

3M™ Superabrasive Products
Popular Wheels, Mandrels and Dressing & Truing Tools



Tough
Tools

for your
Toughest Jobs



Stock List

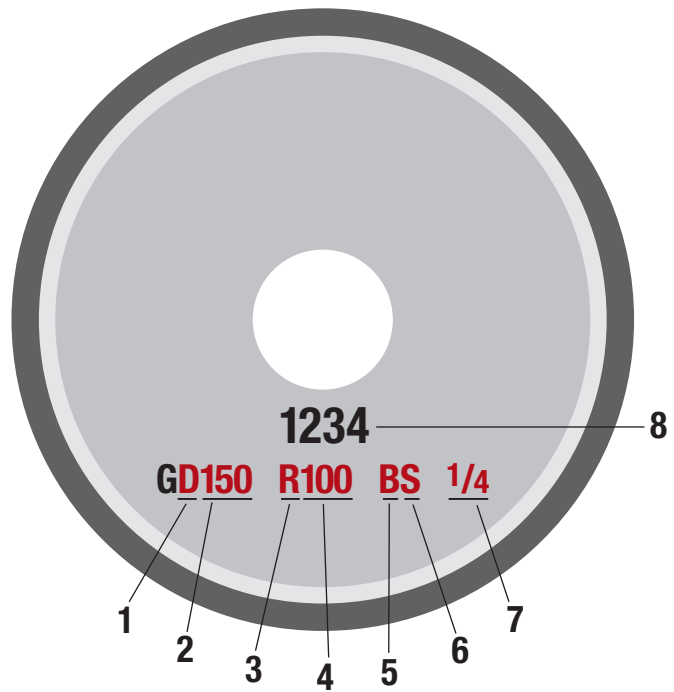
This stock list contains the most popular diamond and CBN cutting and grinding tools for a variety of general purpose and other applications. While 3M carries hundreds of additional superabrasives, these wheels, mandrels and dressing and truing tools were selected to represent the most common usages and are available as stock items for your convenience. If you require an item that is not listed, please contact your 3M Customer Service Representative at 1-800-736-2500.

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Superabrasive Wheel Specifications

The alphanumeric code on the wheel identifies its construction.



1. Abrasive type (D-Diamond, B-CBN)
2. Abrasive size – grit size
3. Grade (bond hardness) – higher letters (closer to Z) are harder
4. Concentration
5. Bond type
B-Resin
P-Polyimide
M-Metal
V-Vitrified
6. Special bond modification (if any)
7. Abrasive depth in inches (fractions of an inch)
8. Production number

When to use Diamond vs. CBN


Diamond

- Tungsten carbide
- Glass
- Ceramics
- Composites
- Thermal spray coatings
- Carbide
- Non-ferrous metals

CBN

- Cast Iron
- High-carbon steels
- Tool steels
- Hardened alloy steels
- Bearing steels
- Superalloys
- High speed steel
- Hard ferrous (steel) parts over 45 Rockwell C



Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 1A1				
				
Diamond	4" x 1/16" x 1-1/4"	100	GD100 R100 BS 1/4	21006-8
		150	GD150 R100 BS 1/4	20713-6
		150	CGD150 R75 BS 1/4	20714-3
		220	GD220 R100 BS 1/4	21007-5
	4" x 1/8" x 1-1/4"	150	GD150 R100 BS 1/4	20715-0
	4" x 1/4" x 1-1/4"	150	GD150 R100 BS 1/4	20716-7
	6" x 1/16" x 1-1/4"	100	GD100 R100 BS 1/4	21008-2
		150	GD150 R100 BS 1/4	21009-9
		220	GD220 R100 BS 1/4	21010-5
	6" x 1/8" x 1-1/4"	100	GD100 R100 BS 1/4	21011-2
		150	GD150 R100 BS 1/4	20717-4
		150	CGD150 R75 BS 1/8	20718-1
		220	GD220 R100 BS 1/4	21012-9
	6" x 1/4" x 1-1/4"	100	GD100 R100 BS 1/4	21013-6
		150	GD150 R100 BS 1/4	21014-3
		150	GD150 R100 BS 1/4	20720-4
		150	CGD150 R75 BS 1/8	20721-1
		220	GD220 R100 BS 1/4	20722-8
	6" x 1/2" x 1-1/4"	120	CGD120 R75 BS 1/8	21015-0
	7" x 1/4" x 1-1/4"	100	GD100 R100 BS 1/4	20723-5
120		CGD120 R75 BS 1/8	21016-7	
120		CGD120 R75 BS 1/8	20725-9	
150		GD150 R75 BS 1/4	20726-6	
150		GD150 R100 BS 1/4	21017-4	
7" x 1/2" x 1-1/4"	150	GD150 R100 BS 1/4	20724-2	
	220	GD220 R100 BS 1/4	21018-1	
	100	GD100 R100 BS 1/4	21019-8	
	120	CGD120 R75 BS 1/8	20727-3	
10" x 1/2" x 3"	150	CGD150 R75 BS 1/4	21020-4	
	220	GD220 R100 BS 1/4	21021-1	
12" x 1/2" x 3"	120	CGD120 R75 BS 1/4	20728-0	
12" x 1" x 3"	120	CGD120 R75 BS 1/4	20729-7	
12" x 1" x 3"	120	CGD120 R75 BS 1/4	20730-3	
14" x 1" x 5"	120	CGD120 R75 BS 1/4	20731-0	
CBN	10" x 1/2" x 3"	150	CB150 R100 BS 1/4	21003-7
	12" x 1/2" x 3"	100	CB100 R100 BS 1/4	21004-4

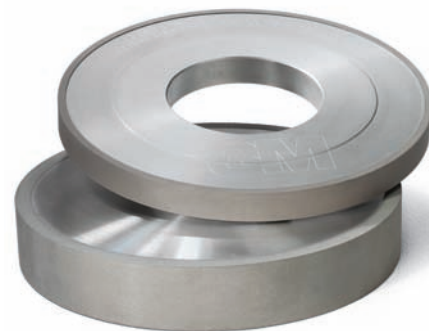
3M™ Resin Bond Wheels


Resin bond wheels are designed for fast and cool cutting, offering high cut rates in wet or dry grinding applications on materials such as carbides, ceramics and non-ferrous metals.

Applications

Diamond – Precision finishing of ceramics, tungsten carbide, cermets and ceramic thermal spray coatings; grinding of solid carbide and carbide-tipped and inserted tools, such as saws, cutters, reamers, endmills, etc.; precision grinding on carbide dies, rolls and carbide wear parts.

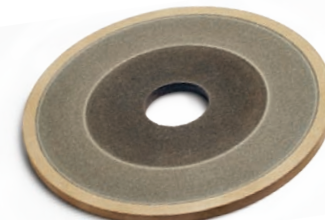
CBN – Grinding tool and die steels, high-speed steel, bearing steels and superalloys.



Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 1A1				
				
Diamond	4" x 1/4" x 1-1/4"	100	D100 R100 BS 1/4	20814-0
		220	D220 R100 BS 1/4	20815-7
		320	D320 R100 BS 1/4	20816-4
	5" x 1/4" x 1-1/4"	100	D100 R100 BS 1/4	20811-9
		180	D180 R100 BS 1/4	20812-6
		320	D320 R100 BS 1/4	20813-3
5" x 1/2" x 1-1/4"	100	D100 R100 BS 1/4	20810-2	

3M™ Resin Bond Wheels – Die Grinding

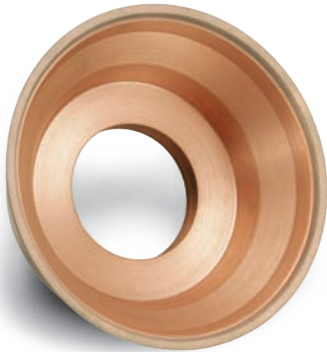
Die grinding wheels are used to finish, maintain and sharpen the hard-to-grind metals used in tool dies. Designed for dry grinding carbide dies, they deliver high cut rates and good abrasive life. May also be used wet.



3M™ Resin Bond Cup Wheels

Cup wheels come in a variety of shapes. Those with abrasive on the top of the “cup” rim (see diagram for 6A2C) are used to grind flat surfaces. Cup wheels with abrasive on the outside of the rim (see diagram for 11V9) are used for grinding inside curves.

Use wet or dry in tool and cutter grinding operations. Also used in other off-hand operations on various pedestal and bench grinders.

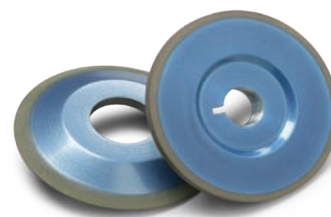
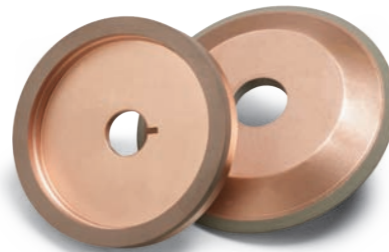


Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 6A2C				
Diamond	6" x 3/4" x 1-1/4", W - 3/4"	120	CGD120 R75 BS 1/8	20736-5
		240	CGD240 R50 BS 1/8	20737-2
Shape — 11A2				
Diamond	6" x 1-1/2" x 1-1/4", W - 1/4"	150	CGD150 R100 BS 1/4	21022-8
		150	CGD150 R100 BS 1/4	21023-5
Shape — 11V9				
Diamond	3-3/4" x 1-1/2" x 1-1/4" U = 3/8"	100	GD100 R100 BS 1/8	20738-9
		100	CGD100 R75 BS 1/8	20741-9
		150	GD150 R100 BS 1/16	20739-6
		150	GD150 R100 BS 1/8	20740-2
		150	CGD150 R75 BS 1/16	20742-6
		150	CGD150 R75 BS 1/8	20743-3
	5" x 1-3/4" x 1-1/4" U = 7/16"	220	CGD220 R75 BS 1/8	21024-2
		100	CGD100 R75 BS 1/8	20744-0
		150	CGD150 R75 BS 1/16	20745-7
	CBN	3-3/4" x 1-1/2" x 1-1/4" U = 3/8"	150	CGD150 R75 BS 1/8
100			CB100 R75 BS 1/8	20747-1
5" x 1-3/4" x 1-1/4" U = 7/16"		150	CB150 R75 BS 1/16	20748-8
	150	CB150 R75 BS 1/8	20749-5	
CBN	3-3/4" x 1-1/2" x 1-1/4" U = 3/8"	100	CB100 R75 BS 1/16	20750-1
		150	CB150 R75 BS 1/16	20751-8

Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 12A2				
Diamond	6" x 1" x 1-1/4", W - 1/4"	120	CGD 120 R75 BS 1/8	21025-9
CBN	6" x 1" x 1-1/4", W - 1/4"	120	CB120 R100 BS 1/8	21001-3
Shape — 12V9				
Diamond	6" x 3/4" x 1-1/4", 30° U = 1/4"	150	CGD150 R100 BS 1/16	20757-0
		150	CGD150 R100 BS 1/8	20758-7
	6" x 3/4" x 1-1/4", 45° U = 1/4"	150	CGD150 R100 BS 1/16	20759-4
		150	CGD150 R100 BS 1/8	20760-0
CBN	6" x 3/4" x 1-1/4", 30° U = 3/8"	120	CB120 R100 BS 1/8	21002-0
Shape — 15V9				
Diamond	6" x 3/4" x 1-1/4", 30° U = 1/4"	150	GD150 R100 BS 1/16	21026-6

3M™ Resin Bond Dish Wheels

Dish wheels are similar to cup wheels, but shallower. Used in tool and cutter work when clearance is important. Commonly used for grinding faces on saw teeth and relief angles on round tools.



Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 1A1R				
Diamond	4" x 1/32" x 1-1/4"	120	GD120 R100 BS 1/4	20732-7
		220	GD220 R100 BS 1/4	20733-4
	6" x .035" x 1-1/4"	120	CGD120 R100 BS 1/4	20734-1
		120	GD120 R100 BS 1/4	20735-8
CBN	7" x .040" x 1-1/4"	120	CB120 R100 BS 1/4	21005-1

3M™ Resin Bond Cut-Off Wheels

Designed for cutting carbide rod or cutting off the ends of carbide tools. These resin bond diamond wheels, 1A1R shape, deliver high cut rates and long life in wet and dry grinding operations.



3M™ Polyimide Bond Fluting Wheels

A fluting wheel is used to grind the flutes (grooves) of a drill bit. Polyimide Bond Fluting Wheels 1V1 are available in 5°, 10° and 15°.

Polyimide bond fluting wheels offer high cut rates, excellent abrasive life and temperature resistance, and are often used in CNC grinding equipment.

Applications

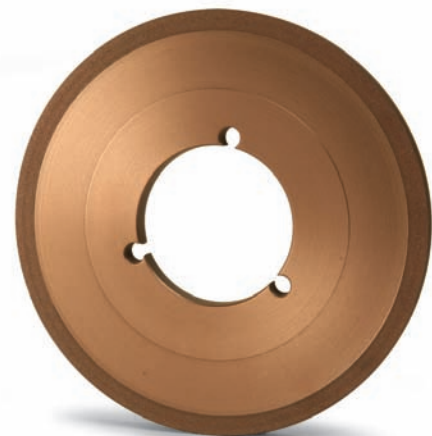
Diamond – Fluting of carbide cutting tools and drills.

CBN – Grinding hardened steel, tool steels and other hard ferrous metals.



Abrasive	Dimensions D x T x H, A	Grade	Specification	UPC 051115-
Shape — 1V1				
Diamond	5" x 1/4" x 1-1/4", 5°	320	CGD320 PMX BPP 1/4	21029-7
	5" x 1/4" x 1-1/4", 10°	320	CGD320 PMX BPP 1/4	21031-0
	5" x 1/4" x 1-1/4", 15°	320	CGD320 PMX BPP 1/4	21033-4
	5" x 1/4" x 2", 5°	320	CGD320 PMX BPP 1/4	21030-3
	5" x 1/4" x 2", 10°	320	CGD320 PMX BPP 1/4	21032-7
	5" x 1/4" x 2", 15°	320	CGD320 PMX BPP 1/4	21034-1
	5" x 3/8" x 1-1/4", 5°	220	CGD220 PMX BPP 1/4	21037-2
	5" x 3/8" x 1-1/4", 10°	220	CGD220 PMX BPP 1/4	21039-6
	5" x 3/8" x 1-1/4", 15°	220	CGD220 PMX BPP 1/4	21041-9
	5" x 3/8" x 2", 5°	220	CGD220 PMX BPP 1/4	21038-9
	5" x 3/8" x 2", 10°	220	CGD220 PMX BPP 1/4	21040-2
	5" x 3/8" x 2", 15°	220	CGD220 PMX BPP 1/4	21042-6
	5" x 1/2" x 1-1/4", 5°	220	CGD220 PMX BPP 1/4	21045-7
	5" x 1/2" x 1-1/4", 10°	220	CGD220 PMX BPP 1/4	21047-1
	5" x 1/2" x 1-1/4", 15°	220	CGD220 PMX BPP 1/4	21049-5
	5" x 1/2" x 2", 5°	220	CGD220 PMX BPP 1/4	21046-4
	5" x 1/2" x 2", 10°	220	CGD220 PMX BPP 1/4	21048-8
	5" x 1/2" x 2", 15°	220	CGD220 PMX BPP 1/4	21050-1
	7" x 3/8" x 1-1/4", 5°	220	CGD220 PMX BPP 1/4	21053-2
	7" x 3/8" x 1-1/4", 10°	220	CGD220 PMX BPP 1/4	21055-6
	7" x 3/8" x 1-1/4", 15°	220	CGD220 PMX BPP 1/4	21057-0
	7" x 3/8" x 2", 5°	220	CGD220 PMX BPP 1/4	21054-9
	7" x 3/8" x 2", 10°	220	CGD220 PMX BPP 1/4	21056-3
	7" x 3/8" x 2", 15°	220	CGD220 PMX BPP 1/4	21058-7
	7" x 1/2" x 1-1/4", 5°	220	CGD220 PMX BPP 1/4	21061-7
	7" x 1/2" x 1-1/4", 10°	220	CGD220 PMX BPP 1/4	21063-1
7" x 1/2" x 1-1/4", 15°	220	CGD220 PMX BPP 1/4	21065-5	
7" x 1/2" x 2", 5°	220	CGD220 PMX BPP 1/4	21062-4	
7" x 1/2" x 2", 10°	220	CGD220 PMX BPP 1/4	21064-8	
7" x 1/2" x 2", 15°	220	CGD220 PMX BPP 1/4	21066-2	
Shape — 1VA1				
Diamond	5" x 1/4" x 1-1/4"	320	CGD320 PMX BPP 1/4	21027-3
	5" x 1/4" x 2"	320	CGD320 PMX BPP 1/4	21028-0
	5" x 3/8" x 1-1/4"	220	CGD220 PMX BPP 1/4	21035-8
	5" x 3/8" x 2"	220	CGD220 PMX BPP 1/4	21036-5
	5" x 1/2" x 1-1/4"	220	CGD220 PMX BPP 1/4	21043-3
	5" x 1/2" x 2"	220	CGD220 PMX BPP 1/4	21044-0
	7" x 3/8" x 1-1/4"	220	CGD220 PMX BPP 1/4	21051-8
	7" x 3/8" x 2"	220	CGD220 PMX BPP 1/4	21052-5
	7" x 1/2" x 1-1/4"	220	CGD220 PMX BPP 1/4	21059-4
	7" x 1/2" x 2"	220	CGD220 PMX BPP 1/4	21060-0

Abrasive	Dimensions D x T x H, A	Grade	Specification	UPC 051115-
<p>Shape — 1V1</p>				



CBN	5" x 3/8" x 1-1/4", 5°	180	CB180 PMX BPP 1/4	21069-3
	5" x 3/8" x 1-1/4", 10°	180	CB180 PMX BPP 1/4	21071-6
	5" x 3/8" x 1-1/4", 15°	180	CB180 PMX BPP 1/4	21073-0
	5" x 3/8" x 2", 5°	180	CB180 PMX BPP 1/4	21070-9
	5" x 3/8" x 2", 10°	180	CB180 PMX BPP 1/4	21072-3
	5" x 3/8" x 2", 15°	180	CB180 PMX BPP 1/4	21074-7
	5" x 1/2" x 1-1/4", 5°	180	CB180 PMX BPP 1/4	21077-8
	5" x 1/2" x 1-1/4", 10°	180	CB180 PMX BPP 1/4	21079-2
	5" x 1/2" x 1-1/4", 15°	180	CB180 PMX BPP 1/4	21081-5
	5" x 1/2" x 2", 5°	180	CB180 PMX BPP 1/4	21078-5
	5" x 1/2" x 2", 10°	180	CB180 PMX BPP 1/4	21080-8
	5" x 1/2" x 2", 15°	180	CB180 PMX BPP 1/4	21082-2
	7" x 3/8" x 1-1/4", 5°	180	CB180 PMX BPP 1/4	21085-3
	7" x 3/8" x 1-1/4", 10°	180	CB180 PMX BPP 1/4	21087-7
	7" x 3/8" x 1-1/4", 15°	180	CB180 PMX BPP 1/4	21089-1
	7" x 3/8" x 2", 5°	180	CB180 PMX BPP 1/4	21086-0
	7" x 3/8" x 2", 10°	180	CB180 PMX BPP 1/4	21088-4
	7" x 3/8" x 2", 15°	180	CB180 PMX BPP 1/4	21090-7
	7" x 1/2" x 1-1/4", 5°	150	CB150 PMX BPP 1/4	21093-8
	7" x 1/2" x 1-1/4", 10°	150	CB150 PMX BPP 1/4	21095-2
	7" x 1/2" x 1-1/4", 15°	150	CB150 PMX BPP 1/4	21097-6
	7" x 1/2" x 2", 5°	150	CB150 PMX BPP 1/4	21094-5
	7" x 1/2" x 2", 10°	150	CB150 PMX BPP 1/4	21096-9
	7" x 1/2" x 2", 15°	150	CB150 PMX BPP 1/4	21098-3

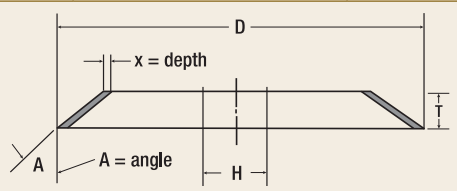
Shape — 1VA1				
CBN	5" x 3/8" x 1-1/4"	180	CB180 PMX BPP 1/4	21067-9
	5" x 3/8" x 2"	180	CB180 PMX BPP 1/4	21068-6
	5" x 1/2" x 1-1/4"	180	CB180 PMX BPP 1/4	21075-4
	5" x 1/2" x 2"	180	CB180 PMX BPP 1/4	21076-1
	7" x 3/8" x 1-1/4"	180	CB180 PMX BPP 1/4	21083-9
	7" x 3/8" x 2"	180	CB180 PMX BPP 1/4	21084-6
	7" x 1/2" x 1-1/4"	150	CB150 PMX BPP 1/4	21091-4
7" x 1/2" x 2"	150	CB150 PMX BPP 1/4	21092-1	



3M™ Polyimide Bond Gashing Wheel

A gashing wheel is used to notch the cutting end of end mills. The angle of the pointed edge is 45° from perpendicular (see A in diagram).

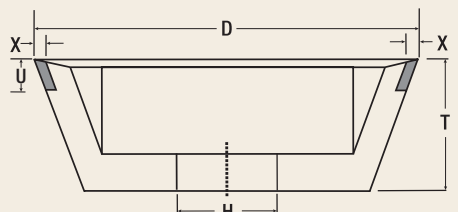
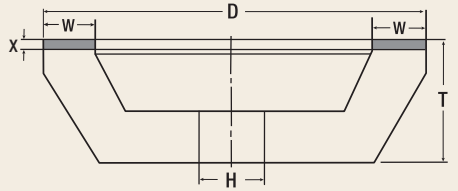


Abrasive	Dimensions D x T x H, A	Grade	Specification	UPC 051115-
Shape — 1V1 				
Diamond	4" x 1/4" x 1-1/4", 45°	320	CGD320 R125 BP 1/4	20766-2
	5" x 1/4" x 1-1/4", 45°	320	CGD320 R125 BP 1/4	20767-9
	6" x 3/8" x 1-1/4", 45°	240	CGD240 R125 BP 1/4	20768-6
CBN	5" x 1/4" x 1-1/4", 45°	220	CB220 P100 BP 1/4	20769-3
	5" x 3/8" x 1-1/4", 45°	220	CB220 P100 BP 1/4	20770-9

3M™ Polyimide Bond Cup Wheel

Cup wheels come in two basic varieties: with abrasive on the outside of the rim (diagram 11V9) or on the top of the “cup” rim (diagram 11A2). Both are used for outside diameter or end work in a CNC grinding operation.

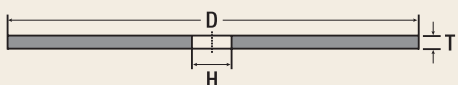


Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 11V9 				
Diamond	3-3/4" x 1-1/2" x 1-1/4" U = 3/8"	320	CGD320 R125 BP 1/8	20761-7
	5" x 1-3/4" x 1-1/4" U = 7/16"	320	CGD320 R125 BP 1/8	20762-4
CBN	3-3/4" x 1-1/2" x 1-1/4" U = 3/8"	220	CB220 P100 BP 1/8	20763-1
	5" x 1-3/4" x 1-1/4" U = 7/16"	220	CB220 P100 BP 1/8	20764-8
Shape — 11A2 				
Diamond	4" x 1-1/4" x 1-1/4", W - 1/4"	320	CGD320 R125 BP 1/4	20765-5

3M™ Polyimide Bond Cut-Off Wheels

A cut-off wheel is designed for cutting carbide rod or cutting off the ends of carbide tools.



Abrasive	Dimensions D x T x H	Grade	Specification	UPC 051115-
Shape — 1A8 				
Diamond	6" x .035" x 1-1/4"	120	CGD120 S100 BP	20780-8

Abrasive section D x H	R	Grade	Diamond UPC 051115-	CBN UPC 051115-
Type I — 1/8" shank x 2-1/4" OAL				
0.018" x 0.079"	3/16"	240	20823-2	20912-3
0.020" x 0.079"	1/4"	220	20824-9	20913-0
0.024" x 0.079"	1/4"	220	20825-6	20914-7
0.030" x 0.079"	1/4"	220	20826-3	20915-4
0.035" x 0.118"	1/4"	220	20827-0	20916-1
0.039" (1mm) x 0.118"	1/4"	220	20828-7	20917-8
0.050" x 0.118"	1/4"	220	20829-4	20918-5
		120	20830-0	20919-2
0.050" x 0.118"	1/2"	220	20831-7	20920-8
		120	20832-4	20921-5
0.060" x 0.157"	1/2"	220	20833-1	20922-2
		120	20834-8	20923-9
0.060" x 0.157"	1"	220	20835-5	20924-6
		120	20836-2	20925-3
0.070" x 0.157"	1/2"	220	20837-9	20926-0
		120	20838-6	20927-7
0.070" x 0.157"	1"	220	20839-3	20928-4
		120	20840-9	20929-1
0.079" (2mm) x 0.157"	1/2"	220	20841-6	20930-7
		120	20842-3	20931-4
0.079" (2mm) x 0.157"	1"	220	20843-0	20932-1
		120	20844-7	20933-8
0.090" x 0.157"	1/2"	220	20845-4	20934-5
		120	20846-1	20935-2
0.090" x 0.157"	1"	220	20847-8	20936-9
		120	20848-5	20937-6
0.100" x 0.157"	1/2"	220	20849-2	20938-3
		120	20850-8	20939-0
0.100" x 0.157"	1"	220	20851-5	20940-6
		120	20852-2	20941-3
0.110" x 0.157"	1/2"	220	20853-9	20942-0
		120	20854-6	20943-7
0.110" x 0.157"	1"	220	20855-3	20944-4
		120	20856-0	20945-1
0.118" (3mm) x 0.157"	5/8"	220	20857-7	20946-8
		120	20858-4	20947-5
0.118" (3mm) x 0.157"	1"	220	20859-1	20948-2
		120	20860-7	20949-9

3M™ Plated Mandrels

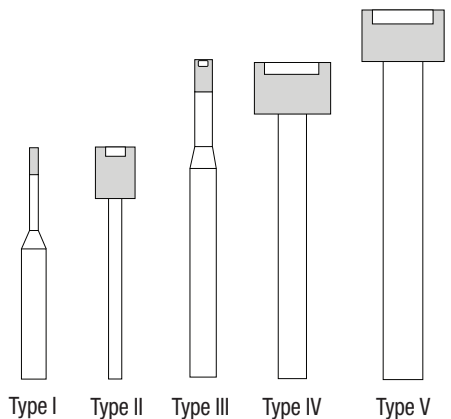
Abrasive grains electroplated on steel mandrels. All shanks are made of hardened and ground steel for assured concentricity – no truing required! Commonly used for ID, jig or contour grinding on extra hard materials. Coolant is optional, but enhances performance. If used with CBN mandrels, coolant should be oil-based.

Available in 120 and 220 mesh sizes (240 mesh available in 0.018" diameter only) in a wide variety of shapes and sizes; straight and tapered shanks. Choose a mandrel sized at 70-80 percent of your hole diameter for best performance.

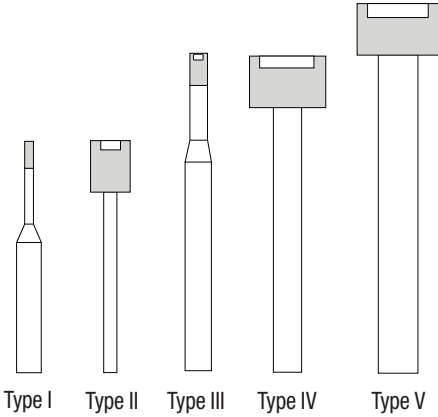
Applications

Diamond – for grinding ceramic, carbide, composite and non-ferrous materials.

CBN – for grinding hardened steels, superalloys and ferrous metals 40 RC or harder. CBN mandrels are identified by a copper dot on the end of the shank.



Mandrel diagrams are not to scale.

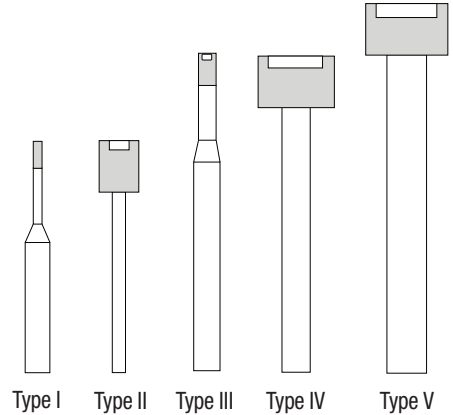


Mandrel diagrams are not to scale.

Abrasive section D x H, E	Grade	Diamond UPC 051115-	CBN UPC 051115-
Type II — 1/8" shank x 2-1/4" OAL			
0.135" x 0.197" x 0.030"	220	20862-1	20951-2
	120	20861-4	20950-5
0.157" x 0.197" x 0.030"	220	20863-8	20952-9
	120	20864-5	20953-6
0.188" x 0.236" x 0.030"	220	20865-2	20954-3
	120	20866-9	20955-0
0.197" x 0.236" x 0.035"	220	20867-6	20956-7
	120	20868-3	20957-4
0.236" x 0.275" x 0.035"	220	20869-0	20958-1
	120	20870-6	20959-8
0.256" x 0.275" x 0.050"	220	20871-3	20960-4
	120	20872-0	20961-1
0.275" x 0.275" x 0.050"	220	20873-7	20962-8
	120	20874-4	20963-5

Abrasive section D x H, E	R	Grade	Diamond UPC 051115-	CBN UPC 051115-
Type III — 1/4" shank x 3" OAL				
0.157" (4mm) x 0.197 x 0.030"	1"	220	20875-1	20964-2
		120	20876-8	20965-9
0.188" x 0.236 x .030"	1"	220	20877-5	20966-6
		120	20878-2	20967-3
0.197" (5mm) x 0.236 x .035"	1"	220	20879-9	20968-0
		120	20880-5	20969-7
0.236" (6mm) x 0.275 x .035"	1"	220	20881-2	20970-3
		120	20882-9	20971-0
0.256" x 0.275 x .050"	1"	220	20883-6	20972-7
		120	20884-3	20973-4

Abrasive section D x H x E	Grade	Diamond UPC 051115-	CBN UPC 051115-
Type IV — 1/4" shank x 3" OAL			
0.275" (7mm) x 0.315" x 0.050"	220	20885-0	20974-1
	120	20886-7	20975-8
0.315" (8mm) x 0.315" x 0.050"	220	20887-4	20976-5
	120	20888-1	20977-2
0.375" x 0.375" x 0.060"	220	20889-8	20978-9
	120	20890-4	20979-6
0.394" (10mm) x 0.197" x 0.060"	220	20891-1	20980-2
	120	20892-8	20981-9
0.394" (10mm) x 0.394" x 0.060"	220	20893-5	20982-6
	120	20894-2	20983-3
0.437" x 0.394" x 0.090"	220	20895-9	20984-0
	120	20896-6	20985-7
0.500" x 0.375" x 0.090"	220	20897-3	20986-4
	120	20898-0	20987-1
0.591" (15mm) x 0.394" x 0.090"	220	20899-7	20988-8
	120	20900-0	20989-5
0.730" x 0.375" x 0.125"	120	20901-7	20990-1



Mandrel diagrams are not to scale.

Abrasive section D x H x E	Grade	Diamond UPC 051115-	CBN UPC 051115-
Type V — 3/8" shank x 3-1/2" OAL			
0.394" (10mm) x 0.394" x 0.060"	220	20903-1	20992-5
	120	20902-4	20991-8
0.437" x 0.394" x 0.090"	220	20904-8	20993-2
	120	20905-5	20994-9
0.500" x 0.375" x 0.090"	220	20906-2	20995-6
	120	20907-9	20996-3
0.591" (15mm) x 0.394" x 0.090"	220	20908-6	20997-0
	120	20909-3	20998-7
0.730" x 0.394" x 0.125"	120	20910-9	20999-4
1.00" x 0.394" x 0.125"	120	20911-6	21000-6

3M™ Single-Point Dressing Tool – Standard

A standard-quality natural diamond tip set in a steel shank, this non-resettable tool is the most commonly used general purpose dresser.



Shank D x L	Type	Carat Weight	UPC 051115-
Standard Grade Diamond			
3/8" x 2"	TR2S6	.25 ct	20793-8
	TR3S6	.33 ct	20795-2
	TR5S6	.50 ct	20797-6
	TR7S6	.75 ct	20799-0
	TR10S6	1.00 ct	20801-0
7/16" x 2"	TR2S7	.25 ct	20794-5
	TR3S7	.33 ct	20796-9
	TR5S7	.50 ct	20798-3
	TR7S7	.75 ct	20800-3
	TR10S7	1.00 ct	20802-7

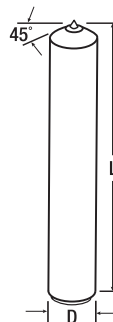


3M™ Single-Point Dressing Tool – Premium

A premium-quality natural diamond tip set in a steel shank, this non-resettable tool is more durable than the standard-quality version. Used on ceramic grain wheels and other difficult-to-dress wheels.

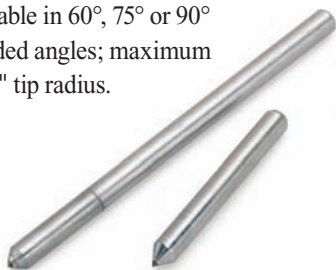


Shank D x L	Type	Carat Weight	UPC 051115-
Premium Grade Diamond			
3/8" x 2"	TR3P6	.33 ct	20803-4
	TR5P6	.50 ct	20805-8
7/16" x 2"	TR3P7	.33 ct	20804-1
	TR5P7	.50 ct	20806-5

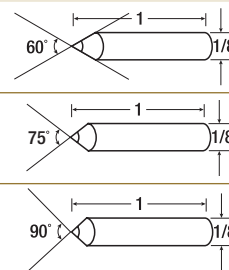


3M™ Phono-Point Dressing Tools

Sharp, sturdy, ground diamond point for internal radii dressing applications. Available in 60°, 75° or 90° included angles; maximum 0.005" tip radius.



Shank D x L	Type	UPC 051115-
Max. Tip Radius — 0.005"		
1/8" x 1"	P0560S2	20790-7
	P0575S2	20791-4
	P0590S2	20792-1

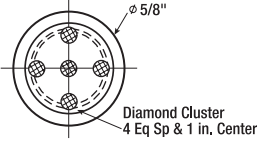



3M™ Multi-point Diamond Dresser

Multi-point dresser containing whole natural diamonds. Used in severe dressing applications for heavy stock removal. For straight dressing where single-point tools are not economical.



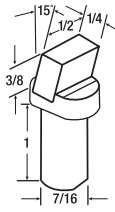
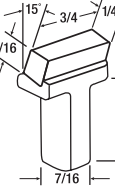
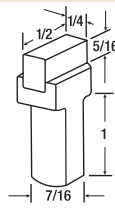
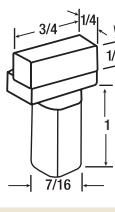
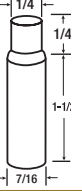
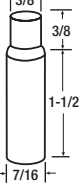
Type	Head Diameter	Carat Weight	UPC 051115-
Type Jr.			
used on 7" and 8" wheels	1/2"	3	28466-3
Type 2 & 8			
used on a #2 Cincinnati centerless, using an 8" wheel	5/8"	6	28465-6
Type CC			
used on centerless, cylindrical, and surface grinders, using wheels 10" in diameter or larger.	1"	6	28464-9

Shank Dia. (D x L)	Type	UPC 051115-
7/16" x 1"	CL5S1 	20788-4
7/16" x 1"	CL7S1 	20789-1

3M™ Multi-Point Dressing Tool

5 or 7 high-quality diamonds configured in a single layer; metal bond matrix. For dressing applications requiring the highest removal rates.



Size	Type	UPC 051115-
15°		
1/2" x 1/4" x 3/8" (7/16" Shank Dia.)	2A6E7 	20781-5
3/4" x 1/4" x 5/16" (7/16" Shank Dia.)	1A6C7 	20783-9
Straight		
1/2" x 1/4" x 3/8" (7/16" Shank Dia.)	2A6D7 	20782-2
3/4" x 1/4" x 5/16" (7/16" Shank Dia.)	1A6A7 	20784-6
Cylindrical, Straight Round		
1/4" x 3/8" (7/16" x 1-1/2" Shank)	1R6J7 	20786-0
3/8" x 1/2" (7/16" x 1-1/2" Shank)	2R6K7 	20787-7

3M™ Impregnated Grit Dressing Tool

Durable diamond grit in a metal bond matrix in straight or offset configurations; designed for common dressing applications.



3M™ DSD Truing Tools

This proprietary alloy is excellent for truing resin bond diamond and CBN wheels. Will true straight ODs, angles or sides of wheels. Must be used without coolant. Available in 1/4", 3/8" and 1/2" diameters for use with 3M™ Holding Blocks. Also available in 5/8" diameter for thru-feed truing and dressing of resin bond centerless wheels.



Size D x L	UPC 051115-
1/4" x 1-3/4"	20817-1
3/8" x 1-3/4"	20818-8
1/2" x 2"	20819-5
5/8" x 2"	20820-1

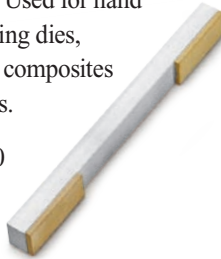
3M™ Holding Blocks

Used to mount 3M™ DSD Truing Tools (shown together in photo on page 13) for truing resin bond diamond and CBN wheels.

Size	UPC 051115-
Standard-Duty	
For 1/4" or 3/8" diameter tools	20821-8
Heavy-Duty	
For 3/8" or 1/2" diameter tools	20822-5

3M™ Hand Hones

Fine grade diamond in a resin bond matrix mounted on one or both ends of a 4" aluminum holder. Used for hand finishing and deburring dies, hard steel, ceramics, composites and non-ferrous parts.



Available in 120, 220 and 400 mesh sizes

Dimensions	Mounted Ends	Grade	UPC 051115-
X=1/16, W=3/8, T=1/4, LI=1, L=4			
3/8" x 1"	1	120	20752-5
	1	220	20753-2
	1	400	20754-9
	2	120/220	20755-6
	2	220/400	20756-3

3M™ Dressing Sticks

The most common means of dressing superabrasive wheels. Made of aluminum oxide; available in 150 and 220 grits in popular sizes.



Size	Type	UPC 051115-	Qty./Case
Aluminum Oxide			
1/2" x 1/2" x 4"	WA220	20807-2	12
3/4" x 3/4" x 4"	WA150	20808-9	
1" x 1" x 6"	WA220	20809-6	

Decimal/Millimeter Equivalent Chart

Inches	Decimal	Millimeter	Inches	Decimal	Millimeter
1/64	.0156	0.396	33/64	.5156	13.096
1/32	.0312	0.793	17/32	.5312	13.493
3/64	.0468	1.190	35/64	.5468	13.890
1/16	.0625	1.587	9/16	.5625	14.287
5/64	.0781	1.984	37/64	.5781	14.684
3/32	.0937	2.381	19/32	.5937	15.081
7/64	.1093	2.778	39/64	.6093	15.476
1/8	.125	3.175	5/8	.625	15.875
9/64	.1406	3.571	41/64	.6406	16.271
5/32	.1562	3.968	21/32	.6562	16.668
11/64	.1718	4.365	43/64	.6718	17.065
3/16	.1875	4.762	11/16	.6875	17.462
13/64	.2031	5.159	45/64	.7031	17.859
7/32	.2187	5.556	23/32	.7187	18.256
15/64	.2343	5.953	47/64	.7343	18.653
1/4	.250	6.350	3/4	.750	19.050
17/64	.2656	6.746	49/64	.7656	19.446
9/32	.2812	7.143	25/32	.7812	19.843
19/64	.2968	7.540	51/64	.7968	20.240
5/16	.3125	7.937	13/16	.8125	20.637
21/64	.3281	8.334	53/64	.8281	21.034
11/32	.3437	8.731	27/32	.8437	21.431
23/64	.3593	9.126	55/64	.8593	21.828
3/8	.375	9.525	7/8	.875	22.225
25/64	.3906	9.921	57/64	.8906	22.621
13/32	.4062	10.318	29/32	.9062	23.018
27/64	.4218	10.715	59/64	.9218	23.415
7/16	.4375	11.112	15/16	.9375	23.812
29/64	.4531	11.509	61/64	.9531	24.209
15/32	.4687	11.906	31/32	.9687	24.606
31/64	.4843	12.303	63/64	.9843	25.003
1/2	.500	12.700	1	1.000	25.400



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