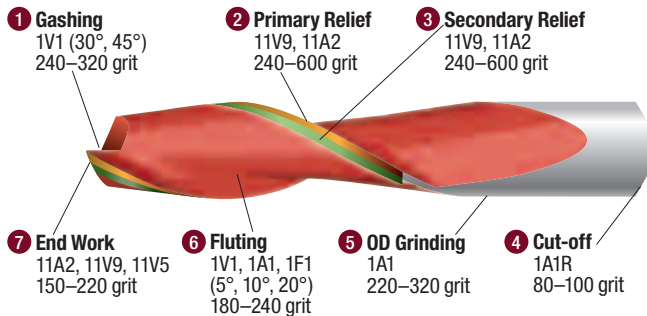


2-Day Shipping
on stock wheels
within the U.S.!

The superabrasive products featured in this catalog are 3M's best, "go-to" wheels for cutting tool applications ranging from short runs and re-sharpening to "lights-out" and long production runs. All are in-stock, and are available for fast, two-day shipping within the U.S. **If you require an item that is not listed, please contact your 3M Customer Service Representative at 1-800-736-2500.**

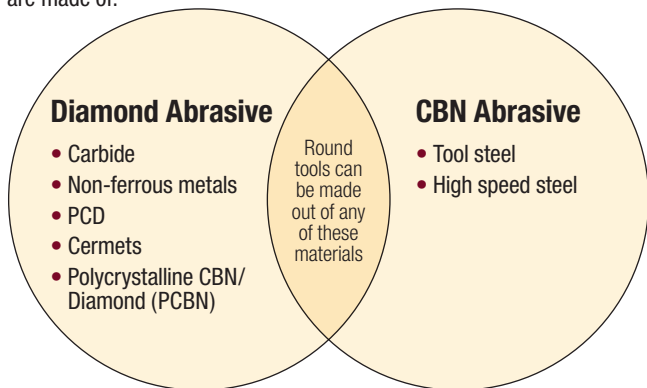
Typical Abrasive Wheels Used for Round Tool Grinding



- 1 Gashing** — Grinding a slot or notch along the cutting face to allow for chip flow.
- 2 Primary Relief** — Removing material directly behind the cutting edge to provide clearance.
- 3 Secondary Relief** — A slight bevel next to the primary relief.
- 4 Cut-off** — Using a thin wheel to trim blanks to length. Typically used on the cutting end of the tool when re-grinding and on the shank end when forming a blank.
- 5 OD Grinding** — Grinding to final diameter.
- 6 Fluting** — Flutes are the helical or straight grooves in the body of the tool. This provides a pathway to permit the removal of chips, and to allow coolants to reach the cutting surface.
- 7 End Work** — Grinding a small clearance, or relief angle, on the face (tip) of the tool.

When to use Diamond vs. CBN

For optimal grinding results, make sure you know what material the tools are made of.



Can't find what you need?

Simply provide us with the following information, and we'll help you select the optimal product for your application.

Contact 3M Customer Service for more information.

| E-mail | Fax | Phone |
|------------------------|--------------|--------------|
| superabrasives@mmm.com | 973-884-0392 | 800-736-2500 |

To order, specify: Wheel Shape, Dimension, Mineral, Grade and Product ID.

1. Are you manufacturing new tools or sharpening?

- Manufacturing Resharpening

2. What is your application?

- Fluting OD Grinding Step Grinding
 Gashing Primary Relief Other _____
 End Work Secondary Relief

3. What kind of material are you grinding?

- Carbide High Speed Steel Other _____

4. What type of equipment are you using?

- CNC Grinder Manual Tool & Cutter Other _____

If CNC Grinder...what is the model?

- ANCA—HP _____ Walters—HP _____ Other _____
 Rollomatic—HP _____ Tru Tech—HP _____ HP _____

5. What type of coolant are you using?

- Straight Oil Water Based Other _____
 Chilled? Yes No

6. What is the size/grade of your wheel(s)?

| Shape | Diameter | Thickness | Hole | Grade |
|--------|----------|-----------|------|-------|
| 1F1 | | | | |
| 1V1 | | | | |
| 11A2 | | | | |
| 12A2 | | | | |
| 11V9 | | | | |
| 12V9 | | | | |
| 1A1R | | | | |
| Other: | | | | |

Also Specify:

Radius: _____ Rim Width: _____
 Face Angle: _____ Rim Width: _____

7. What do you want to change/accomplish?

- Cut Faster Less Frequent Sticking Other _____
 Better Finishing Run Longer Without Re-truing

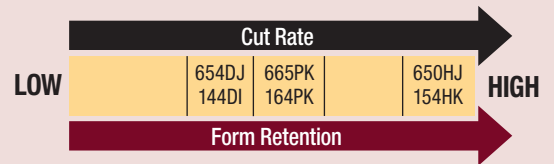
8. Which wheels have you tried?

Which 3M wheels in this brochure have you tested? _____

If none, what wheels do you currently use? _____

Fluting Wheel Performance Characteristics

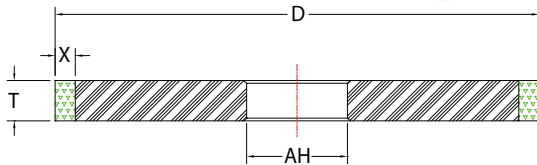
3M has six standard constructions that are ideal for a variety different operations.



| Product Performance (Diamond / CBN) | | |
|--|---|---|
| 654DJ / 144DI | 665PK / 164PK | 650HJ / 154HK |
| <ul style="list-style-type: none"> • Phenolic resin bond • Good cut rate/stock removal • Holds shape • Use for lower temperature operations • Can be run with water • Ideal for small re-grind shops or in-house re-sharpening | <ul style="list-style-type: none"> • Polyimide resin bond • Higher cut rate/fast stock removal • Better form retention • Designed for higher temperature operations | <ul style="list-style-type: none"> • Hybrid bond • Fastest cut rate • Best form retention • Designed for higher temperature operations than polyimide bond • Reduced frequency of dressing and minimal "white sticking" required • Ideal for long, uninterrupted runs |

3M™ Fluting Wheels

2-Day Shipping
on stock wheels within the U.S.!



3M™ Fluting Wheel — Shape 1A1

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|-------------------------------|-------|--------|---------|------------------|---------------|
| Diamond Abrasive — 1A1 | | | | | |
| 4" × 1/4" × AH* X = 3/8 | D220 | H | 650HJ | 31270-5 | 1 |
| | | P | 665PK | 54806-7 | |
| | | R | 654DJ | 31288-0 | |
| 4" × 3/8" × AH* X = 3/8 | D220 | H | 650HJ | 31273-6 | |
| | | P | 665PK | 54809-8 | |
| | | R | 654DJ | 31291-0 | |
| 4" × 1/2" × AH* X = 3/8 | D220 | H | 650HJ | 31267-5 | |
| | | P | 665PK | 54803-6 | |
| | | R | 654DJ | 31285-9 | |
| 5" × 1/4" × AH* X = 3/8 | D220 | H | 650HJ | 31279-8 | |
| | | P | 665PK | 54823-4 | |
| | | R | 654DJ | 31297-2 | |
| 5" × 3/8" × AH* X = 3/8 | D220 | H | 650HJ | 31282-8 | |
| | | P | 665PK | 54828-9 | |
| | | R | 654DJ | 54800-5 | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

3M™ Fluting Wheel — Shape 1A1 (cont.)

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case | |
|---------------------------------------|-------|--------|---------|------------------|---------------|---|
| Diamond Abrasive — 1A1 (cont.) | | | | | | |
| 5" × 1/2" × AH* X = 3/8 | D220 | H | 650HJ | 31276-7 | 1 | |
| | | P | 665PK | 54820-3 | | |
| | | R | 654DJ | 31294-1 | | |
| 5" × 3/4" × AH* X = 3/8 | D220 | H | 650HJ | 54916-3 | | |
| | | P | 665PK | 54917-0 | | |
| | | R | 654DJ | 54918-7 | | |
| 6" × 1/2" × AH* X = 3/8 | D220 | H | 650HJ | 55462-4 | | |
| | | P | 665PK | 55464-8 | | |
| | | R | 654DJ | 55463-1 | | |
| CBN Abrasive — 1A1 | | | | | | |
| 4" × 1/2" × AH* X = 3/8 | B180 | H | 154HK | 55465-5 | | 1 |
| | | P | 164PK | 55466-2 | | |
| | | R | 144DI | 55467-9 | | |
| 5" × 1/2" × AH* X = 3/8 | B180 | H | 154HK | 55468-6 | | |
| | | P | 164PK | 55469-3 | | |
| | | R | 144DI | 55470-9 | | |
| 6" × 1/2" × AH* X = 3/8 | B180 | H | 154HK | 55471-6 | | |
| | | P | 164PK | 55472-3 | | |
| | | R | 144DI | 55473-0 | | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

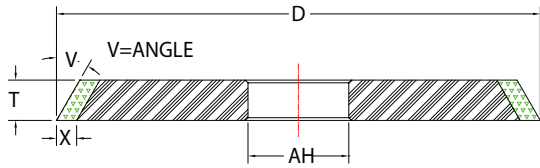
The wheels listed in this catalog are in stock and intended as a general starting point for the application indicated. **These wheels are recommended for wet applications.** For dry applications or wheel configurations/grades not listed here, please contact your 3M Customer Service Representative at 1-800-736-2500.

Flute Grinding

Flutes are the helical or straight grooves in the body of the tool. This provides a pathway to permit the removal of chips, and to allow coolants to reach the cutting surface.

2-Day Shipping
on stock wheels
within the U.S.!

3M™ Fluting Wheels (cont.)



3M™ Fluting Wheel — Shape 1V1

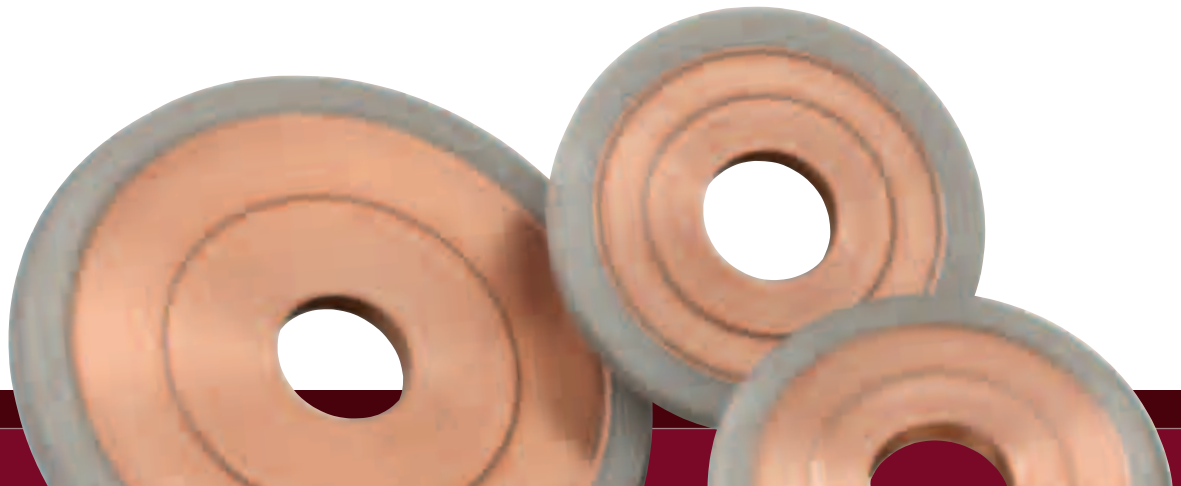
| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|----------------|------------------|---------------|
| Diamond Abrasive — 1V1 | | | | | |
| 4" × 1/4" × AH* X = 3/8 V = 10° | D220 | H | 650HJ | 31268-2 | 1 |
| | | P | 665PK | 54804-3 | |
| | | R | 654DJ | 31286-6 | |
| 4" × 1/4" × AH* X = 3/8 V = 20° | | H | 650HJ | 31269-9 | |
| | | P | 665PK | 54805-0 | |
| | | R | 654DJ | 31287-3 | |
| 4" × 3/8" × AH* X = 3/8 V = 10° | | H | 650HJ | 31271-2 | |
| | | P | 665PK | 54807-4 | |
| | | R | 654DJ | 31289-7 | |
| 4" × 3/8" × AH* X = 3/8 V = 20° | | H | 650HJ | 31272-9 | |
| | | P | 665PK | 54808-1 | |
| | | R | 654DJ | 31290-3 | |
| 4" × 1/2" × AH* X = 3/8 V = 10° | H | 650HJ | 31265-1 | | |
| | P | 665PK | 54801-2 | | |
| | R | 654DJ | 31283-5 | | |
| 4" × 1/2" × AH* X = 3/8 V = 20° | H | 650HJ | 31266-8 | | |
| | P | 665PK | 54802-9 | | |
| | R | 654DJ | 31284-2 | | |
| 5" × 1/4" × AH* X = 3/8 V = 10° | H | 650HJ | 31277-4 | | |
| | P | 665PK | 54821-0 | | |
| | R | 654DJ | 31295-8 | | |
| 5" × 1/4" × AH* X = 3/8 V = 20° | H | 650HJ | 31278-1 | | |
| | P | 665PK | 54822-7 | | |
| | R | 654DJ | 31296-5 | | |

* Arbor hole is made to customer spec. Please specify on order.
** H=Hybrid P=Polyimide R=Resin

3M™ Fluting Wheel — Shape 1V1 (cont.)

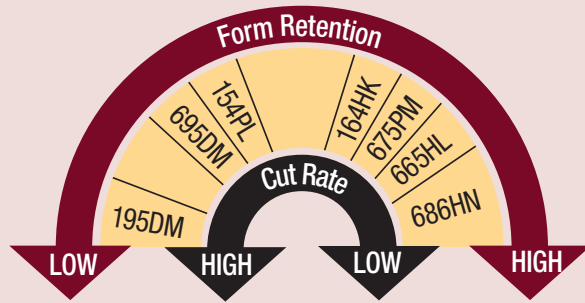
| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|----------------|------------------|---------------|
| Diamond Abrasive — 1V1 (cont.) | | | | | |
| 5" × 3/8" × AH* X = 3/8 V = 10° | D220 | H | 650HJ | 31280-4 | 1 |
| | | P | 665PK | 54826-5 | |
| | | R | 654DJ | 31298-9 | |
| 5" × 3/8" × AH* X = 3/8 V = 20° | | H | 650HJ | 31281-1 | |
| | | P | 665PK | 54827-2 | |
| | | R | 654DJ | 31299-6 | |
| 5" × 1/2" × AH* X = 3/8 V = 10° | | H | 650HJ | 31274-3 | |
| | | P | 665PK | 54818-0 | |
| | | R | 654DJ | 31292-7 | |
| 5" × 1/2" × AH* X = 3/8 V = 20° | | H | 650HJ | 31275-0 | |
| | | P | 665PK | 54819-7 | |
| | | R | 654DJ | 31293-4 | |
| 5" × 3/4" × AH* X = 3/8 V = 10° | H | 650HJ | 54919-4 | | |
| | P | 665PK | 54920-0 | | |
| | R | 654DJ | 54921-7 | | |
| CBN Abrasive — 1V1 | | | | | |
| 4" × 1/2" × AH* X = 3/8 V† = 0°–20° | B180 | H | 154HK | 55474-7 | 1 |
| | | P | 164PK | 55475-4 | |
| | | R | 144DI | 55476-1 | |
| 5" × 1/2" × AH* X = 3/8 V† = 0°–20° | | H | 154HK | 55477-8 | |
| | | P | 164PK | 55478-5 | |
| | | R | 144DI | 55479-2 | |
| 6" × 1/2" × AH* X = 3/8 V† = 0°–20° | | H | 154HK | 55480-8 | |
| | | P | 164PK | 55481-5 | |
| | | R | 144DI | 55482-2 | |

* Arbor hole is made to customer spec. Please specify on order.
** H=Hybrid P=Polyimide R=Resin



Wheel Performance Characteristics

3M™ Superabrasive Wheels are available in a variety of constructions, each with its own unique characteristics. Choose the 3M Wheel with the best balance of form retention and cut rate for your application.



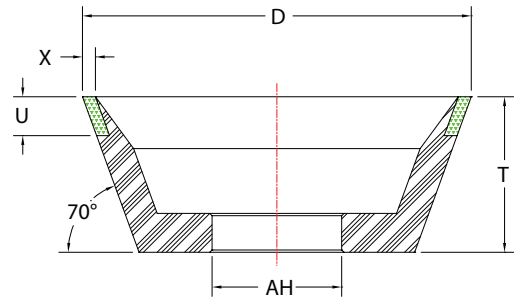
- Less Form Retention
- Shorter Production Runs
- Free Cutting
- Fast Cutting
- Best Form Retention
- Close Tolerances
- Long Wheel Life
- Long Production Runs
- Slower Cut Rate



The wheels listed in this catalog are in stock and intended as a general starting point for the application indicated. **These wheels are recommended for wet applications.** For dry applications or wheel configurations/grades not listed here, please contact your 3M Customer Service Representative at 1-800-736-2500.

3M™ Primary and Secondary Relief Wheels

2-Day Shipping
on stock wheels
within the U.S.!



3M™ Primary and Secondary Relief Wheel — Shape 11V9

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|---------|------------------|---------------|
| Diamond Abrasive — 11V9 | | | | | |
| 3-3/4" × 1-1/2" × AH* X = 1/8 U = 3/8 | D220 | H | 686HN | 54864-7 | 1 |
| | | P | 675PM | 54837-1 | |
| | | R | 695DM | 54869-2 | |
| | D280 | H | 686HN | 54865-4 | |
| | | P | 675PM | 54838-8 | |
| | | R | 695DM | 54870-8 | |
| | D320 | H | 686HN | 54866-1 | |
| | | P | 675PM | 54839-5 | |
| | | R | 695DM | 54871-5 | |
| | D400 | H | 686HN | 54867-8 | |
| | | P | 675PM | 54840-1 | |
| | | R | 695DM | 54872-2 | |
| 5" × 1-3/4" × AH* X = 1/8 U = 7/16 | D220 | H | 686HN | 54927-9 | |
| | D320 | H | 686HN | 54868-5 | |
| | | P | 675PM | 54855-5 | |
| | | R | 695DM | 54887-6 | |
| CBN Abrasive — 11V9 | | | | | |
| 3-3/4" × 1-1/2" × AH* X = 1/8 U = 3/8 | B220 | H | 164HK | 31244-6 | 1 |
| | | P | 154PL | 31233-0 | |
| | | R | 195DM | 31254-5 | |
| 5" × 1-3/4" × AH* X = 1/8 U = 7/16 | | H | 164HK | 31251-4 | |
| | | P | 154PL | 31239-2 | |
| | | R | 195DM | 31261-3 | |

* Arbor hole is made to customer spec. Please specify on order.

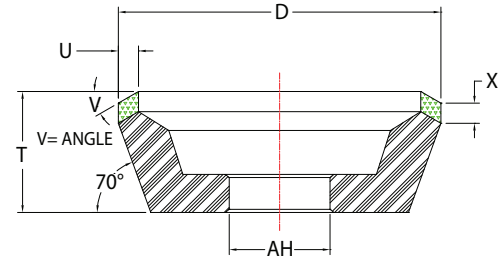
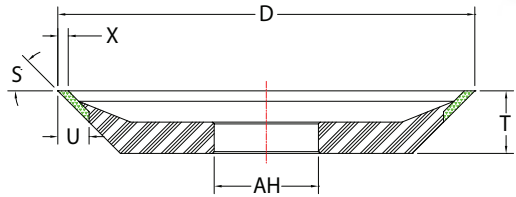
** H=Hybrid P=Polyimide R=Resin

Primary and Secondary Relief Grinding

Cutting edges are typically "relieved" to enhance chip clearance. Primary relief involves removing material directly behind the cutting edge. For secondary relief, a slight bevel is ground next to the primary relief.

3M™ Primary and Secondary Relief Wheels (cont.)

2-Day Shipping
on stock wheels
within the U.S.!



3M™ Primary and Secondary Relief Wheel — Shape 12V9

- Can also be used for gashing.
(See page 83 for additional Gashing Wheels)

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case | |
|--|-------|--|---------|------------------|---------------|---------|
| Diamond Abrasive — 12V9 | | | | | | |
| 4" × 3/4" × AH* X = 1/8; U = 3/8 S = 30° | D320 | H | 665HL | 54814-2 | 1 | |
| | | P | 675PM | 54847-0 | | |
| | | R | 695DM | 54879-1 | | |
| 4" × 3/4" × AH* X = 1/8; U = 3/8 S = 45° | | H | 665HL | 54813-5 | | |
| | | P | 675PM | 54846-3 | | |
| | | R | 695DM | 54878-4 | | |
| 5" × 3/4" × AH* X = 1/8; U = 3/8 S = 30° | | H | 665HL | 54831-9 | | |
| | | P | 675PM | 54856-2 | | |
| | | R | 695DM | 54888-3 | | |
| 5" × 3/4" × AH* X = 1/8; U = 3/8 S = 45° | H | 665HL | 54832-6 | | | |
| | P | 675PM | 54857-9 | | | |
| | R | 695DM | 54889-0 | | | |
| CBN Abrasive — 12V9 | | | | | | |
| 4" × 3/4" × AH* X = 1/8; U = 3/8 S = 30° | B220 | H | 164HK | 31250-7 | 1 | |
| | | P | 154PL | 31236-1 | | |
| | | R | 195DM | 31258-3 | | |
| 4" × 3/4" × AH* X = 1/8; U = 3/8 S = 45° | | R | 195DM | 31257-6 | | |
| | | 5" × 3/4" × AH* X = 1/8; U = 3/8 S = 30° | H | 164HK | | 31252-1 |
| | | | P | 154PL | | 31240-8 |
| R | | | 195DM | 31262-0 | | |
| 5" × 3/4" × AH* X = 1/8; U = 3/8 S = 45° | | H | 164HK | 31253-8 | | |
| | | P | 154PL | 31241-5 | | |
| | R | 195DM | 31263-7 | | | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

3M™ Primary and Secondary Relief Wheel — Shape 11V5

- Can also be used for gashing.
(See page 83 for additional Gashing Wheels)

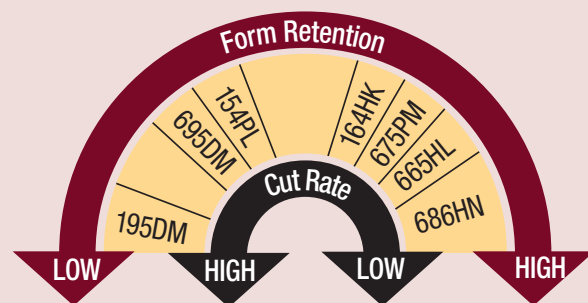
| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|---------|------------------|---------------|
| Diamond — 11V5 | | | | | |
| 4" × 1-1/2" × AH* X = 1/4; U = 1/4 V = 30° | D320 | H | 665HL | 54895-1 | 1 |
| | | P | 675PM | 54894-4 | |
| | | R | 695DM | 54893-7 | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

Wheel Performance Characteristics

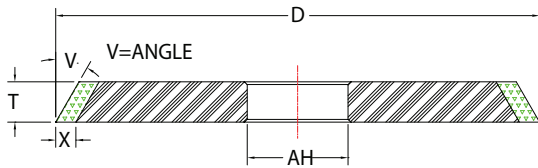
3M™ Superabrasive Wheels are available in a variety of constructions, each with its own unique characteristics. Choose the 3M Wheel with the best balance of form retention and cut rate for your application.



- | | |
|--|---|
| <ul style="list-style-type: none"> • Less Form Retention • Shorter Production Runs • Free Cutting • Fast Cutting | <ul style="list-style-type: none"> • Best Form Retention • Close Tolerances • Long Wheel Life • Long Production Runs • Slower Cut Rate |
|--|---|

3M™ Gashing Wheels

2-Day Shipping
on stock wheels
within the U.S.!



3M™ Gashing Wheel — Shape 1V1

- Wheel shapes 12V9 and 11V5 are also commonly used for gashing. (See page 82)

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|---------|------------------|---------------|
| Diamond Abrasive — 1V1 | | | | | |
| 4 × 1/4 × AH* X = 3/8 V = 30° | D280 | H | 665HL | 54810-4 | 1 |
| | | P | 675PM | 54842-5 | |
| | | R | 695DM | 54875-3 | |
| 4 × 3/8 × AH* X = 3/8 V = 20° | D320 | H | 665HL | 54815-9 | 1 |
| | | P | 675PM | 54848-7 | |
| | | R | 695DM | 54880-7 | |
| 4 × 3/8 × AH* X = 3/8 V = 30° | D320 | H | 665HL | 54816-6 | 1 |
| | | P | 675PM | 54849-4 | |
| | | R | 695DM | 54881-4 | |
| 4 × 3/8 × AH* X = 3/8 V = 45° | D320 | H | 665HL | 54817-3 | 1 |
| | | P | 675PM | 54850-0 | |
| | | R | 695DM | 54882-1 | |
| 5 × 3/8 × AH* X = 3/8 V = 20° | D320 | H | 665HL | 54833-3 | 1 |
| | | P | 675PM | 54858-6 | |
| | | R | 695DM | 54890-6 | |
| 5 × 3/8 × AH* X = 3/8 V = 30° | D320 | H | 665HL | 54834-0 | 1 |
| | | P | 675PM | 54859-3 | |
| | | R | 695DM | 54891-3 | |
| 5 × 3/8 × AH* X = 3/8 V = 45° | D320 | H | 665HL | 54835-7 | 1 |
| | | P | 675PM | 54860-9 | |
| | | R | 695DM | 54926-2 | |
| 6 × 3/8 × AH* X = 3/8 V = 30° | D280 | H | 665HL | 54836-4 | 1 |
| | | P | 675PM | 54861-6 | |
| | | R | 695DM | 54892-0 | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin



3M™ Gashing Wheel — Shape 1V1 (cont.)

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|--|-------|--------|---------|------------------|---------------|
| CBN Abrasive — 1V1 | | | | | |
| 4 × 3/8 × AH* X = 3/8 V = 30° | B220 | P | 154PL | 31237-8 | 1 |
| | | R | 195DM | 31259-0 | |
| 4 × 3/8 × AH* X = 3/8 V = 45° | B220 | P | 154PL | 31238-5 | 1 |
| | | R | 195DM | 31260-6 | |
| 5 × 3/8 × AH* X = 3/8 V = 30° | B220 | P | 154PL | 31242-2 | 1 |
| | | R | 195DM | 31264-4 | |
| 5 × 3/8 × AH* X = 3/8 V = 45° | B220 | P | 154PL | 31243-9 | 1 |
| | | R | 195DM | 31264-4 | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

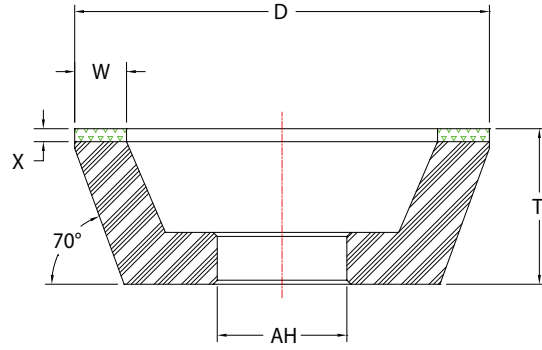
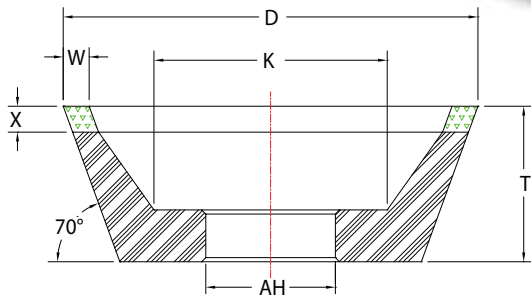
The wheels listed in this catalog are in stock and intended as a general starting point for the application indicated. **These wheels are recommended for wet applications.** For dry applications or wheel configurations/grades not listed here, please contact your 3M Customer Service Representative at 1-800-736-2500.

Gashing

Gashing involves grinding a slot or notch along the cutting face to allow for chip flow.

2-Day Shipping
on stock wheels
within the U.S.!

3M™ Wheels for End Work



3M™ Wheel for End Work — Shape 11V2

| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case |
|---|-------|--------|---------|------------------|---------------|
| Diamond Abrasive — 11V2 | | | | | |
| 4" × 1-1/2" × AH* X = 1/4 W = 1/4 | D220 | H | 665HL | 54862-3 | 1 |
| | | P | 675PM | 54841-8 | |
| | | R | 695DM | 54873-9 | |
| | D320 | H | 665HL | 54863-0 | |
| | | P | 675PM | 54843-2 | |
| | | R | 695DM | 54876-0 | |
| CBN Abrasive — 11V2 | | | | | |
| 4" × 1-1/2" × AH* X = 1/4 W = 1/4 | B220 | H | 164HK | 31248-4 | 1 |
| | | P | 154PL | 31234-7 | |
| | | R | 195DM | 31255-2 | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin



End Work

Grinding a small clearance, or relief, angle on the face (tip) of the tool to reduce the contact area between the tool and workpiece.

3M™ Wheel for End Work — Shape 11A2

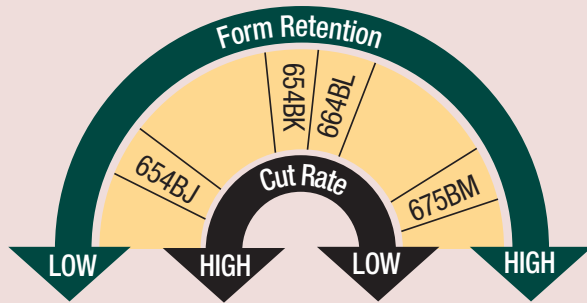
| Dimensions D × T × AH* | Grade | Bond** | Prod ID | UPC (051141-) | Min./ Case | |
|---|-------|--------|---------|------------------|---------------|---------|
| Diamond Abrasive — 11A2 | | | | | | |
| 4" × 1-1/4" × AH* X = 1/4 W = 1/4 | D320 | H | 665HL | 54811-1 | 1 | |
| | | P | 675PM | 54844-9 | | |
| | | R | 695DM | 54922-4 | | |
| 4" × 1-1/4" × AH* X = 1/4 W = 3/8 | D220 | R | 695DM | 54874-6 | | |
| | | D320 | H | 665HL | | 54812-8 |
| | | | P | 675PM | | 54845-6 |
| R | 695DM | | 54877-7 | | | |
| 5" × 1-1/2" × AH* X = 1/4 W = 1/4 | D220 | H | 665HL | 54824-1 | | |
| | | P | 675PM | 54851-7 | | |
| | | R | 695DM | 54883-8 | | |
| | D320 | H | 665HL | 54829-6 | | |
| | | P | 675PM | 54853-1 | | |
| | | R | 695DM | 54885-2 | | |
| 5" × 1-1/2" × AH* X = 1/4 W = 3/8 | D220 | H | 665HL | 54825-8 | | |
| | | P | 675PM | 54852-4 | | |
| | | R | 695DM | 54884-5 | | |
| | D320 | H | 665HL | 54830-2 | | |
| | | P | 675PM | 54854-8 | | |
| | | R | 695DM | 54886-9 | | |
| CBN Abrasive — 11A2 | | | | | | |
| 4" × 1-1/4" × AH* X = 1/4 W = 1/4 | B220 | H | 164HK | 31249-1 | 1 | |
| | | P | 154PL | 31235-4 | | |
| | | R | 195DM | 31256-9 | | |
| 4" × 1-1/4" × AH* X = 1/4 W = 3/8 | B220 | H | 164HK | 54923-1 | | |
| | | P | 154PL | 54924-8 | | |
| | | R | 195DM | 54925-5 | | |

* Arbor hole is made to customer spec. Please specify on order.

** H=Hybrid P=Polyimide R=Resin

The wheels listed in this catalog are in stock and intended as a general starting point for the application indicated. Many other wheel configurations and grades are available. Contact your 3M Customer Service Representative at 1-800-736-2500.

Cut-Off Wheel Performance Characteristics



- | | |
|--|---|
| <ul style="list-style-type: none"> • Less Form Retention • Shorter Production Runs • Free Cutting • Fast Cutting | <ul style="list-style-type: none"> • Best Form Retention • Close Tolerances • Long Wheel Life • Long Production Runs • Slower Cut Rate |
|--|---|

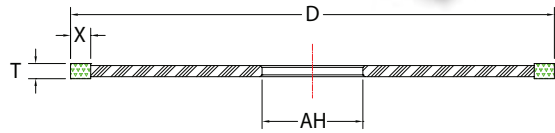


Cut-Off Wheels

These thin abrasive wheels are used to trim blanks to length. They are typically used on the cutting end of the tool when re-grinding and on the shank end when forming a blank.

3M™ Cut-Off Wheels

2-Day Shipping on stock wheels within the U.S.!



3M™ Cut-Off Wheel — Shape 1A1R

- Thin abrasive wheels used to trim blanks to length
- Typically used on the cutting end of the tool when re-grinding and on the shank end when forming a blank

| Dimensions D × T × AH | Grade | Prod ID | UPC (051141-) | Min./ Case |
|--------------------------------|-------|---------|------------------|---------------|
| Diamond Abrasive — 1A1R | | | | |
| 6" × 0.35" × 1-1/4" X = 1/4 | D100 | 654BJ | 54951-4 | 1 |
| | | 654BK | 30581-3 | |
| | | 675BM | 54952-1 | |
| | D120 | 664BL | 54953-8 | |
| | D220 | 654BJ | 54954-5 | |

3M™ Truing and Dressing Products

3M™ Dressing Wheels

- Silicon carbide dressing wheels are used to true and dress superabrasive grinding wheels
- Ideally suited for use with 3M™ Truing and Dressing Machines



2-Day Shipping on stock wheels within the U.S.!

| Dimensions D × T × AH | Grade* | Prod ID | UPC (051141-) | Min./ Case |
|---------------------------------|--------|---------|------------------|---------------|
| Silicon Carbide Abrasive | | | | |
| 8" × 1/2" × 1-1/4" | C80 | 400TI | 54900-2 | 1 |
| | GC80 | 400TI | 54906-4 | |
| 8" × 1/4" × 1-1/4" | C80 | 400TI | 54901-9 | |
| | | 400TK | 54910-1 | |
| | GC80 | 400TI | 54907-1 | |
| | | 400TG | 54896-8 | |
| | | 400TH | 54898-2 | |
| | GC220 | 400TI | 54905-7 | |
| 8" × 3/4" × 1-1/4" | C80 | 400TI | 54902-6 | |
| | | 400TK | 54911-8 | |
| 8" × 3/8" × 1-1/4" | GC80 | 400TI | 54908-8 | |
| | | 400TK | 54903-3 | |
| | C80 | 400TK | 54912-5 | |
| | | 400TH | 54899-9 | |
| | | 400TG | 54897-5 | |
| | GC120 | 400TI | 54909-5 | |
| | | 400TI | 54904-0 | |

*GC = Green Silicon Carbide — Premium quality for longer life.
C = Black Silicon Carbide — Standard quality, softer construction provides freer and faster cut.

3M™ Truing and Dressing Products (cont.)

3M™ DSD Truing Tools

- Made of a 3M proprietary alloy
- Excellent for truing resin bond diamond and CBN wheels
- Will true straight ODs, angles or sides of wheels
- Must be used without coolant



| Size D x L | Application | UPC (051115-) | Min./Case |
|---------------|---------------------------------|---------------|-----------|
| 1/4" x 1-3/4" | For use with 3M™ Holding Blocks | 20817-1 | 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 for truing resin bond diamond and CBN wheels



| Size | Application | UPC (051115-) | Min./Case |
|---------------------------------|---------------|---------------|-----------|
| For 1/4" or 3/8" diameter tools | Standard-Duty | 20821-8 | 1 |
| For 3/8" or 1/2" diameter tools | Heavy-Duty | 20822-5 | |

3M™ Dressing Sticks

- The most common means of dressing superabrasive wheels
- Made of aluminum oxide or silicon carbide in popular sizes



| Dimensions D x T x AH | Grade | Prod ID | UPC (051141-)* | Min./Case |
|------------------------|-------|---------|----------------|-----------|
| Aluminum Oxide | | | | |
| 1/2" x 1/2" x 4" | A0500 | 200TK | 54914-9 | 1 |
| 1/2" x 1/2" x 4" | A0220 | 200TH | 20807-2* | |
| 3/4" x 3/4" x 4" | A0150 | 200TG | 20808-9* | |
| 3/4" x 3/4" x 4" | A0500 | 200TK | 54915-6 | |
| 1" x 1" x 6" | A0220 | 200TH | 20809-6* | |
| Silicon Carbide | | | | |
| 1/2" x 1/2" x 3" | SC320 | 200TI | 54913-2 | 1 |

*Order using prefix 051115.

3M™ Single-Point Dressing Tool — Standard

- A standard-quality natural diamond tip set in a steel shank
- Non-resettable, general purpose dresser



| Shank D x L | Carat Weight | Type | UPC (051115-) | Min./Case |
|---|--------------|--------|---------------|-----------|
| Standard Grade Diamond Abrasive; 45° Angle | | | | |
| 3/8" x 2" | .25 ct | TR2S6 | 20793-8 | 1 |
| | .33 ct | TR3S6 | 20795-2 | |
| | .50 ct | TR5S6 | 20797-6 | |
| | .75 ct | TR7S6 | 20799-0 | |
| | 1.00 ct | TR10S6 | 20801-0 | |
| 7/16" x 2" | .25 ct | TR2S7 | 20794-5 | |
| | .33 ct | TR3S7 | 20796-9 | |
| | .50 ct | TR5S7 | 20798-3 | |
| | .75 ct | TR7S7 | 20800-3 | |
| | 1.00 ct | TR10S7 | 20802-7 | |

3M™ Single-Point Dressing Tool — Premium

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

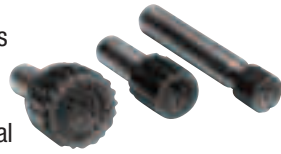


| Shank D x L | Carat Weight | Type | UPC (051115-) | Min./Case |
|--|--------------|-------|---------------|-----------|
| Premium Grade Diamond Abrasive; 45° Angle | | | | |
| 3/8" x 2" | .33 ct | TR3P6 | 20803-4 | 1 |
| | .50 ct | TR5P6 | 20805-8 | |
| 7/16" x 2" | .33 ct | TR3P7 | 20804-1 | |
| | .50 ct | TR5P7 | 20806-5 | |

3M™ Truing and Dressing Products (cont.)

3M™ Multi-Point Diamond Dresser

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



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

3M™ Multi-Point Dressing Tool

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



| Shank D x L | Type | UPC (051141-) | Min./Case |
|-------------|--|----------------|-----------|
| 7/16" x 1" | CL5S1 Diamond Cluster 4 Eq Sp & 1 in. Center | 20788-4 | 1 |
| | CL7S1 Diamond Cluster 6 Eq Sp & 1 in. Center | 20789-1 | |

3M™ Impregnated Grit Dressing Tool

- Durable diamond grit in a metal bond matrix in straight or offset configurations
- Designed for common dressing applications



| Size | Type | UPC (051141-) | Min./Case |
|---|-------|---------------|-----------|
| 15° Angle | | | |
| 1/2" x 1/4" x 3/8" (7/16" Shank Dia.) | 2A6E7 | | 1 |
| 3/4" x 1/4" x 5/16" (7/16" Shank Dia.) | 1A6C7 | | |
| Straight | | | |
| 1/2" x 1/4" x 3/8" (7/16" Shank Dia.) | 2A6D7 | | 1 |
| 3/4" x 1/4" x 5/16" (7/16" Shank Dia.) | 1A6A7 | | |
| Cylindrical, Straight Round | | | |
| 1/4" x 3/8" (7/16" x 1-1/2" Shank) | 1R6J7 | | 1 |
| 3/8" x 1/2" (7/16" x 1-1/2" Shank) | 2R6K7 | | |