Radiac® Abrasives

Engineered Grinding Solutions

SUPERABRASIVES
CATALOG

ISO Certified
9001-2000

Radiac Abrasives
Engineered Grinding Solutions

Radiac Abrasives is a leading full line manufacturer of Conventional Bonded and Superabrasives in North America. For more than 100 years, Radiac has delivered technology and quality in both product and service to the industry. More than a quarter of a million square feet are dedicated to production, inventory, and customer service. As a leading full line producer Radiac Abrasives offers more than 50,000 precision built products of high quality, performance, and repeatability for virtually every conceivable manufacturing application.

From Automotive to Aerospace and beyond, Radiac's unique Marketing Team approach caters to the needs of your specific industry, application by application. The industry's most experienced Customer Service and Engineering support coupled with exemplary on-time delivery, make Radiac a grinding wheel company that takes great pride in serving the customer. The people of Radiac build quality in every product and through a steady stream of new and innovative products, improved productivity and cost savings measures, Radiac customers stay well ahead of their competition.

This Catalog is dedicated to Radiac's full line offering of Superabrasive products including wheels, mandrels, and electroplated product available in both Diamond and CBN. Diamond dressing tools from single points to cluster tools are also available.

Contact Us

Radiac offers an unparalleled selection of products, service, and materials to help distributors and customers address their requirements. No other organization can offer the experience, spirit, resources and support of Radiac Abrasives, Inc. Let Radiac improve your performance.
Call 800-223-0457 today for a performance guaranteed test.

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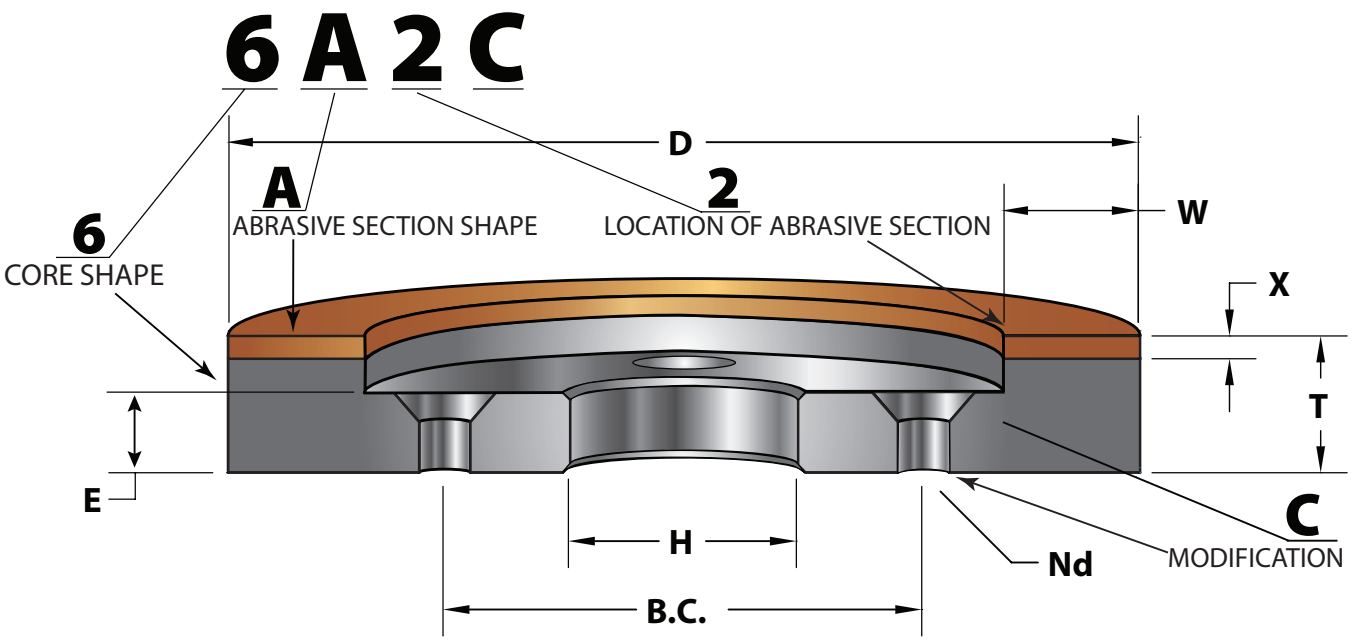
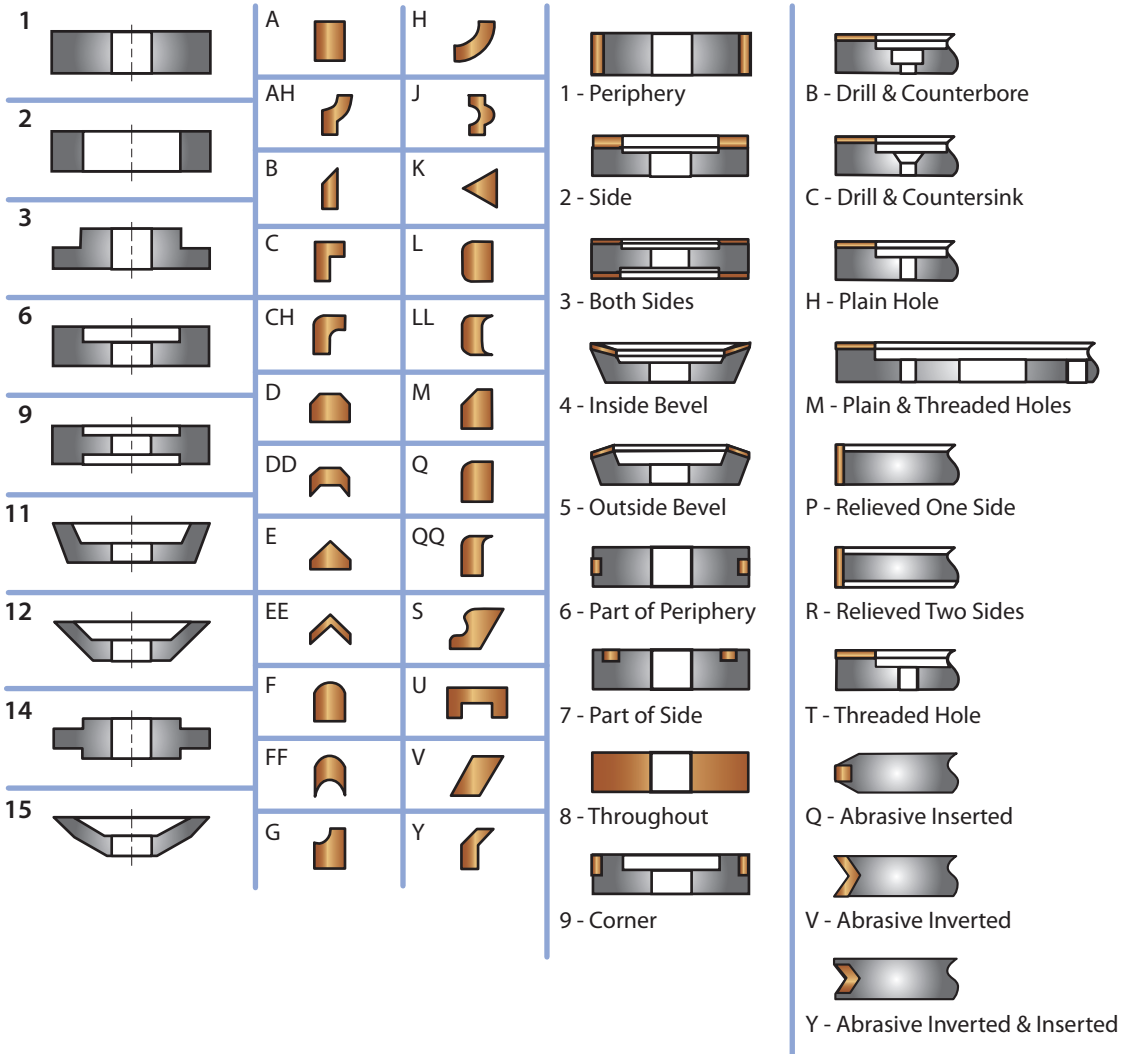
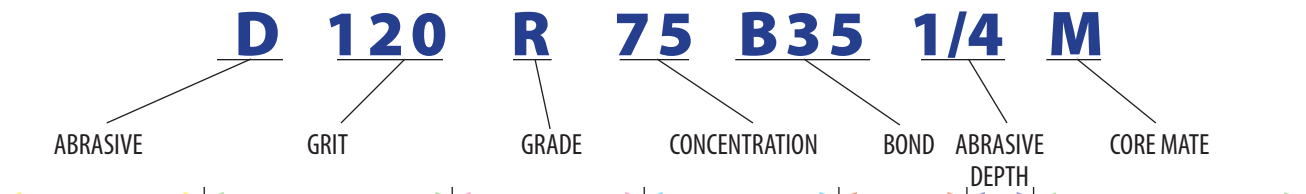
WHEEL SHAPES





WHEEL MARKINGS



ABRASIVE	GRIT		GRADE	CONCENTRATION		BOND	ABRASIVE DEPTH	CORE MATE
D=Diamond CBN=Cubic Boron Nitride	60 80 100 120	Coarse	L Softer N P R S T Harder	25 Lower 37 50 75 100 125 Higher	B = Resin M=Metal V=Vitrtifed	1/32 1/16 1/8 1/4 3/8 1/2	A Aluminum Resinol C Copper Resinoid D Abrasive Core G Phenollic (Bakelite M Alloy Aluminum S Steel W Graphite
Diamond: used to grind carbide, glass, ferrite, graphite, spray-on-wear coatings and other hard non-ferrous materials.	150 180 220 240	Medium						
	280 320 400 500	Fine						
CBN: a synthetic abrasive second only to Diamond in hardness. CBN is used on high speed steel, alloy steel of >50 HRC, and some grades of stainless and cast iron.	600 800 1000 1500	Ultra Fine						

ABRASIVES:
Diamond is used for grinding carbide, glass, ceramics, quartz, ferrite, graphite, sprayed-on wear coatings and other hard non-ferrous materials.
CBN is used on high-speed steel, tool steel, alloy steel hardened to 50+ Rc, and some grades of stainless.

GRIT:
Resin bonded Diamond and CBN wheels come in a range of grit sizes. Coarse grits are used for rapid stock removal, medium and fine grits are used to produce a desired surface finish or to help the wheel hold its shape, ultra fine grits are for polishing operations. It is best to choose the coarsest grit that the application will allow. This will help insure the best cutting action and the best overall life.

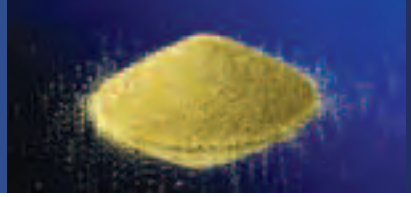
GRADE (Hardness):
Just like conventional abrasive wheels made of aluminum oxide (Al2O3) or silicon carbide (SiC), diamond and CBN wheels are assigned a letter to indicate the grade (hardness) of the grinding wheel, with letters nearest to the beginning of the alphabet being softer and those nearest the end being harder. Unlike conventional grinding wheels, where the cutting action of the wheel is controlled mostly by the grade (hardness) of the wheel, the cutting action of diamond and CBN wheels is mainly determined by the grit size and the concentration of the abrasive section. The terms "hard" and "soft" are a bit misleading when applied to resin bonded superabrasives. It is more accurate to speak in terms of cutting action versus durability than in terms of hard versus soft.

CONCENTRATION:
The concentration of a diamond or CBN wheel refers to the amount of abrasive in the matrix. Low concentration wheels have less diamond or CBN in the abrasive layer than higher concentration wheels. A low concentration wheel will cut more freely and remove material more rapidly. A high concentration wheel will hold its shape better, will have longer overall life and will tend to produce a better surface finish. The concentration should be chosen to suit the application, and a higher concentration wheel is not in all cases a better value.

BOND:
We offer a range of resin bonds to suit many applications. Resin bonded superabrasives are very versatile and can be customized to suit your grinding and finishing needs.

ABRASIVE DEPTH:
Refers to the size of the abrasive section. In most cases, a wheel with a larger abrasive depth will be a much better value.

CORE:
We offer a range of core materials to suit specific requirements. Not all cores are suited for all applications, and some cores have a limited availability.



GENERAL GUIDELINES

ABRASIVES

Diamond:
- Avoid dry grinding, use a cutting fluid whenever possible.
- Always true and dress the wheel before using it.
- Avoid excessive downfeeds - there is less "give" in a diamond wheel than in conventional abrasives.
- Avoid grinding steel where possible.
- Use rigid work support.
- Run wheels at the proper speed - never exceed the maximum RPM.
- Lower speeds (2700-3500 SFPM) are better for dry grinding.
- Higher speeds (5000-7500 SFPM) are better for wet

CBN:
- Avoid dry grinding, use a cutting fluid whenever possible. A rich emulsion or neat oil is best for CBN.
- Always true and dress the wheel before using it.
- Avoid excessive downfeeds - there is less "give" in a CBN wheel than in conventional abrasives.
- Use rigid work support.
- Run wheels at the proper speed - never exceed the maximum rpm.
- Lower speeds (about 5500 SFPM) are better for dry grinding.
- Higher speeds (at least 5500 SFPM) are better for wet grinding.

GRIT SIZE

GRIT	FINISH (RMS)	MAXIMUM DEPTH OF CUT PER PASS
80	32 - 46	0.001" - 0.002"
100	24 - 32	0.001" - 0.002"
120	18 - 24	0.001" - 0.002"
150	16 - 18	0.001" - 0.002"
180	14 - 16	0.0007" - 0.001"
220	12 - 14	0.0007" - 0.001"
240	10 - 12	0.0005" - 0.0007"
280	8 - 10	0.0004" - 0.0006"
320	8	0.0004" - 0.0006"
400	6 - 8	0.0003" - 0.0005"
500	6	0.0002" - 0.0004"
600	5 - 6	0.0002" - 0.0003"
800	3 - 5	0.0001"
1000	2 - 4	N/A
1500	2	N/A

CHOOSE THE BEST GRIT SIZE:

A CBN wheel will give a more rough finish than a diamond wheel of the same grit size.

A plunge grind will yield a rougher finish than a traverse grind will.

Dirty coolant will have a negative effect on surface finish.

Machine condition, material being ground and depth of cut all have an effect on surface finish.

Always use the coarsest grit size allowable!

CONCENTRATION

Use Low Concentrations (25, 37):
- With ultra-fine grit sizes
- For very wide areas of contact
- For very heat sensitive materials

Use Medium Concentrations (50, 75):
- With fine grit sizes
- For improved cutting action
- For wide areas of contact

Use High Concentrations (100, 125):
- With coarser grit sizes
- For improved form holding
- For creep-feed grinding

CORE MATERIALS

CODE	MATERIAL	STRENGTH	DAMPENING EFFECT	HEAT DISSIPATION	NOTES
A	Aluminum / Resinoid	Fair	Fair	Fair	Standard for 11V9 & 12V9
C	Copper / Resinoid	Fair	Fair	Good	
D	Abrasive Core	Good, but Brittle	Good	Good	Limited Availability
G	Phenolic (Bakelite)	Good	Good	Poor	
M	Alloy (Solid) Aluminum	Very Good	Poor	Very Good	
S	Steel	Very Good	Poor	Very Good	
W	Graphite / Resinoid	Poor	Fair	N/A	11V9 only

MOUNTING, TRUING AND DRESSING

MOUNTING

- Examine wheel flanges and spindle with care.
- Make sure all flange surfaces are clean and are free of damage.
- Ensure that the flanges are flat and are of equal diameter.
- Inspect the machine spindle for excessive runout. TIR should be no more than 0.0002"
- Mount the wheel between hand-tightened flanges.
- Using a dial indicator, lightly "tap" the wheel with a rubber or wooden block to minimize runout. Ideally, the wheel will "tap" 0.0010" or less runout.
- Tighten the flange securely and recheck the runout.
- Allow the newly mounted wheel to run at full speed for one minute before grinding.

NOTE:

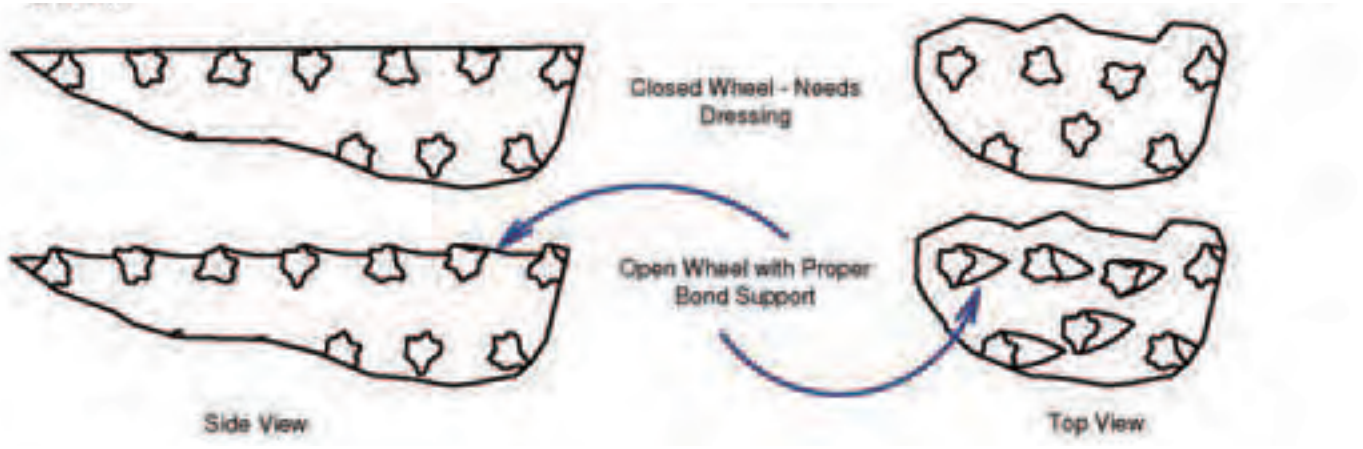
- If the grinding machine has a tapered spindle, mount each wheel on a separate adapter.
- When changing wheels, the entire unit is removed. This will keep the wheel in running truth.
- When needed again, the entire unit can be placed directly on the spindle. This way, re-truing is minimized.

TRUING

- Prior to truing the wheel, run a wax crayon or marking pencil over the wheel face. Any crayon left on the wheel face after truing will reveal untrue areas.
- Use a brake controlled truing truing device
- Use the brake controlled truing device dry
- Bring the diamond wheel and the truing wheel together until they almost touch. You may place a piece of paper between the diamond wheel and the truing wheel as a stop to ensure that they are close to, but not contacting one another.
- Start the diamond wheel at normal speed and start the truing wheel in the same direction.
- Bring the two wheels together until they touch.
- Make sure the truing wheel is spinning at the time of contact.
- Traverse the diamond wheel back and forth at 30-60 inches per minute.
- Downfeed the diamond wheel 0.0005"-0.001" at the end of each traverse.
- At the end of the truing cycle, the wheel will be true, The wheel will also be smooth and "closed up"; it will need to be dressed open with white aluminum oxide dressing sticks.

DRESSING

- To use the white dressing sticks, start the wheel to normal speeds.
- Dip the stick in coolant (or water) to moisten.
- Hand feed the stick into the wheel until the stick is easily ground by the diamond wheel. The amount of stick needed and the time to open the wheel will vary depending on the grit and grade of the diamond wheel. Hard or coarse wheels require more effort to dress open.
- Stop the wheel completely and inspect for proper openness. Repeat dressing operation as needed if the wheel becomes clogged or loaded.



PERIPHERAL SPEEDS

SFPM	2.500	3.000	3,500	4.000	4.500	5.000	5.500	6.000
m/s	12.7	15.2	17.8	20.3	22.9	25.4	27.9	30.5
				RPM				
Ø1	9,549	11,459	13,369	15,279	17,189	19,099	21,008	22,918
Ø2	4,755	5,730	6,685	7,639	8,594	9,594	10,504	11,459
Ø3	3,183	3,820	4,456	5,093	5,730	6,366	7,003	7,639
Ø4	2,387	2,865	3,342	3,820	4,297	4,775	5,252	5,730
Ø5	1,910	2,292	2,674	3,056	3,438	3,820	4,202	4,584
Ø6	1,592	1,910	2,228	2,546	2,865	3,183	3,501	3,820
Ø7	1,364	1,637	1,910	2,183	2,456	2,728	3,001	3,274
Ø8	1,194	1,432	1,671	1,910	2,149	2,387	2,626	2,865
Ø10	955	1,146	1,337	1,528	1,719	1,910	2,101	2,292
Ø12	796	955	1,114	1,273	1,432	1,592	1,751	1,910
Ø14	682	819	955	1,091	1,228	1,364	1,501	1,637
Ø16	597	716	836	955	1,074	1,194	1,313	1,432
Ø18	531	637	743	849	955	1,061	1,167	1,273
Ø20	477	573	668	764	859	955	1,050	1,146
Ø22	434	521	608	694	781	868	955	1,042
Ø24	398	477	557	637	716	796	875	955
Ø30	318	382	446	509	573	637	700	764

SFPM	6.500	7.000	7,500	8.000	8.500	9.000	9.500	
m/s	33.0	35.6	38.1	40.6	43.2	45.7	48.3	
				RPM				
Ø1	24,828	26,738	28,648	30,558	32,468	34,377	36,287	
Ø2	12,414	13,369	14,324	15,279	16,234	17,189	18,144	
Ø3	8,276	8,913	9,549	10,186	10,823	11,459	12,096	
Ø4	6,207	6,685	7,162	7,639	8,117	8,594	9,072	
Ø5	4,966	5,348	5,730	6,112	6,494	6,875	7,257	
Ø6	4,138	4,456	4,775	5,093	5,411	5,730	6,048	
Ø7	3,547	3,820	4,093	4,365	4,638	4,911	5,184	
Ø8	3,104	3,342	3,581	3,820	4,058	4,297	4,536	
Ø10	2,483	2,674	2,865	3,056	3,247	3,438	3,629	
Ø12	2,069	2,228	2,387	2,546	2,706	2,865	3,024	
Ø14	1,773	1,910	2,046	2,183	2,319	2,456	2,592	
Ø16	1,552	1,671	1,790	1,910	2,029	2,149	2,268	
Ø18	1,379	1,485	1,592	1,698	1,804	1,910	2,016	
Ø20	1,241	1,337	1,432	1,528	1,623	1,719	1,814	
Ø22	1,129	1,215	1,302	1,389	1,476	1,563	1,649	
Ø24	1,035	1,114	1,194	1,273	1,353	1,432	1,512	
Ø30	828	891	955	1,019	1,082	1,146	1,210	

WHEEL DIAMETER

SFPM (SURFACE FEET PER MINUTE) $\frac{\text{O.D. X 3.1416 X RPM}}{12}$ **m/s** (METERS PER SECOND) $\frac{\textbf{SFPM}}{196.86}$

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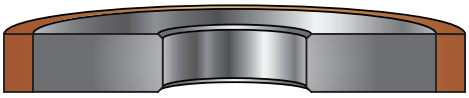
1A1 	9-11	1G1 	17
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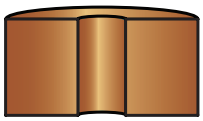
1A8 	36	1M1 	18
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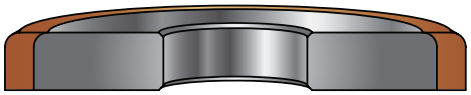
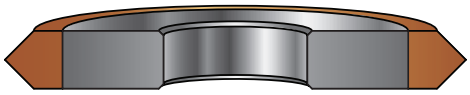
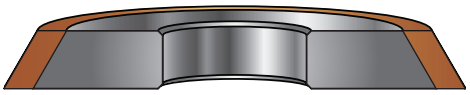
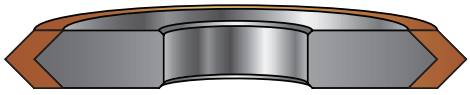
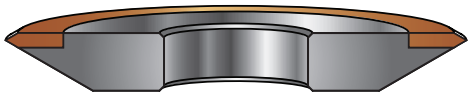
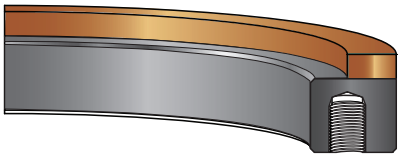
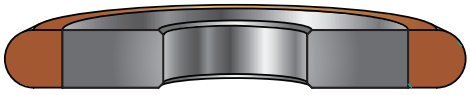
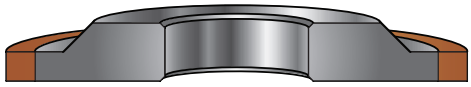
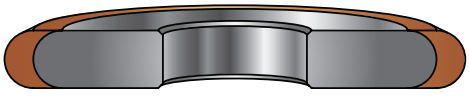
1DD1 	17	1QQ1 	18
1E1 	13	1V1 	16
1EE1 	13	1Y1 	18
1E9 	14	2A2T 	19
1F1 	15	3A1 	20
1FF1 	15	4A2 	21

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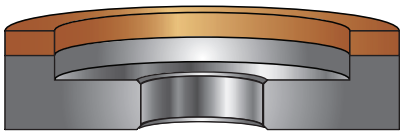
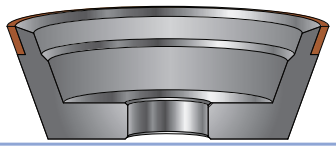
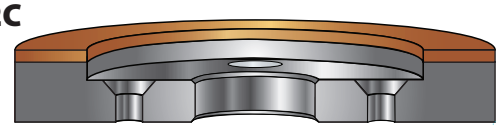
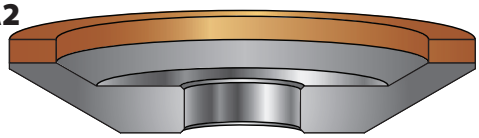
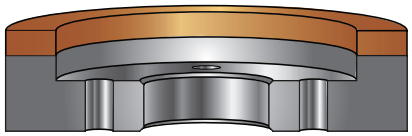
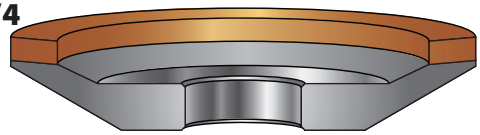
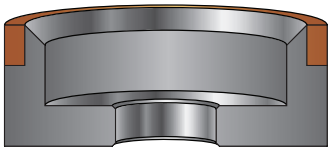
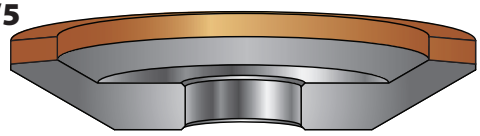
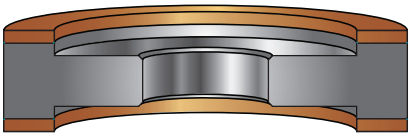
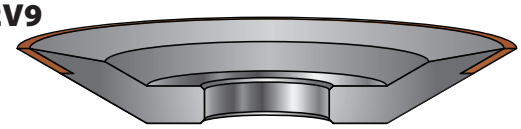
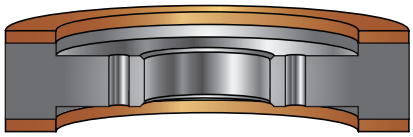
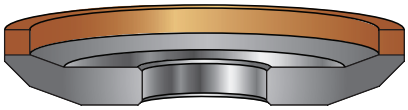
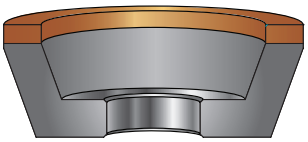
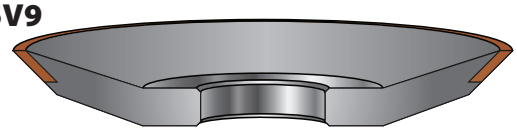
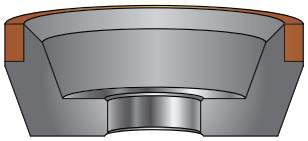
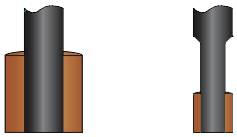
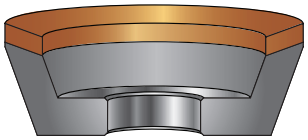
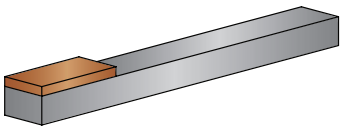
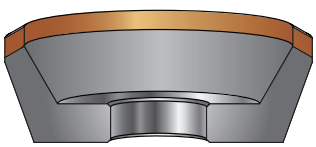
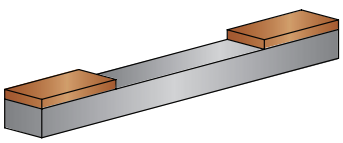
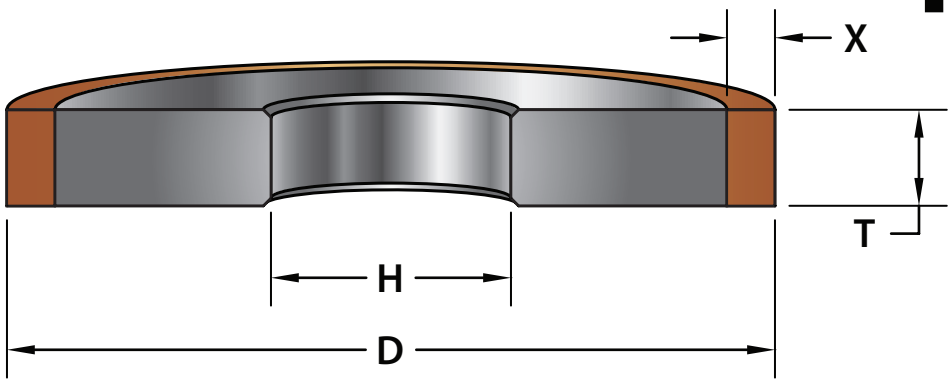
6A2 	22	11V9 	31
6A2C 	23	12A2 	32
6A2H 	24	12V4 	33
6A9 	25	12V5 	33
9A3 	26	12V9 	34
9A3H 	26	15A2 	35
11A2 	27-28	15V9 	35
11A9 	29	W8 	36
11V4 	29	HH1 	37
11V5 	30	HH2 	37

1A1



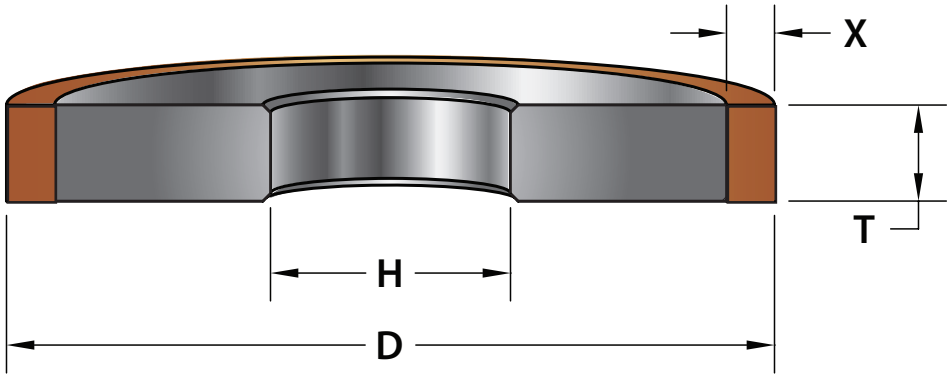
D	T	H	X
3/4	1/4	-	1/8
3/4	1/2	-	1/8
3/4	3/4	-	1/8
1	1/8	-	1/8
1	1/4	-	1/8
1	1/2	-	1/8
1-1/2	1/4	-	1/8
1-1/2	3/8	-	1/8
1-1/2	1/2	-	1/8
2	1/8	-	1/8, 1/4
2	1/4	-	1/8, 1/4
2	3/8	-	1/8, 1/4
2	1/2	-	1/8, 1/4
3	1/8	-	1/8, 1/4
3	1/4	-	1/8, 1/4
3	3/8	-	1/8, 1/4
3	1/2	-	1/8, 1/4
4	1/8	-	1/8, 1/4, 3/8
4	3/16	-	1/8, 1/4, 3/8
4	1/4	-	1/8, 1/4, 3/8
4	3/8	-	1/8, 1/4, 3/8
4	1/2	-	1/8, 1/4, 3/8
4	3/4	-	1/8, 1/4, 3/8
5	1/8	-	1/8, 1/4, 3/8
5	3/16	-	1/8, 1/4, 3/8
5	1/4	-	1/8, 1/4, 3/8
5	3/8	-	1/8, 1/4, 3/8
5	1/2	-	1/8, 1/4, 3/8
5	3/4	-	1/8, 1/4, 3/8

D	T	H	X
6	1/8	-	1/8, 1/4, 3/8, 1/2
6	3/16	-	1/8, 1/4, 3/8, 1/2
6	1/4	-	1/8, 1/4, 3/8, 1/2
6	3/8	-	1/8, 1/4, 3/8, 1/2
6	1/2	-	1/8, 1/4, 3/8, 1/2
6	3/4	-	1/8, 1/4, 3/8, 1/2
6	1	-	1/8, 1/4, 3/8, 1/2
7	1/8	-	1/8, 1/4, 3/8, 1/2
7	3/16	-	1/8, 1/4, 3/8, 1/2
7	1/4	-	1/8, 1/4, 3/8, 1/2
7	3/8	-	1/8, 1/4, 3/8, 1/2
7	1/2	-	1/8, 1/4, 3/8, 1/2
7	3/4	-	1/8, 1/4, 3/8, 1/2
7	1	-	1/8, 1/4, 3/8, 1/2
8	1/8	-	1/8, 1/4, 3/8, 1/2
8	3/16	-	1/8, 1/4, 3/8, 1/2
8	1/4	-	1/8, 1/4, 3/8, 1/2
8	3/8	-	1/8, 1/4, 3/8, 1/2
8	1/2	-	1/8, 1/4, 3/8, 1/2
8	3/4	-	1/8, 1/4, 3/8, 1/2
8	1	-	1/8, 1/4, 3/8, 1/2
10	1/4	-	1/8, 1/4, 3/8, 1/2
10	3/8	-	1/8, 1/4, 3/8, 1/2
10	1/2	-	1/8, 1/4, 3/8, 1/2
10	3/4	-	1/8, 1/4, 3/8, 1/2
10	1	-	1/8, 1/4, 3/8, 1/2
12	1/4	-	1/8, 1/4, 1/2, 3/4
12	3/8	-	1/8, 1/4, 1/2, 3/4
12	1/2	-	1/8, 1/4, 1/2, 3/4
12	3/4	-	1/8, 1/4, 1/2, 3/4
12	1	-	1/8, 1/4, 1/2, 3/4

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, and "X"

Example: D1A1 6 x 3/8 x 1-1/4 D120 R100 B1/8
B1A1 4 x 1/8 x 3/4 CBN220 N75 B1/4

1A1



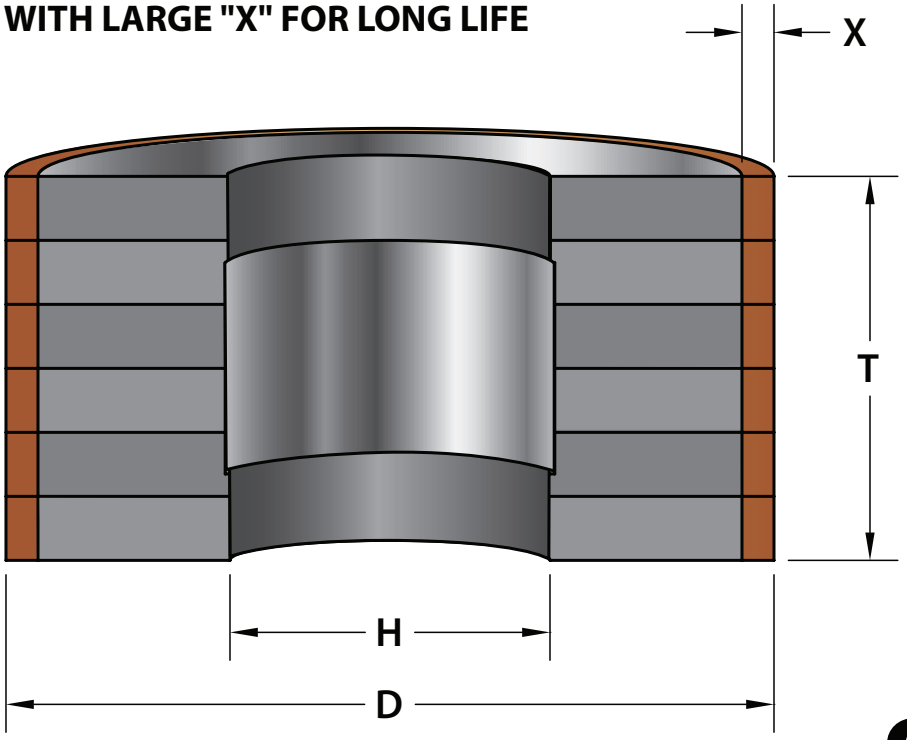
D	T	H	X
14	3/8	-	1/8, 1/4, 1/2
14	1/2	-	1/8, 1/4, 1/2
14	3/4	-	1/8, 1/4, 1/2
14	1	-	1/8, 1/4, 1/2
16	3/8	-	1/8, 1/4, 1/2, 3/4
16	1/2	-	1/8, 1/4, 1/2, 3/4
16	3/4	-	1/8, 1/4, 1/2, 3/4
16	1	-	1/8, 1/4, 1/2, 3/4
18	1/2	-	1/8, 1/4, 1
18	3/4	-	1/8, 1/4, 1
18	1	-	1/8, 1/4, 1
20	1/2	-	1/8, 1/4, 1/2, 1
20	3/4	-	1/8, 1/4, 1/2, 1
20	1	-	1/8, 1/4, 1/2, 1
24	3/4	-	1/8, 1/4, 1/2, 1, 1-1/2
24	1	-	1/8, 1/4, 1/2, 1, 1-1/2
30	3/4	-	1/4, 1/2
30	1	-	1/4, 1/2
36	3/4	-	3/8, 1/2
36	1	-	3/8, 1/2

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, and "X"

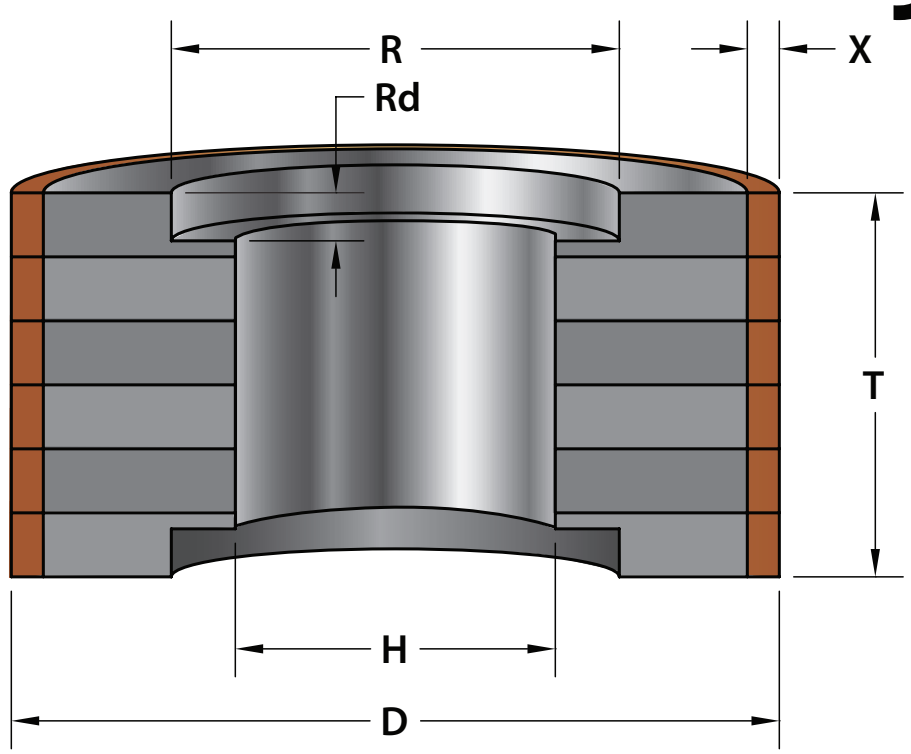
Example: D1A1 6 x 3/8 x 1-1/4 D120 R100 B1/8
B1A1 4 x 1/8 x 3/4 CBN220 N75 B1/4

MULTIPLE SECTION WHEELS
FOR CENTERLESS GRINDING
AVAILABLE WITH LARGE "X" FOR LONG LIFE

1A1



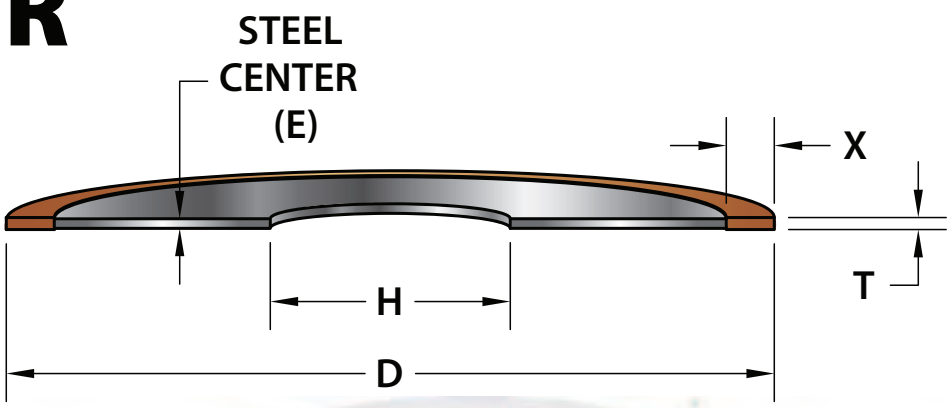
9A1



Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and Recess Dimensions

Example: D1A1 20 x 6 x 12 D 120 R 75 B 1/2
D9A1 12 x 6 x 5 D 180 R 75 B 1/2, 3/4 x 7-1/2 Recess (2) Sides

1A1R



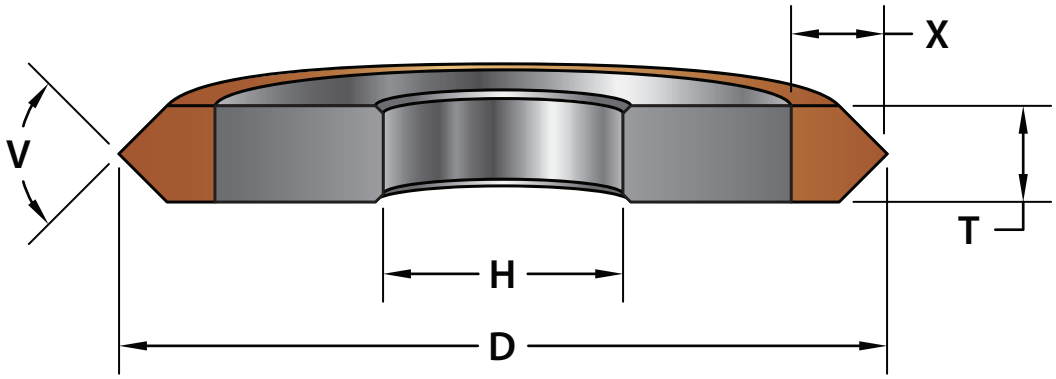
D	T	H	(E)	X
3	1/32	-	.025	1/4
3	.045	-	.025	1/4
4	1/32	-	.025	1/4
4	.035	-	.025	1/4
4	.045	-	.035	1/4
4	1/16	-	.050	1/4
5	1/32	-	.025	1/4
5	.035	-	.025	1/4
5	.045	-	.035	1/4
5	1/16	-	.050	1/4
6	1/32	-	.025	1/8, 1/4, 5/16
6	.035	-	.025	1/8, 1/4, 5/16
6	.045	-	.035	1/8, 1/4, 5/16
6	1/16	-	.050	1/8, 1/4, 5/16
7	.035	-	.030	1/4, 5/16
7	.045	-	.030	1/4, 5/16
7	1/16	-	.050	1/4, 5/16
8	.040	-	.030	1/4
8	.045	-	.030	1/4
8	.050	-	.035	1/4
8	1/16	-	.050	1/4

D	T	H	(E)	X
10	.045	-	.031	1/4, 3/8
10	.050	-	.035	1/4, 3/8
10	1/16	-	.050	1/4, 3/8
10	.070	-	.050	1/4, 3/8
12	.045	-	.031	1/4, 3/8
12	.050	-	.035	1/4, 3/8
12	1/16	-	.050	1/4, 3/8
12	.070	-	.050	1/4, 3/8
14	1/16	-	.050	3/8
14	.070	-	.060	3/8

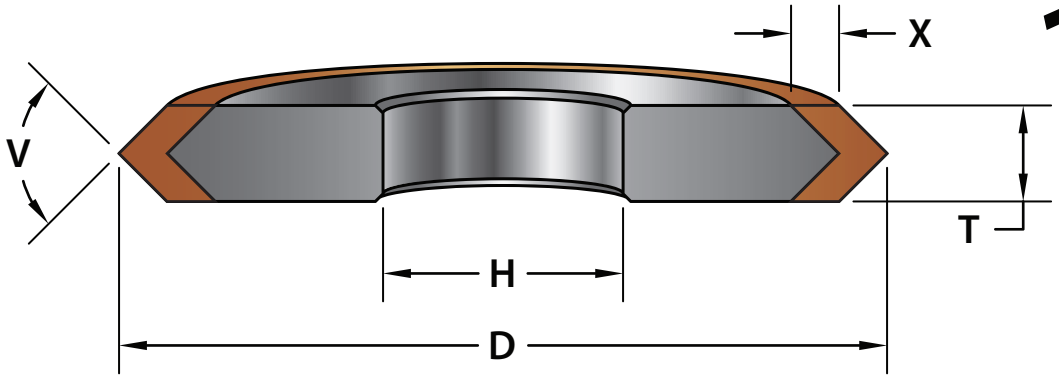
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, and "X"

Example: B1A1R 6 x .045 x 1-1/4 CBN100 R50 B5/16
D1A1R 10 x 1/16 x 3 D120 R100 B1/4

1E1



1EE1



1E1

D	T	H	V	X
3	1/8	-	45°, 60°, 90°	1/4
3	1/4	-	60°, 90°	1/4
4	1/8	-	45°, 60°, 90°	1/4, 3/8
4	1/4	-	60°, 90°	1/4, 3/8
4	3/8	-	90°, 120°	3/8
4	1/2	-	90°, 120°	3/8
5	1/8	-	45°, 60°, 90°	1/4, 3/8
5	1/4	-	60°, 90°	1/4, 3/8
5	3/8	-	90°, 120°	3/8
5	1/2	-	90°, 120°	3/8
6	1/8	-	45°, 60°, 90°	1/4, 3/8
6	1/4	-	60°, 90°	1/4, 3/8
6	3/8	-	90°, 120°	3/8
6	1/2	-	90°, 120°	3/8
7	1/8	-	45°, 60°, 90°	1/4, 3/8
7	1/4	-	60°, 90°	1/4, 3/8
7	3/8	-	90°, 120°	3/8
7	1/2	-	90°, 120°	3/8

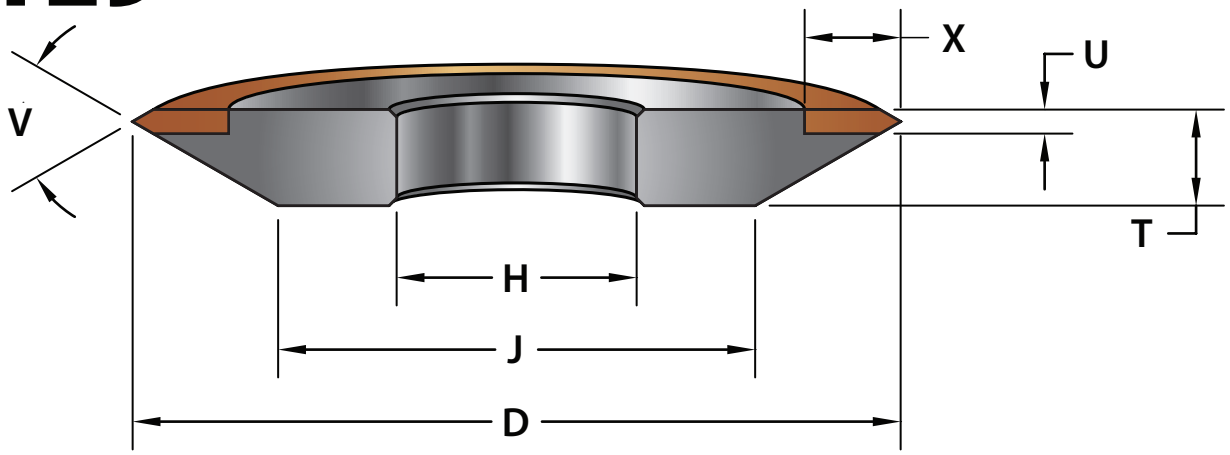
1EE1

D	T	H	V	X
3	1/8	-	60°, 90°	1/8
3	1/4	-	60°, 90°	1/8
4	1/8	-	60°, 90°	1/8, 1/4
4	1/4	-	60°, 90°	1/8, 1/4
4	3/8	-	90°, 120°	1/8, 1/4
4	1/2	-	90°	1/8, 1/4
5	1/8	-	60°, 90°	1/8, 1/4
5	1/4	-	60°, 90°	1/8, 1/4
5	3/8	-	90°, 120°	1/8, 1/4
5	1/2	-	90°	1/8, 1/4
6	1/8	-	45°, 60°, 90°	1/8, 1/4
6	1/4	-	60°, 90°	1/8, 1/4
6	3/8	-	90°, 120°	1/8, 1/4
6	1/2	-	90°	1/8, 1/4
7	1/8	-	60°, 90°	1/8, 1/4
7	1/4	-	60°, 90°	1/8, 1/4
7	3/8	-	90°, 120°	1/8, 1/4
7	1/2	-	90°	1/8, 1/4

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "V"

Example: D1EE1 5 x 1/8 x 1-1/4 D240 N100 B1/4 60°
B1E1 7 x 3/8 x 1-1/4 CBN220 R75 B1/4 90°

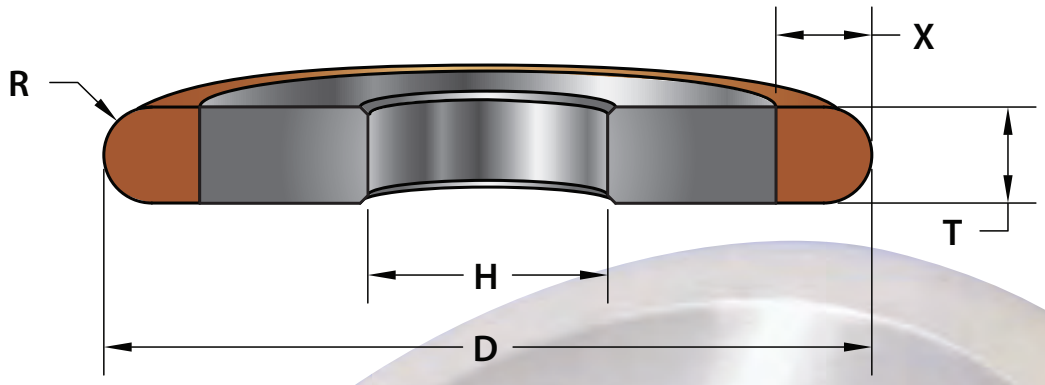
1E9

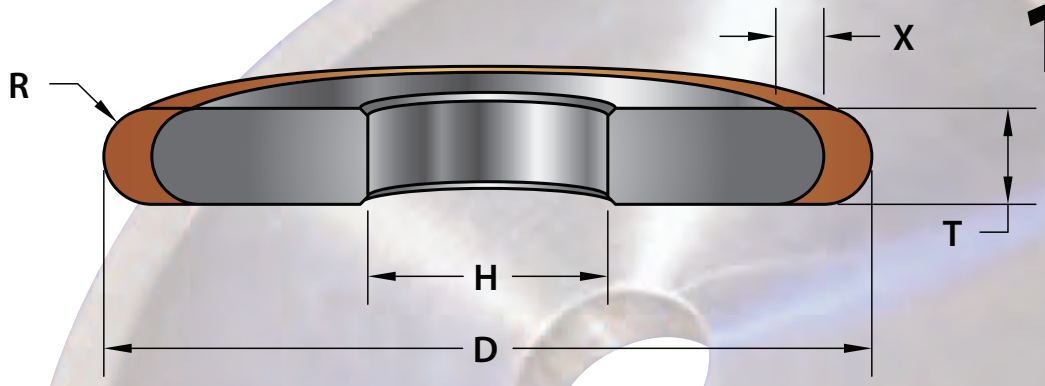


D	T	H	J	U	X	V
3	1/4	-	2-9/16	1/16	1/4	90°
3	1/4	-	2-1/4	1/16	1/4	60°
4	1/4	-	3-9/16	1/16	1/4, 3/8	90°
4	1/4	-	3-1/4	1/16	1/4, 3/8	60°
5	3/8	-	4-5/16	1/16	1/4, 3/8	90°
5	3/8	-	3-13/16	1/16	1/4, 3/8	60°
6	3/8	-	5-5/16	1/16	1/4, 3/8, 1/2	90°
6	3/8	-	4-13/16	1/16	1/4, 3/8, 1/2	60°

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "U" and "V"

Example: D1E9 6 x 3/8 x 1-1/4 D240 N125 B1/16 U=1/16 60°
B1E9 4 x 1/4 x 20mm CBN180 R100 B1/16 U=1/4 90°





1F1

D	T	H	R	X
3	1/8	-	1/16	1/8, 1/4
3	1/4	-	1/8	1/4
4	1/8	-	1/16	1/8, 1/4
4	1/4	-	1/8	1/4, 3/8
4	3/8	-	3/16	1/4, 3/8
4	1/2	-	1/4	3/8
5	1/8	-	1/16	1/8, 1/4
5	1/4	-	1/8	1/4, 3/8
5	3/8	-	3/16	1/4, 3/8
5	1/2	-	1/4	3/8
6	1/8	-	1/16	1/8, 1/4
6	1/4	-	1/8	1/4, 3/8, 1/2
6	3/8	-	3/16	1/4, 3/8, 1/2
6	1/2	-	1/4	3/8, 1/2
7	1/8	-	1/16	1/8, 1/4
7	1/4	-	1/8	1/4, 3/8, 1/2
7	3/8	-	3/16	1/4, 3/8, 1/2
7	1/2	-	1/4	3/8, 1/2

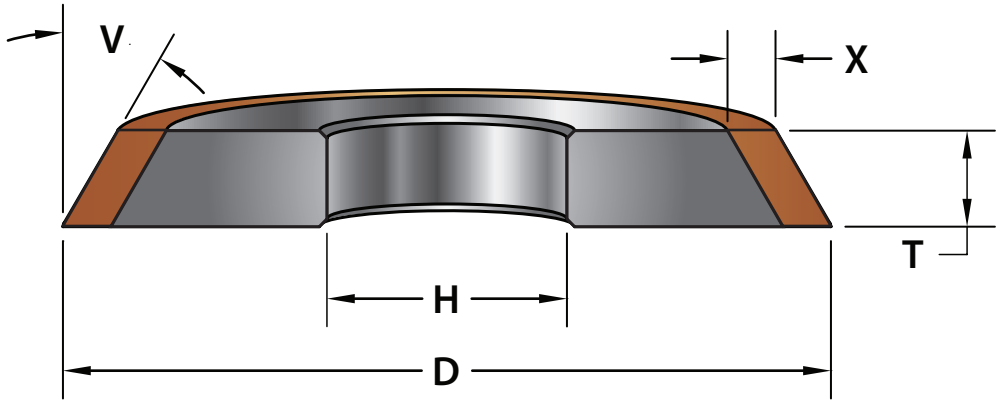
1FF1

D	T	H	R	X
3	1/8	-	1/16	1/8
3	1/4	-	1/8	1/8, 1/4
4	1/8	-	1/16	1/8
4	1/4	-	1/8	1/8, 1/4
4	3/8	-	3/16	3/16
4	1/2	-	1/4	1/8, 1/4
5	1/8	-	1/16	1/8
5	1/4	-	1/8	1/8, 1/4
5	3/8	-	3/16	3/16
5	1/2	-	1/4	1/8, 1/4
6	1/8	-	1/16	1/8, 1/4
6	1/4	-	1/8	1/8, 1/4, 3/8
6	3/8	-	3/16	1/8, 1/4, 3/8
6	1/2	-	1/4	1/8, 1/4
7	1/8	-	1/16	1/8
7	1/4	-	1/8	1/8, 1/4
7	3/8	-	3/16	3/16
7	1/2	-	1/4	1/8, 1/4

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond and "X"

Example: D1FF1 6 x 1/4 x 1-1/4 D180 R100 B1/4
B1F1 7 x 1/8 x 1-1/4 CBN120 R75 B1/4

1V1



D	T	H	V	X
4	1/8	-	10°, 15°, 20°	1/8, 1/4
4	1/8	-	25°, 30°, 45°	1/8, 1/4
4	1/4	-	10°, 15°, 20°	1/8, 1/4
4	1/4	-	25°, 30°, 45°	1/8, 1/4
4	3/8	-	10°, 15°, 20°	1/8, 1/4
4	3/8	-	25°, 30°, 45°	1/8, 1/4
4	3/8	-	60°	1/4
4	1/2	-	10°, 15°, 20°	1/8, 1/4
4	1/2	-	25°, 30°, 45°	1/8, 1/4
5	1/8	-	10°, 15°, 20°	1/8, 1/4
5	1/8	-	25°, 30°, 45°	1/8, 1/4
5	1/4	-	10°, 15°, 20°	1/8, 1/4
5	1/4	-	25°, 30°, 45°	1/8, 1/4
5	3/8	-	10°, 15°, 20°	1/8, 1/4
5	3/8	-	25°, 30°, 45°	1/8, 1/4
5	1/2	-	10°, 15°, 20°	1/8, 1/4
5	1/2	-	25°, 30°, 45°	1/8, 1/4
5	3/4	-	60°	1/4
6	3/32	-	15°, 20°	1/4, 3/8
6	1/8	-	10°, 15°, 20°	1/8, 1/4
6	1/8	-	25°, 30°, 45°	1/8, 1/4
6	1/4	-	10°, 15°, 20°	1/8, 1/4
6	1/4	-	25°, 30°, 45°	1/8, 1/4
6	3/8	-	10°, 15°, 20°	1/8, 1/4
6	3/8	-	25°, 30°, 45°	1/8, 1/4
6	1/2	-	10°, 15°, 20°	1/8, 1/4
6	1/2	-	25°, 30°, 45°	1/8, 1/4

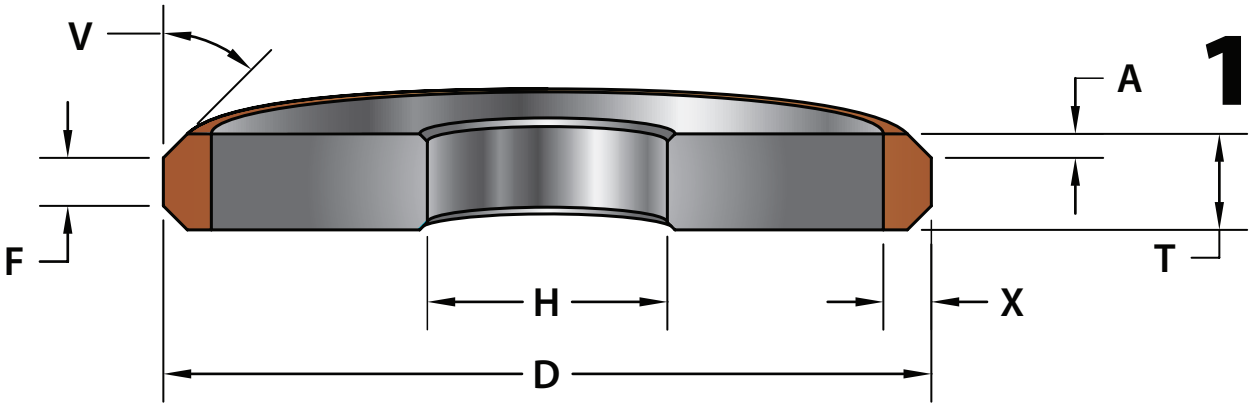
D	T	H	V	X
7	1/8	-	10°, 15°, 20°	1/8, 1/4
7	1/8	-	25°, 30°, 45°	1/8, 1/4
7	1/4	-	10°, 15°, 20°	1/8, 1/4
7	1/4	-	25°, 30°, 45°	1/8, 1/4
7	3/8	-	10°, 15°, 20°	1/8, 1/4
7	3/8	-	25°, 30°, 45°	1/8, 1/4
7	1/2	-	10°, 15°, 20°	1/8, 1/4
7	1/2	-	25°, 30°, 45°	1/8, 1/4
8	1/4	-	10°, 15°, 20°	1/8, 1/4
8	1/4	-	25°, 30°, 45°	1/8, 1/4
8	3/8	-	10°, 15°, 20°	1/8, 1/4
8	3/8	-	25°, 30°, 45°	1/8, 1/4
8	1/2	-	10°, 15°, 20°	1/8, 1/4
8	1/2	-	25°, 30°, 45°	1/8, 1/4

OTHER SIZES ARE AVAILABLE ON REQUEST

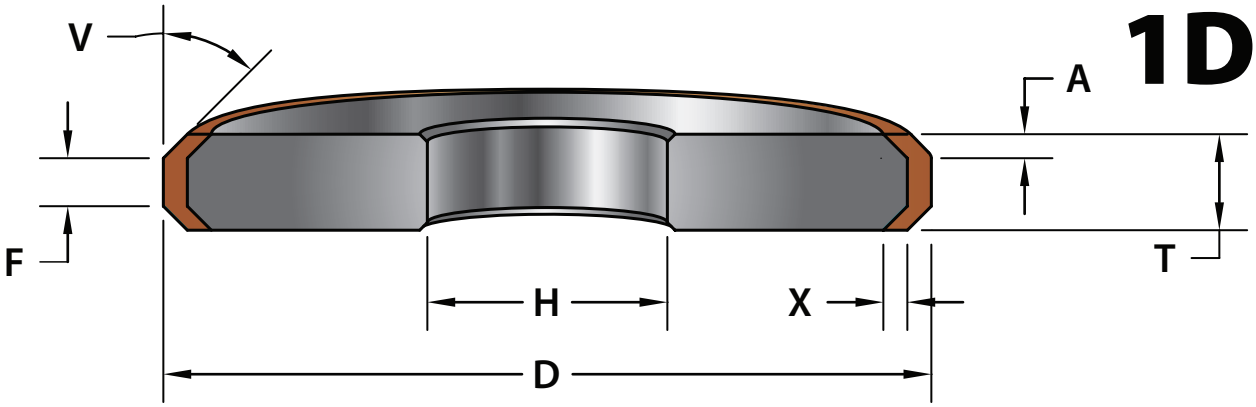
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "V"

Example: D1V1 6 x 3/32 x 1-1/4 D320 R125 B3/8 15°
B1V1 4 x 3/8 x 38mm CBN180 R100 B1/4 45°

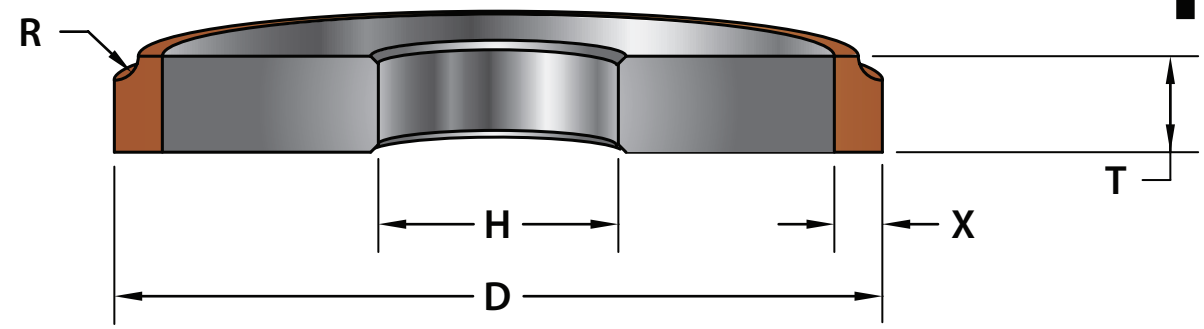
1D1



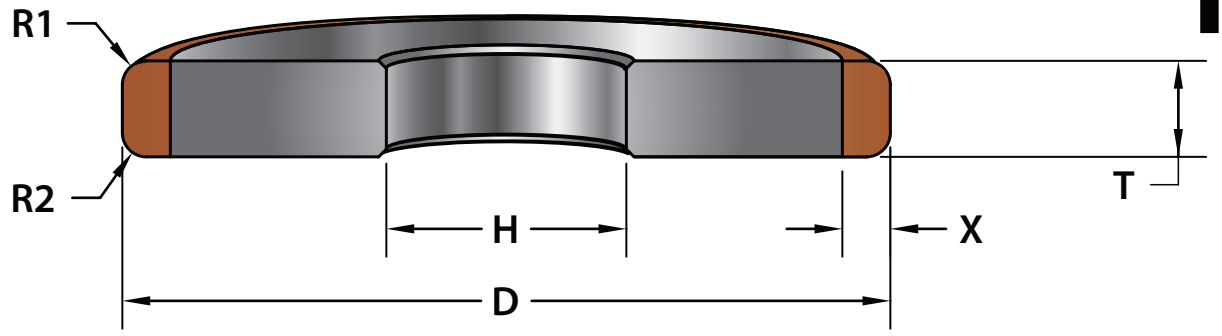
1DD1



1G1

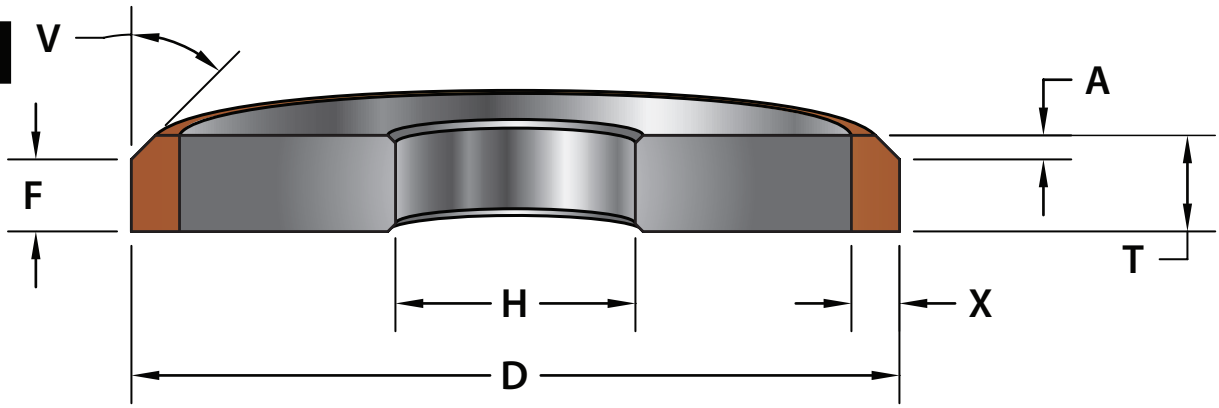


1L1

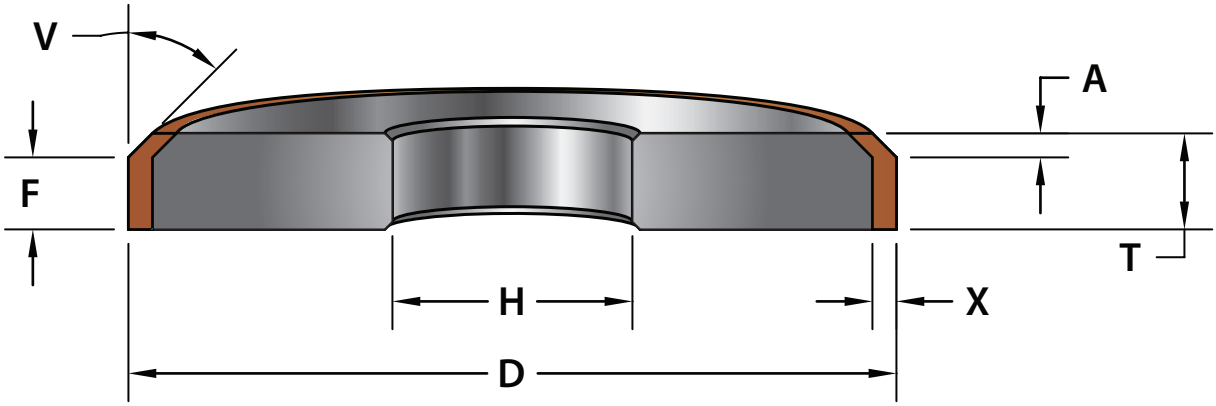


OTHER WHEEL SHAPES ABRASIVE IN PERIPHERY AVAILABLE ON REQUEST

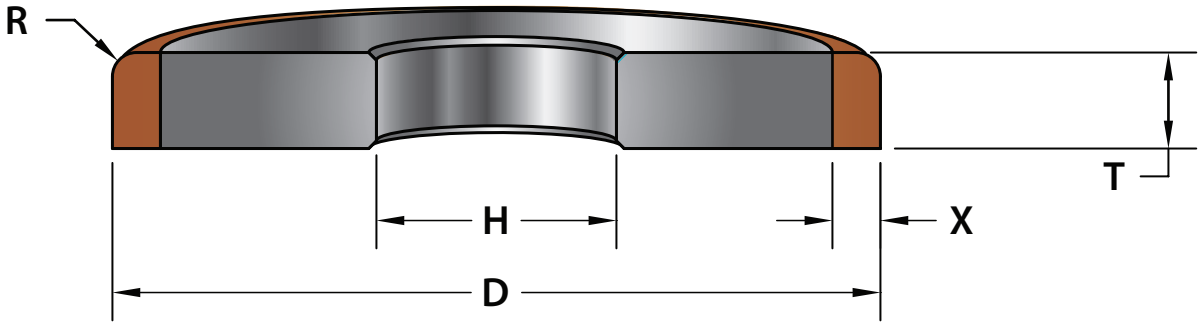
1M1



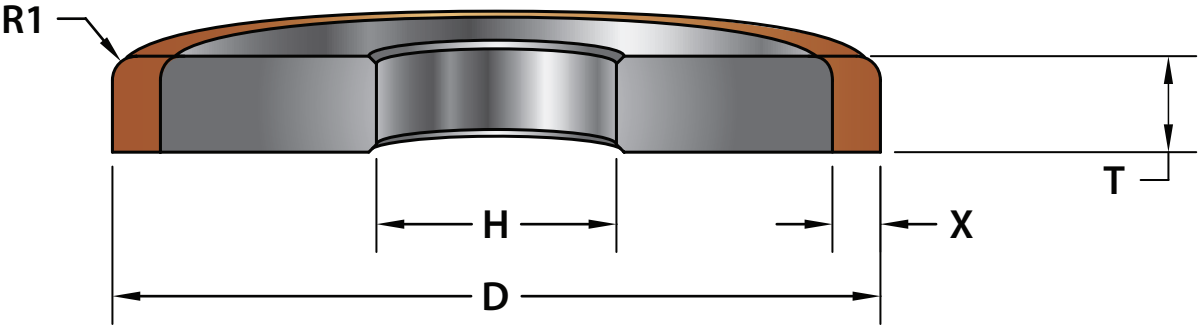
1Y1



1Q1

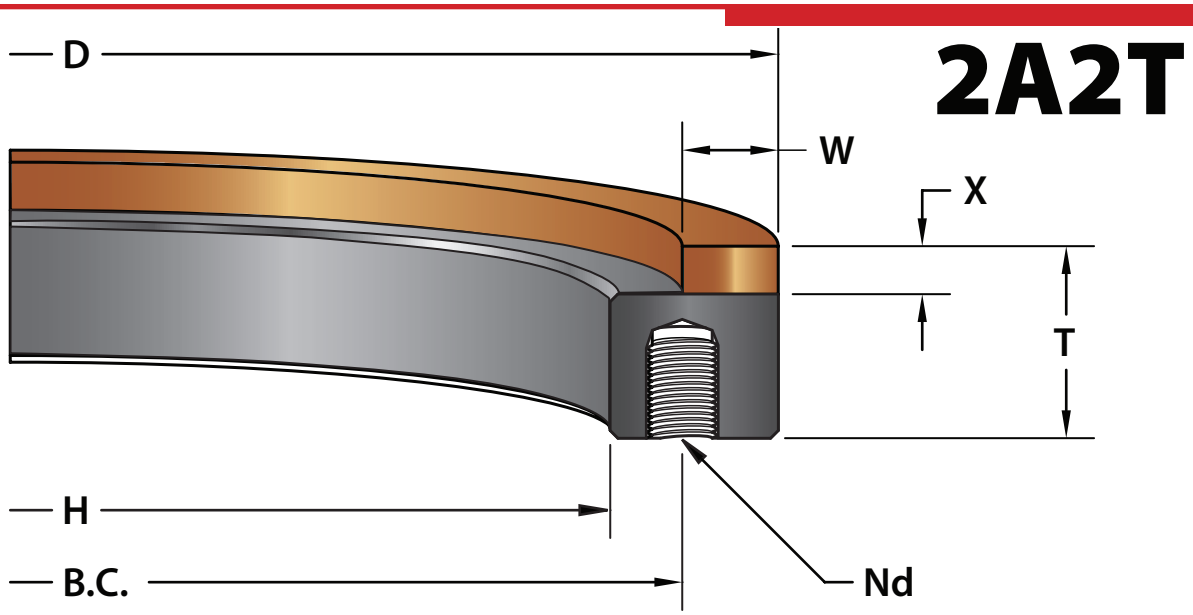


1QQ1



OTHER WHEEL SHAPES ABRASIVE IN PERIPHERY AVAILABLE ON REQUEST

2A2T

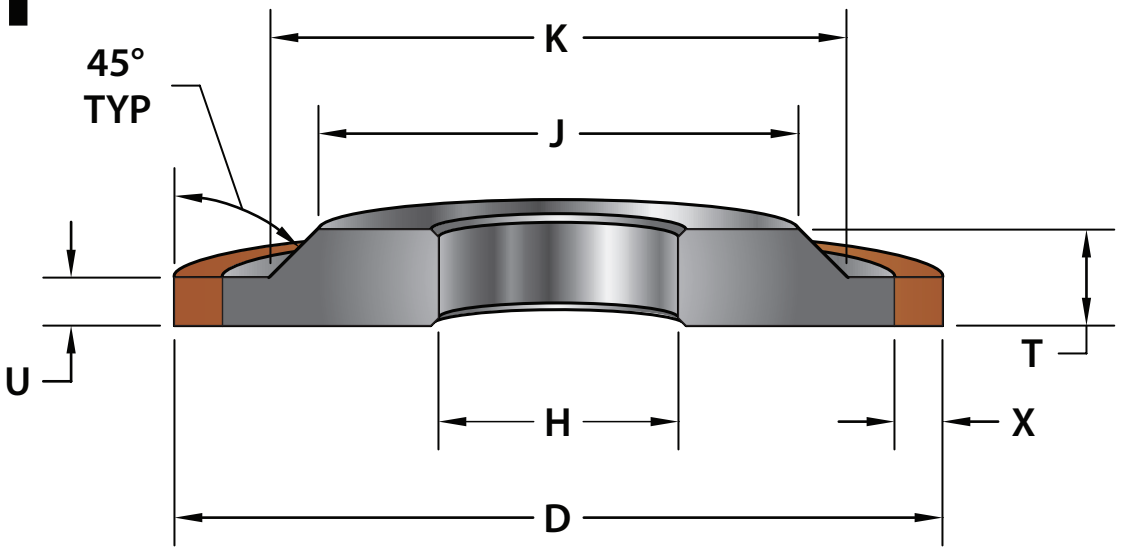


D	T	H	W	X	B.C.	Nd
6	7/8	4.532	1/4, 3/8, 1/2	1/4	5-1/4	(6) HOLES 1/4-20
6	7/8	4.532	5/8, 3/4, 1	1/4	5-1/4	(6) HOLES 1/4-20
8	1	6-1/2	1/4, 3/8, 1/2	1/4	7-1/4	(6) HOLES 3/8-16
8	1	6-1/2	3/4, 1	1/4	7-1/4	(6) HOLES 3/8-16
10	1	8	1/4, 3/8, 1/2	1/4	9	(6) HOLES 3/8-16
10	1	8	3/4, 1	1/4	9	(6) HOLES 3/8-16
11	1-1/4	9	1/4, 3/8, 1/2	1/4	10	(6) HOLES 3/8-16
11	1-1/4	9	5/8, 3/4, 1	1/4	10	(6) HOLES 3/8-16
11	1-3/8	9	3/8, 1/2	3/8	10	(6) HOLES 3/8-16
11	1-3/8	9	5/8, 3/4, 1	3/8	10	(6) HOLES 3/8-16
12	1	8	1/4, 1/2, 1	1/4	10	(6) HOLES 3/8-16
14	1	-	1/4, 1/2, 1	1/4	-	-
14	1	-	1-1/2, 3	1/4	-	-
16	1	-	3/4, 1	1/4	-	-
18	1	16	1/4, 3/4	1/4	17	(12) HOLES 3/8-16
18	1 (1-1/8)	16	1, 2	1/4, 3/8	17	(12) HOLES 3/8-16
20	1-1/2	-	1/2, 1, 2, 3	1/4, 3/8	-	-
22	1-1/2	-	1	1/4, 3/8, 1/2	-	-

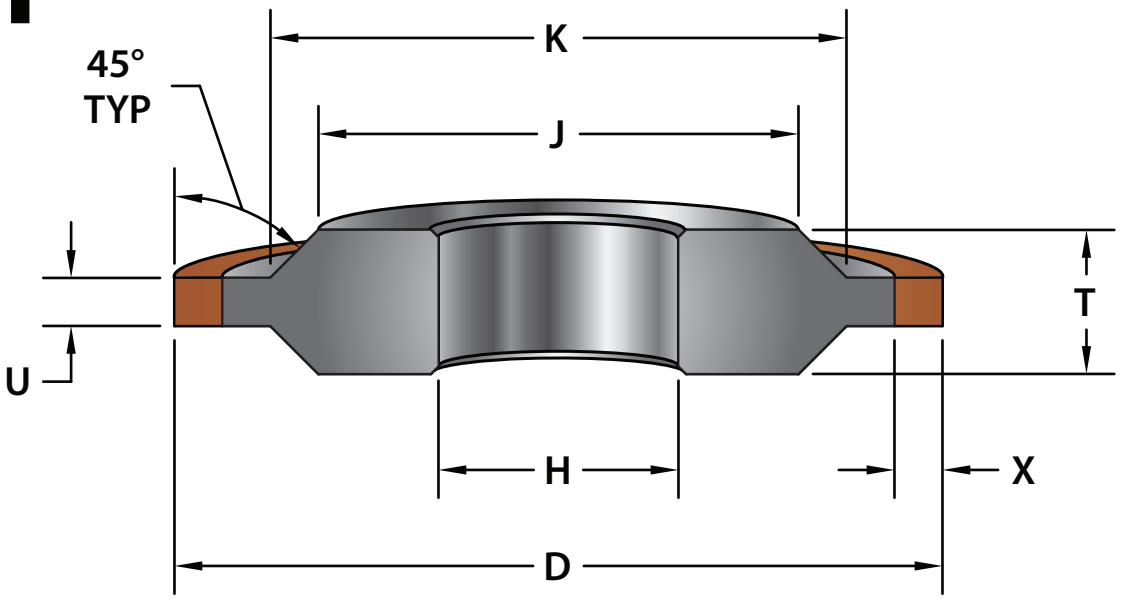
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "W" and B.C. Dimensions

Example: D2A2T 6 x 7/8 x 4.532 D240 N75 B1/4 W=1/2 (6) HOLES 1/4-20 TAP ON A 5-1/4 B.C.
B2A2T 8 x 1 x 6-1/2 CBN120 R50 B1/4 W=1/2 (6) HOLES 3/8-16 TAP ON A 7-1/4 B.C.

3A1

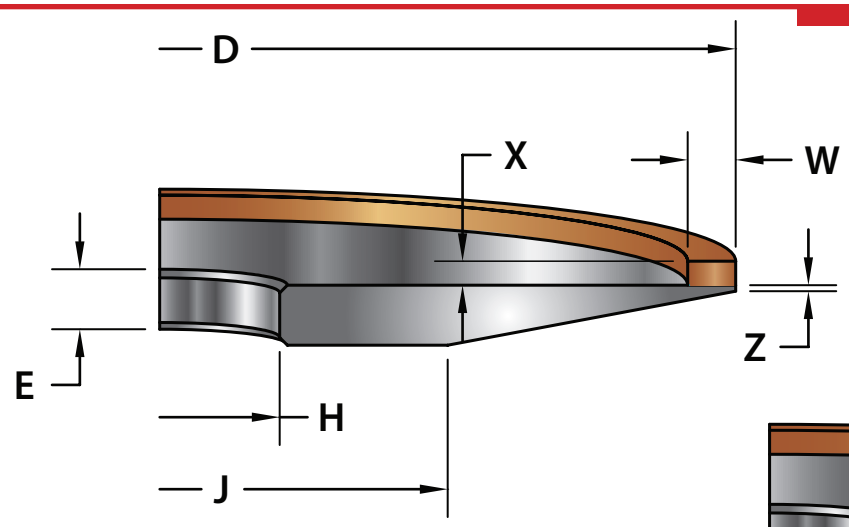


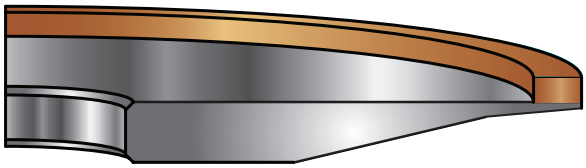
14A1



HUB WHEELS AVAILABLE ON REQUEST SPECIFY ALL DIMENSIONS

4A2





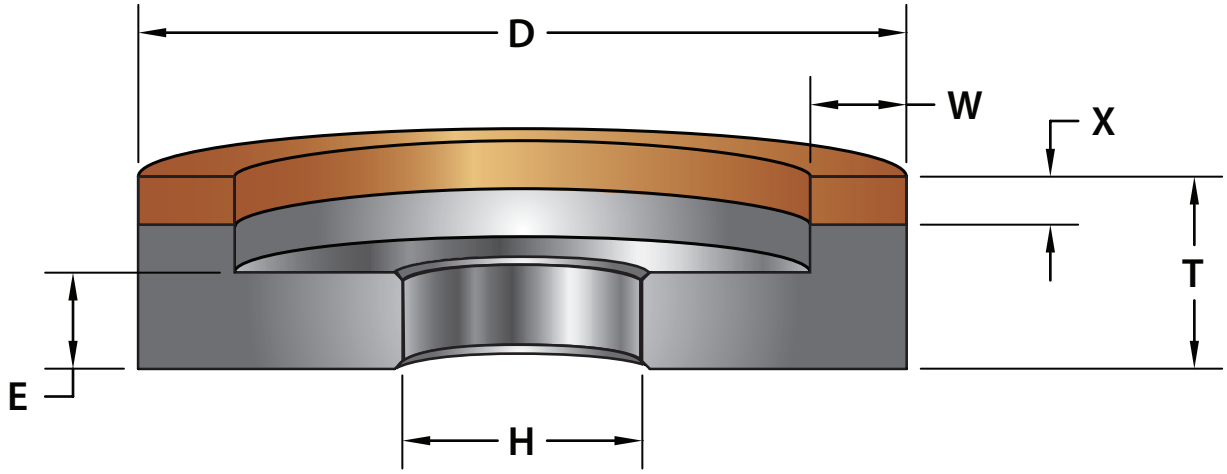
THIN RIM STYLE FOR NARROW GULLETS

D	E	H	W	X	J	Z
3	5/16	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	1-1/2	3/64
100mm	5/16	-	1/8, 3/16	1/16, 1/8, 3/16, 1/4	2-1/4	3/64
4	5/16	-	1/8, 3/16, 1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	2-1/4	3/64
4-1/2	5/16	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	2.638	3/64
115mm	5/16	-	1/8, 3/16	1/16, 1/8, 3/16, 1/4	2.638	3/64
125mm	5/16	-	.090, 1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	2.638	3/64
5	5/16	-	1/8, 3/16, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	2-1/4	3/64
150mm	5/16	-	.050, 1/16, .090, 1/8	1/16, 3/32, 1/8	3	3/64
6	5/16	-	1/8, 3/16, 1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	3	3/64
160mm	10mm	-	1/8, 3/16, 1/4	1/16, 1/8, 1/4	78mm	3/64
175mm	11mm	-	1/4	1/16, 1/8, 1/4	125mm	3/64
7	5/16	-	1/8, 3/16, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	4	3/64
8	5/16		1/8, 3/16, 1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	4-1/4	3/64
10	5/16		1/8, 3/16, 1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	6-5/8	3/64
12	3/8		1/4	1/16, 1/8, 3/16, 1/4	9	3/64

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D4A2 6 x 3/8 x 1-1/4 D180 R75 B1/16 W=3/16
B4A2 4 x 3/8 x 1/2 CBN100 R50 B1/16 W=3/16

6A2

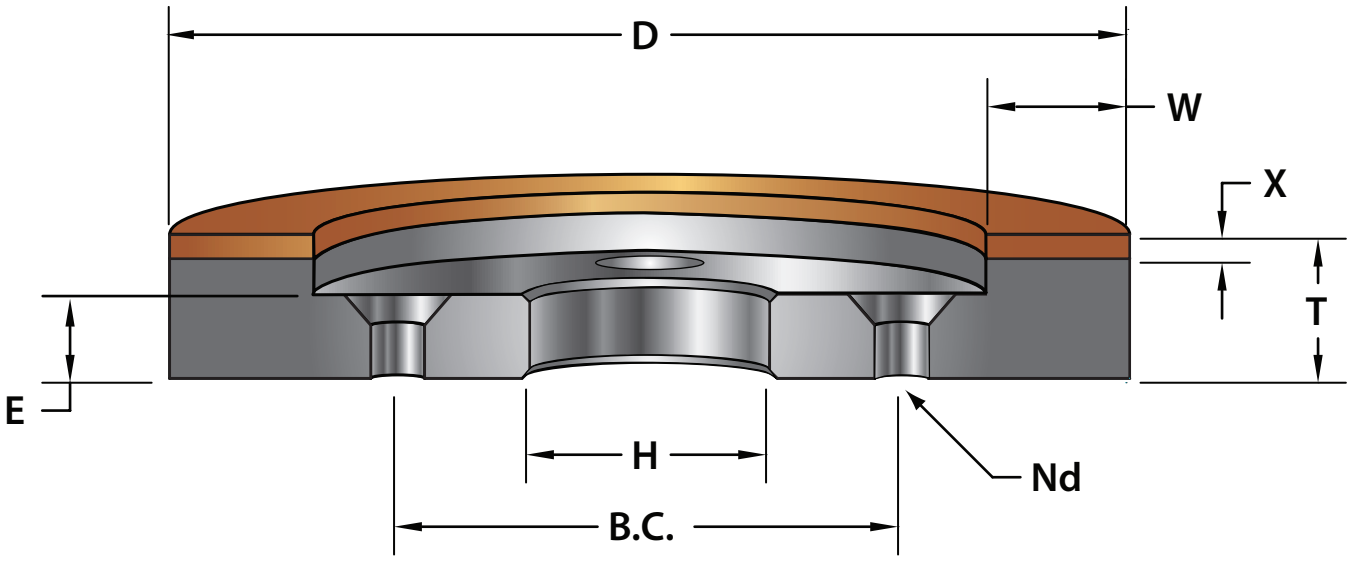


D	T	H	W	X	E
2	3/4	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	3/8
3	3/4	-	1/4, 3/8, 1/2, 3/4	1/16, 1/8, 3/16, 1/4	3/8
4	3/4	-	1/8, 1/4, 3/8, 1/2, 3/4	1/16, 1/8, 3/16, 1/4	3/8
5	1	-	1/8, 3/16, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	7/16
5	1	-	1/2, 3/4, 1, 1-1/16	1/16, 1/8, 3/16, 1/4	7/16
6	3/4	-	1/8, 3/16, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	7/16
6	3/4	-	1/2, 5/8, 3/4	1/16, 1/8, 3/16, 1/4	7/16
6	3/4	-	1, 1-1/2, 2	1/16, 1/8, 3/16, 1/4	7/16
7	1	-	1/8, 3/16, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	1/2
7	1	-	1/2, 3/4, 1, 1-1/4, 2	1/16, 1/8, 3/16, 1/4	1/2
8	1-1/2	-	1/8, 1/4, 3/8	1/16, 1/8, 3/16, 1/4	1/2
8	1-1/2	-	1/2, 3/4, 1	1/16, 1/8, 3/16, 1/4	1/2
10	1-1/2	-	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	3/4
10	1-1/2	-	3/4, 1, 1-1/2	1/16, 1/8, 3/16, 1/4	3/4
12	1-1/2	-	1/4, 1/2, 1	1/8, 3/16, 1/4	3/4
14	1-1/2	-	1/4, 1/2, 1, 1-1/2	1/8, 3/16, 1/4	3/4

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D6A2 6 x 3/4 x 1-1/4 D180 R100 B1/8 W=3/8
B6A2 8 x 1-1/2 x 1-3/4 CBN150 N75 B1/8 W=1/2

6A2C

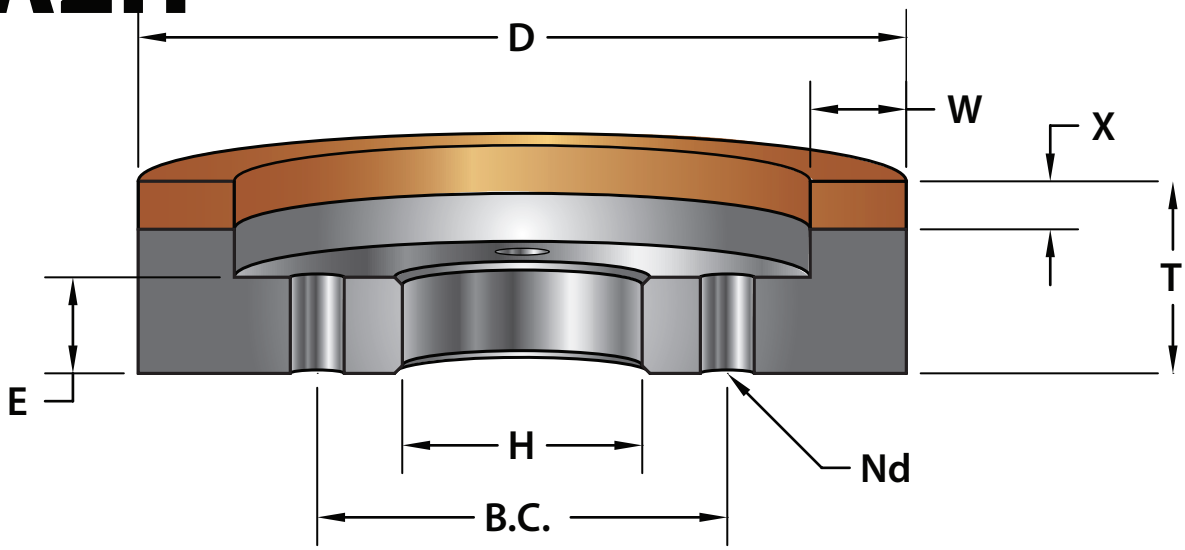


D	T	H	W	X	E	B.C.	Nd
6	3/4	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
6	3/4	1-1/4	3/4, 1	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
6	1-1/4	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
6	1-1/4	1-1/4	3/4, 1	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
7	3/4	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
7	3/4	1-1/4	3/4, 1	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
7	1	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2	1-7/8	(4) x 9/32
7	1	1-1/4	3/4, 1	1/16, 1/8, 3/16, 1/4	1/2	1-7/8	(4) x 9/32
8	3/4	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
8	3/4	1-1/4	3/4, 1, 1-1/4, 1-1/2	1/16, 1/8, 3/16, 1/4	7/16	3-1/4	(4) x 9/32
10	1	2	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	3/4	3-1/2	(6) x 11/32
10	1	2	3/4, 1, 1-1/2	1/16, 1/8, 3/16, 1/4	3/4	3-1/2	(6) x 11/32

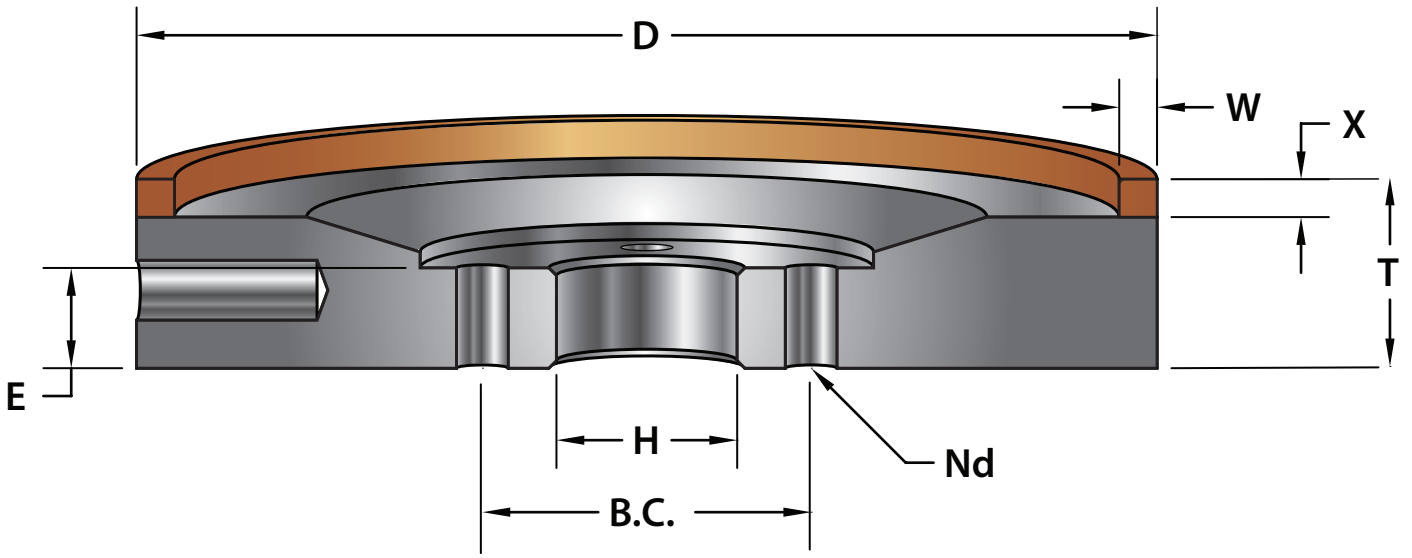
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "W" and B.C. Dimensions

Example: D6A2C 10 x 1 x 2 D12 R100 1/4 W=1 (6) HOLES 11/32 ON A 3-1/2 B.C.
B6A2C 6 X 3/4 X 1-1/4 CBN100 R50 B1/8 W=3/8 (3) HOLES 9/32 ON A 3-1/4 B.C.

6A2H



D	T	H	W	X	E	B.C.	Nd
5	1	1-1/4	1/4, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2	2	(4) x 9/32
5	1	1-1/4	3/4, 1, 1-1/16	1/16, 1/8, 3/16, 1/4	1/2	2	(4) x 9/32



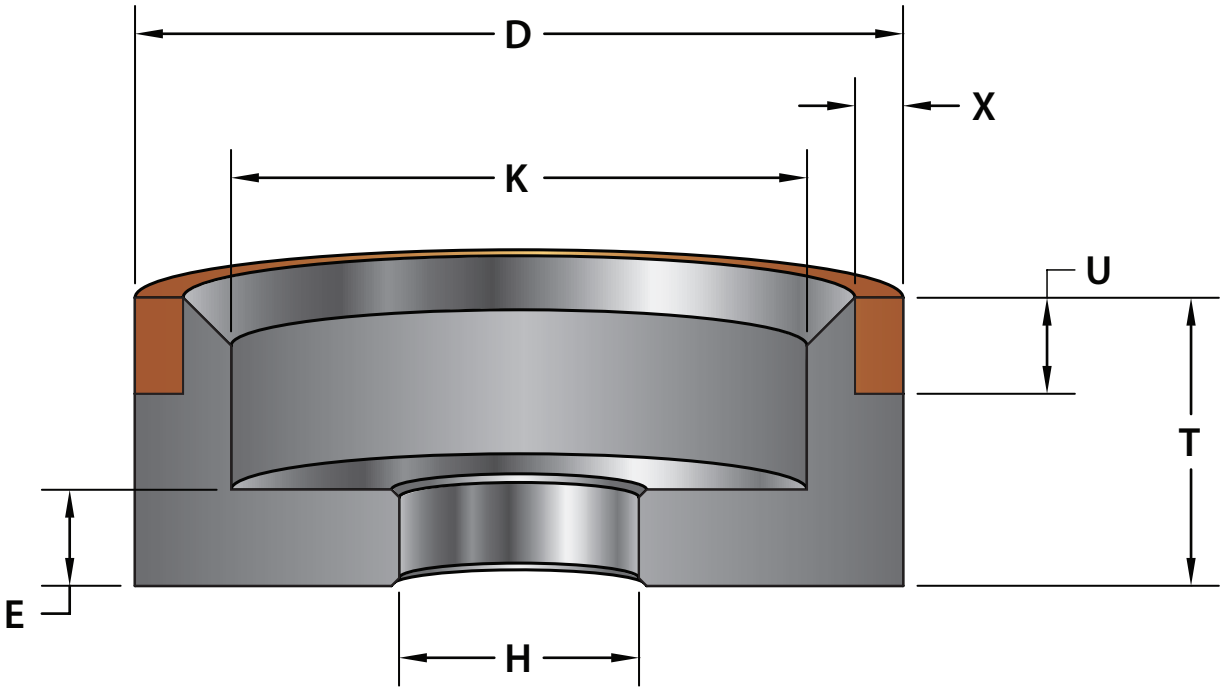
D	T	H	W	X	E	B.C.	Nd
135mm	25mm	30mm	4mm, 5mm	1/16, 1/8, 3/16, 1/4	13mm	43.5mm	(4) x .270

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "W" and B.C. Dimensions

Example: D6A2H 5 x 1 x 1-1/4 D320 R50 1/16 W=1-1/16 (4) HOLES 9/32 ON A 2 B.C.

B6A2H 135mm x 25mm x 30mm CBN100 R75 B5mm W=5mm (4) HOLES .270 ON A 43.5mm B.C.

6A9

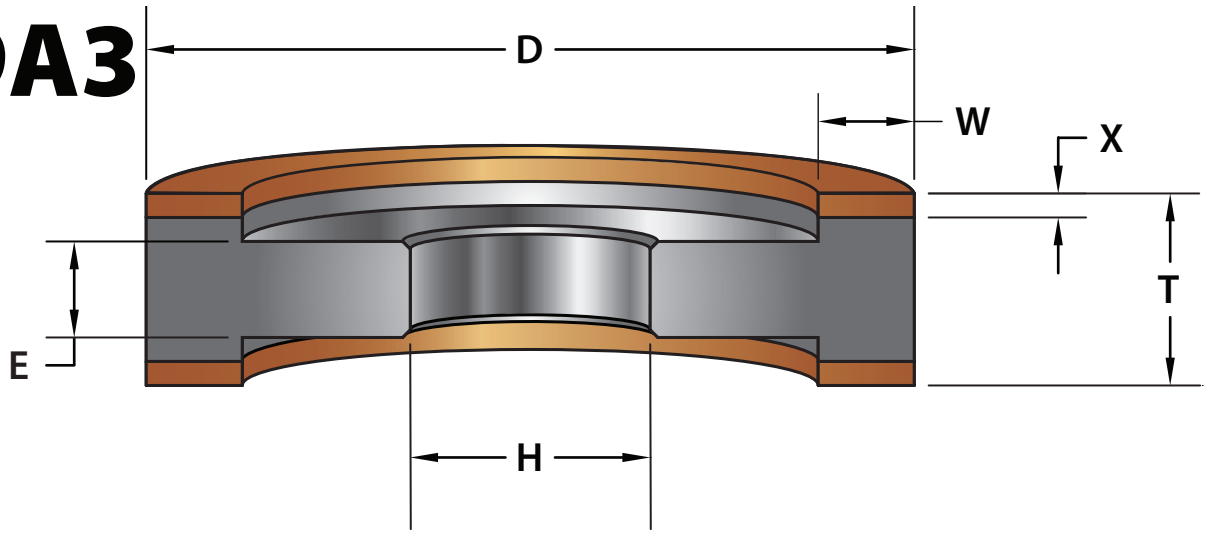


D	T	H	U	X	E	K
3	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	2
4	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	3
5	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	4
6	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	5
7	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	6
8	1-1/2	-	1/4, 3/8 ,1/2	1/16, 1/8, 3/16, 1/4	1/2	7

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "U"

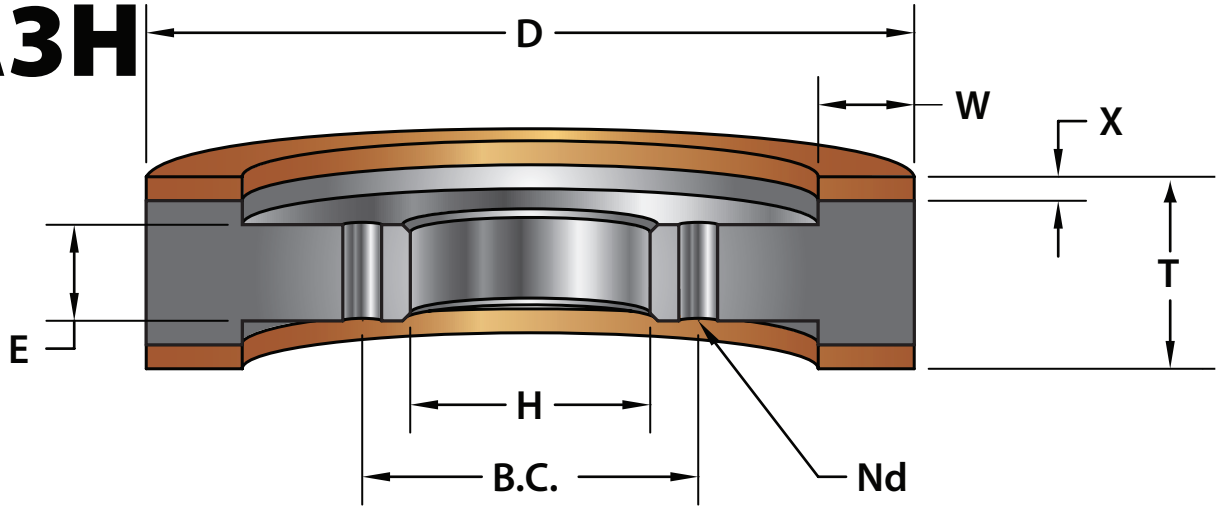
Example: D6A9 6 x 1-1/2 x 1-1/4 D220 R100 B1/8 U=3/8
B6A9 5 x 1-1/2 x 3/4 CBN150 R100 B1/4 U=1/2

9A3



D	T	H	W	X	E
6	1	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	1/2
6	1	-	5/16, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2
7	1	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	1/2
7	1	-	3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2

9A3H

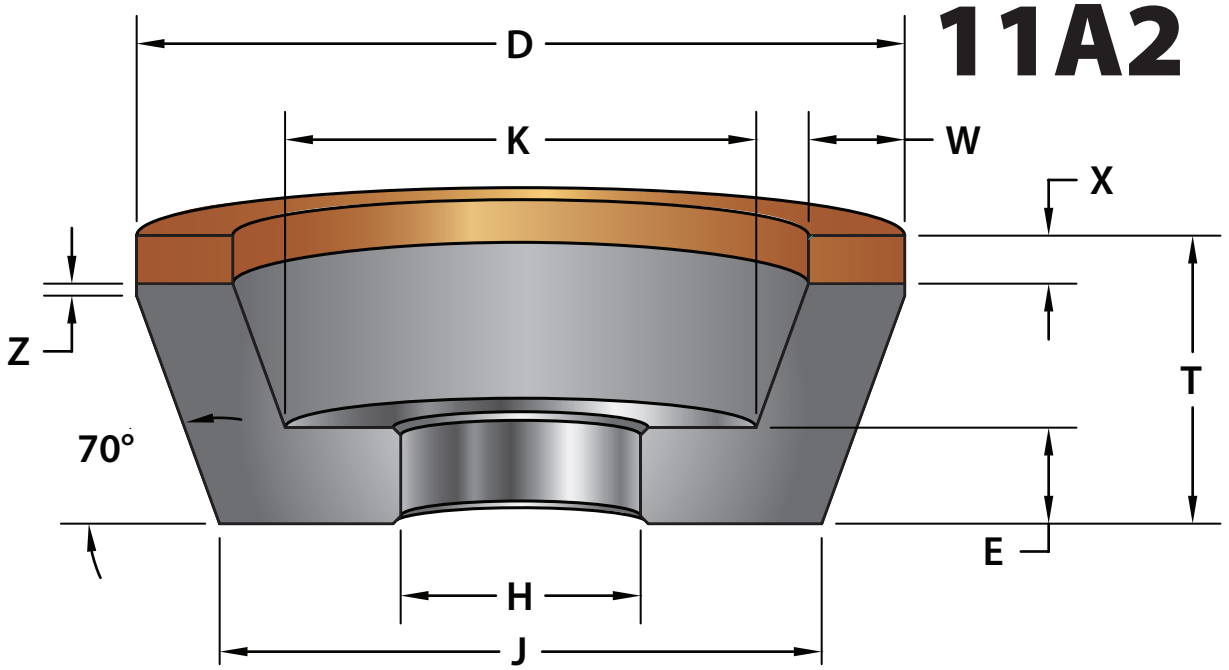


D	T	H	W	X	E	B.C.	Nd
6	1	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	1/2	1-3/4	(3) x 13/64
6	1	-	5/16, 3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2	1-3/4	(3) x 13/64
7	1	-	1/8, 3/16, 1/4	1/16, 1/8, 3/16, 1/4	1/2	1-3/4	(3) x 13/64
7	1	-	3/8, 1/2	1/16, 1/8, 3/16, 1/4	1/2	1-3/4	(3) x 13/64

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D9A3H 6 x 1 x 1-1/8 D320 R100 B1/16 W=5/16
B9A3 7 x 1 x 16mm CBN180 R75 B1/8 W=3/8

11A2

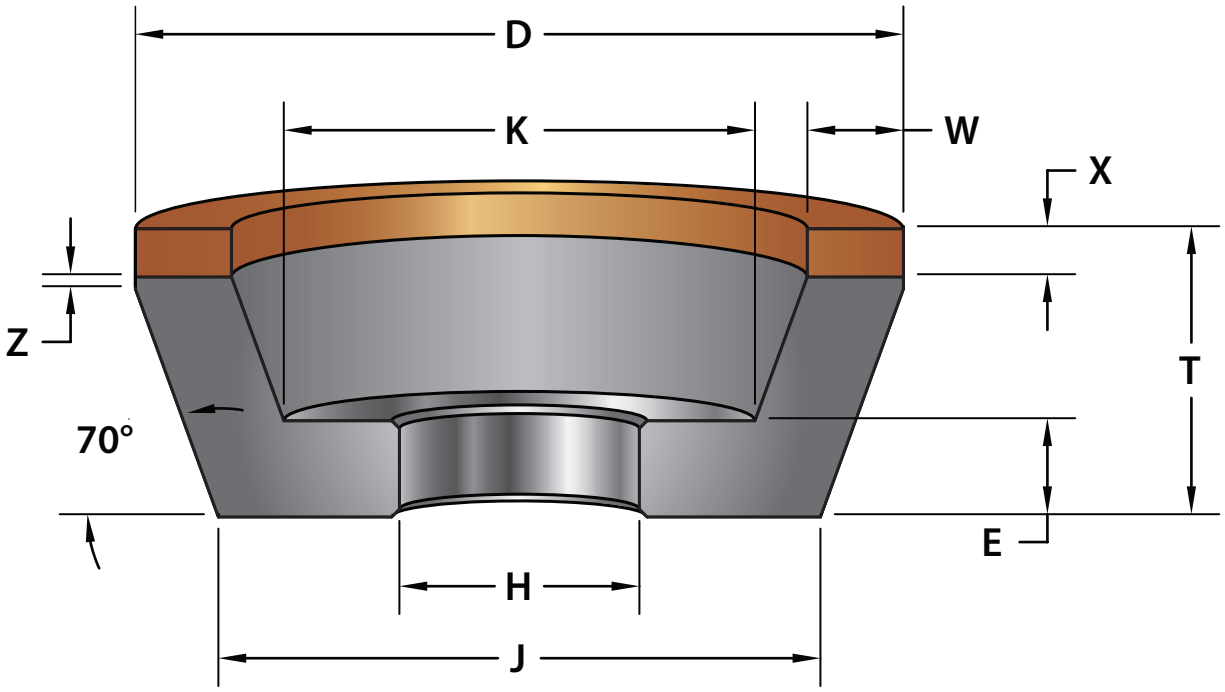


D	T	H	W	X	E	J	K	Z
3	7/8	-	1/8	1/16	3/8	2.45	2-1/8	1/16
3	7/8	-	1/8	1/8	3/8	2-1/2	2-7/32	1/16
3	7/8	-	1/4	1/16	3/8	2.45	2-3/16	1/16
3	7/8	-	1/4	1/8	3/8	2-1/2	2-7/32	1/16
3	7/8	-	3/8	1/16	3/8	2.45	1-15/16	1/16
3	7/8	-	3/8	1/8	3/8	2-1/2	1.98	1/16
3	1-5/16	-	1/8	1/16	3/8	2-1/8	2	3/64
3	1-5/16	-	1/8	1/8	3/8	2.17	2-5/32	3/64
3	1-5/16	-	1/4	1/16	3/8	2-1/8	1-7/8	3/64
3	1-5/16	-	1/4	1/8	3/8	2.17	1.90	3/64
3	1-5/16	-	3/8	1/16	3/8	2-1/8	1.60	3/64
3	1-5/16	-	3/8	1/8	3/8	2.17	1-5/8	3/64
3-1/2	1-5/16	-	1/8	1/16	3/8	2-5/8	2-3/8	3/64
3-1/2	1-5/16	-	1/8	1/8	3/8	2.67	2-7/16	3/64
3-1/2	1-5/16	-	1/4	1/16	3/8	2-5/8	2-1/4	3/64
3-1/2	1-5/16	-	1/4	1/8	3/8	2.67	2-3/8	3/64
3-1/2	1-5/16	-	3/8	1/16	3/8	2-5/8	2-3/32	3/64
3-1/2	1-5/16	-	3/8	1/8	3/8	2.67	2-5/32	3/64
3-1/2	1-5/16	-	1/2	1/16	3/8	2-5/8	1.86	3/64
3-1/2	1-5/16	-	1/2	1/8	3/8	2.67	1.90	3/64
4	1-1/4	-	1/8	1/16	1/2	3-5/32	2-3/4	1/32
4	1-1/4	-	1/8	1/8	1/2	3-7/32	2-7/8	1/32
4	1-1/4	-	1/4	1/16	1/2	3-5/32	2-3/4	1/32
4	1-1/4	-	1/4	1/8	1/2	3-7/32	2-7/8	1/32
4	1-1/4	-	3/8	1/16	1/2	3-5/32	2-3/4	1/32
4	1-1/4	-	3/8	1/8	1/2	3-7/32	2-3/4	1/32
4	1-1/4	-	1/2	1/16	1/2	3-5/32	2-1/2	1/32
4	1-1/4	-	1/2	1/8	1/2	3-7/32	2-1/2	1/32

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D11A2 3-1/2 x 1-5/16 x 7/8 D 220 R 75 B 1/16 W=1/2
B11A2 4 x 1-1/4 x 1-1/4 CBN 100 R 100 B 1/4 W=1/4

11A2

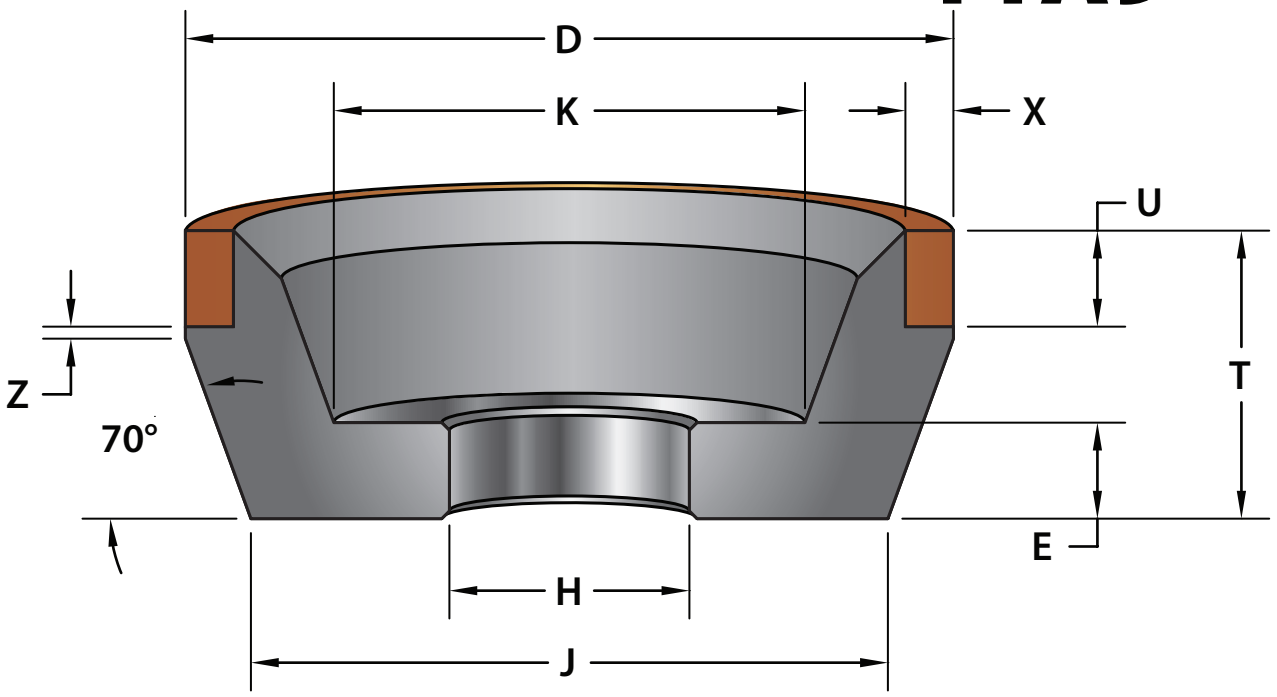


D	T	H	W	X	E	J	K	Z
5	1-3/4	-	1/8	1/16	1/2	3-13/16	3-3/8	1/16
5	1-3/4	-	1/8	1/8	1/2	3-7/8	3-7/16	1/16
5	1-3/4	-	1/4	1/16	1/2	3-13/16	3-3/8	1/16
5	1-3/4	-	1/4	1/8	1/2	3-7/8	3-7/16	1/16
5	1-3/4	-	3/8	1/16	1/2	3-13/16	3-3/8	1/16
5	1-3/4	-	3/8	1/8	1/2	3-7/8	3-3/8	1/16
5	1-3/4	-	1/2	1/16	1/2	3-13/16	3-1/8	1/16
5	1-3/4	-	1/2	1/8	1/2	3-7/8	3-3/16	1/16
6	1-3/4	-	1/8	1/16	1/2	4-13/16	4-3/8	1/16
6	1-3/4	-	1/8	1/8	1/2	4-7/8	4-7/16	1/16
6	1-3/4	-	1/4	1/16	1/2	4-13/16	4-3/8	1/16
6	1-3/4	-	1/4	1/8	1/2	4-7/8	4-7/16	1/16
6	1-3/4	-	3/8	1/16	1/2	4-13/16	4-3/8	1/16
6	1-3/4	-	3/8	1/8	1/2	4-7/8	4-3/8	1/16
6	1-3/4	-	1/2	1/16	1/2	4-13/16	4-1/8	1/16
6	1-3/4	-	1/2	1/8	1/2	4-7/8	4-3/16	1/16

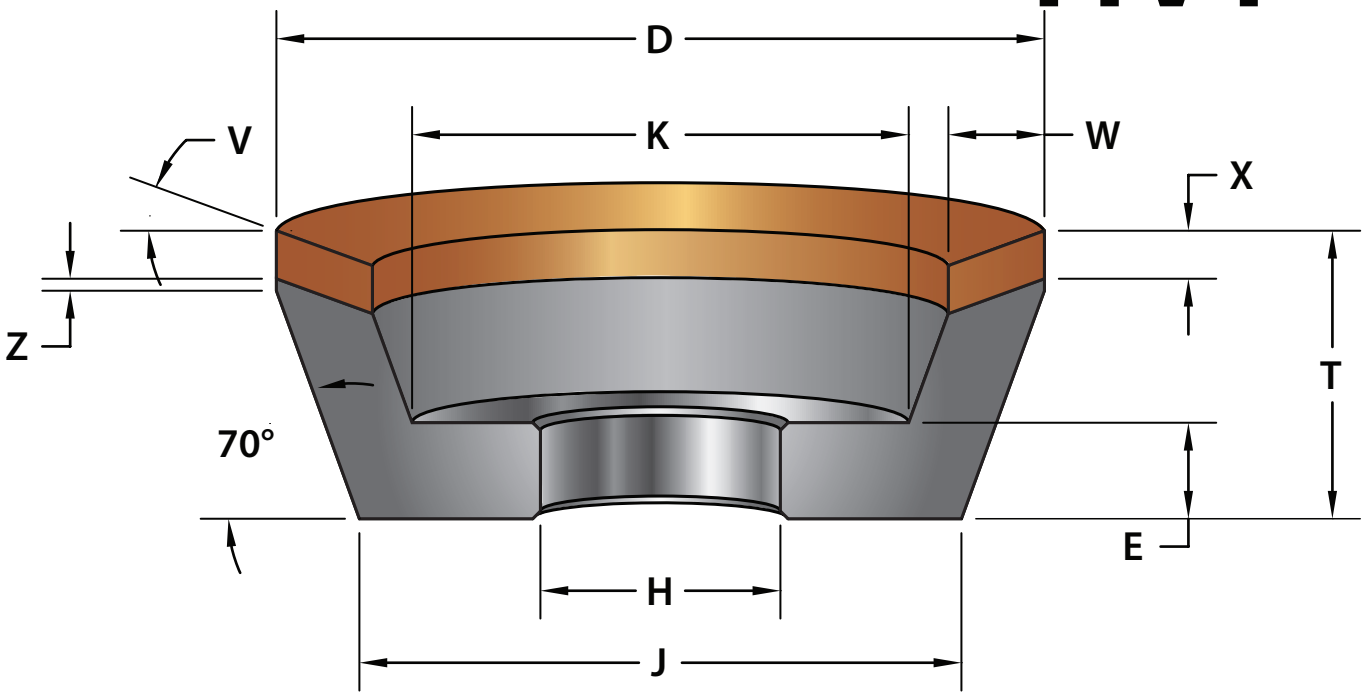
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D11A2 3-1/2 x 1-5/16 x 7/8 D220 R75 B1/16 W=1/2
B11A2 4 x 1-1/4 x 1-1/4 CBN100 R100 B1/4 W=1/4

11A9

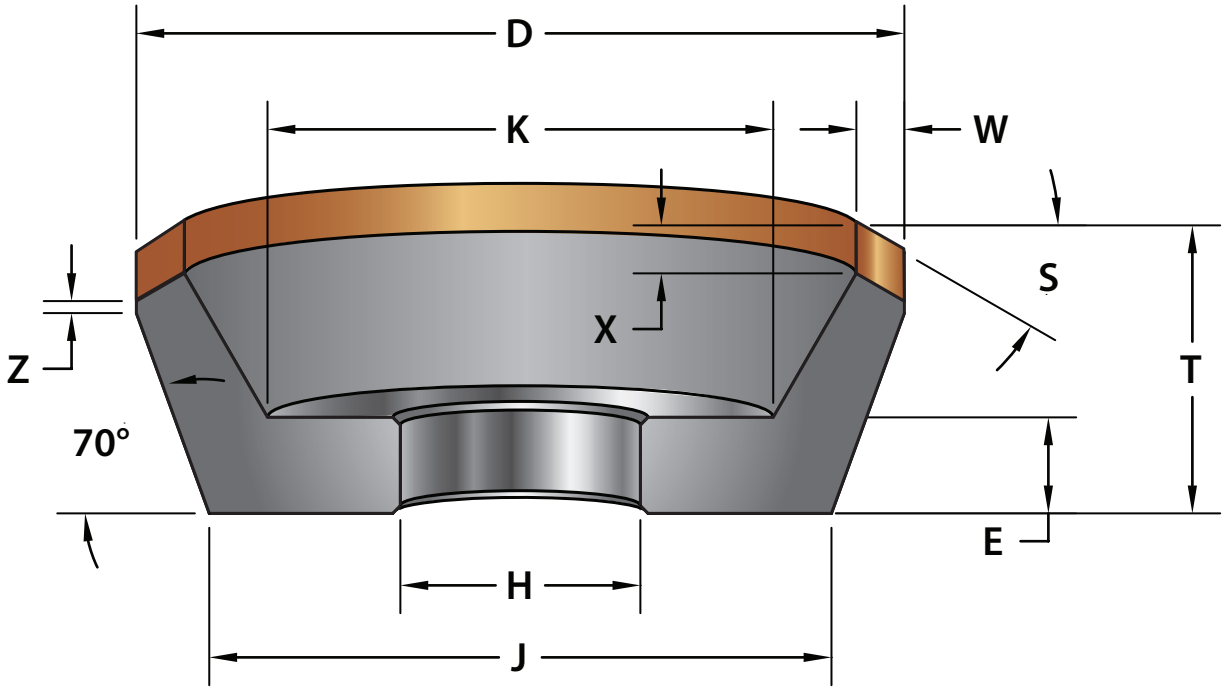


11V4



OTHER WHEEL SHAPES AVAILABLE ON REQUEST

11V5

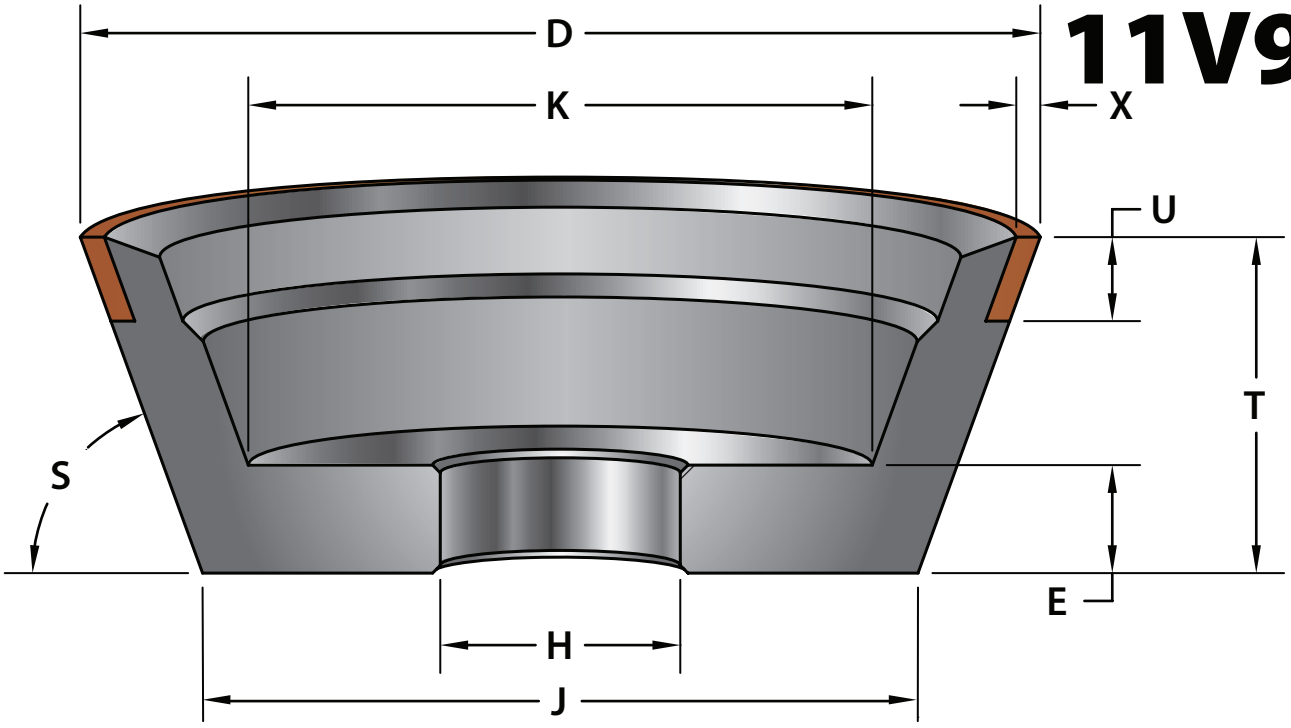


D	T	H	W	X	S
100mm	1-1/2	-	5/32	1/8	10°, 30°
100mm	1-1/2	-	5/32	1/4	10°, 30°
4	1-1/2	-	1/8	1/8	10°, 30°
4	1-1/2	-	1/8	1/4	10°, 30°
4	1-1/2	-	3/16	1/8	10°, 30°
4	1-1/2	-	3/16	1/4	10°, 30°
4	1-1/2	-	1/4	1/8	10°, 30°
4	1-1/2	-	1/4	1/4	10°, 30°
4	1-1/2	-	3/8	1/8	10°, 30°
4	1-1/2	-	3/8	1/4	10°, 30°
5	1-1/2	-	1/8	1/8	10°, 30°
5	1-1/2	-	1/8	1/4	10°, 30°
5	1-1/2	-	3/16	1/8	10°, 30°
5	1-1/2	-	3/16	1/4	10°, 30°
5	1-1/2	-	1/4	1/8	10°, 30°
5	1-1/2	-	1/4	1/4	10°, 30°
5	1-1/2	-	3/8	1/8	10°, 30°
5	1-1/2	-	3/8	1/4	10°, 30°

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "W" and "S"

Example: D11V5 100mm x 1-1/2 x 38mm D280 R125 B1/4 W=5/32 30°
B11V5 4 x 1-1/2 x 1-1/4 CBN240 R100 B1/4 W=3/8 10°

11V9

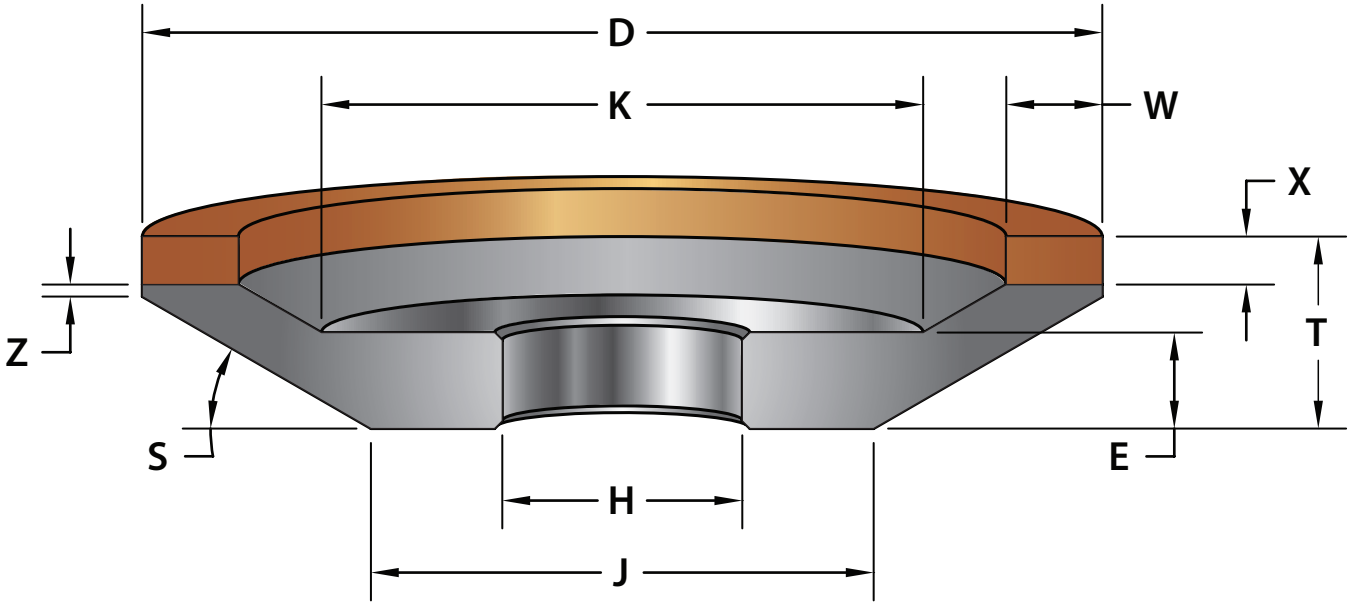


D	T	H	U	X	E	K
1-1/2	7/8	1/2 MAX.	1/4	1/16	3/8	3/4
1-1/2	7/8	1/2 MAX.	1/4	1/8	3/8	3/4
2	7/8	7/8 MAX.	5/16	1/16	3/8	1-1/16
2	7/8	7/8 MAX.	5/16	1/8	3/8	1-1/16
2-1/2	1-1/8	1 MAX.	5/16	1/16	1/2	1-5/16
2-1/2	1-1/8	1 MAX.	5/16	1/8	1/2	1-5/16
3	1-1/4	-	3/8	1/16	3/8	1-3/4
3	1-1/4	-	3/8	1/8	3/8	1-3/4
3	1-1/4	-	3/8	1/16	1/2	2-1/32
3	1-1/4	-	3/8	1/8	1/2	2-1/32
3-3/4	1-1/2	-	3/8	1/16	3/8	2-3/8
3-3/4	1-1/2	-	3/8	1/8	3/8	2-3/8
4	1-1/2	-	7/16	1/16	3/8	2-9/16
4	1-1/2	-	7/16	1/8	3/8	2-9/16
4 (S=60°)	1-1/2	-	7/16	1/16	3/8	2-1/32
4 (S=60°)	1-1/2	-	7/16	1/8	3/8	2-1/32
5	1-3/4	-	7/16	1/16	9/16	3-3/8
5	1-3/4	-	7/16	1/8	9/16	3-3/8
6	1-7/8	-	7/16	1/8	9/16	4
7	1-3/4	-	1/2	1/8	1/2	4-1/2

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, and "X"

Example: D11V9 3-3/4 x 1-1/2 x 1-1/4 D150 R100 B1/16
B11V9 5 x 1-3/4 x 1-1/4 CBN120 R75 B1/8

12A2

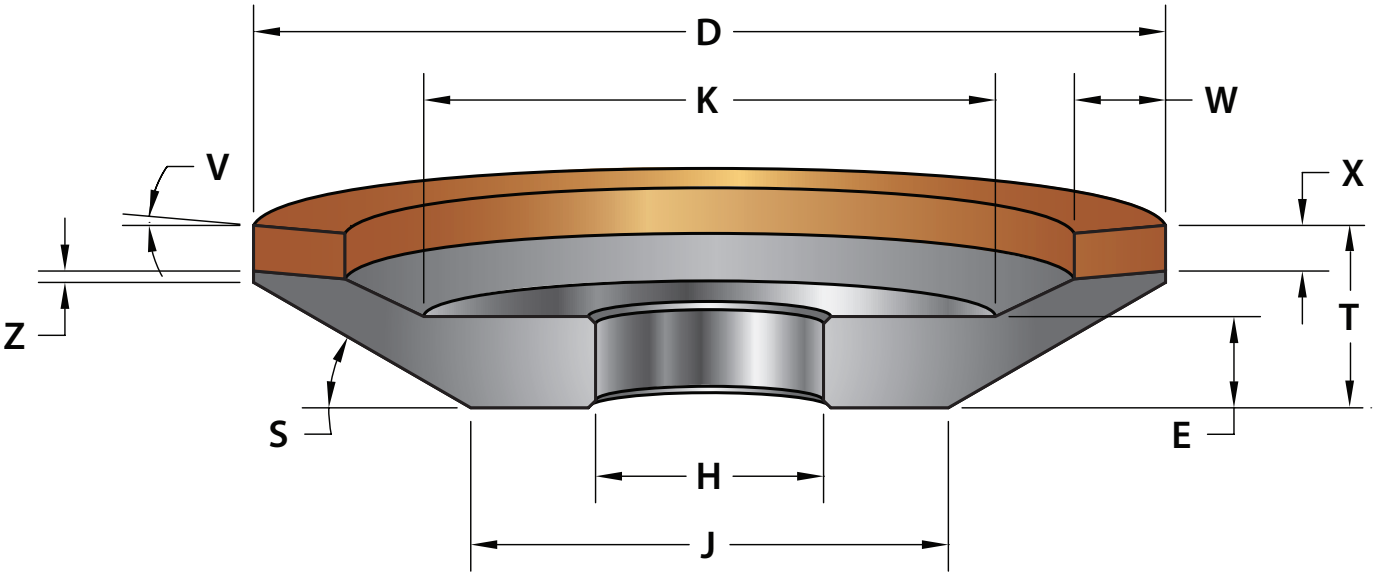


D	T-X	H	W	X	E	J	K	Z	S
3	7/16	-	1/8, 3/16	1/16, 1/8	5/16	1-5/8	1-1/2	3/64	30°
3	7/16	-	1/4, 3/8, 1/2	1/16, 1/8	5/16	1-5/8	1-1/2	3/64	30°
3	13/16	-	1/8, 3/16	1/16, 1/8	3/8	1-7/16	1-3/8	1/32	45°
3	13/16	-	1/4, 3/8	1/16, 1/8	3/8	1-7/16	1-3/8	1/32	45°
4	7/16	-	1/8, 3/16	1/16, 1/8	5/16	2-5/16	2-5/16	3/64	25°
4	7/16	-	1/4, 3/8, 1/2	1/16, 1/8	5/16	2-5/16	2-5/16	3/64	25°
5	11/16	-	1/8, 3/16	1/16, 1/8	3/8	3-3/4	3-3/8	1/16	45°
5	11/16	-	1/4, 3/8, 1/2	1/16, 1/8	3/8	3-3/4	3-3/8	1/16	45°
6	7/8	-	1/8, 3/16	1/16, 1/8	3/8	3-1/4	3	.08	30°
6	7/8	-	1/4, 3/8, 1/2	1/16, 1/8	3/8	3-1/4	3	.08	30°
7	7/8	-	1/8, 3/16	1/16, 1/8	3/8	4-3/16	3-3/4	1/16	30°
7	7/8	-	1/4, 3/8, 1/2	1/16, 1/8	3/8	4-3/16	3-3/4	1/16	30°
8	7/8	-	1/8, 3/16	1/16, 1/8	3/8	5-3/16	4-3/4	1/16	30°
8	7/8	-	1/4, 3/8, 1/2	1/16, 1/8	3/8	5-3/16	4-3/4	1/16	30°

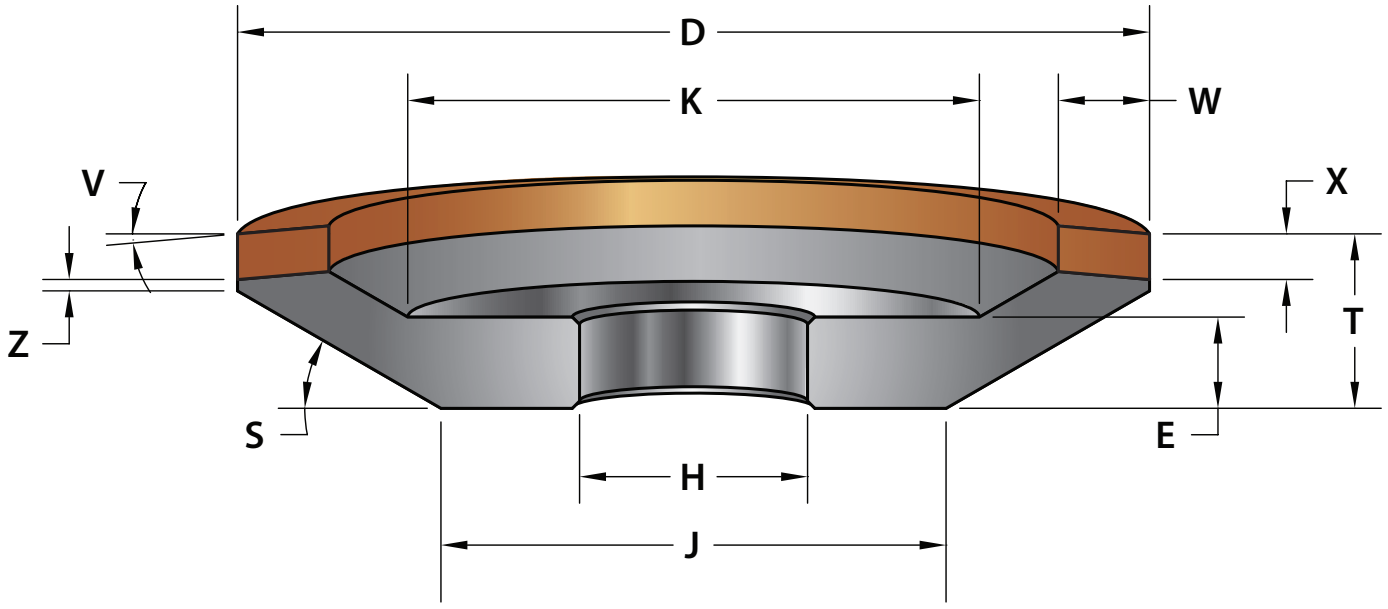
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W"

Example: D12A2 6 x 1 x 1-1/4 D150 R100 B1/8 W=1/4
B12A2 4 x 1/2 x 1-1/4 CBN120 R100 B1/16 W=1/4

12V4

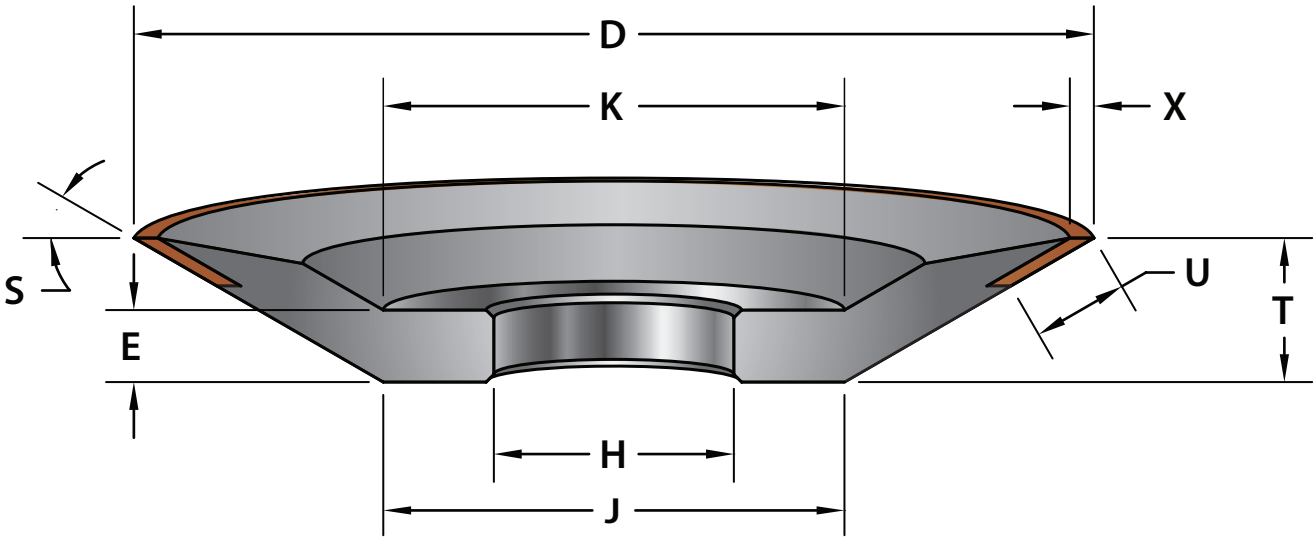


12V5



OTHER WHEEL SHAPES AVAILABLE ON REQUEST

12V9

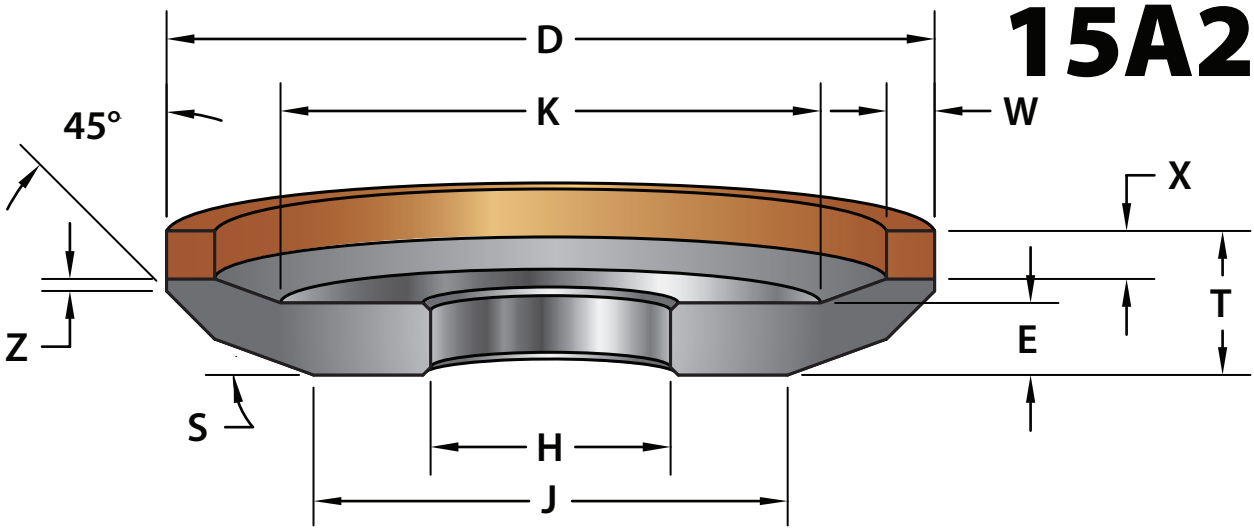


D	T	H	U	X	E	K	S
2	3/8	-	1/4	1/16, 1/8	1/4	3/4	30°
2	1/2	-	1/4	1/16, 1/8	1/4	1	45°
3	7/16	-	1/4	1/16, 1/8	1/4	1-1/2	30°
3	1/2	-	1/4	1/16, 1/8	1/4	1-1/4	30°
3	13/16	-	3/8	1/16, 1/8	3/8	1-1/2	45°
3	7/8	-	3/8	1/16, 1/8	3/8	1-1/4	45°
4	1/2	-	1/4	1/16, 1/8	1/4	2-7/16	30°
4	1/2	-	1/2	1/16, 1/8	1/4	2-7/16	30°
4	7/8	-	5/16	1/16, 1/8	3/8	2-3/16	45°
4	7/8	-	1/2	1/16, 1/8	3/8	2-3/16	45°
5	1/2	-	1/2	1/16, 1/8	5/16	2-1/2	30°
5	3/4	-	1/2	1/16, 1/8	1/2	2-1/2	30°
5	3/4	-	7/16	1/16, 1/8	1/2	3	45°
5	1-3/8	-	7/16	1/16, 1/8	1/2	2-1/4	45°
5-7/8	3/4	-	1/2	1/16, 1/8	1/2	3-1/2	30°
6	1/2	-	3/8	1/16, 1/8	5/16	3-1/8	30°
6	3/4	-	3/8	1/16, 1/8	3/8	3-1/8	30°
6	1	-	3/8	1/16, 1/8	1/2	2-7/8	30°
6	3/4	-	5/8	1/4	.600	3-7/8	35°
7	1/2	-	1/4	1/16, 1/8	5/16	5	30°
7	3/4	-	1/4	1/16, 1/8	3/8	3-1/4	30°
8	3/4	-	5/8	1/4	1/2	5-1/2	35°

Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X", "S" and "U"

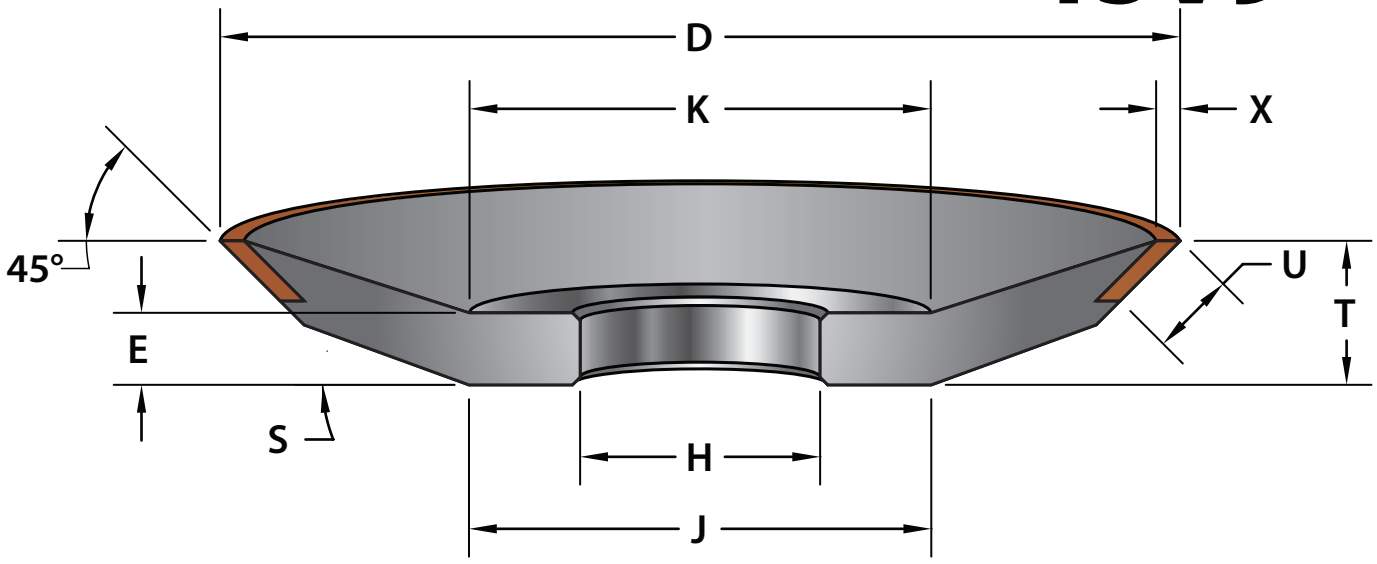
Example: D12V9 4 x 1/2 x 1-1/4 D220 R100 B1/16 30° U=1/4
B12V9 5 x 3/4 x 1-1/4 CBN150 R75 B1/8 45° U=1/2

15A2



D	T	H	W	X	E	J	K	Z
6	3/4	-	1/8	1/16, 1/8	7/16	3-1/8	3-1/8	1/16
6	3/4	-	3/16	1/16, 1/8	7/16	3-1/8	3-1/8	1/16
6	3/4	-	1/4	1/16, 1/8	7/16	3-1/8	3-1/8	1/16
6	3/4	-	3/8	1/16, 1/8	7/16	3-1/8	3-1/8	1/16

15V9



D	T	H	U	X	E	J	K
3	1/2	-	3/8	1/16, 1/8	1/4	1-3/4	1-1/2
6	3/4	-	1/4	1/16, 1/8	3/8	3	3-1/8
7	3/4	-	5/16	1/16, 1/8	7/16	3-3/4	4

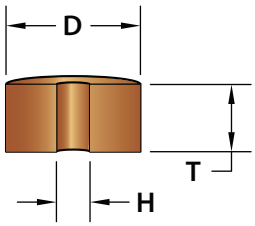
Order by: Shape, "D" x "T" x "H" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "W" (or "U")

Example: D15A2 6 x 3/4 x 1-1/4 D180 R100 B1/8 W=3/8
B15V9 6 x 3/4 x 1-1/4 CBN100 R50 B1/8 U=1/4

1A8

TYPE 1 A 8

Straight – Diamond Throughout



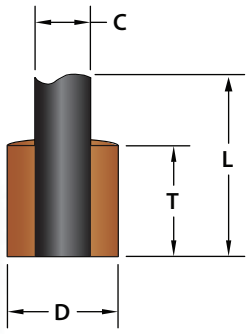
Wheel Number	Wheel Diameter D	Wheel Thickness T	Hole Diameter H	DIAMOND CONCENTRATIONS 75	100
11001	1/4	1/4	1/8		
11002	5/16	1/4	1/8		
11004	3/8	1/4	1/8		
11005	3/8	3/8	1/8	PRICES	
11018	7/16	7/16	1/8	UPON	
11006	1/2	1/4	1/8	REQUEST	
11007	1/2	3/8	1/4		
11008	1/2	1/2	1/4		
11009	5/8	1/4	1/4		

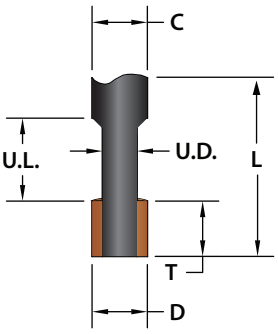
Wheel Number	Wheel Diameter D	Wheel Thickness T	Hole Diameter H	DIAMOND CONCENTRATIONS 75	100
11010	5/8	3/8	1/4		
11011	5/8	1/2	1/4		
11012	3/4	1/4	1/4		
11013	3/4	1/2	1/4	PRICES	
11014	3/4	3/4	1/4	UPON	
11015	1	1/4	1/4	REQUEST	
11016	1	1/2	1/4		
11017	1	3/4	1/4		

W8

TYPE DW

Straight – Mounted on Mandrel
Diamond Throughout





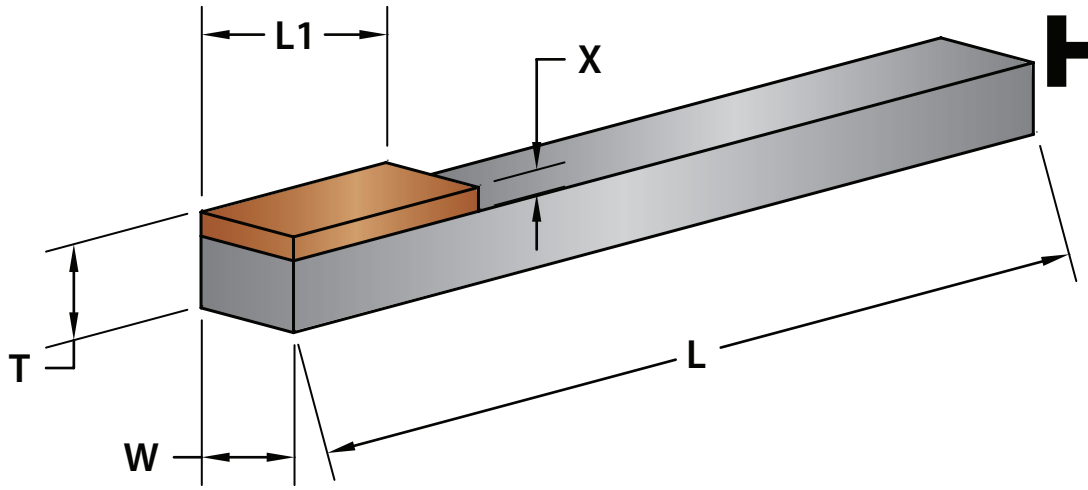
Wheel Number	Wheel Diameter D	Wheel Thickness T	Mandrel Diameter	DIAMOND CONCENTRATIONS 75	100
DW 143	1/8	1/4	1/8		
DW 144	1/8	1/4	1/8		
DW 247	3/16	1/4	1/8		
DW 152	3/16	3/8	1/8		
DW 158	1/4	7/16	1/8		
DW 160	1/2	1/4	1/8	PRICES	
DW 162	1/2	3/8	1/4	UPON	
DW 163	1/2	1/2	1/4	REQUEST	
DW 167	5/8	1/4	1/4		
DW 168	5/16	5/16	1/8		
DW 174	3/8	1/4	1/8		
DW 175	3/8	3/8	3/8		
DW 176	3/8	1/2	1/8		

Wheel Number	Wheel Diameter D	Wheel Thickness T	Mandrel Diameter	DIAMOND CONCENTRATIONS 75	100
DW 182	1/2	1/8	1/8		
DW 183	1/2	1/4	1/8		
DW 184	1/2	3/8	1/8		
DW 185	1/2	1/2	1/8		
DW 248	1/2	1/2	1/4		
DW 192	5/8	1/4	1/8	PRICES	
DW 193	5/6	3/8	1/8	UPON	
DW 194	5/8	1/2	1/8	REQUEST	
DW 249	5/8	1/2	1/4		
DW 203	3/4	1/2	1/8		
DW 250	3/4	1/2	1/4		
DW 216	1	1/4	1/4		
DW 218	1	1/2	1/4		

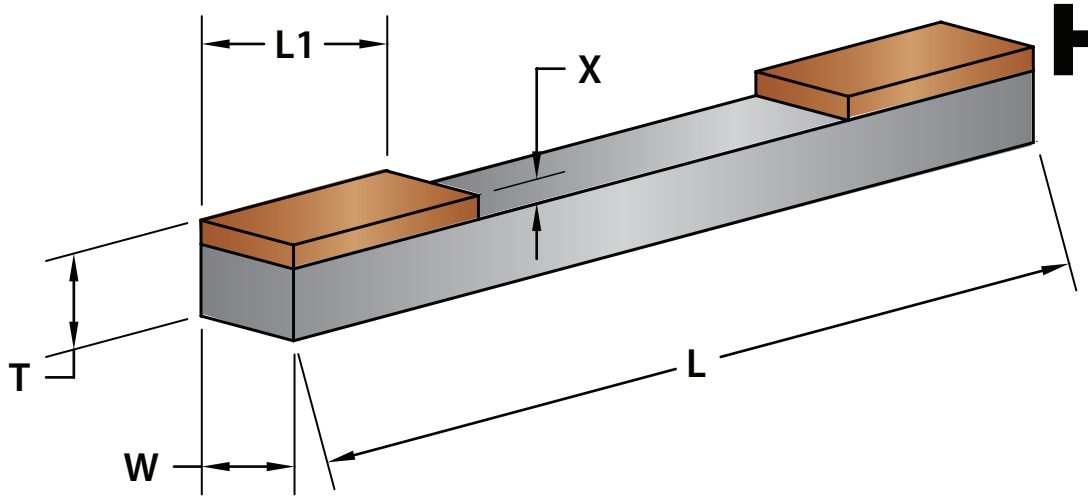
Mandrel Lengths: Mandrels having a projection of 1-1/2" from the abrasive will be furnished unless otherwise specified.

TO ORDER WHEELS . . . Specify the wheel type and number, hole diameter, grit size.

OTHER WHEEL SHAPES AVAILABLE ON REQUEST



HH1



HH2

HH1

L	W	T	L1	X
4	1/4	1/4	1	1/16, 1/8
4	1/4	3/8	1	1/16, 1/8
4	3/8	3/8	1	1/16, 1/8
4	3/8	3/8	1-1/2	1/16, 1/8
6	1/4	1/4	1	1/16, 1/8
6	1/4	3/8	1	1/16, 1/8
6	3/8	3/8	1	1/16, 1/8
6	3/8	3/8	1-1/2	1/16, 1/8

HH2

L	W	T	L1	X
4	1/4	1/4	1	1/16, 1/8
4	1/4	3/8	1	1/16, 1/8
4	3/8	3/8	1	1/16, 1/8
4	3/8	3/8	1-1/2	1/16, 1/8
6	1/4	1/4	1	1/16, 1/8
6	1/4	3/8	1	1/16, 1/8
6	3/8	3/8	1	1/16, 1/8
6	3/8	3/8	1-1/2	1/16, 1/8

Order by: Shape, "L" x "W" x "T" Abrasive Type, Grit, Grade, Concentration, Bond, "X" and "L1"

Example: DHH1 4 x 1/4 x 3/8 D 20 R100 B1/16 1

BHH2 6 x 3/8 x 3/8 CBN120/220 N50 B1/8 1-1/2

DIAMOND LAPPING COMPOUND

Diamond lapping compound is a paste consisting of finely graded and sized diamond particles that are held in permanent suspension in a stable vehicle. Diamond lapping compound is graded according to particle size and diamond concentration (the amount of diamond in the vehicle). For easy identification, our compound is color coded according to particle size.

The standard container is either a 5 gram or an 18 gram syringe, but we do offer 5 gram and 18 gram jars as well. We will make larger batch sizes on request.

Our standard vehicle is oil based, but we do offer a water based vehicle on request. Our standard concentration is medium (M). Light (L) and Heavy (H) concentrations are also available.

15 - 5 M Blue

MICRON RANGE	MICRON SIZE	USDW GRADE#	CONCENTRATION	COLOR	STANDARD	APPLICATION
0 - 1/2	1/4	10	L, M, H	WHITE	1/4 - 10M WHITE	PRECISION FINISHING
0 - 1	1/2	9	L, M, H	WHITE	1/2 - 9M WHITE	
0 - 2	1	8	L, M, H	IVORY	1 - 8M IVORY	
2 - 4	2	7	L, M, H	YELLOW	3 - 7M YELLOW	FINISHING
4 - 8	6	48	L, M, H	ORANGE	6 - 48M ORANGE	
8 - 12	9	6	L, M, H	GREEN	9 - 6M GREEN	
10 - 20	15	5	L, M, H	BLUE	15 - 5M BLUE	PREPARATORY FINISHING
20 - 40	30	4	L, M, H	RED	30 - 4M RED	
40 - 50	45	3	L, M, H	BROWN	45 - 3M BROWN	
50 - 63	60	2	L, M, H	PURPLE	60 - 2M PURPLE	STOCK REMOVAL
63 - 90	90	1	L, M, H	GREY	90 - 1M GREY	
100	120	–	–	BLACK	120 - M BLACK	

Order by: Container Type and Size, Grade and Color

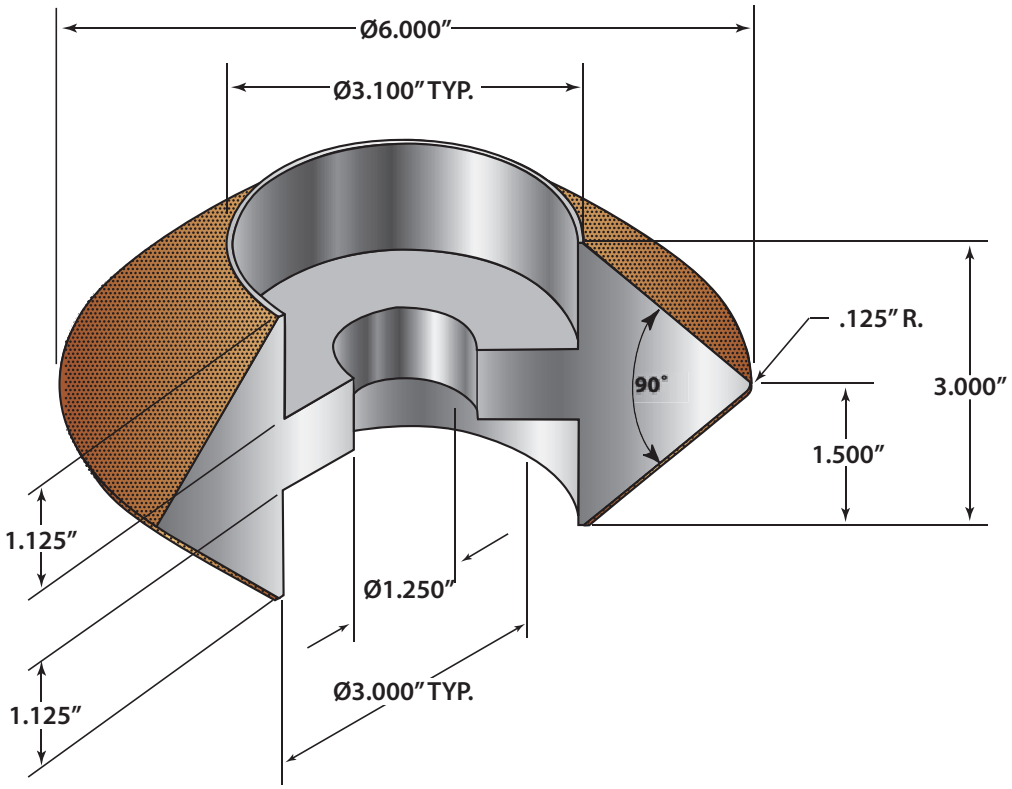
Example: 18 gram syringe 45 - 3M Brown
25 gram jar 30 - 4L Red

PLATED SUPERABRASIVE PRODUCTS

DIAMOND AND CRN WHEELS

- Hole Saws
- Routers
- Countersinks
- Mandrels
- Unmounted Saws
- Files
- Rotary Tools
- Drills
- Form Tools
- Profiles
- Dressings Rolls

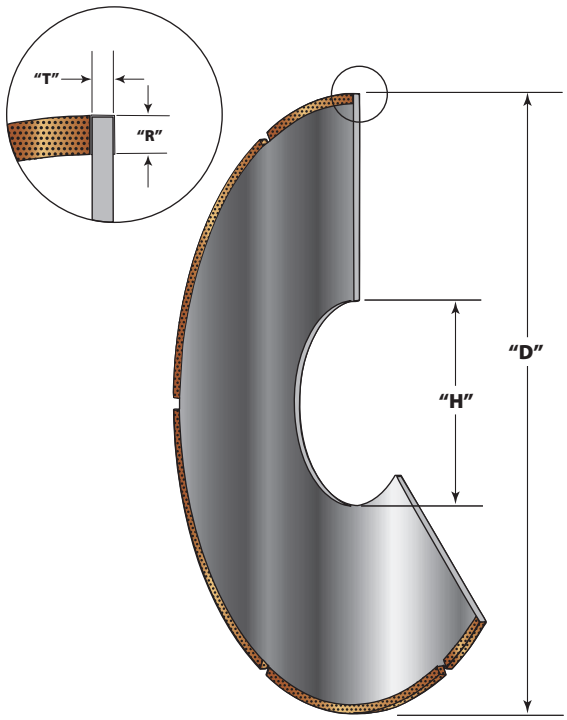
UNIQUE FORMS HELD TO PRECISE TOLERENCES



In addition to our special and standard electroplated tool design and manufacturing, we offer our customers strip and replate service. Your worn diamond or CBN electroplated tool can be brought back to new condition by stripping the old abrasive and reapplying new abrasive to the tool. When the tool form or surface that is plated is damaged, it can be repaired by remachining and then replating. This is called strip, rework and replate.

In many cases, electroplated tools can be stripped and replated several times before the form needs to be remachined.

This is one of the advantages you will benefit from the use of electroplated wheels.



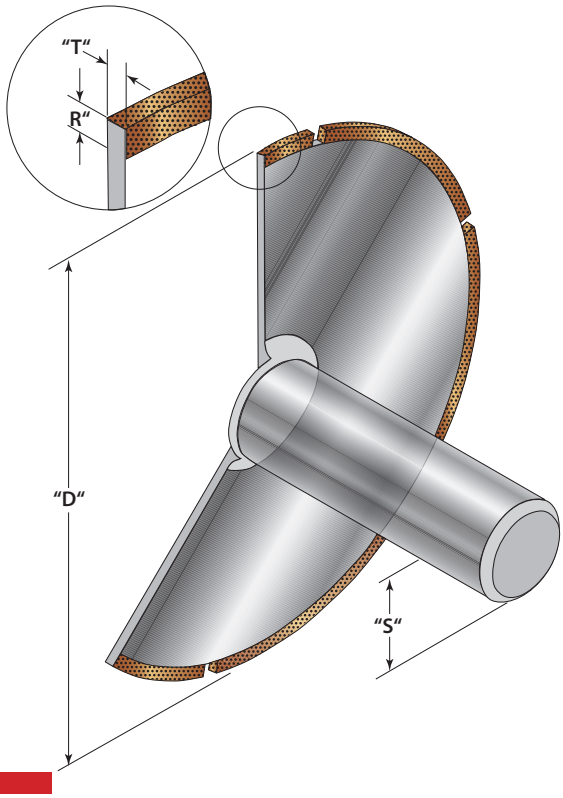
O.D. DIAMOND SLICING BLADE

CATALOG NUMBER	DIAMETER "D"	THICK "T"	BORE SIZE
SB-1	2"	.015"	As Specified
SB-2	2"	.020"	
SB-3	3"	.015"	
SB-4	3"	.020"	
SB-5	4"	.015"	
SB-6	4"	.020"	
SB-7	6"	.020"	
SB-8	6"	.030"	

**Other thicknesses available upon request.*

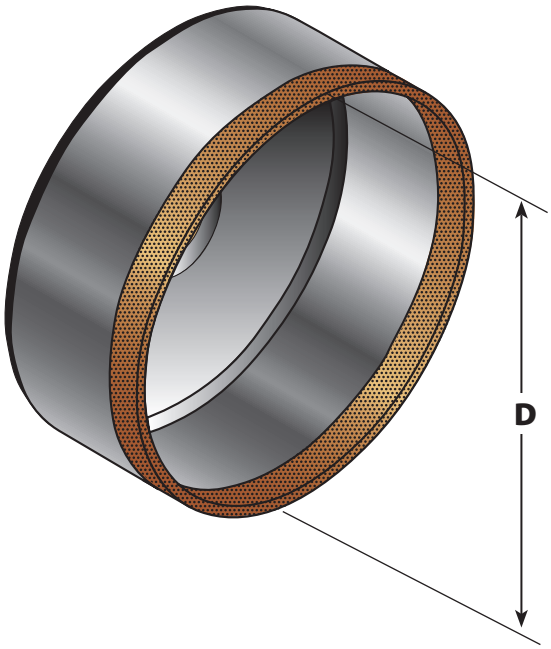
UNMOUNTED DIAMOND SAWS

CATALOG NUMBER	DIAMETER "D"	THICK "T"	DIAMOND RETURN"R"	BORE SIZE	STANDARD GRIT SIZE
DS-1	3"	1/16	1/16		40
DS-2	3"	1/8	1/16		40
DS-3	4"	1/16	1/16		40
DS-4	4"	1/8	1/16		40
DS-5	6"	3/32	1/16		40
DS-6	6"	1/8	1/16		40
DS-7	8"	3/32	1/16		40
DS-8	8"	1/8	1/16	As	40
DS-9	10"	3/32	1/16	Specified	40
DS-10	10"	1/8	1/16		40
DS-11	12"	1/8	1/16		40
DS-12	12"	5/32	1/16		40
DS-13	14"	5/32	1/16		40
DS-14	14"	3/16	1/16		40
DS-15	16"	3/16	1/16		40
DS-16	18"	3/16	1/16		40



MOUNTED DIAMOND SAWS 2½ OAL

CATALOG NUMBER	DIAMETER "D"	THICK "T"	DIAMOND RETURN "R"	BORE SIZE	STANDARD GRIT SIZE
MDS-1	1"	1/16	1/16	1/4	40
MDS-2	2"	1/16	1/16	3/8	40
MDS-3	3"	3/32	1/16	1/2	40
MDS-4	4"	3/32	1/16	3/4	40



DIAMOND HOLE SAWS
1 1/8" CUTTING DEPTH

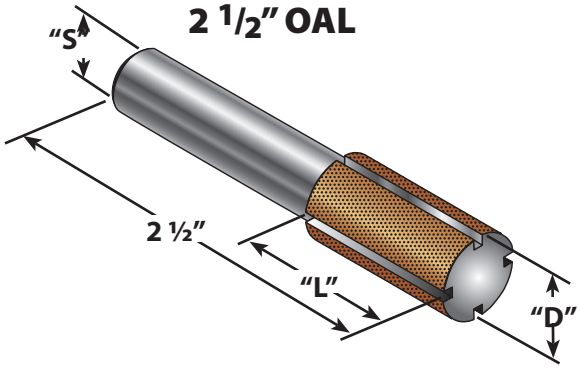
CATALOG NUMBER	DIAMETER "D"	STANDARD GRIT SIZE
HS09	9/16	40°
HS10	5/8	40°
HS11	11/16	40°
HS12	3/4	40°
HS13	13/16	40°
HS14	7/8	40°
HS15	15/16	40°
HS16	1	40°
HS19	1 13/16	40°

CATALOG NUMBER	DIAMETER "D"	STANDARD GRIT SIZE
HS32	2	40°
HS42	2 5/8	40°
HS48	3	40°
HS52	3 1/4	40°
HS58	3 5/8	40°
HS60	3 3/4	40°
HS64	4	40°
HS66	4 1/8	40°
HS96	6	40°

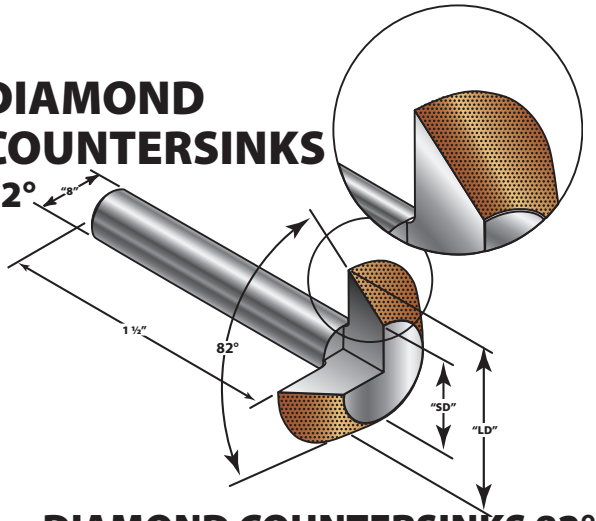
*Other grit sizes available upon request.

DIAMOND PLATED TWIST DRILLS
Available in sizes from .030 to 1.000 inch.

DIAMOND ROUTERS
2 1/2" OAL



DIAMOND COUNTERSINKS
82°



DIAMOND ROUTERS - 2 1/2" OAL

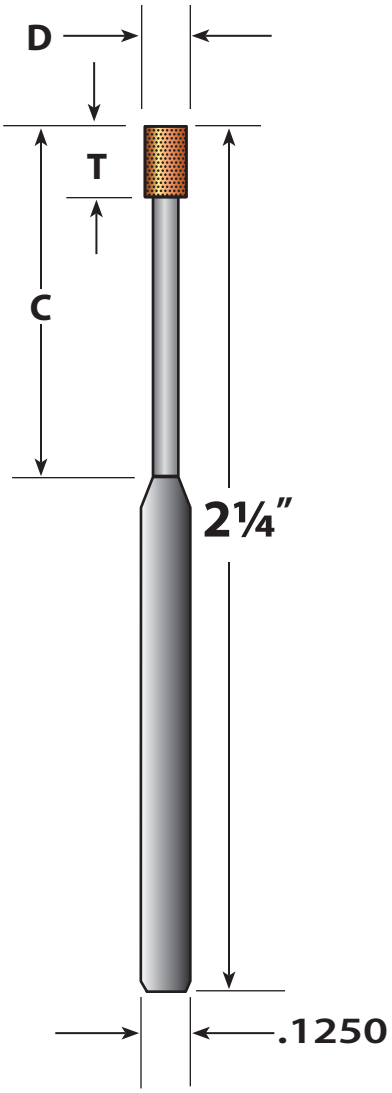
CATALOG NUMBER	"D"	"L"	SHANK SIZE "S"	STANDARD GRIT SIZE
DR-1	1/8	1/64	1/4	40
DR-2	1/8	1/64	1/4	40
DR-3	1/4	1/64	1/4	40
DR-4	1/4	1/64	1/4	40
DR-5	3/8	3/16	1/2	40
DR-6	3/8	1/4	1/2	40
DR-7	1/2	1/2	1/2	40
DR-8	1/2	1/2	1/2	40
DR-9	5/8	1/2	1/2	40
DR-10	5/8	1	1/2	40
DR-11	3/4	1/2	1/2	40
DR-12	3/4	1	1/2	40
DR-13	1	1/2	1/2	40
DR-14	1	1	1/2	40

DIAMOND COUNTERSINKS 82°

CATALOG NUMBER	"LD"	"SD"	SHANK SIZE "S"	STANDARD GRIT SIZE
CS-1	1/8	1/64	1/8	100°
CS-2	3/16	1/64	1/4	100°
CS-3	1/4	1/64	1/4	100°
CS-4	3/8	1/64	1/4	100°
CS-5	1/2	3/16	1/4	100°
CS-6	3/4	1/4	1/4	100°
CS-7	7/8	1/2	1/4	100°
CS-8	1	1/2	1/4	100°

DIAMOND AND CBN ELECTROPLATED MANDRELS

-used in jig and internal grinding machines. We offer a variety of standard sizes with 1/8", 1/4", 3/8" and 1/2" shanks for quick delivery. Our sales representives can work with you on our standard head diameters and lengths. We can also custom make many different sizes to accommodate your needs.

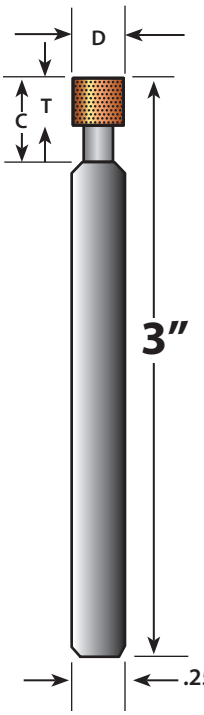


CATALOG NUMBER	DIAMETER D-INCH	DIAMETER D-mm.	T	C	STANDARD GRIT SIZE
D224-015	.015	.38	.046	.093	220º
D224-018	.018	.45	.062	.125	220°
D224-010	.20	.50	.062	.125	150°
D224-024	.024	.60	.093	.125	150°
D224-029	.029	.70	.125	.260	150°
D224-035	.035	.90	.125	.250	150°
D224-039	.039	1.00	.125	.250	100°
D224-049	.049	1.25	.187	.500	100°
D224-049-L	.049	1.25	.187	1.000	100°
D224-059	.059	1.50	.187	.500	100°
D224-059-L	.059	1.50	.187	1.000	100°
D224-069	.059	1.75	.187	.500	100°
D224-069-L	.069	1.75	.187	1.000	100°
D224-079	.079	2.00	.187	.500	100°
D224-079-L	.079	2.00	.187	1.000	100°
D224-089	.089	2.25	.187	.500	100°
D224-089-L	.089	2.25	.187	1.000	100°
D224-099	.089	2.50	.187	.500	100°
D224-099-L	.099	2.50	.187	1.000	100°
D224-109	.109	2.75	.187	.500	100°
D224-109-L	.109	2.75	.187	1.000	100°
D224-118	.118	3.00	.187	.525	100°
D224-118-L	.118	3.00	.187	1.000	100°
D224-125	.125	3.27	.187	.625	100°
D224-130	.130	3.30	.187		100°
D224-135	.135	3.56	.236		100°
D224-140	.140	3.75	.236		100°
D224-156	.158	4.00	.236		100°
D224-177	.177	4.50	.236		100°
D224-187	.187	4.75	.236		100°
D224-197	.197	5.00	.236		100°
D224-236	.236	5.75	.275		100°
D224-256	.256	6.50	.275		100°
D224-275	.275	7.00	.275		100°

**Other grit szes available upon request.*

NOTE *When ordering CBN Mandrels, substitute "B" in place of "D". Example: B224-015*

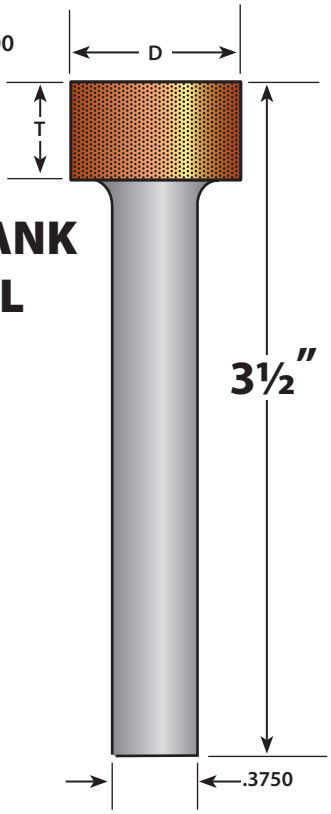
¼" SHANK
3" OAL



CATALOG NUMBER	DIAMETER D-INCH	DIAMETER D-mm.	T	C	STANDARD GRIT SIZE
D43-187	.187	4.75	.236	.625	100º
D43-203	.203	5.20	.236	.625	100°
D43-218	.218	5.50	.236	.625	100°
D43-236	.236	6.00	.275	1.000	100°
D43-250	.250	6.25	.275		100°
D43-256	.256	6.50	.275		100°
D43-275	.275	7.00	.275		100°
D43-315	.315	8.00	.315		100°
D43-335	.335	8.50	.315		100°
D43-375	.376	9.52	.315		100°
D43-394	.394	10.00	.315		100°
D43-433	.433	11.00	.394		100°
D43-473	.473	12.10	.394		100°
D43-500	.500	14.20	.394		100°
D43-591	.591	15.10	.394		100°
D43-730	.730	18.54	.394		100°
D43-864	.864	22.00	.394		100°
D43-1000	1.000	25.40	.394		100°

*Other grit szes available upon request.

3/8" SHANK
3½" OAL



CATALOG NUMBER	DIAMETER D-INCH	DIAMETER D-mm.	T	STANDARD GRIT SIZE
D638-394	.394	10.00	.394	100º
D638-433	.433	11.00	.394	100°
D638-473	.473	12.10	.394	100°
D638-500	.500	14.20	.500	100°
D638-591	.591	15.01	.500	100°
D638-625	.625	16.88	.500	100°
D638-730	.730	18.54	.500	100°
D638-750	.750	19.05	.500	100°
D638-864	.864	22.00	.500	100°
D638-1000	1.000	25.40	.500	100°
D638-1250	1.250	31.75	.500	100°
D638-1500	1.500	38.10	.500	100°

*Other grit szes available upon request.

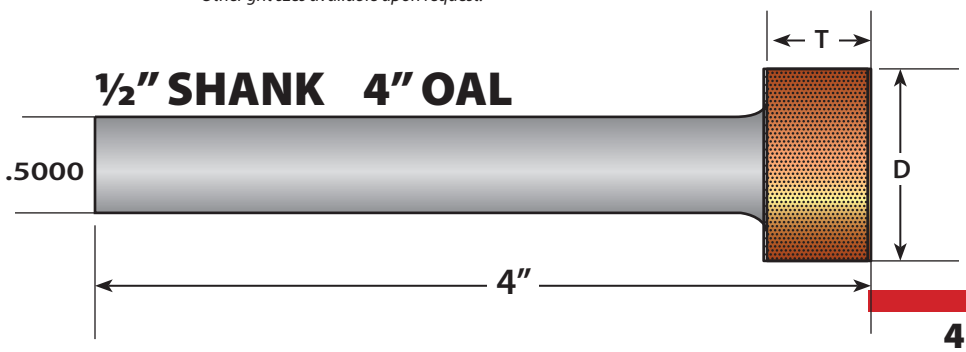
CATALOG NUMBER	DIAMETER D-INCH	DIAMETER D-mm.	T	STANDARD GRIT SIZE
D84-750	.750	19.05	.375	100º
D84-1000	1.000	25.40	.375	100°
D84-1250	1.250	31.75	.500	100°
D84-1500	1.500	38.10	.500	100°
D84-2000	2.000	50.80	.500	100°

*Other grit szes available upon request.

NOTE

When ordering CBN Mandrels, substitute "B" in place of "D". Example: B224-015

½" SHANK 4" OAL



DIAMOND FILES AND HONES

DIAMOND AND CBN ELECTROPLATED TOOLS AND FILES -used for deburring, honing, and shaping your material to finished requirements. Mounted rounds, cones, and countersinks are used for deburring andf shaping your material. They can be custom made to your specifications.

DIAMOND HOLE SAWS, DRILLS, AND ROUTERS -used for aggressive hole cutting on non-ferrous materials. Hole saws can be supplied with standard threaded hole and pilot or as a one piece unit with designated shank size. Drills and routers can be supplied in size requested.

DIAMOND NEEDLE, RIFFLERS AND HAND FILES
Round handle needle files and double end rifflers are used for removing burrs remaining from previous grinding or finishing operations. They can clean out square corners, round out slots, enlarge small holes, shape and finish grooves, notches and keyways.

Diamond hand files are used for honing carbide or ceramic tool bits. They can also be used to file, notch or smooth sharp edges on glass, quartz, ferrite or ceramic composite materials.

DIAMOND MACHINE FILES
These files can be used with hand-held reciprocating filing machines. The files are used to re-work hardened steel dies, carbide dies, ceramic parts, glass, minerals and abrasive composites.

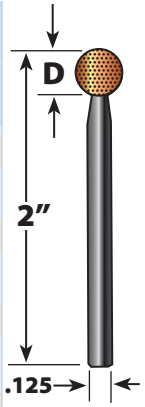
CONICAL DIAMOND HONES
Conical diamond hones are suitable for blending radii and angles in carbide, ceramic or harden steel dies.

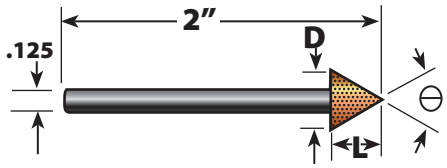
ROTARY DIAMOND CONTOUR FILES
Rotary Files are used to deburr exotic superalloys, grind and shape ceramics, carbide, ferrites and glass.

ROTARY CONTOUR TOOLS

1/8" SHANK 2" OAL

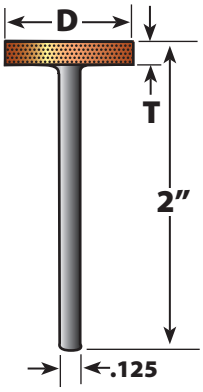
ROUNDS		
CATALOG NUMBER	D	STANDARD GRIT SIZE
MR-1	3/64	150°
MR-2	1/16	150°
MR-3	5/64	150°
MR-4	3/32	150°
MR-5	1/8	150°
MR-6	3/16	150°
MR-7	1/4	150°
MR-8	3/8	150°



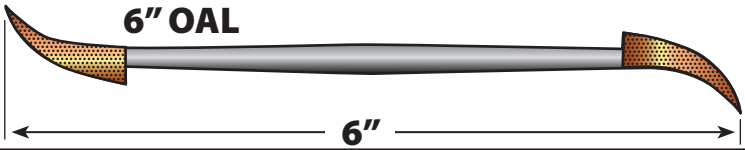


CONES				
CATALOG NUMBER	ANGLE θ	D	L	STANDARD GRIT SIZE
MC-14	14°	1/8	½	150°
MC-26	26°	3/16	13/32	150°
MC-35	35°	5/32	1/4	150°
MC-60	60°	11/64	5/32	150°

WHEELS			
CATALOG NUMBER	D	T	STANDARD GRIT SIZE
MW-1	1/4	1/32	150°
MW-2	1/4	1/16	150°
MW-3	1/4	1/8	150°
MW-4	3/8	1/32	150°
MW-5	3/8	1/16	150°
MW-6	3/8	1/8	150°



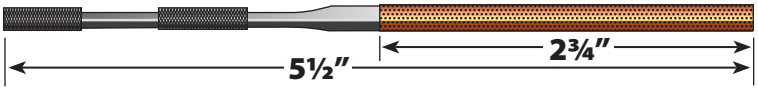
DIAMOND RIFFLER FILES



DIAMOND RIFFLER FILES			
DIAMOND COVERAGE	SHAPE	CATALOG NUMBER	STANDARD GRIT SIZE
	KNIFE	DRF-1	150°
	TRI	DRF-2	150°
	FLAT	DRF-3	150°
	SQUARE	DRF-4	150°
	HALF ROUND	DRF-5	150°
	ROUND	DRF-6	150°
	OVAL	DRF-7	150°

DIAMOND NEEDLE FILES

5 ½" OAL



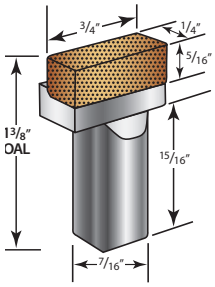
DIAMOND RIFFLER FILES			
DIAMOND COVERAGE	SHAPE	CATALOG NUMBER	STANDARD GRIT SIZE
	KNIFE	DNF-1	100°
	BARRETTE	DNF-2	100°
	SLITTING	DNF-3	100°
	3 SQUARE	DNF-4	100°
	EQUALLING	DNF-5	100°
	SQUARE	DNF-6	100°
	WARDING	DNF-7	100°
	CROCHET	DNF-8	100°
	CROSSING	DNF-9	100
	HALF ROUND	DNF-10	100°
	ROUND	DNF-11	100°

DIAMOND TOOLS

PDG(X) - 10 C

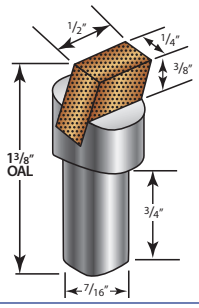
- **PDG(X)** — MAXIMUM STRENGTH
- **10** — DENOTES SHAPES WITH DIMENSIONS IN ACCORDANCE WITH DRAWINGS BELOW.
- **C** — DENOTES DIAMOND GRIT:
  - C - Coarse grit;
  - M - Medium grit;
  - F - Fine grit.

For example, **PDG-10C** means PDG-10 style shown below with coarse grit.



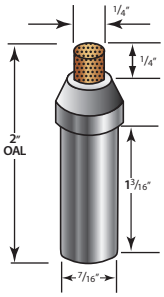
PDG-10

Used for straight dressing on cylindrical, centerless and surface grinders.



PDG-31

Used the same as PDG-30, except the PDG-31 is used when dresser is offset 15° from wheel.



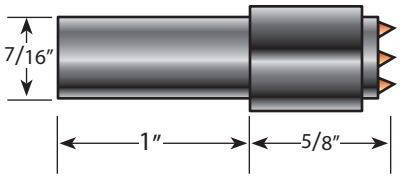
PDG-70

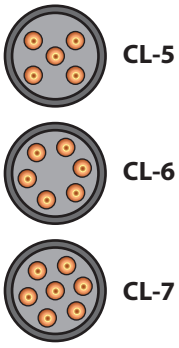
Used on small surface grinders and for general tool room applications where dresser is perpendicular to wheel face.

CLUSTER AND IMPREGNATED DRESSERS

Light, medium, heavy duty available.
Multi layer clusters available.

SINGLE LAYER CLUSTERS



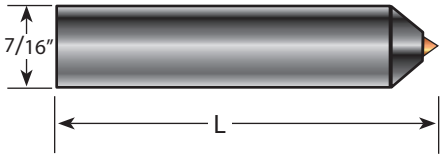


CL-5

CL-6

CL-7

Each whole, natural stone makes contact in the dressing of hard, wide-face, wheels. An economical substitute for large carat-weight, single stone tools.

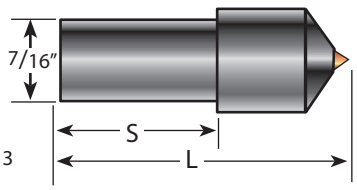


HOLDER NUMBER	71	714	718	72	74	76
Length	1"	1 ¼"	1 ½"	2"	4	6"

Use with Diamond No. 3, 4, 5 or 6 (See Guide Table)

HOLDER NUMBER	7099	7199	7098
L. Dim.	1 3/8"	1 5/8"	1 ¼"
S. Dim.	¾"	1"	¾"

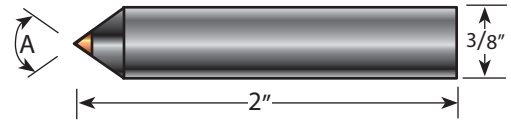
Use with Diamond No. 7 through 13



CONE POINT TOOLS

RADIUS AVAILABLE

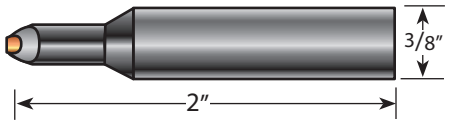
STYLE PH
FULL HEAD



CHISEL EDGE TOOLS

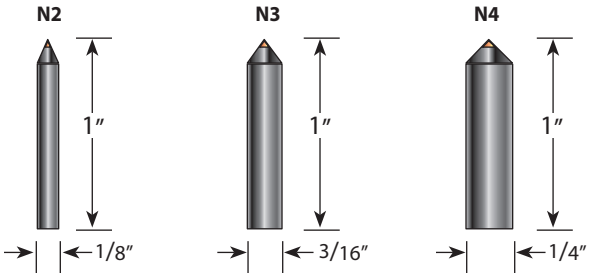
RADIUS AVAILABLE

STYLE CC
CUTAWAY



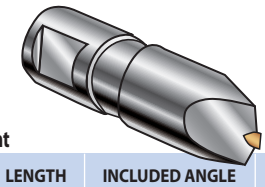
PHONOPOINTS

60 - 75 - 90 DEGREE AVAILABLE



SHAPED DIAMOND DRESSERS

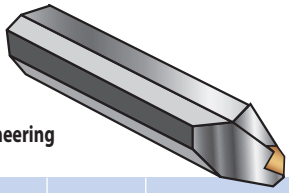
Illustrated below are four of the most popular radius and form dressing diamond tools used in precision grinding industries today. Following the manufacturer's blueprints, these tools are acccurately made and rigorously inspected so that thay will produce in grinding wheels intricate forms for which they are designed.



For Diaform Attachment

TOOL NUMBER	LENGTH	INCLUDED ANGLE	RADIUS
ROUGHING TOOLS			
PD-550	1.370	60°	.020
PD-511	1.750	60°	.020
FINISHING TOOLS			
PD-441	1.370	60°	.010
PD-442	1.370	40°	.005
PD-506	1.750	60°	.010
PD-508	1,750	40°	.005

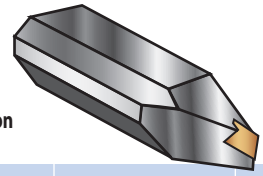
Only tool numbers need be used when ordering. The above tools are most popular but other specifications available upon request.



For Hoglund Engineering Dressing Device

TOOL NUMBER	LENGTH	INCLUDED ANGLE	RADIUS
PD-257262	1.625	72°	.025
PD-106075	1.750	60°	.010
PD-254875	1.750	48°	.025
PD-154262	1.625	42°	.015
PD-254075	1.750	40°	.025
PD-153575	1.750	35°	.015

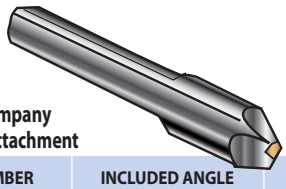
Only tool numbers need be used when ordering. The above tools are most popular but other specifications available upon request.



For Jones & Lamson Truing Device

TOOL NUMBER	INCLUDED ANGLE	RADIUS	STANDARD RADII
PD-967-1	50°	1.250	.004, .007, .011, .017, .020
PD-967-2	40°	1.250	.004, .007, .011, .017
PD-967-3	30°	1.250	.004, .007, .011, .017
PD-510-90	90°	1.250	.004, .007, .011, .017
PD-510-50	60°	1.250	.004, .007, .011, .017
PD-510-1	50°	1.250	.004, .007, .011, .017

Specify tool number and radius desired when ordering. The above tools are most poopular but other specifications available upon request.



For Moore Company Pantocrush Attachment

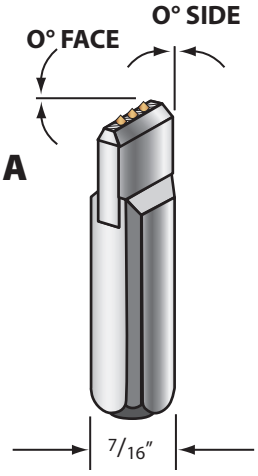
TOOL NUMBER	INCLUDED ANGLE	RADIUS
PD90M-005	90°	.005
PD90M-010	90°	.010
PD90M-015	90°	.015
PD60M-005	60°	.005
PD60M-010	60°	.010
PD60M-015	60°	.015
PD40M-005	40°	.005
PD40M-010	40°	.010

Only tool numbers need be used when ordering. The above tools are most popular but other specifications available upon request.

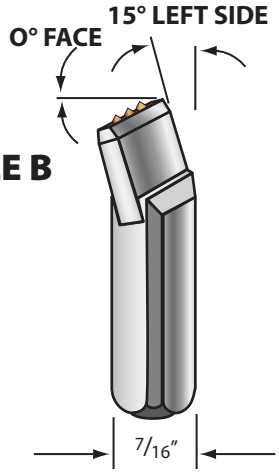
DIAMOND BLADE TOOLS

FOR STEP, PROFILE AND RADIUS DRESSING

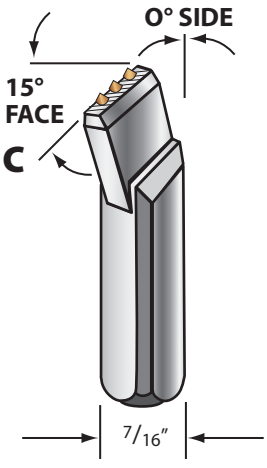
STYLE A



STYLE B



STYLE C

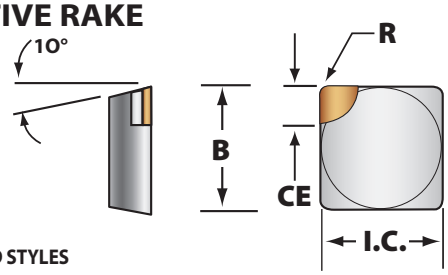


NOTE: Multiple layer and diamond Counts available

DIAMOND AND CBN INSERTS

(Tipped One corner) .125" MINIMUM CUTTING EDGE

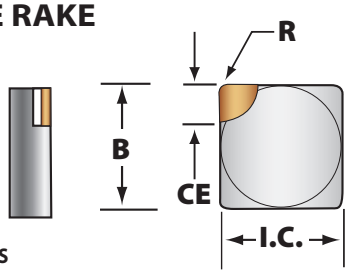
POSITIVE RAKE



SPG
STANDARD STYLES

INSERT NUMBER	DIMENSIONS				
	IC		T	B	R
	DIM.	TOL.			
SPG-321	3/8	± .001	1/8	.375	1/64
SPG-322				.375	1/32
SPG-323				.375	3/64
SPG-324				.375	1/16
SPG-421	1/2	± .001	1/8	.500	1/64
SPG-422				.500	1/32
SPG-423				.500	3/64
SPG-424				.500	1/16
SPG-432	1/2	± .001	3/16	.500	1/32
SPG-433				.500	3/64
SPG-532	5/8	± .001	3/16	.625	1/32
SPG-533				.625	3/64
SPG-534				.625	1/16
SPG-631	3/4	± .001	3/16	.750	1/64
SPG-632				.750	1/32
SPG-633				.750	3/64
SPG-634				.750	1/16

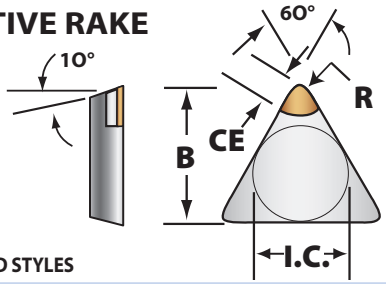
NEGATIVE RAKE



SNG
STANDARD STYLES

INSERT NUMBER	DIMENSIONS				
	IC		T	B	R
	DIM.	TOL.			
SNG-321	3/8	± .001	1/8	.375	1/64
SNG-322				.375	1/32
SNG-323				.375	3/64
SNG-421	1/2	± .001	1/8	.500	1/64
SNG-422				.500	1/32
SNG-423				.500	3/64
SNG-424				.500	1/16
SNG-431	1/2	± .001	3/16	.500	1/64
SNG-432				.500	1/32
SNG-433				.500	3/64
SNG-434				.500	1/16
SNG-632	3/4	± .001	3/16	.750	1/32
SNG-633				.750	3/64
SNG-634				.750	1/16

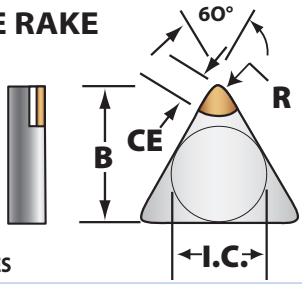
POSITIVE RAKE



TPG
STANDARD STYLES

INSERT NUMBER	DIMENSIONS				
	IC		T	B	R
	DIM.	TOL.			
TPG-221	1/4	± .001	1/8	.359	1/64
TPG-222				.344	1/32
TPG-321	3/8	± .001	1/8	.547	1/64
TPG-322				.531	1/32
TPG-323				.516	3/64
TPG-324				.500	1/16
TPG-331	3/8	± .001	3/16	.547	1/64
TPG-332				.531	1/32
TPG-333				.516	3/64
TPG-334				.500	1/16
TPG-431	1/2	± .001	3/16	.734	1/64
TPG-432				.719	1/32
TPG-433				.703	3/64
TPG-434				.688	1/16

NEGATIVE RAKE



TNG
STANDARD STYLES

INSERT NUMBER	DIMENSIONS				
	IC		T	B	R
	DIM.	TOL.			
TNG-221	1/4	± .001	1/8	.359	1/64
TNG-222				.344	1/32
TNG-321	3/8	± .001	1/8	.547	1/64
TNG-322				.531	1/32
TNG-323			.	516	3/64
TNG-331	3/8	± .001	3/16	.547	1/64
TNG-332				.531	1/32
TNG-333				.516	3/64
TNG-334				.500	1/16
TNG-431	1/2	± .001	3/16	.734	1/64
TNG-432				.719	1/32
TNG-433				.703	3/64
TNG-434				.688	1/16

APPLICATION SHEET

WHEEL SHAPE _____OD._____T_____H_____W_____U_____X_____ANGLE_____

WHEEL SPEC _____

OPERATION WHEEL IS TO PERFORM

_____

MATERIAL TO BE GROUND _____

WORKPIECE DESCRIPTION (TYPE OF TOOL) _____

_____

MACHINE MODEL & H.P. OF GRINDING MOTOR _____

VARIABLE SPEED SPINDLE?_____ TYPE OF COOLANT _____ TYPE OF FILTRATION_____

DEPTH OF CUT _____FEED RATE _____ FINISH REQUIREMENTS _____

TRUING METHOD _____

_____

NOTES _____

_____

_____

_____

_____

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