section, which ensure field technicians can choose appropriate type and adjust pressure or angle of blade conveniently and accurately while down time is reduced.

GERMAN Steels Elaborate Manufacturing

DESSAU DOCTOR BLADES

Standard Doctor Blade-GNUI

SPECIFICATION:

Chambered Doctor Blades

0.076*10mm
0.012*10mm
0.152*8mm

Thick Doctor Blades

0.203*20mm
0.203*30mm
0.203*40mm
0.203*50mm
0.203*60mm

Standard Doctor Blades

0.152*10mm
0.152*20mm
0.152*22mm
0.152*25mm
0.152*30mm
0.152*35mm
0.152*40mm
0.152*50mm
0.152*60mm

- Ingredient:

C	Si	Cr	Mn
1.00%	0.20%	0.36%	0.45%

- Tensile strength: 2030 N/ mm2
- Hardness: 600Hv
- Max Straightness for immediate use
- Smooth tip, no grinding needed and time-saving
- Made of German high carbon spring steel
- Standard blade thickness: 0.152mm / 0.203mm

Tip width : 1.3mm/ 1.4mm/1.5mm/1.6mm
Tip thickness : 0.07mm/0.08mm/0.09mm/0.10mm
Package : Plastic package
50m/100m/200m or by request

Appropriate specification are adopted in accordance with print requirement :

GNUI CA 1095/600 HV T/W 0.07×1.30mm

GNUI CA 1095/600HV T/W0.08x1.40mm

GNUI CA 1095/600HV T/W0.09x1.50mm

GNUI CA 1095/600HV T/W0.10x1.60mm

DESSAU ROTAHEAD™ TURNABLE SINGLE POINT TOOLS

Rotating the single point dresser is important to reduce wear, maintain a sharp point, and minimize thermal buildup. For years this has meant routinely loosening setscrews, re-indicating the shaft 20 º to 40 º, and then re-tightening the setscrews. Costs increased with every minute of downtime, and wear became uneven as the amount of rotation varied with each machine operator.

Dessau addressed these problems. After a five year program of research and development, the company introduced Rotahead™ — an innovative design for single point dressers.

Its advantages are many:
The turnable brass head allows the diamond to be rotated without moving the tool in the holder. No re-indicating, less downtime, increased productivity and tool life.

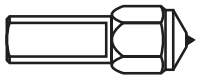
- longer tool life — ease of use encourages more frequent rotation, producing more even wear and longer life;
- sturdier design — it withstands 2 to 3 times more torque than other single point dressers, and eliminates excess vibration and chatter.
- brass head reduces heat buildup diamond life increased over conventional steel tools.

This tool is recommended for straight dressing all types of grinding wheels where the Diamond approaches the wheel at an angle.

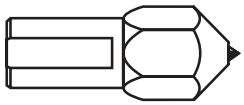
Diamond point can be natural or coned w/radius.

Standard Rotahead Designs

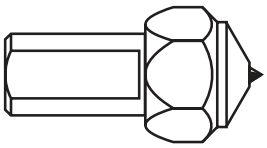
Micro-Rotahead
1/4 (6.35mm) Hex Head
Shank Diameters: 3/16″ - 1/4″ (4 - 6mm)
Diamond Capacity: Up to .15 kt.



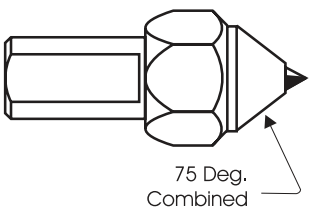
Mini-Rotahead
5/16 (8mm) Hex Head
Shank Diameters: 3/16″ - 1/4″ (4 - 6mm)
Diamond Capacity: Up to 1/3 kt.



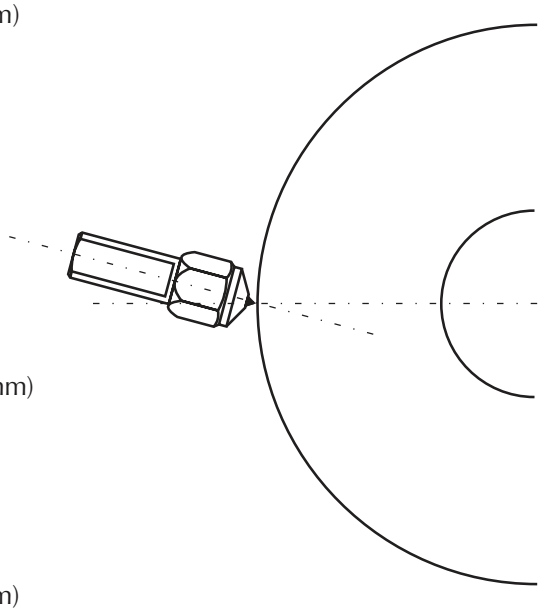
Mid-Sized Rotahead
7/16 (11.1mm) Hex Head
Shank Diameters: 1/4″ - 3/8″ (6 - 8mm)
Diamond Capacity: Up to 1.0 kt.



Rotahead
5/8 (16mm) Hex Head
Shank Diameters: 5/16″ - 1/2″ (10 - 12mm)
Diamond Capacity: Up to 2 1/2 kt.



Type L Rotahead
5/8 (16mm) Hex Head
Shank Diameters: 3/8″ - 1/2″ (10 - 12mm)
Diamond Capacity: Up to 1.0 kt.



Rotaheads can be modified to customer specifications.

DESSAU SINGLE POINT TOOLS

Getting the Most from a Single Point Dresser*

1. Minimize the shank length. The distance between the diamond and the clamp should be as short as possible. This helps eliminate deflection for less wear and greater accuracy. It also reduces the risk of fracture caused by excessive vibration.

2. Set the tool at a 10° to 15° angle, pointing in the same direction as the wheel rotation and away from the direction of the crossfeed. This helps maintain a sharp point and minimizes the vibration that occurs when the angle of attack is too sharp.

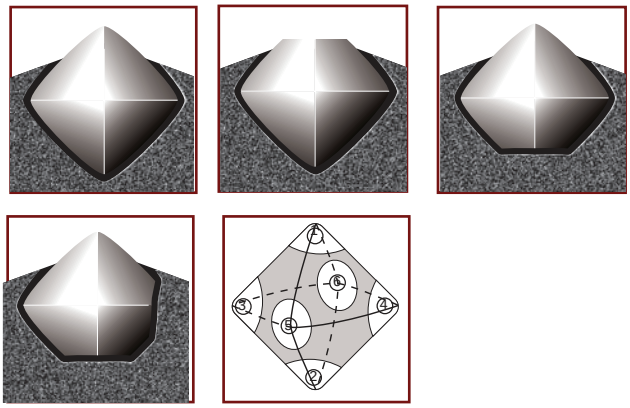
3. Feed the diamond into the wheel at .03 mm or less per pass. Passes deeper than .03 mm increase heat build-up and cause excessive diamond wear.

4. Traverse speed should be determined by the application. Faster traverses result in an open wheel and greater stock removal. Slower traverses impart a finer finish on the wheel and consequently a finer finish to the workpiece. For most applications, the tool should traverse the wheel at a speed that allows each grain particle to be dressed twice.

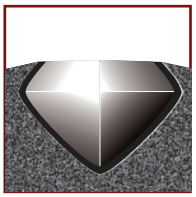
5. Rotate the dresser 20° to 40° whenever a flat appears on the diamond.

6. Apply ample coolant and begin the cooling process before the diamond contacts the wheel. Large temperature gradients can cause the diamond to crack. When coolant is not available, minimize heat by allowing a three-second interval between passes.

Resetting the Diamond



Resettable, all single point diamond wheel dressers will have at least two, and as many as five settable points located below the surface of the matrix. When the primary point is worn away, the tool can be returned to Dessau where the stone will be removed, rotated to expose new point, and reset. This simple, expedient, and inexpensive procedure maximizes tool life and minimizes tool costs.

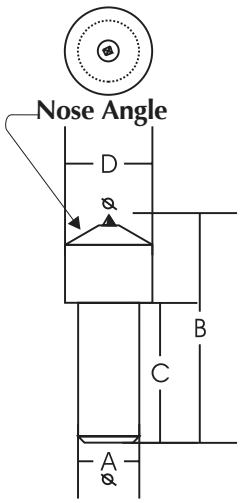


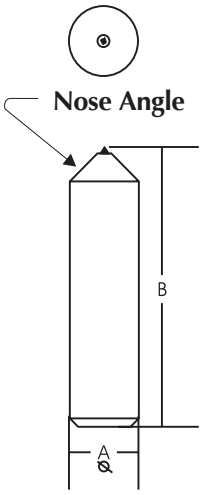
To take advantage of the diamond's multiple points, however, requires some care. Wearing away too much of the diamond, for example, will encroach on other potentially settable points, making them worthless for future use. Excessive wear will also destroy the anchoring points of the diamond. This means the diamond, if reset, can loosen and fall out during use. For best results, never remove more than 1mm ^{2} from the point before returning it for resetting.

*Source: De Beers, "The Use of Single Point Diamond Dressers", London, England

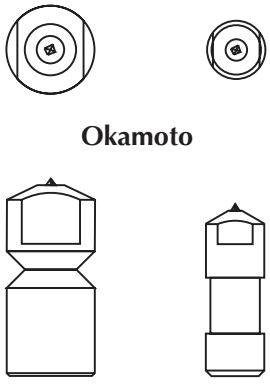
DESSAU SINGLE POINT TOOLS

Manufactured with diamonds formed naturally in the earth, Dessau single point diamond tools can be used in all truing, dressing, radiusing and profiling applications. Below are some widely used tools for a variety of applications. Contact Dessau to discuss your specific application.





Gleason Curvic Gear Grinder
Diamonds are Concentric to 0.002″
J-14-G - 1/2 ct. Gem Dodec Diamond
J-17-U - 1/4 ct. Diamond

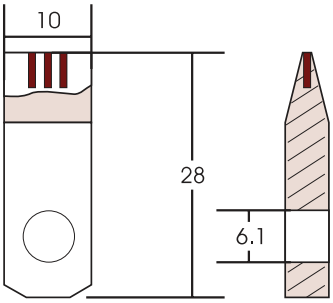


DESSAU SYNTHETIC DIAMOND DRESSING TOOLS

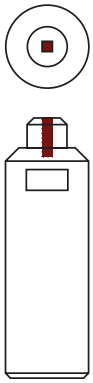
MCD (Mono-Crystaline Diamond) and CVD (Chemical Vapor Deposition) are free-cutting, fully synthetic diamond products. Contrary to natural diamond, MCD and CVD exhibit excellent thermal conductivity which facilitates heat dissipation and provides consistent dressing performance and wear characteristics.

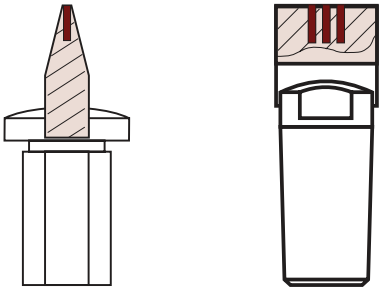
Dessau MCD Dressing Tools are primarily used for dressing submicron crystal ceramic abrasives such as 81A, 83A, 85A, 93A, 5SG, etc. (a.k.a. 'SG'). MCDs also provide good results when dressing silicon carbides. MCD is not recommended for dressing aluminum oxide wheels as these abrasives are not aggressive enough to maintain the free-cutting ability of MCD.

Dessau CVD Dressing Tools are used for dressing conventional Aluminum Oxide wheels.



Serveral Blades available to suit
a variety of grinding applications.

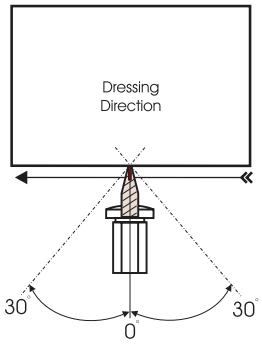


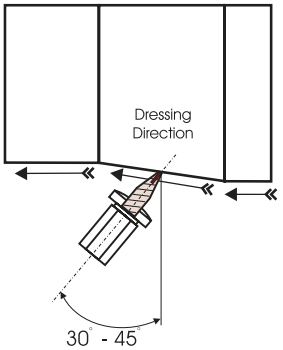


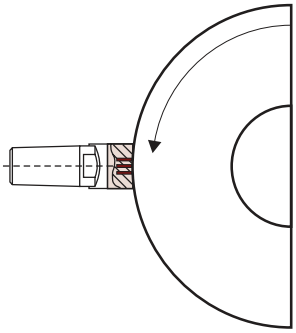
Shank Mounted configuration shown.
Please indicate shank specifications
and angles when ordering.

Dessau Dressing Blades can be used for straight or profile dressing, as illustrated below.

Cylindrical profile dressing applications:
Use a blade with no more than three inserts, as more may lead to profile distortion.

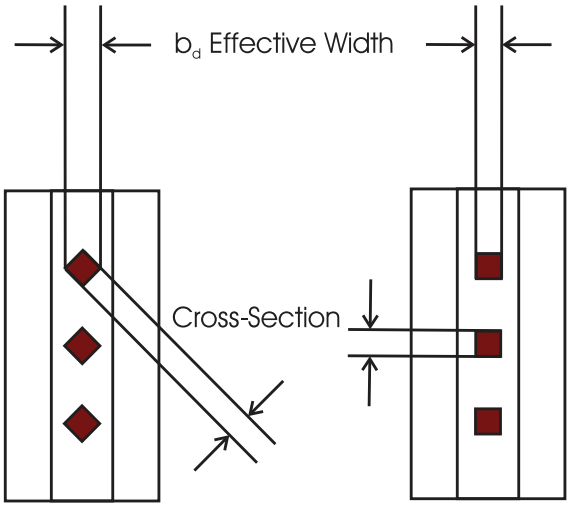






DESSAU SYNTHETIC DIAMOND DRESSING TOOLS

Synthetic Diamond Inserts can be arraigned in parallel or at 45 ^{o} in the dressing blade. Crystallography studies infer that the parallel orientation is more effective and wear resistant when dressing hard wheel bonds, while the 45 ^{o} orientation leads to improved self-sharpening when dressing softer bond wheels.

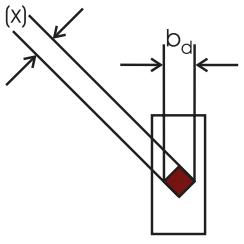


Inserts with Square Cross-Sections

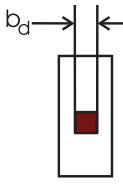
Select cross-section size and number of inserts per blade by the following guidelines:
b_d 0.6 x 0.6 mm: for 120 and finer grit wheels
b_d 0.8 x 0.8 mm: for 80 and coarser grit wheels

Wheel Diameter:
up to 300 mm = 2 Inserts
up to 500 mm = 3 Inserts
up to 750 mm = 4 Inserts

The crossfeed rate V_d in mm/min. can be calculated using the following formula:



$$V_d = \frac{n_s \times X \times 1.4}{4}$$

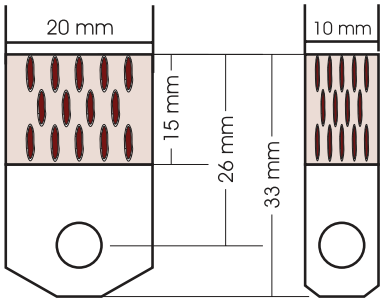


$$V_d = \frac{n_s \times X}{4}$$

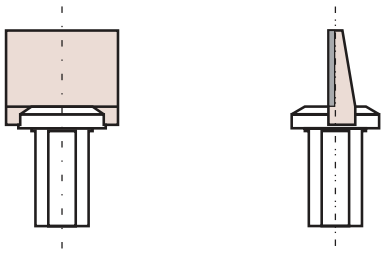
b_d = effective width in mm
n_s = wheel RPM
V_d = crossfeed velocity in mm/min.
X = cross-section of insert

DESSAU NEEDLE DRESSING BLADES

Needle-shaped natural diamonds are set in a special interlocking pattern, providing constant diamond contact throughout tool life. Typically used to dress 60 - 80 grit, 8″ - 30″ (200mm - 760mm) grinding wheels in OD and centerless aplications. This tool exibits excellent surface finish and size compensation capabilities.



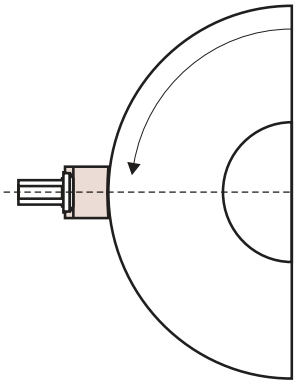
Serveral blades available to suit
a variety of grinding applications.

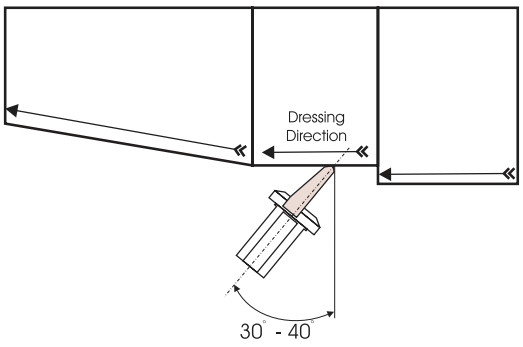


Shank mounted configuration shown.
Please indicate shank specifications and angles when ordering.

Application Guidelines for Needle Dressing Blades:

- Blade must always be mounted with the center of the blade tangent to the grinding wheel center axis.
- Always flood the tool with coolant during the dressing operation.
- Infeed tool 0.0003″ to 0.001″ per pass.
- Increased crossfeed velocity will result in greater surface roughness.
- Metal blade backing must always lead the dressing movement so that the tool remains free cutting.





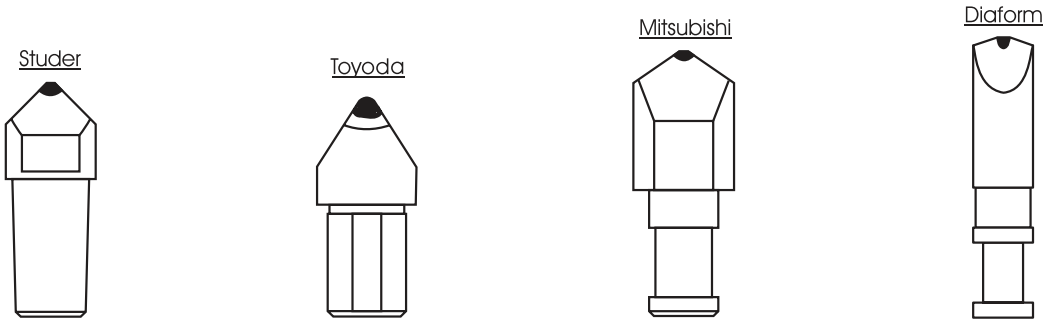
DESSAU SHAPED CHISEL TOOLS

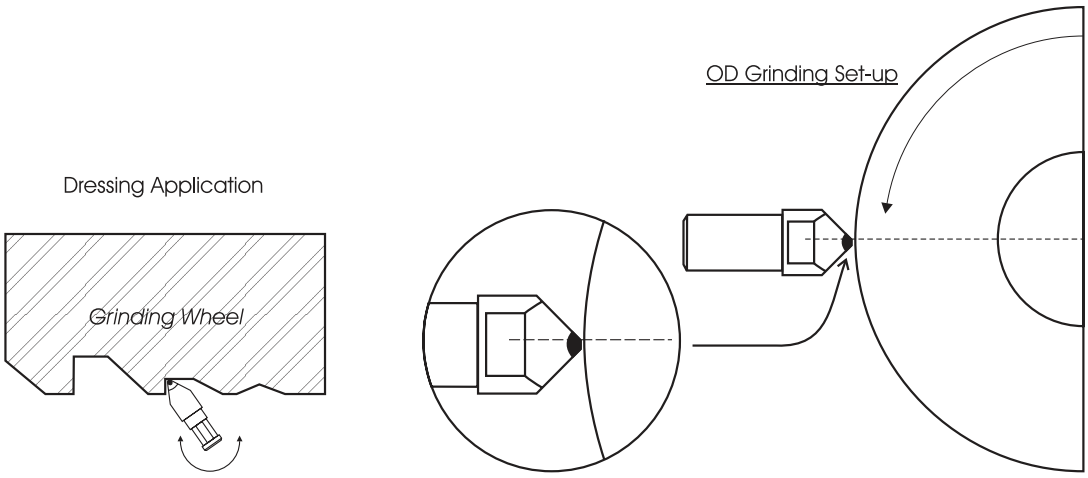
Accurate profile tools with precision lapped radii for dressing precision shapes and contours.

We select only the finest standard and gem quality maacle diamonds available to suit any application. Each tool has 2 usable cutting edges which offer an excellent price to performance ratio.

Radii available from 0.002″ - 0.040″ (0.05mm - 1mm)

Profile angles available from 30 ^{o} to 90^{o} Incl. to ensure maximum tool life always order the largest angle and radius possible.





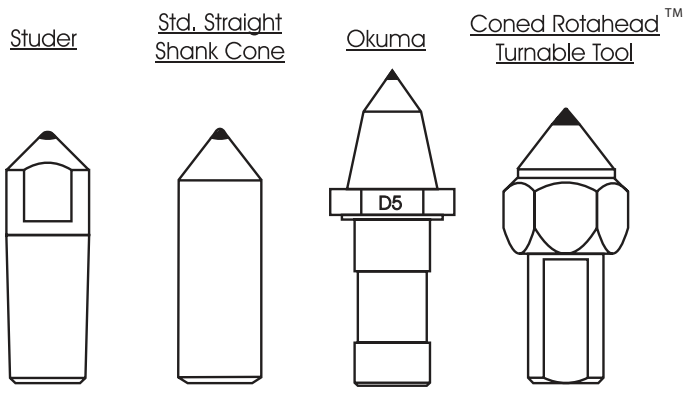
DESSAU CONE TOOLS

Profile and Form Dressing Tools with Precision Lapped Angles and Radii.

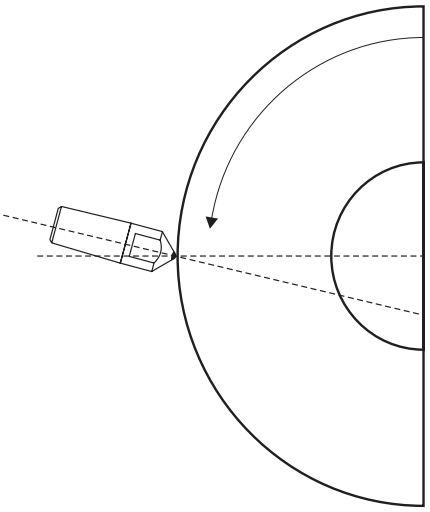
Natural Diamonds can be rotated up to 8 times before repairing is required. A properly used tool can be repaired up to 4 times.

Standard and Gem Quality stones to fit any application.

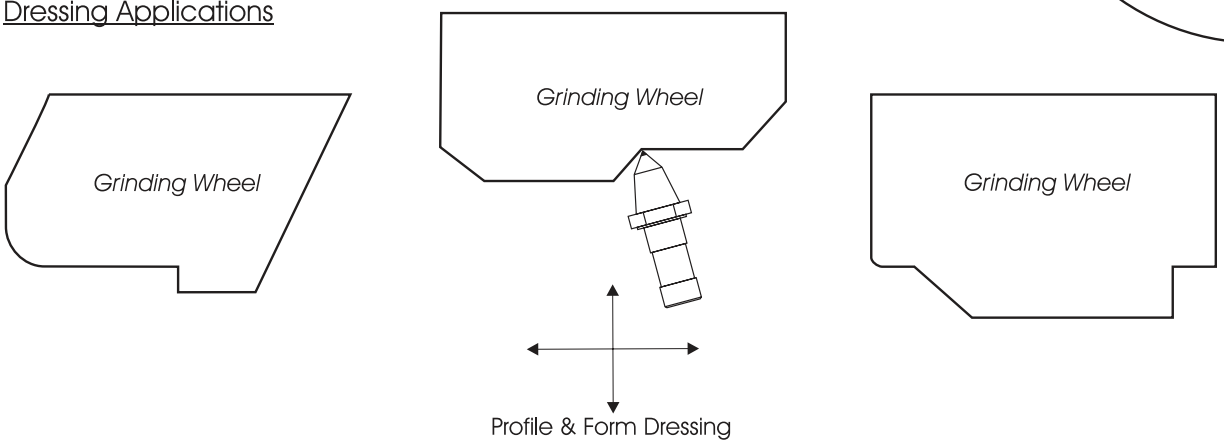
Available Radii: 0.005″ - 0.040″ (0.13mm - 1mm)
Available Angles: 60° to 120° Incl.



Standard configurations shown.
Shanks can be manufactured to customer specifications.



Dressing Applications



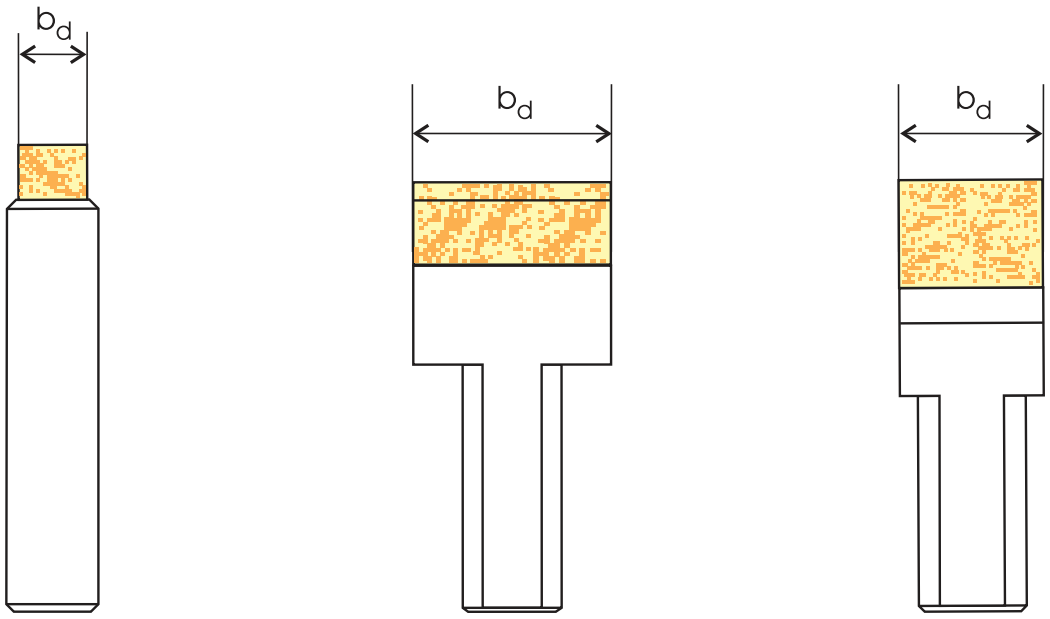
DESSAU IMPREGNATED DIAMOND GRIT TOOLS

Dessau Grit Tools are inexpensive, maintenance free, simple to use, and completely consumable.

Due to their generally wide effective width, grit tools must be used with a higher crossfeed velocity v_d rate than single point and blade tools. Slower crossfeed rates would lead to high overlap ratios u_d ,which will most likely produce blunt abrasive grains.

Diamond grit size available in Course, Medium, Fine and Extra Fine, depending on wheel grit size.

If dressing Silicon Carbide or Ceramic "SG" wheels, we suggest a courser diamond grit and heavier concentration.



Depth of Cut: 0.01 to 0.04 mm depending on wheel grit size and desired surface finish.
Crossfeed Rate v_d: depending on effective width of tool, v_d ranges between 500 to 1200 mm/min.

If b_d [3mm, then $v_d = \frac{n_s \times b_d}{4}$

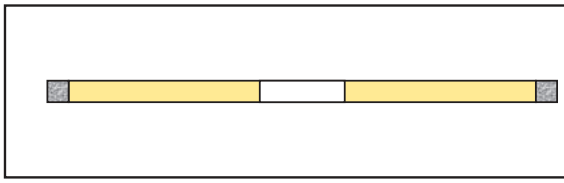
If b_d > 3mm, then $v_d = \frac{n_s \times b_d \times 0.35mm}{4}$

b_d = effective width in mm
n_s = wheel RPM
V_d = crossfeed velocity in mm/min.

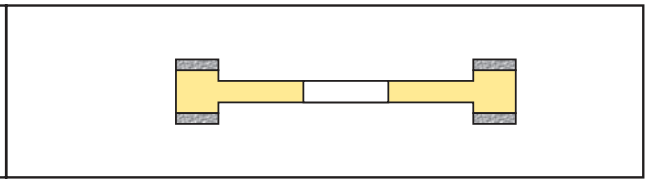
DESSAU DIAMOND & CBN WHEELS

Dessau manufactures the finest CBN, Diamond, and Synthetic Diamond superabrasive resin bond wheels available for the corrugated, paper, and tool making industries. Below are some widely used wheel shapes for a variety of applications. Contact Dessau to discuss your specific application.

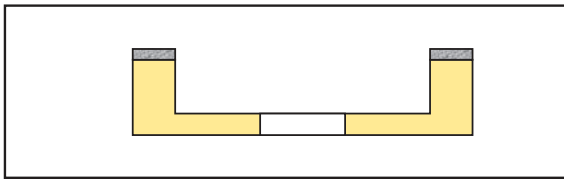
Type 1A1
Straight - Abrasive in Periphery



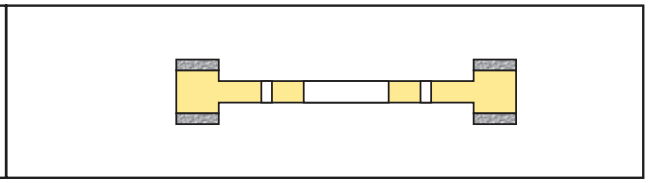
Type 9A3
Double Cup - Abrasive in Rim



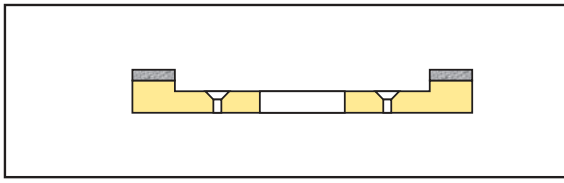
Type 6A2
Plain Cup - Abrasive in Rim



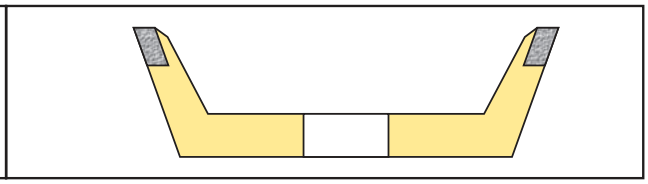
Type 9A3H
Double Cup w/Bolt Holes - Abrasive in Rim



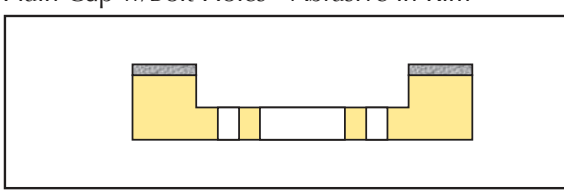
Type 6A2C
Plain Cup w/Countersunk Bolt Holes - Abrasive in Rim



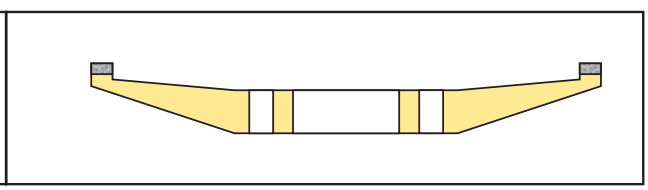
Type 11V9
Flaring Cup - Abrasive in Periphery



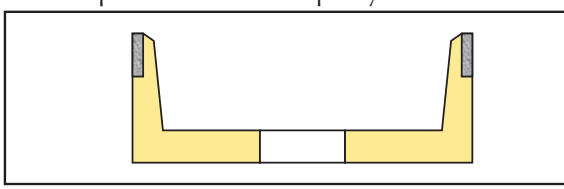
Type 6A2H
Plain Cup w/Bolt Holes - Abrasive in Rim



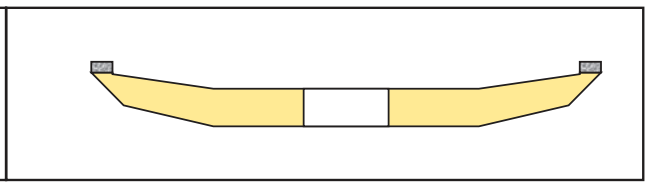
Type 12A2
Dish - Abrasive in Rim



Type 6A9
Plain Cup - Abrasive in Periphery



Type 15A2
Dish - Abrasive in Rim



DESSAU

EXCELLENCE, INTEGRITY... FIRST, LAST, ALWAYS...

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