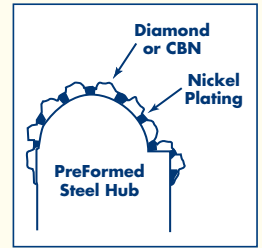


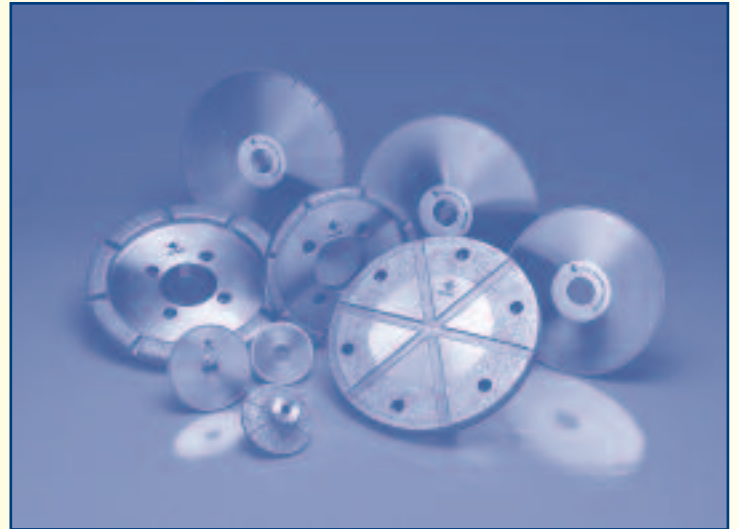
## Electroplated Diamond & CBN Tooling - Single Layer Tools

Electroplated diamond and CBN tools have a single layer of abrasive on their cutting or grinding edge. The abrasive is held in place on a preformed steel hub, using a hard nickel electroplating process. This nickel plating is built up around the crystal to approximately 50% of its height.



## Fast Aggressive Cutting

This high exposure of the diamond or CBN crystal results in a grinding or cutting tool that is extremely fast and free cutting. High material removal rates can be accomplished but with low heat and power consumption. Electroplated superabrasive tools are ideal for the most difficult to work with materials.



### Diamond Plated Tools for Non-Ferrous Materials

- Carbide
- Carbon
- Ceramic
- Composites
- Fiberglass
- Ferrite
- Friction Material
- Graphite
- Marble
- Quartz

### CBN Plated Tools for Ferrous Materials

- Hardened Carbon Steel (> HRc50)
- Alloy Steel (> HRc50)
- Superalloys (> HRc40)
- Stainless (> HRc50)
- Cast Iron

## Same Form - Beginning to End

Plated tools are ideal when a precision form must be ground into a part. Once the desired shape is machined or ground into the wheel hub, and the superabrasive is applied, this form will remain throughout the life of the grinding wheel. No additional truing or reshaping is required.

## Strip & Recoat = Savings

Graff offers a complete strip, re-machine and recoat service. A new layer of abrasive can be applied to most wheel cores received. Reconditioned wheels will perform as new, but at a fraction of the cost.

## Plating of Customers Blanks

Many of our customers will manufacture their own steel hub and send it to us for diamond or CBN coating. Contact us for recommendations regarding tool design and abrasive allowance.

## Maximize the Life of Your Plated Tool

Recommended wheel speeds (5,000 to 12,000 Surface Feet Per Minute) will vary according to material being cut, depth of cut and machine type. Too low or too high SFPM will result in excessive heat generation. Contact us for recommendations for your specific application.

Whenever possible, use a good flow of coolant at the workpiece-wheel interface. This will reduce heat build-up and flush out the cut to reduce wheel loading.

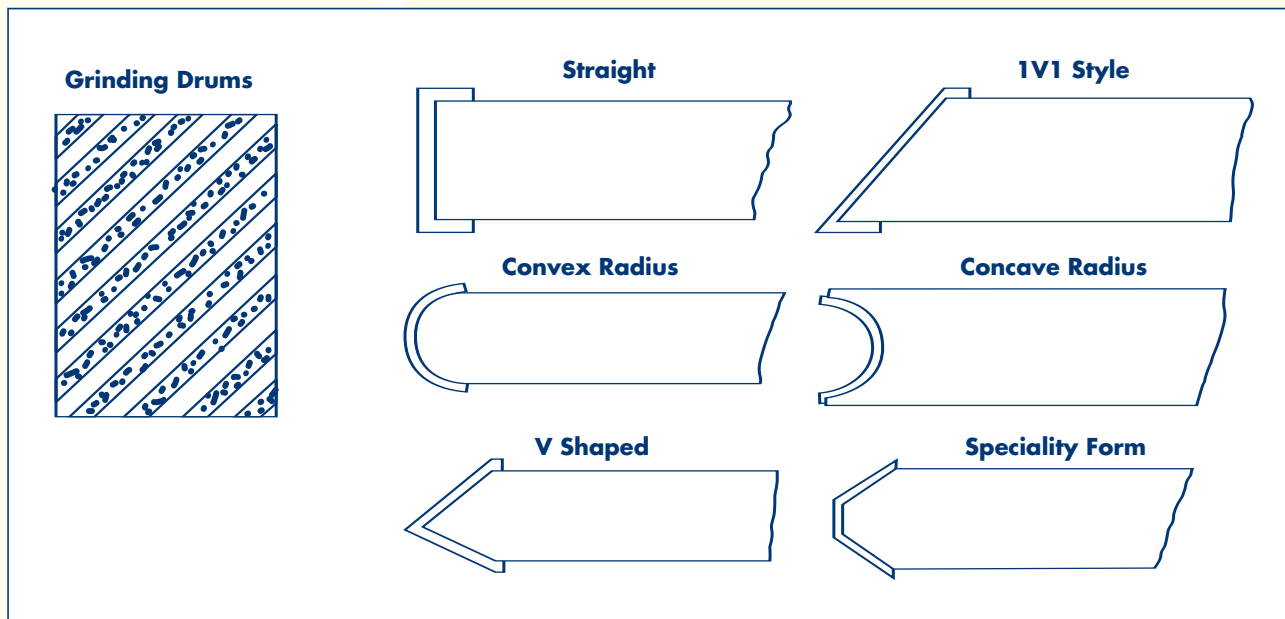
## Surface Finish With Plated Tools

The surface finish values listed in this table are to be used as a starting point in selecting the proper mesh size for your superabrasive plated wheel. Other variables such as type of material being ground, material removal rate, machine condition, rate of infeed, and coolant will influence eventual finish.

Mesh Range	RMS Finish
100 / 120	64 - 90
140 / 170	32 - 48
170 / 200	24 - 32
200 / 230	20 - 24
230 / 270	16 - 20
270 / 325	14 - 16
325 / 400	13 - 14
400 / 500	12 - 13

## Don't See What You Need In Our Catalogue?

Our product design team can assist you in getting the right diamond or CBN tool for your application. With over three decades of manufacturing experience, custom engineered product has become our speciality.



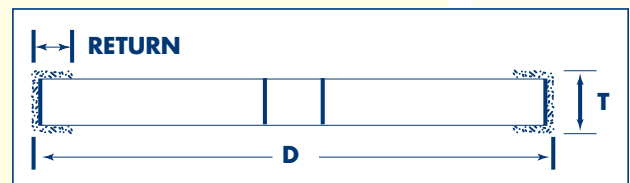
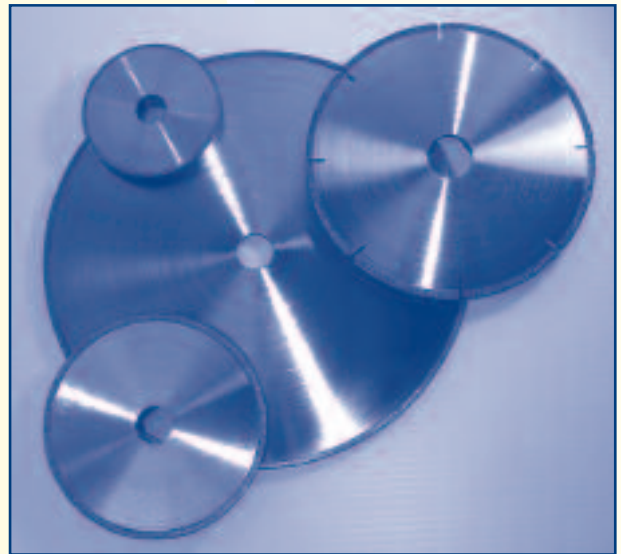
## Diamond Electroplated Blades

These diamond plated blades provide long life and aggressive cutting even when used on highly abrasive materials, such as **fiberglass, friction material, graphite and other composite materials.**

Standard Specifications
• 40 Mesh Diamond
• 1/8" Return
• Continuous Rim

Also Available
• Slotted Blades
• Side Spokes
• Shank Mounted Blades
• Full Range of Mesh Sizes
• Other Dimensions Available

Order Number	Description Diameter x Thickness
18002	2" x 1/16
18003	3" x 1/16
18004	4" x 1/16
18005	5" x 1/16
18006	6" x 3/32
18007	7" x 3/32
18081	8" x 3/32
18082	8" x 1/8
18102	10" x 1/8
18125	12" x 1/8
18127	12" x 5/32
18145	14" x 1/8
18147	14" x 5/32
18167	16" x 5/32
18168	16" x 3/16
18187	18" x 5/32
18188	18" x 3/16
18207	20" x 5/32
18208	20" x 3/16



# DIAMOND ELECTROPLATED ROUTERS & CORE DRILLS

## Diamond Electroplated Routers

Diamond routers are excellent for trimming, grooving or imparting a form into very abrasive materials such as **fiberglass, graphite, marble, aerospace composites**, and **aluminum oxide**. Other sizes are available in both diamond and CBN.

Order Number	Diameter 'D'	Shank Diameter
13250	1/4"	1/4"
13375	3/8"	3/8"
13500	1/2"	1/2"
13625	5/8"	1/2"
13750	3/4"	1/2"
13100	1"	1/2"



Standard Specifications
• 40 Mesh Diamond
• 1" Abrasive Length
• 2 1/2" Overall Length

## Diamond Electroplated Core Drills

Our plated drills will bore through non-metallics such as **fiberglass, ceramic, marble, epoxy resins, and composites** with ease.

Order Number	Diameter
20010	1/4"
20020	1/2"
20030	3/4"
20040	1"
20050	1 1/2"
20060	2"
20070	2 1/2"
20080	3"
20100	3 1/2"
20110	4"
20120	4 1/2"
20140	5"
20150	5 1/2"
20160	6"

Standard Specifications
• 40 Mesh Diamond
• 1" Cutting Depth

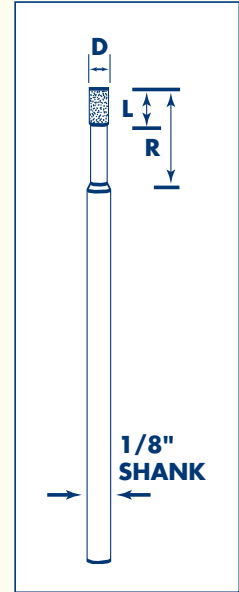


## Diamond and CBN Grinding Pins

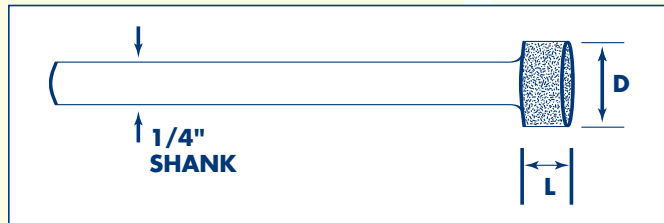
Electroplated grinding pins are ideal for jig and internal grinding applications. Available in both fine and coarse mesh sizes. Can be used wet or dry, but use of coolant will extend tool life and deliver superior surface finishes.

Order Number	Diameter 'D'	Length 'L'	Recess 'R'
60010	.020	1/16	1/8
60012	.025	3/32	1/4
60014	.030	3/32	1/4
60016	.035	3/32	1/4
60018	.040	1/8	3/8
60020	.045	1/8	3/8
60022	.050	1/8	3/8
60024	.055	1/8	3/8
60026	.060	1/8	3/8
60028	.070	5/32	3/8

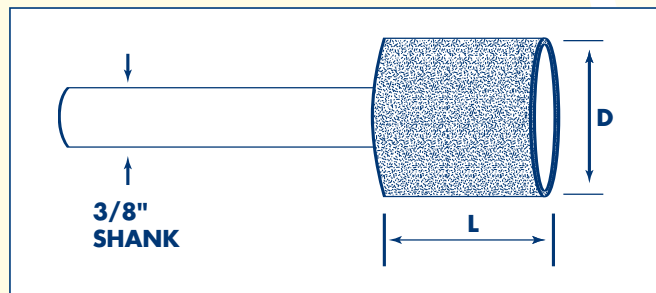
Order Number	Diameter 'D'	Length 'L'	Recess 'R'
60032	.080	5/32	1/2
60036	.090	5/32	1/2
60040	.100	5/32	1/2
60044	.110	5/32	1/2
60050	.125	5/32	1/2
60052	.141	1/4	NONE
60054	.156	1/4	NONE
60056	.188	1/4	NONE
60058	.218	1/4	NONE
60060	.250	1/4	NONE



Order Number	Diameter 'D'	Length 'L'
60062	.141	1/4
60064	.156	1/4
60066	.188	1/4
60068	.218	1/4
60070	.250	1/4
60072	.312	3/8
60074	.375	3/8
60076	.500	1/2
60078	.750	1/2



Order Number	Diameter 'D'	Length 'L'
60080	.406	3/8
60082	.437	3/8
60084	.500	3/8
60086	.562	3/8
60088	.625	3/8
60090	.687	3/8
60092	.750	3/8
60094	.875	3/8
60096	1.000	1/2



## Resin Bonded Diamond and CBN Grinding Wheels

Resin bonded diamond and CBN grinding wheels are quickly replacing conventional abrasives as more and more industries realize the efficiency of using superabrasive wheels. Fast and free cutting, these wheels deliver high material removal rates with less thermal damage to the workpiece. The added advantages of long wheel life, ability to grind wet or dry and superior finishes, makes the resin bonded diamond and CBN grinding wheel the best choice for precise grinding and finishing of the following materials.



### Diamond Resin Bonded Wheels

- Carbide (cutting and milling tools, dies)
- Glass
- Ceramics (i.e. Silicon Nitride, Porcelain, Aluminum Oxide, Silicon Carbide)

### CBN Resin Bonded Wheels

- Hardened Tool Steels (> HRc50) (cutting tools, dies, shears, knives, saw blades)
- Alloy Steels (> HRc50) (gears, valve stems, drive shafts)
- Superalloys (>HRc40) (vanes, blades, aerospace applications)
- Stainless Steel (>HRc50)
- Cast Iron

Graff manufactures a full line of diamond and CBN grinding wheels for just about every industry. With over three decades of manufacturing experience, we know what works for what applications. Our specially formulated bonds have been designed for the wide range of materials and grinding conditions encountered by our customers.

Every wheel we manufacture is assigned its own serial number and can be found marked on the wheel itself. This enables us to document what type of abrasive and bond was used and all wheel dimensions. In addition to making re-ordering easier (just quote the serial number), consistency of product from order to order is maintained.

## When Possible Grind Wet

A good flow of coolant at the grinding wheel/workpiece interface will extend the life of your superabrasive wheel and improve the surface finish of the parts being ground.

When grinding with diamond wheels, a water-based coolant with a rust inhibitor is good for most light to medium applications. For heavy duty grinding, the added lubricity of water soluble or straight oil coolants may be necessary. When using a CBN wheel to grind hardened tool steels or hard cast irons, a heavy duty soluble oil coolant at 5 to 10% concentration will extend wheel life. Sulfurized or sulfochlorinated mineral oils are recommended when grinding superalloys, i.e. nickel or cobalt based alloys.

Never use a water-based coolant with rust inhibitors or detergents with CBN wheels as the reaction will adversely affect the grinding wheel.

## Surface Finish

Use the following as a starting point in selection of the mesh size for your superabrasive resin bonded grinding wheel. Factors such as machine type and condition, material type, table speed, and coolant will influence eventual finish.

Mesh Size	Surface Finish RMS
60 - 120	16 to 36
120 - 150	15 to 18
180 - 320	8 to 14
320 - 500	6 to 8

	Dry Grinding	Wet Grinding
Diamond Wheels	3000 to 4500 SFPM 15 to 22 M/S	4500 to 6500 SFPM 22 to 32 M/S
CBN Wheels	3000 to 6000 SFPM 15 to 30 M/S	6000 to 7500 SFPM 30 to 37 M/S

SFPM = Surface Feet Per Minute

M/S = Meters Per Second

To find SFPM knowing RPM 
$$\frac{\text{RPM} \times 3.142 \times \text{Diameter of Wheel}}{12}$$

To find RPM knowing SFPM 
$$\frac{\text{SFPM} \times 12}{\text{Diameter of Wheel} \times 3.142}$$

## Truing and Dressing

### Steps to Maximize The Life Of Your Resin Bonded Grinding Wheels

To achieve the best performance from a resin bonded diamond or CBN grinding wheel, it must first be trued and then dressed on the machine it is to be used on. Truing involves grinding or wearing away of the abrasive surface, so that it will run concentric with the axis of rotation. Depending upon the type of abrasive, the following truing methods will apply.

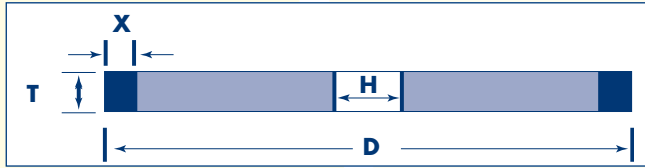
Truing System	Diamond Wheels	CBN Wheels
Brake Controlled Truing Device (Cat no. 50010)	Yes	Yes
Single Point Diamond Dresser	No	No
Impregnated Diamond Dressing Tool (available, call for more information)	Under certain conditions small contact areas	For wheels up to 8" diameter and no larger than 1" thick
Mild Steel Block - mount on grinder, take .001" passes over block with diamond or CBN wheels.	Yes	Yes
Rotary Powered Truing Devices - equipped with metal bonded or electroplated diamond truing wheels.	Under certain conditions small contact areas	Best for larger diameter wheels (8" & larger)
Diamond Electroplated Blocks - may have a form to shape CBN wheel to a desired profile. (available, call for more information)	No	Yes
Tool Post Grinder - mounted on grinder, utilizing a silicon carbide wheel.	Yes	Yes

Once truing has been completed, the surface of the grinding wheel face will be smooth with few abrasive crystals protruding. It is imperative for the diamond or CBN wheel to be dressed so that new cutting points can be exposed. This is accomplished by holding an aluminum oxide stick (catalogue numbers 50012 & 50013) firmly against the rotating wheel face, allowing the stick to remove some of the bond material. When the stick begins to wear rapidly, proper dressing has been accomplished and the superabrasive wheel is ready for use.



# RESIN BONDED DIAMOND AND CBN GRINDING WHEELS

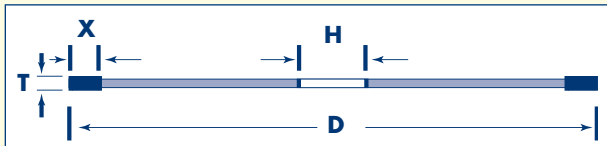
## Type 1A1



Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'
12002	3/4	1/4	1/8
12004	3/4	1/2	1/8
12078	3/4	3/4	1/8
12005	1	1/8	1/8
12006	1	1/4	1/8
12008	1	1/2	1/8
12064	2	1/8	1/8
12015	2	1/4	1/8
12017	2	1/2	1/8
12024	3	1/8	1/8
12027	3	1/4	1/8
12028	3	1/2	1/8
12032	4	1/8	1/8
12030	4	5/32	1/8
12031	4	3/16	1/8
12033	4	1/4	1/8
12034	4	3/8	1/8
12035	4	1/2	1/8
12038	5	1/8	1/8
12039	5	1/4	1/8
12040	5	3/8	1/8
12041	5	1/2	1/8
12045	6	1/4	1/8
12046	6	3/8	1/8
12047	6	1/2	1/8
12042	6	3/4	1/8
12050	7	1/4	1/8

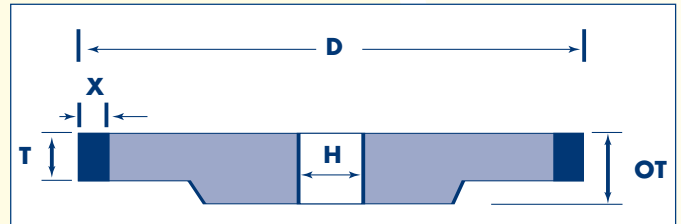
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'
12051	7	3/8	1/8
12052	7	1/2	1/8
12053	7	3/4	1/8
12068	8	3/16	1/8
12055	8	1/4	1/8
12069	8	3/8	1/8
12056	8	1/2	1/8
12057	10	1/4	1/8
12058	10	3/8	1/8
12059	10	1/2	1/8
12070	10	3/4	1/8
12098	10	1	1/8
12061	12	1/2	1/8
12071	12	3/4	1/8
12099	12	1	1/8
12145	14	1/2	1/8
12147	14	3/4	1/8
12149	14	1	1/8
12165	16	1/2	1/8
12167	16	3/4	1/8
12169	16	1	1/8
12185	18	1/2	1/8
12187	18	3/4	1/8
12189	18	1	1/8
12205	20	1/2	1/8
12207	20	3/4	1/8
12209	20	1	1/8

## Type 1A1R



Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Hole Diameter 'H'
12036	4	1/16	1/8	3/4 - 1 1/4
12037	5	1/16	1/8	1 1/4
12054	6	.040	1/4	1 1/4
12043	6	1/16	1/8	1 1/4
12048	7	1/16	1/8	1 1/4
12060	8	.050	1/4	1 1/4

## Type 3A1

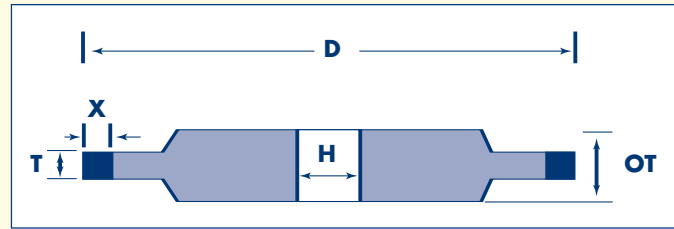


Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Wheel Thickness 'OT'
12044	6	1/8	1/8	1/4
12049	7	1/8	1/8	1/4
12067	8	1/8	1/8	1/4

# RESIN BONDED DIAMOND AND CBN GRINDING WHEELS

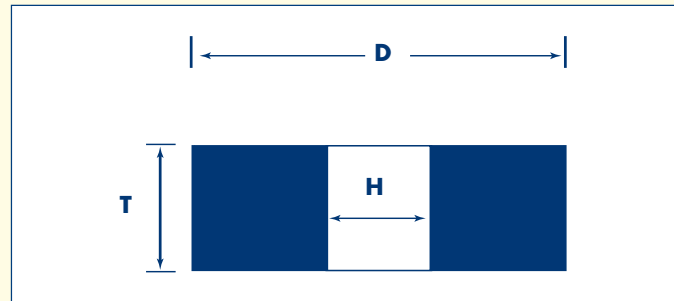
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Wheel Thickness 'OT'
141001	6	1/8	1/8	1/2
141001A	6	1/4	1/8	1/2
141002	7	1/8	1/8	1/2
141002A	7	1/4	1/8	1/2
141003	8	1/8	1/8	1/2

## Type 14A1



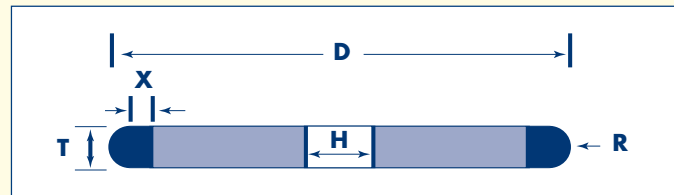
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Bore Diameter 'H'
11001	1/4	1/4	1/8
11004	3/8	1/4	1/8
11005	3/8	3/8	1/8
11006	1/2	1/4	1/8
11007	1/2	3/8	1/4
11008	1/2	1/2	1/4
11009	5/8	1/4	1/4
11010	5/8	3/8	1/4
11011	5/8	1/2	1/4
11012	3/4	1/4	1/4
11013	3/4	1/2	1/4
11014	3/4	3/4	1/4
11015	1	1/4	1/4 OR 3/8
11016	1	3/8	1/4 OR 3/8
11017	1	1/2	1/4 OR 3/8

## Type 1A8



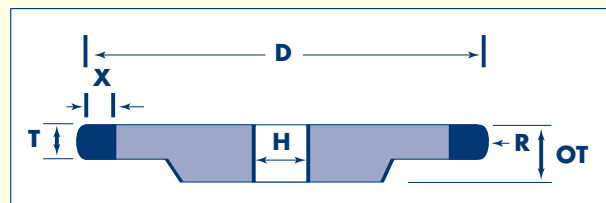
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Face Radius 'R'
16004	4	1/8	1/8	1/16
16011	4	1/4	1/8	1/8
16012	4	3/8	1/8	3/16
16007	6	1/4	1/8	1/8
16010	6	3/8	1/8	3/16
16008	8	1/4	1/8	1/8
16009	8	3/8	1/8	3/16

## Type 1FF1



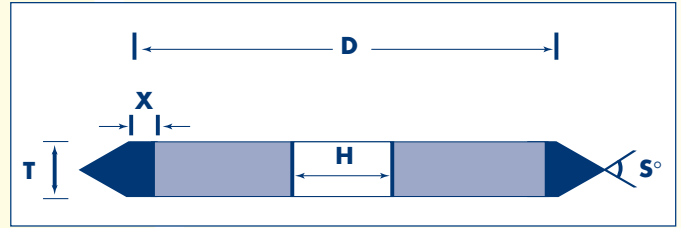
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Face Radius 'R'	Wheel Thickness 'OT'
16006	6	1/8	1/8	1/16	1/4
16015	7	1/8	1/8	1/16	1/4
16016	8	1/16	1/8	1/32	1/4
16017	8	1/8	1/8	1/16	1/4
16025	10	1/16	1/8	1/32	11/32
16027	10	1/8	1/8	1/16	11/32
16029	10	1/4	1/8	1/8	11/32

## Type 3FF1



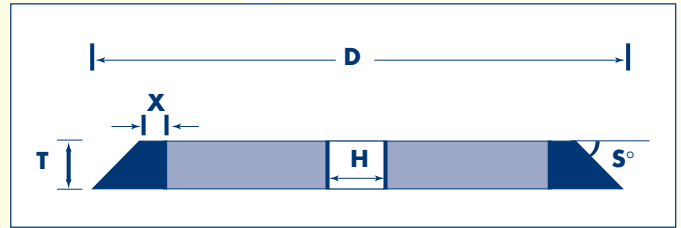
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Included Angle 'S'
14007	3	1/8	1/8	60
14008	3	1/8	1/8	90
14009	3	1/4	1/8	60
14010	3	1/4	1/8	90
14001	4	1/8	1/8	60
14000	4	1/8	1/8	90
14002	4	1/4	1/8	60
14011	4	1/4	1/8	90
14003	6	1/8	1/8	60
14012	6	1/8	1/8	90
14004	6	1/4	1/8	60
14013	6	1/4	1/8	90

## Type 1EE1



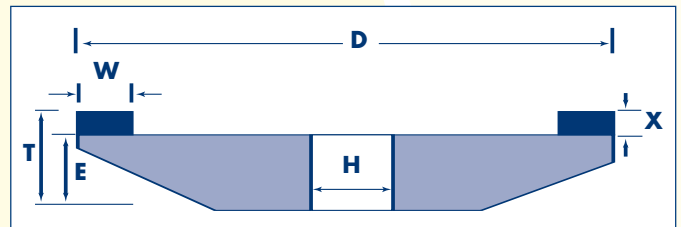
Order Number	Wheel Diameter 'D'	Abrasive Thickness 'T'	Abrasive Depth 'X'	Face Angle 'S'
15002	4	1/4	1/8	30 OR 45
15006	4	3/8	1/8	30 OR 45
15010	4	1/2	1/8	30 OR 45
15014	5	1/4	1/8	30 OR 45
15018	5	3/8	1/8	30 OR 45
15022	5	1/2	1/8	30 OR 45
15026	6	1/4	1/8	30 OR 45
15030	6	3/8	1/8	30 OR 45
15034	6	1/2	1/8	30 OR 45

## Type 1V1



Order Number	Wheel Diameter 'D'	Back Thickness 'E'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
3015	3	1/4	3/16	1/16 OR 1/8
3025	3	1/4	1/4	1/16 OR 1/8
4012	4	1/4	1/8	1/16 OR 1/8
4025	4	1/4	1/4	1/16 OR 1/8
4425	4 1/2	1/4	1/4	1/16 OR 1/8
5015	5	1/4	3/16	1/16 OR 1/8
5025	5	1/4	1/4	1/16 OR 1/8
6339	6	1/4 OR 3/8	1/8	1/16 OR 1/8
6252	6	1/4 OR 3/8	3/16	1/16 OR 1/8
6262	6	1/4 OR 3/8	1/4	1/16 OR 1/8
6272	6	1/4 OR 3/8	3/8	1/16 OR 1/8
6282	6	1/4 OR 3/8	1/2	1/16 OR 1/8
8260	8	11/32	3/16	1/16 OR 1/8
8262	8	11/32	1/4	1/16 OR 1/8
8264	8	11/32	3/8	1/16 OR 1/8
8266	8	11/32	1/2	1/16 OR 1/8
9210	10	11/32	1/4	1/16 OR 1/8

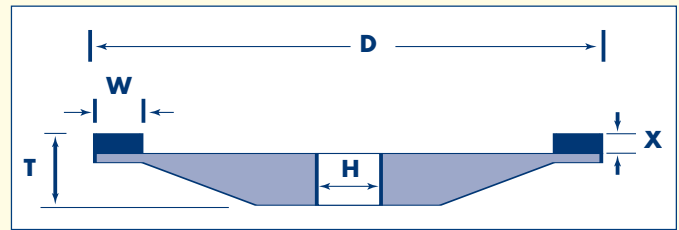
## Type 4A2



# RESIN BONDED DIAMOND AND CBN GRINDING WHEELS

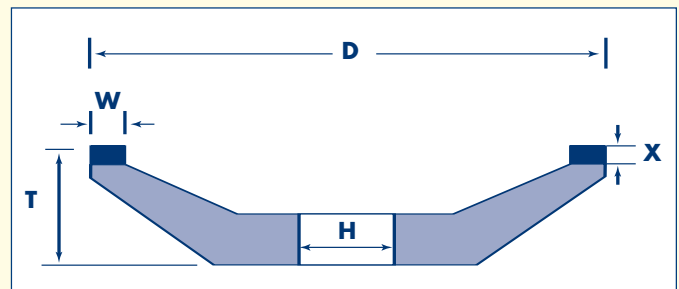
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
4725	4½	¼	¼	1/16 OR 1/8
6733	5	¼	3/16	1/16 OR 1/8
6735	5	¼	¼	1/16 OR 1/8
6739	6	¼ OR 3/8	1/8	1/16 OR 1/8
6752	6	¼ OR 3/8	3/16	1/16 OR 1/8
6762	6	¼ OR 3/8	¼	1/16 OR 1/8
6772	6	¼ OR 3/8	3/8	1/16 OR 1/8
6782	6	¼ OR 3/8	½	1/16 OR 1/8
8752	8	11/32	3/16	1/16 OR 1/8
8762	8	11/32	¼	1/16 OR 1/8
8772	8	11/32	3/8	1/16 OR 1/8
8782	8	11/32	½	1/16 OR 1/8
9710	10	11/32	¼	1/16 OR 1/8

## Type 4A2M



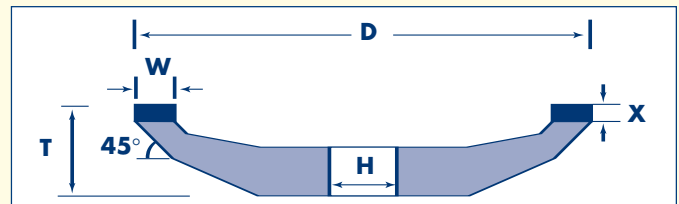
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
121007	3	½	¼	1/16 OR 1/8
121002	3	7/8	¼	1/16 OR 1/8
121006	3	7/8	3/8	1/16 OR 1/8
121008	4	½	¼	1/16 OR 1/8
121009	4	½	3/8	1/16 OR 1/8
121020	4	¾	½	1/16 OR 1/8
121010	5	¾	¼	1/16 OR 1/8
121011	5	¾	3/8	1/16 OR 1/8
121003	6	1	3/16	1/16 OR 1/8
121004	6	1	¼	1/16 OR 1/8
121005	6	1	3/8	1/16 OR 1/8
121012	7	1	3/16	1/16 OR 1/8
121013	7	1	¼	1/16 OR 1/8
121015	8	1	¼	1/16 OR 1/8

## Type 12A2



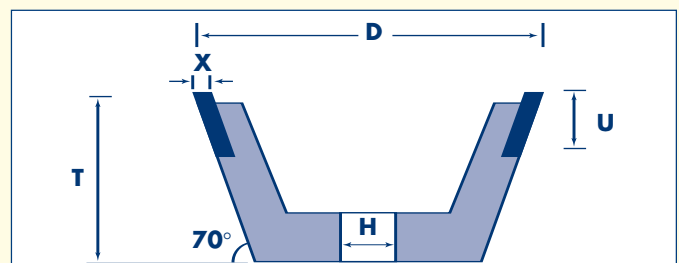
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
151004	6	¾	1/8	1/16 OR 1/8
151001	6	¾	3/16	1/16 OR 1/8
151002	6	¾	¼	1/16 OR 1/8
151003	6	¾	3/8	1/16 OR 1/8

## Type 15A2



Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Length 'U'	Abrasive Depth 'X'
115004	2	7/8	¼	1/16 OR 1/8
115001	2	1¼	3/8	1/16 OR 1/8
115002	3¾	1½	3/8	1/16 OR 1/8
115003	5	1¾	7/16	1/16 OR 1/8

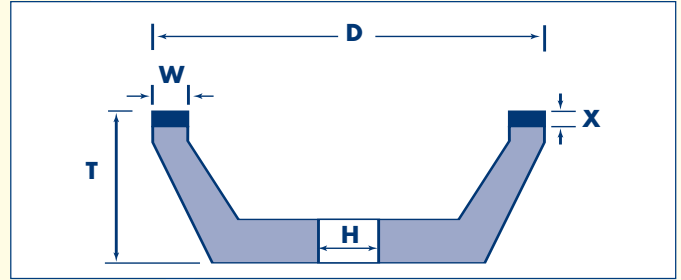
## Type 11V9



# RESIN BONDED DIAMOND AND CBN GRINDING WHEELS

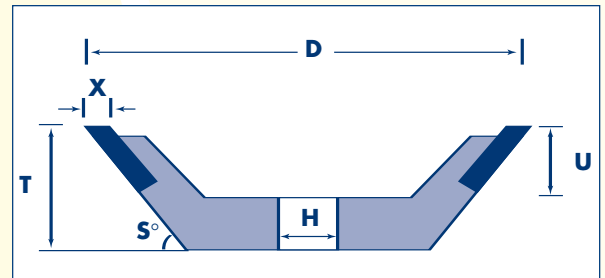
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
111001	3	7/8	3/8	1/16 OR 1/8
111002	3	1 5/16	3/8	1/16 OR 1/8
111007	3 1/2	1 5/16	3/8	1/16 OR 1/8
111006	4	1 1/4	1/4	1/16 OR 1/8
111003	4	1 1/4	3/8	1/16 OR 1/8
111004	4	1 1/4	1/2	1/16 OR 1/8
111005	5	1 3/4	3/8	1/16 OR 1/8
111008	6	1 3/4	1/4	1/16 OR 1/8

Type 11A2



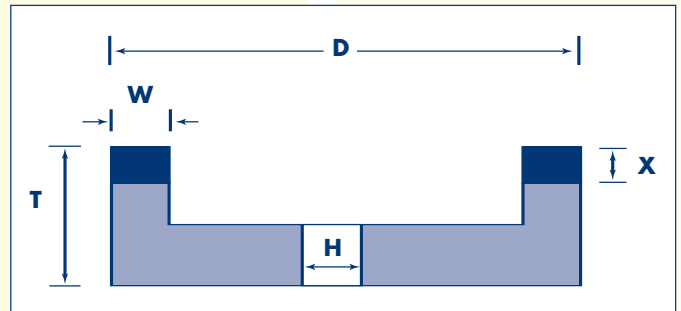
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Length 'U'	Abrasive Depth 'X'	Back Angle 'S'
215001	3	1/2	1/4	1/16 OR 1/8	30 OR 45
215002	4	1/2	1/4	1/16 OR 1/8	30 OR 45
215005	5	3/4	1/4	1/8	30 OR 45
215008	5	1 3/8	1/4	1/8	30 OR 45
215006	5	1 3/8	1/2	1/8	30 OR 45
215007	6	3/4	1/4	1/8	30 OR 45

Type 12V9 / 15V9

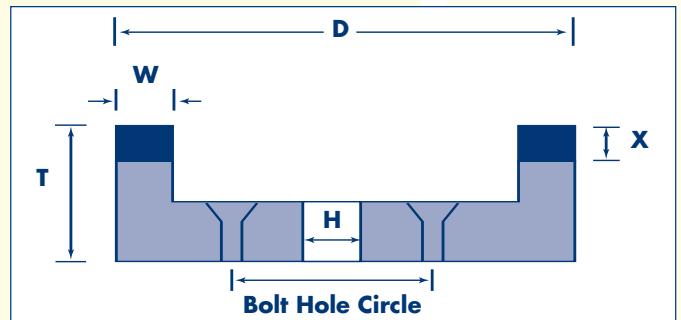


Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
61013	2	1/2	1/4	1/16 OR 1/8
61014	3	3/4	1/4	1/16 OR 1/8
61011	4	3/4	3/16	1/16 OR 1/8
61015	4	3/4	1/4	1/16 OR 1/8
61017	4	3/4	1/2	1/16 OR 1/8
61027	4 1/2	5/16	1/8	1/16 OR 1/8
61028	4 1/2	5/16	1/4	1/16 OR 1/8
61019	5	3/4	1/4	1/16 OR 1/8
61021	5	3/4	3/8	1/16 OR 1/8
61023	5	3/4	1/2	1/16 OR 1/8
61901	5	3/4	3/4	1/16 OR 1/8
61025	5	3/4	1	1/16 OR 1/8
61016	6	3/4	1/4	1/16 OR 1/8
61001	6	3/4	3/8	1/16 OR 1/8
61002	6	3/4	1/2	1/16 OR 1/8
61003	6	3/4	3/4	1/16 OR 1/8
61804	6	3/4	1	1/16 OR 1/8

Type 6A2



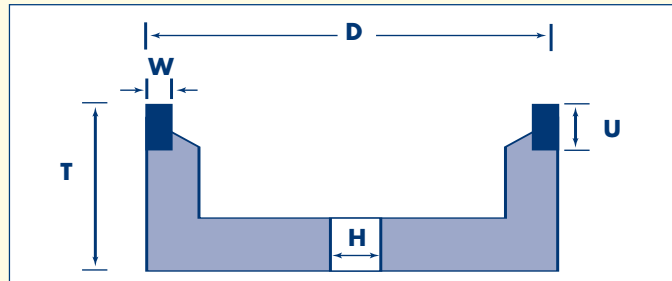
Type 6A2C



# RESIN BONDED DIAMOND AND CBN GRINDING WHEELS

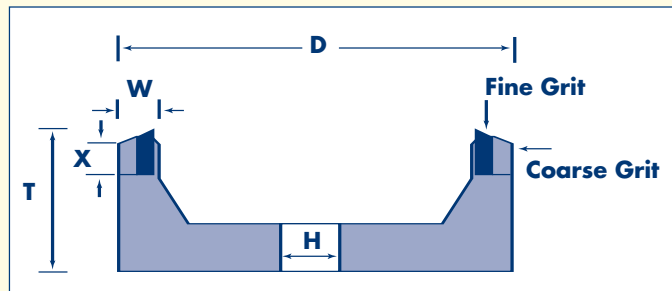
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Length 'U'	Abrasive Depth 'X'
65001	3	1½	½	⅛
65002	4	1¼	⅜	⅛
65007	125 MM	¾	¼	⅛
65003	5	1½	7/16	⅛
65004	6	1½	7/16	⅛
65005	6	1½	½	⅛

## Type 6A9



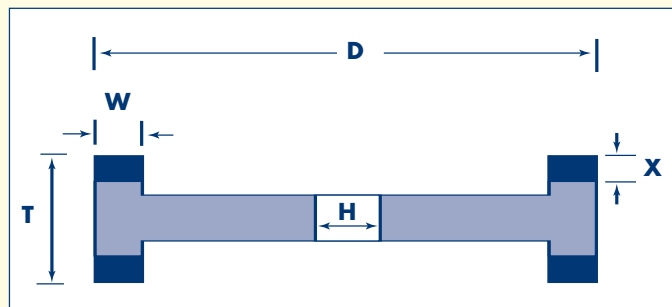
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
DG100	100 MM	20 MM	6 MM	6 MM
DG125	125 MM	20 MM	6 MM	6 MM

## Type Dual Grit



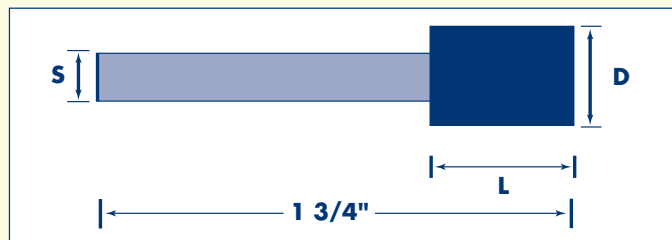
Order Number	Wheel Diameter 'D'	Wheel Thickness 'T'	Abrasive Rim Width 'W'	Abrasive Depth 'X'
91880	4	¾	⅛	⅛
91890	5	¾	⅛	⅛
91900	6	1	¼	⅛
91902	6	1	⅜	⅛
91903	6	1	½	⅛

## Type 9A3



Order Number	Abrasive Dimensions 'D x L'	Shank Diameter 'S'
DW247	3/16 x 3/16	⅛
DW152	3/16 x 1/4	⅛
DW160	1/4 x 1/4	⅛ OR 1/4
DW162	1/4 x 3/8	⅛ OR 1/4
DW174	3/8 x 1/4	⅛ OR 1/4
DW175	3/8 x 3/8	⅛ OR 1/4
DW183	1/2 x 1/4	⅛ OR 1/4
DW184	1/2 x 3/8	⅛ OR 1/4
DW192	5/8 x 1/4	⅛ OR 1/4
DW194	5/8 x 1/2	⅛ OR 1/4
DW203	3/4 x 1/2	⅛ OR 1/4
DW218	1 x 1/2	1/4

## Type DWS Shank Mounted



### Brake Controlled Truing Device

The ultimate system for truing diamond and CBN grinding wheels. Unit can be mounted or fixtured. Comes complete with 3" x 1" wide truing wheel.



### Dressing Sticks

A "must" after truing or when diamond or CBN wheel begins to load. An aluminum oxide dressing stick applied to a smooth grinding wheel face will expose fresh cutting points, by clearing away excess bond and any trapped grinding material. Soak the dressing stick in coolant or water for a few minutes, then feed into the grinding face of the revolving wheel. When stick begins to wear rapidly, superabrasive wheel is ready for use. Available in packs of 10.

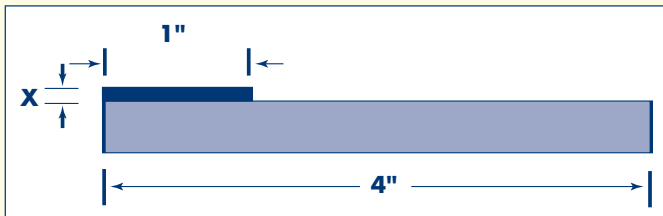


Order Number	Description
50012	4" x 3/4" x 3/4" 220 Grit
50013	6" x 1" x 1" 220 Grit

### Diamond Hand Hones

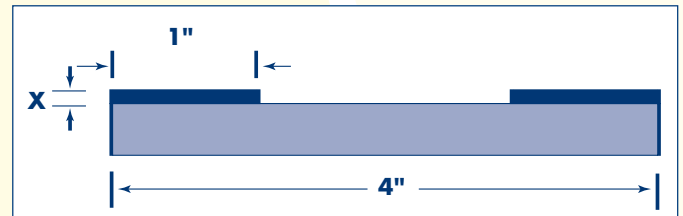
For quick touch-ups of dies and cutting tools. Available in fine, medium, and coarse mesh sizes.

#### Single End Hand Hone



Order Number	X
50014	1/16
50020	1/8

#### Double End Hand Hone



Order Number	X
50030	1/16
50032	1/8

### Diamond Needle Files

Set of five files come in a convenient carrying case.

Consists of:

- Round
- Triangle
- Square
- Flat
- Half Round

Order Number	Description
50016	5 1/2" O.A.L. 2" abrasive length



# DIAMOND DRESSING TOOLS

## Diamond Dressing Tools

The performance of any dressing tool is dependent upon the quality of the diamond it contains. That's why our dressing tools are manufactured with only the finest natural diamond available. Care is taken to select the best crystal for each particular application and tool type. Specialty tooling is available from blue print or allow us to assist in the design for your particular application. Resetting and relapping services are also available.



## Single Point Dressers

For dressing straight wheels on surface, cylindrical and centreless grinders.



SHANK  
STYLE 'A'



SHANK  
STYLE 'B'

Order Number	Carat Weight
40010	SP1 - .20 CT
40012	SP2 - .25 CT
40014	SP3 - .33 CT
40016	SP4 - .50 CT
40018	SP5 - .75 CT
40020	SP6 - 1.00 CT
40022	SP7 - 1.25 CT
40024	SP8 - 1.50 CT

### FOR BEST PERFORMANCE:

- 1) Select the proper diamond weight for size of wheel being dressed
- 2) Depth of cut ranges from .0005 to .002
- 3) Set diamond point at a 10 to 15 degree angle, in direction of grinding wheel rotation
- 4) Use coolant if possible
- 5) Rotate diamond tool frequently

### TO ORDER PLEASE SPECIFY:

- 1) Carat weight
- 2) Shank Style ('A' or 'B')
- 3) Shank diameter and length  
(Standard shank length = 2")

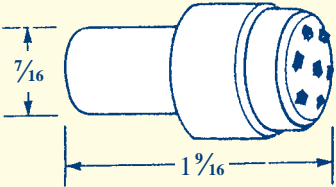
Guide for proper diamond tool selection-based on size of wheel to be dressed. Carat weight in yellow shaded area.

Wheel Diameter	Wheel Width			
	1/2"	3/4"	1"	2"
4"	.20	.25		
6" - 7"	.25	.33	.50	.75
8" - 10"	.33	.50	.75	1.25
12" - 14"	.50	.75	1.00	1.50
16" - 18"	.75	1.00	1.25	1.50
20" - 24"	1.00	1.25	1.50	1.50



**Multi-Point Dressers**

Designed to dress very wide wheels, these multi-point dressers are available in a variety of configurations, including multiple layers.



OTHER SHANK DIMENSIONS AVAILABLE

Order Number	Description
40044	MP3
40046	MP5
40048	MP7



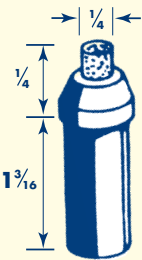
**For Best Performance:**

- 1) Position dressing tool so that at least three diamonds are in contact with wheel face.
- 2) Mount at a 15 degree angle in direction of wheel rotation.
- 3) Use coolant and rotate tool frequently.

**Impregnated Tools**

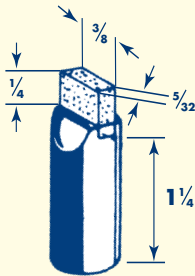
To dress cylindrical, centreless, surface and general purpose grinding wheels. When ordering please specify dimensions and grit size of wheel to be dressed.

To dress 12" x 1" to 20" x 2 1/2"



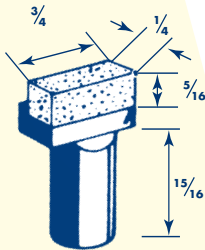
Order Number
40096

To shoulder dress centreless & cylindrical wheels 12" x 1" to 20" x 2 1/2"

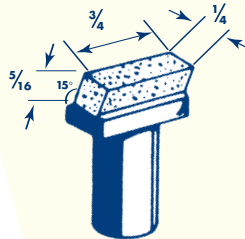


Order Number
40098

To dress 20" x 3" and larger wheels.



Order Number
40104



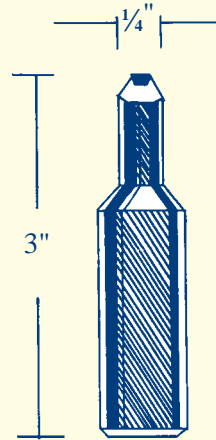
Order Number
40106

# DIAMOND DRESSING TOOLS

## Chisel Tools

Used to dress convex and concave radii. Available with 60, 70 or 90 degree lapped angle on diamond.

Order Number	Diamond Size	Available Included Angles		
40050	.15 ct	60°	70°	90°
40052	.25 ct	60°	70°	90°
40054	.33 ct	60°	70°	90°



## Conical Tools

Used for precise dressing of convex and concave radii.

Order Number	Diamond Size	Available Radius On Diamond	Available Included Angles		
40088	.33 ct	.005 to .030	60°	75°	90°

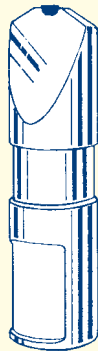
Can be reset/relapped.

To order, please specify:

- 1) Diamond Size
- 2) Radius on Diamond
- 3) Included Angle
- 4) Shank Diameter and Length

## Diaform Tools

Order Number	Included Angle	Radius Available
40110	40°	.005 to .025
40112	60°	.005 to .025



## Hand Held Dresser



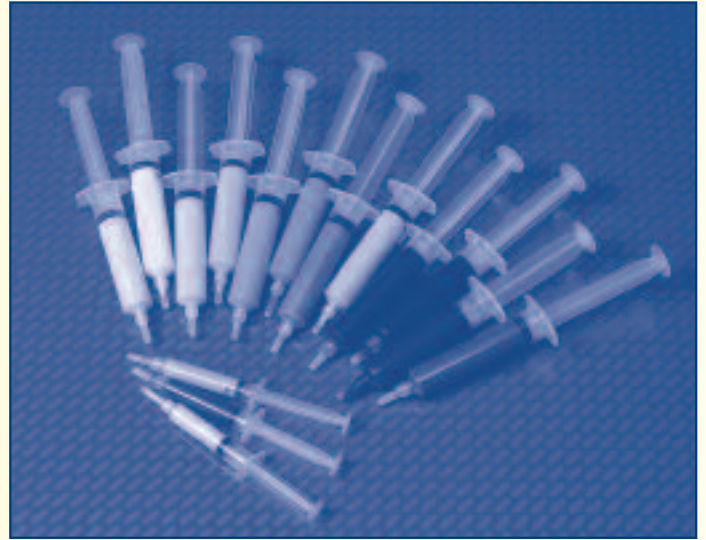
Order Number
40194

## Diamond Lapping Compounds

Our diamond lapping compounds are manufactured under the strictest controls, assuring you consistent quality results, each and every time.

Fast stock removal and super fine finishes are achieved in less time, for all of your hand or machine lapping of tool steels, carbide and ceramic applications.

Packaged in easy to use 6 or 18 gram syringes with your choice of water or oil base.



Order Number	Concentration	Size	Colour	U.S.B.S Number	Mesh Size	Use	Micro Finish
17068	Standard						10 to
17069	Medium	170/200	Orange			Best for	6
17070	Heavy					Heavy	R.M.S.
17071	Standard					Stock	8 to
17072	Medium	230/325	Red			Removal	5
17073	Heavy						R.M.S.
17074	Standard	36 to					7 to
17075	Medium	54	Brown	45	325	Most	4
17076	Heavy	Micron				Common	R.M.S.
17077	Standard	22 to				Grades	5 to
17078	Medium	36	Yellow	30	600	For	3
17079	Heavy	Micron				First	R.M.S.
17080	Standard	12 to				Step	4 to
17081	Medium	22	Green	15	1,200	Finishing	2
17082	Heavy	Micron					R.M.S.
17083	Standard	8 to				Final	3 to
17084	Medium	12	Blue	9	1,800	Finishing	2
17085	Heavy	Micron					R.M.S.
17086	Standard	4 to	Light			Grades	2½ to
17087	Medium	8	Green	6	3,000	For Most	2
17088	Heavy	Micron				Molds	R.M.S.
17089	Standard	2 to				and Dies	2 to
17090	Medium	4	Lavender	3	4,000		1½
17091	Heavy	Micron					R.M.S.
17092	Standard	1 to				Used for	1½ to
17093	Medium	3	Pink	2	7,000	Precise	1
17094	Heavy	Micron					R.M.S.
17095		0 to 2 Micron	Blue/ Green	1	14,000	Finishes	1
17096		0 to 1 Micron	Grey	½	50,000	and High	or less
17097		0 to ½ Micron	Tan	¼	Finer than 50,000	Polishing	R.M.S.

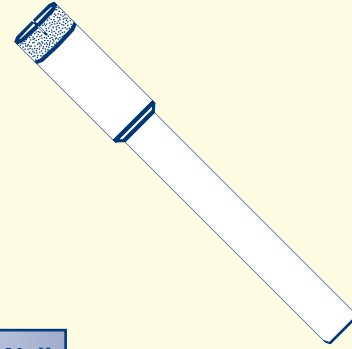
# DIAMOND CORING BITS

## Metal Bond Diamond Coring Bits

Ideal for: **Glass, Ceramics, Lapidary Rock, Marble, Granite**

To order, please specify:

- application ie) material type, machine type
- straight or threaded shank
- depth of cut



Diameter	Thin Wall Order No.	Heavy Wall Order No.
1/8"	80125	N/A
3/16"	80187	N/A
7/32"	80218	N/A
1/4"	80250	90250
9/32"	80281	90281
5/16"	80312	90312
11/32"	80343	90343
3/8"	80375	90375
13/32"	80406	90406
7/16"	80437	90437
29/64"	80453	90453
1/2"	80500	90500
17/32"	80531	90531
9/16"	80562	90562
5/8"	80625	90625
11/16"	80687	90687
3/4"	80750	90750
13/16"	80812	90812
27/32"	80843	90843
7/8"	80875	90875
29/32"	80906	90906
15/16"	80937	90937
1"	81000	91000

Diameter	Thin Wall Order No.	Heavy Wall Order No.
1 1/16"	81062	91062
1 1/8"	81125	91125
1 3/16"	81187	91187
1 1/4"	81250	91250
1 3/8"	81375	91375
1 7/16"	81437	91437
1 1/2"	81500	91500
1 9/16"	81562	91562
1 5/8"	81625	91625
1 3/4"	81750	91750
1 13/16"	81812	91812
2"	82000	92000
2 1/8"	82125	92125
2 3/16"	82187	92187
2 1/4"	82250	92250
2 3/8"	82375	92375
2 1/2"	82500	92500
2 3/4"	82750	92750
3"	83000	93000
3 1/4"	83250	93250
3 1/2"	83500	93500
4"	84000	94000
4 1/2"	84500	94500



Use heavy wall core drills when drilling depth exceeds 1/2".

\*metric sizes also available

### For Optimum Performance:

Use wet with plenty of coolant at the diamond tool - material interface. Coolant retaining rings and drill head / collet assemblies (water swivels) are available. Call for quotation. Run tool at proper R.P.M. Call us for recommendations for your specific application. If drilling efficiency begins to decrease, run a soft aluminum oxide stick across the cutting edge of the coring bit. This will enable new cutting points to be exposed within the metal bond. Dressing sticks are available in packs of 10. Catalogue number 50013.