

NORTON

SAINT-GOBAIN®

CATALOG #7362

EFFECTIVE 2017

ABRASIVE PRODUCT SOLUTIONS FOR THE
**FULL-LINE STOCK
INDUSTRIAL MARKET**



BECAUSE **RIGHT CHOICES** MATTER™


SAINT-GOBAIN

ROUGH GRINDING



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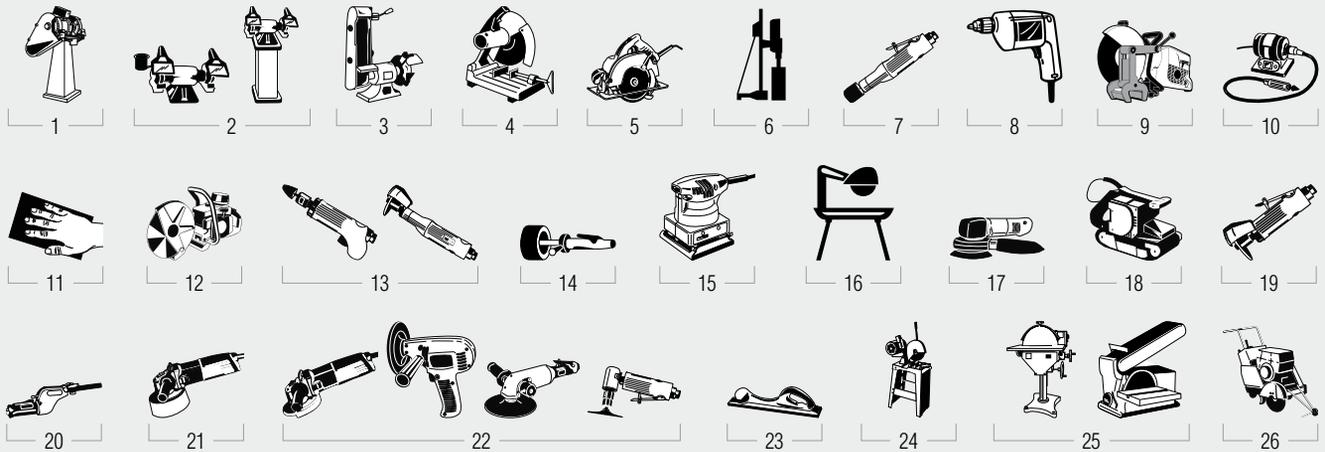
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NON-WOVEN ABRASIVES
QUICK-CHANGE DISCS

Norton and Merit non-woven quick-change discs are a combination of strong synthetic mesh and quality abrasives, bonded together by a stress-resistant adhesive. The open construction of this non-woven material enables aggressive cutting action and improved surface finish while maintaining its non-loading features.

Applications: Medium-light stock removal, leveling, deburring/finishing, cut removal, blending, cleaning and finishing, polishing, and decorative finishing.

Size Range: 3/4" - 8" diameter

Grit Range: 3-Coarse, Coarse, Medium, Fine, Very Fine, Super Fine

Machine Used: Coarse, Medium, Superfine/Nonwoven Discs, Aluminum Discs, Silver Catalyst

Quick-Change Type: Type 70 (Type K), Type 71 (Type L), and Type 72 (Type J)

Notes: Refer to technical literature for different applications.

QUICK-CHANGE ATTACHMENT SYSTEMS AND CROSS REFERENCE GUIDE

Each system enables quick, tool-free, on-site changes, reducing downtime and operating expense.

| | Type 70 (Type K) | Type 71 (Type L) | Type 72 (Type J) |
|-----------------------|---|---|---------------------------------------|
| Features: | Features a lens system of style below | Features a mesh of style below | Features a wrap-around of style below |
| Material: | Features a mesh of metal | Features a mesh of plastic | Features a mesh of nylon |
| Equivalent to: | Equivalent to Standard Abrasive Technology's bearing system | Equivalent to 3M™ Roloc™ bearing system | |

APPLICATION GRIT RECOMMENDATION GUIDE

| | Light Duty | Very Light Stock Removing & Blending | Very Light Prep | Light Prep | Medium Blending |
|-----------------|-------------|--------------------------------------|-----------------|------------|-----------------|
| NORTON | TS | TS | TS | TS | TS |
| MERIT | TS (Smooth) | TS (Lock) | TS (Lock) | TS (Lock) | TS (Lock) |
| Superior | Type 2 | Type 2 | Type 2 | Type 2 | Type 2 |
| As | Type 2 | Type 2 | Type 2 | Type 2 | Type 2 |
| Planet | Type CD | Type CD | Type CD | Type CD | Type CD |
| Ball | SAC LCB-R | SAC LCB-R | SAC LCB-R | SAC LCB-R | SAC LCB-R |
| Carroll | Turn-On | Turn-On | Turn-On | Turn-On | Turn-On |
| Wingspan | GRIC | GRIC | GRIC | GRIC | GRIC |
| Carquest | Type 2 | Type 2 | Type 2 | Type 2 | Type 2 |

BEAR-TEX **MERIT**

Easy to Follow Page Guide
Key Questions to Simplify Product Selection

Am I in the Right Section?

- A Product
- B Category overview
- C General attributes
- D Correct machine use

How Do I Narrow my Choices?

- E Product design variations

COATED ABRASIVES
FLAP DISCS

MATERIAL TO PRODUCT RECOMMENDATION GUIDE

| TYPE 20 FOR KNOCK REMOVAL | TYPE 21 FOR BLENDING AND FINISHING | TYPE 22 FOR FINISHING | TYPE 23 FOR FINISHING |
|---|---|---|---|
| Stainless Steel / Titanium / Super Alloys |
| Aluminum / Cast Iron |
| Stainless Steel / Cast Iron |
| Steel / Bronze / Aluminum |

APPLICATION GRIT RECOMMENDATION GUIDE

| Application | 24 | 36 | 48 | 60 | 80 | 100 | 120 | 150 | 180 | 240 | 320 | 400 | 500 | 600 | 800 | 1000 | 1200 | 1500 | 2000 | |
|--------------------------|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|---|
| Heavy Stock Removal | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Light Deburring/Blending | | | | | | | | | | | | | | | | | | | | |
| Medium Blending | | | | | | | | | | | | | | | | | | | | |
| Light Blending | | | | | | | | | | | | | | | | | | | | |
| Polishing | | | | | | | | | | | | | | | | | | | | |
| Cleaning | | | | | | | | | | | | | | | | | | | | |
| Finishing | | | | | | | | | | | | | | | | | | | | |

CROSS REFERENCE GUIDE

| | Best Overall Performance | Best Value | Best Performance | Best Overall Value |
|-----------------|--------------------------|------------|------------------|--------------------|
| NORTON | Super 20 | Super 21 | Super 22 | Super 23 |
| MERIT | Super 20 | Super 21 | Super 22 | Super 23 |
| Superior | Super 20 | Super 21 | Super 22 | Super 23 |
| As | Super 20 | Super 21 | Super 22 | Super 23 |
| Planet | Super 20 | Super 21 | Super 22 | Super 23 |
| Ball | Super 20 | Super 21 | Super 22 | Super 23 |
| Carroll | Super 20 | Super 21 | Super 22 | Super 23 |
| Wingspan | Super 20 | Super 21 | Super 22 | Super 23 |
| Carquest | Super 20 | Super 21 | Super 22 | Super 23 |

When You Want Fast and Tough, You Want Norton.

Whether you want maximum productivity in simple, economical steel solution, Norton products are the solution for your right angle grinding and blending applications.

Norton Stone - Highest Productivity - Lowest Total Cost

Norton Blends - Superior Blend of Performance and Price

Norton Metal - Best Performance - Low Flap Price

How Do I Match My End-User Needs?

- F Application recommendations
- G Best / Better / Good performance color coding
- H Full application / grit guide

How Do I Match or Upgrade from a Competitive Product?

- I Cross reference guide

What are the Leading Products by Tier?

J Tiers by color-coding: Best, Better, Good

K Features and benefits

L New, improved, and/or expanded offering



COATED REPAIRER FLAP DISCS

NORTON BLAZE R98CP CERAMIC ALUMINA

REPAIRER FLAP DISCS FOR STEEL, STAINLESS STEEL, ALUMINUM, COPPER

L

K

J

FEATURES & BENEFITS

- Latest generation ceramic alumina provides 20% - 30% longer than any flap disc on stainless steel, cast-iron, chrome, Inconel, titanium and other hard-to-grind materials
- Tougher substrate flaps with a superior grinding and a gradually improve life, give excellent surface resistance while providing excellent material removal
- High strength fiberglass back on Type 26 and Type 27 High Density to provide lightweight and abrasion resistance
- Clear, flexible plastic backing plate on Type 27 Disk Disc is the industry standard for removability
- 2" and 2" quick-change wheel flap discs are ideal for tight spaces



NORTON RED HEAT R983 CERAMIC ALUMINA

REPAIRER FLAP DISCS FOR STEEL, STAINLESS STEEL, ALUMINUM, COPPER

L

K

J

FEATURES & BENEFITS

- Optimizes performance ceramic alumina abrasive disk back holder and substrate aluminum oxide and provides abrasion in most applications
- New, thicker, 11-weight engineered backing provides increased durability and reduced edge wear
- Advanced self-lubricating grain treatment reduces heat and sparks in grinding materials
- Triangular Type 27 plastic backing disc is engineered for fast grinding
- Type 26 circular flangeless backing flap discs meet all aggressive steel removal
- Type 26 flangeless high density flap discs are 40% longer than standard density flap discs in most industrial applications



NORTON BLUEFIRE R884P ZIRCONIA ALUMINA

REPAIRER FLAP DISCS FOR STEEL, STAINLESS STEEL, ALUMINUM, COPPER

L

K

J

FEATURES & BENEFITS

- High performance alumina alumina provides abrasion for aggressive steel and life, with up to 30% longer life than competitive zirconia alumina products
- Polyester flaps with semi-soft and provide improved flexibility and smooth grinding on aluminum
- High strength fiberglass back on Type 26 and Type 27 High Density to provide lightweight and abrasion resistance
- Blue, flexible plastic backing plate on Type 27 Disk Disc is the industry standard for removability
- Available in bulk package is ideal for grinding machines, small jobs, or shipping to a job site
- 2" and 2" quick-change wheel flap discs are ideal for tight spaces



NORTON METAL R828 ZIRCONIA ALUMINA

REPAIRER FLAP DISCS FOR STEEL, STAINLESS STEEL, ALUMINUM, COPPER

L

K

J

FEATURES & BENEFITS

- Durable zirconia alumina alumina provides great cut rate and life with consistent finish

PRECISION PRODUCTION ABRASIVES
TOOLROOM VITRIFIED WHEELS

Wetted Wheels For Steel Applications (continued)

| Type of Wheel | Grade | Material | Color | Size | Weight | Part No. | Part No. | Part No. |
|------------------|-------|----------|--------|-------------|--------|-----------|----------|-----------|
| Type 18 Standard | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 1800 | VW | Yellow | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| Type 26 Standard | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |
| | 2600 | VW | Blue | 100-20-4750 | 1000 | 1000-1000 | 1000 | 1000-1000 |

Full-Line Industrial Market

How Do I Find What I Want Now That I Know What I Want?

M Visual identification

N Key product attributes

O Full specification and product number

Full-Line Industrial Market

5

www.nortonabrasives.com

when the going gets rough **RELY ON NORTON INNOVATION**

For stock removal, rough blending, cleaning castings and welds...Norton depressed center, portable snagging, and floorstand wheels are constructed to tackle the demanding work of all material types.



Choose a Quantum Leap in Technology

Maximum operator comfort – less cutting vibration means reduced hand fatigue. Sharper wheel for fastest cutting action; highest metal removal rate, less pressure, and longest life – for highest productivity.



Performance on Fire

Engineered with a proprietary zirconia grain upgrade, the Norton BlueFire design offers faster removal rate, longer product life, and increased productivity for better performance value.



Conquering Your Toughest Jobs

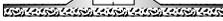
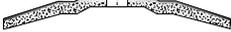
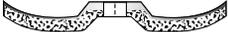
From foundry, welding, metal fabrication, steel mill to shipyard, master imperfection removal, cleaning, and beveling jobs with our line of strong, aggressive snagging products.



Depressed center wheels may also be referred to as raised hub wheels or by their shape designation of "Type", with Type 27 being the most popular. The depressed center design allows the flange/lock nut to recess within the wheel so that it can be used for various grinding and cutting applications. Depressed center wheels are designed to handle the most severe right angle grinding applications from heavy stock removal to rough blending. More recently, depressed center wheels have been designed to increase the utility of the tool for cut-off applications. While large right angle grinders (7" & 9") have been around for many years, small or mini grinders that handle 4", 4-1/2", 5", and 6" wheels have made this machine, and wheel category, the most popular in power tools.

Applications: Grinding, stock removal, edge chamfering, beveling, weld blending, and cutting-off
 Size Range: 2" – 9"
 Thickness Range: .040 – 1/4"
 Grit Range: 24 – 46 grits for stock removal;
 60, 80 grits for blending and finishing
 Abrasive Grain: Ceramic Alumina, Diamond, Zirconia Alumina, Aluminum Oxide, Silicon Carbide
 Mounting Options: Plain hole (3/8", 5/8" and 7/8") and discard mount (5/8"-11)
 Shape: Type 27, Type 28, Type 29
 Machine Used: 

TYPE-TO-APPLICATION RECOMMENDATION GUIDE

| Wheel Type/Thickness | Applications | | |
|---|---|--|---|
| TYPE 27  | Type 27 wheels are essentially straight wheels that have a "depressed center/ raised hub". Different types of fiberglass reinforcement mesh give the product stability for use on the periphery, on the face, or a combination of the two. |   | 90° ANGLE 30° ANGLE |
| .040", .045", and 1/16" Type 27/42 RightCut | Cutting only, where fast cutting and low kerf loss are desired | ■ | |
| 3/32" and .125" Type 27/42 | For tough cutting and notching applications where stability is important; cutting and cleaning burr-free narrow root pass welds | ■ | |
| 1/8" Type 27 | For multiple applications ranging from cutting-off, notching and light-duty side grinding | ■ | ■ |
| 1/8" Pipe Notcher Type 27 | 2-1/2 pieces of reinforcement; durable face grinding; root pass grinding without removing pipe material | ■ | ■ |
| 1/8" Type 27 Flexible | For light stock/blending/finishing/polishing | | ■ |
| .140" and 1/8" Type 27 Foundry Notchers | Triple-reinforced for grinding steel and dirty/scale-covered castings; removing and cleaning gates and risers | ■ | ■ |
| 1/4" Type 27 | For light- to heavy-duty grinding on the bottom/face of the wheel | | ■ |
| 1/4" Type 27 Foundry Snaggers | Designed for cleaning parting lines, pads and slag | | ■ |
| 1/4" Type 27 Heavy-Duty Foundry | Triple-reinforced for the most aggressive foundry applications | | ■ |
| TYPE 28  | Type 28 wheels are constructed with a downward angle built into the grinding section to facilitate a flatter grinding angle. These wheels can only be used on the face and never on the periphery for cutting-off. | |  15° ANGLE |
| 1/4" Type 28 Saucers | Smooth, gouge-free grinding at shallow angles | | ■ |
| TYPE 29  | Type 29 wheels are constructed with an upward angle built into the grinding section to provide full face contact for light stock removal and blending operations. These wheels can only be used on the face and never on the periphery for cutting-off. | |  15° ANGLE |
| 1/8" Type 29 Flexible, AVOS | Polishing and blending applications | | ■ |

MATERIAL/APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & price | GOOD Consistent Performance; Low Initial Price |
|----------------------------------|---|--|---|
| CUTTING | | | |
| Mild Carbon / High Tensile Steel | Norton NorZon Plus | Norton BlueFire | Norton Gemini / Norton Metal |
| Stainless Steel / Alloys | Norton NorZon Plus | Norton BlueFire | Norton Gemini INOX/SS / Norton Metal |
| Contaminate Free | | Norton BlueFire FC/INOX/SS | Norton Gemini INOX/SS |
| Cast Iron | Norton NorZon Plus | | Norton Gemini |
| Gray Iron | | | |
| Aluminum / Bronze / Brass | | | Norton Gemini Aluminum |
| Asphalt / Brick / Concrete | | | Norton Masonry |
| Fiberglass / Plastic | | | Norton Masonry |
| NOTCHING | | | |
| Mild Carbon / High Tensile Steel | Norton NorZon Plus | Norton BlueFire | Norton Gemini / Norton Metal |
| Stainless Steel / Alloys | Norton NorZon Plus | Norton BlueFire | Norton Gemini INOX/SS |
| Contaminate Free | | Norton BlueFire FC/INOX/SS | Norton Gemini INOX/SS |
| Cast Iron | Norton NorZon Plus | Norton BlueFire Foundry | Norton Gemini |
| GRINDING | | | |
| Mild Carbon / High Tensile Steel | Norton Quantum3/NorZon Plus | Norton BlueFire | Norton Gemini / Norton Metal |
| Stainless Steel / Alloys | Norton Quantum3 | Norton BlueFire INOX/SS | Norton Gemini INOX/SS |
| Contaminate Free | Norton Quantum3 | Norton BlueFire FC/INOX/SS | Norton Gemini INOX/SS |
| Cast Iron | Norton NorZon Plus | Norton BlueFire Foundry | Norton Gemini |
| Gray Iron | Norton Quantum3 | Norton BlueFire Foundry | Norton Gemini |
| Aluminum / Bronze / Brass | | | Norton Gemini Aluminum |
| Asphalt / Brick / Concrete | | | Norton Masonry |
| BLENDING | | | |
| Mild Carbon / High Tensile Steel | | | Norton Gemini Flexible |
| Stainless Steel / Alloys | | | Norton Gemini Flexible |
| Aluminum / Bronze / Brass | | | Norton Gemini Flexible |
| Fiberglass / Plastic | | | Norton Gemini Flexible |

Typical Steel, Stainless Steel, Cast Iron Products: Angle Iron, Bar Stock, Ductile Pipe, Channel Iron, Decking, Rebar, I-Beams, Rail Steel, Studs, Tubing, and Welds

HOW TO PICK THE RIGHT BOND TYPE

| | | |
|------------------|----------|---|
| Standard | Unmarked | Where an excellent blend of cut rate and life is needed |
| Fast Cut | FC | Where fast stock removal is needed, or the application only allows for low-pressure or under-horsepowered grinders |
| Long Life | LL | Where durability is needed due to severe application, and when horsepower of the grinder allows for heavy pressure |
| Contaminate Free | INOX/SS | Contain <0.1% iron, sulfur or chlorine for rust-free and corrosion-free results. Will not contaminate stainless steel |

HOW TO PICK THE RIGHT MOUNT

Most wheel sizes come with a plain hole or a discard mount option. While the plain hole has a small, initial cost advantage, the discard mount can provide a labor cost advantage with the quicker wheel change.

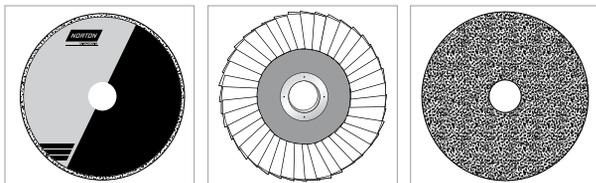


Mini-Mount Hub

Our unique, patented mini-mount hub used on 4-1/2" and 5" depressed center wheels provides up to 30% more wheel life because the hub covers just a small surface area, providing maximum grinding area exposure and usage.

Standard throw-away hub size

WHY CHOOSE DEPRESSED CENTER WHEELS?



Depressed Center Wheels vs. Flap Discs or Fiber Discs

- Up to 5X life over flap discs, less downtime and inventory
- Up to 100X life over fiber discs, less downtime and inventory
- Rigidity for severe operations and high power grinders
- 1/8" wheels can be used for cutting and grinding
- Can be used to grind inside corners at outer edge of wheel

CROSS REFERENCE GUIDES

Type 27/42 RightCut – .040" - 1/16"

| NORTON | TOTAL PERFORMANCE | | | | | INITIAL PRICE | | SPECIALITY | |
|-----------|-------------------|------------------------|--------------------------------|---|------------------------|------------------------------|------------------------------|-----------------|--|
| | BEST | | BETTER | | GOOD | | GOOD | | |
| | NorZon Plus | BlueFire | Gemini INOX/SS | | Gemini Long Life | Gemini | Metal | Gemini Aluminum | |
| Brilliant | — | — | — | — | Brill-Blade Heavy Duty | Brill-Blade Extra FC | Hornet | — | |
| Bullard | — | ZA60T | — | — | TA46T, TA60T TA60U | SGA60U | A46T, A60T Comp. | AL46N | |
| Camel | — | ZA Quickie Cut | A60-T-BF, WA60R Quickie Cut | — | Super Quickie Cut | A36-S-BF | — | A46 Quickie Cut | |
| Flexovit | — | — | — | — | Razorblade A60SST | Razorblade A24T, 30V, 36T | — | — | |
| Pearl | — | Redline Max Slimcut | — | — | Slimcut | — | Slimcut Pro-V, Silverline | — | |
| Pferd | — | SGP-ZA-Q-INOX | SG-A-R-INOX, SGP-A-S-INOX | — | SG-A-S, SGP-A-T | — | PSF-A-P | S-G-N-ALU | |
| Sait | — | Z-tech | XA46R | — | — | A60S, Saitech | SAIT.M.X | A46N | |
| Spedecut | — | — | — | — | — | — | A46, 60 TBXX | — | |
| Walter | — | — | A-60SS-ZIP | — | — | A-60-ZIP, A-30-ZIP | — | A-60-ZIP-ALU | |

Type 27 and 28 – 1/8" and 1/4"

| NORTON | TOTAL PERFORMANCE | | | | | INITIAL PRICE | | | | SPECIALITY | | | |
|-----------|--------------------------|---------------------------|----------------------------|------------------|---------------------|-------------------------------|---|--|----------------------|----------------------|------------------|-------------------|---------------------------------|
| | BEST | | BETTER | | GOOD | | BETTER | | GOOD | | | | |
| | Quantum3 | NorZon Plus LL | NorZon Plus | BlueFire | BlueFire FC/INOX/SS | Gemini XXL | Gemini | Gemini Fast Cut | Gemini SS | Metal | BlueFire Foundry | Gemini ALU | Masonry |
| 3M | Cubitron II | — | — | — | — | High Perform., Green Corps | — | — | — | — | — | — | — |
| Arc | — | — | — | — | — | — | Predator A24R | — | — | — | — | — | — |
| Brilliant | — | — | — | — | Brill-Max Z24R | — | Brill-Tex A24UHPXL, A30T | Brill-Tex A24R Super-G | Brill-Tex A30P | Hornet Metal | — | Brill-Tex 30ALU | Brill-Tex C30P, Hornet Concrete |
| Bullard | — | — | TA24S | ZA24R Competitor | ZA24R | — | A24R | A24N | A46Q | A24R Competitor | — | AL36N | C24R |
| Camel | — | — | — | — | ZA24T | — | A24R | Ultra A24-N-BF, A24T Super Quickie Cut | WA24S | A24N, R&T Fast Cut | — | *A30N, Fast Cut* | C24R |
| DeWalt | — | XP Ceramic | XP | — | HP | — | — | — | HP SS | Metal | — | — | — |
| Flexovit | — | Flexon ZA24P ZA30T | Flexon ZA20Q | Metalhog, AXT24S | — | — | High Perform. A24/30T | High Performance A30S, Specialist A30Q & R | Free Grind A30Q | — | Flexon ZA16U | Specialist A24ALU | High Perform. C24/30P |
| Metabo | M-Calibur | — | — | ZA24T | — | — | A24R & T | A24N | A360 | — | — | A36M | C24N |
| Pearl | — | — | — | — | Z24T | — | Premium Metal A24S, Redline Max A/WA24S | Premium Metal A24R, Redline Max A/WA24R | WA24R, SRT24 | Silver Line A24R & S | — | D.A. Series AL24M | Silver Line C24S |
| Pferd | SG-Elastic Ceramic C024Q | — | — | ZA SGP, ZA T SGP | ZA R SGP, Z-SG | SG-Elastic | A-PS, A-SG | — | A-SG INOX, A-PS INOX | — | — | A-SG ALU | S-SG, Masonry |
| Sait | The Ultimate Grind | Saitech Ultimate Perform. | Saitech Attacker, Pipeline | Z24R Z-Tech | Stainless | — | A24R, A24Turbo | A24N | XA24Q | A24T | CA24R - Foundry | A46N-ALU | C24N |
| Tyrolit | — | — | — | ZA24P-BFX | ZA24N-BFX | — | A30S & Q-BFX | A30R-BFX | A30-BF INOX | A30-BF | ZZA24R-BFX | A36N-BFX WA46-BF | C30-BF |
| Walter | — | — | — | Allsteel XX | Double-X | Allsteel | HP | — | Stainless | — | — | — | — |
| Weiler | — | — | — | Tiger Zirc | Tiger Inox | Tiger LL | Wolverine A24R | — | — | Wolverine A24N | — | — | — |

Type 27 – Flexible 1/8"

| NORTON | GOOD | NORTON | GOOD | NORTON | GOOD |
|-----------|-------------------------------|----------|----------------------------|--------|----------------------------|
| Brilliant | Gemini Flexible Brill-Flex | Flexovit | Gemini Flexible Flexcel | Pferd | Gemini Flexible SG-Flex |
| Bullard | Flexlite AC | Metabo | Z-Plus | Sait | Challenger II |
| Camel | FGF, Special Wheel | Pearl | Flexible AC | Walter | Flexcut |

DEPRESSED CENTER WHEELS

NORTON QUANTUM3 CERAMIC ALUMINA

BEST CHOICE FOR STAINLESS AND CARBON STEEL APPLICATIONS; EFFICIENTLY GRINDS AND CUTS A VARIETY OF MATERIALS FROM ALLOYS TO GRAY IRON

FEATURES & BENEFITS

- 5X–6X the life of aluminum oxide wheels and up to 100 percent increase in performance and life over competitive ceramic alumina wheels from our proprietary formulation of next-generation, uniquely-shaped, 100% ceramic alumina abrasive grain and tough new bond system
- Fastest metal removal rates, with less pressure (because of more uniform grain distribution and adhesion) significantly increase production, for the lowest total grinding cost of any wheel in the market place today
- Better operator control, improved comfort, and exceptional finished part quality with a more robust, sharper, yet smoother cutting action; wheels don't grab or dig
- Contaminate-free with <0.1% iron, sulfur or chlorine for rust-free results.

NORTON NORZON PLUS C/A AND Z/A BLEND

BEST/HIGH PRODUCTIVITY FOR STEEL, STAINLESS STEEL AND ALL OTHER FERROUS METALS

FEATURES

- Combination of Norton SG ceramic alumina and NorZon (zirconia alumina) with an advanced bond system
- The original All Purpose – lowest total cost and best overall value
- Long Life – longest lasting
- Foundry Snagger
- RightCut wheels for cutting only

BENEFITS

- 50 to 200% better overall performance versus competitive zirconia and ceramic wheels
- Lowest total grinding cost; highest productivity for ceramic/zirconia blended wheels
- Up to 10X the performance of aluminum oxide wheels
- Easy on the operator and equipment
- Best option when the best combination of life, cut rate, and lowest heat generation is primary concern, and able to measure total cost
- Best option when longest possible life is primary concern, rough grinding conditions require wheel durability, using high cycle, high horsepower grinders and lower labor cost are key
- Designed to withstand the most aggressive foundry application
- Noticeably longer life and faster cut rate versus competitive wheels
- Less pressure required for first cut

NORTON BLUEFIRE Z/A AND A/O BLEND

BETTER CHOICE FOR STAINLESS STEEL, CARBON STEEL, ALLOYS AND GRAY IRON

FEATURES

- A blend of R&D advanced chemistry and shaped zirconia alumina abrasive and premium aluminum oxide grain
- Contaminate-free BlueFire FC (FastCut/Inox/SS)
- BlueFire Foundry
- IMPROVED PERFORMANCE! RightCut wheels for cutting only

BENEFITS

- 2-3 times the life of aluminum oxide wheels
- Broad utility from light-to heavy-pressure applications, on a wide range of materials
- Excellent performance-to-price ratio for lower total grinding costs
- Contain <0.1% iron, sulfur, or chlorine for rust-free and corrosion-free results; will not contaminate stainless steel
- Zirconia alumina/silicon carbide abrasive blend and an exceptionally strong reinforcement structure
- Versatile choice for aggressive, foundry applications
- Over 50% more life; the true choice for broad versatility and better value, to lower production costs.
- Less pressure required for first cut

DEPRESSED CENTER WHEELS

NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR STEEL AND FERROUS METALS AS WELL AS SPECIALTY APPLICATIONS IN ALUMINUM AND FOUNDRIES



FEATURES

- Quality aluminum oxide
- Gemini Contaminate Free INOX/SS
- 1/8" and 1/4" thick Gemini XXL grinding wheels
- .040 an .045 ultra-thin Gemini RightCut wheels for cutting only
- Gemini Aluminum wheels

BENEFITS

- Consistent performance at a competitive price
- Contain <0.1% iron, sulphur or chlorine for rust-free and corrosion-free results; will not contaminate stainless steel
- Fastest 100% aluminum oxide grinding wheels in the market today
- 50% more life and metal removal than standard aluminum oxide wheels
- Best on hard-grade carbon steel applications, weld repairs, flashing, and any job that requires a quick turnaround
- Precise cutting; very stable, with a narrow pass
- Up to 70% longer life and 20% faster cut rate than standard aluminum oxide wheels – for substantial savings
- Require less pressure, providing increased operator comfort
- Grind aluminum and soft metals without loading
- Contain no wax or rubber fillers

NORTON METAL / NORTON MASONRY

GOOD CHOICE FOR STEEL/FERROUS METAL AND MASONRY APPLICATIONS WITH LOW INITIAL PRICE



FEATURES

- Low initial price point
- Metal – aluminum oxide
- Masonry – sharp silicon carbide

BENEFITS

- Ideal for small-volume jobs where performance need not be measured
- Engineered for all steel/ferrous materials
- Engineered for all masonry materials such as concrete, brick and asphalt

NORTON DIALAST DIAMOND WHEELS

BEST FOR METAL PLATE, PIPE, TUBING, CAST IRON, CARBON AND MILD STEEL, FOUNDRY AND WELDING APPLICATIONS, AND CERAMICS



FEATURES

- A combination of high-quality diamond and advanced brazed single-layer bonding technology
- Environmentally friendly grinding

BENEFITS

- Extra-long life versus conventional abrasives or other vacuum-brazed diamond tools
- Retains the diamond grains and wheel shape for full life with low sparks, while keeping a continuous grinding depth for exceptional wheel life
- Less blade changes reduce downtime and labor costs
- Generate minimal dust for less clean-up and safer working conditions

DEPRESSED CENTER WHEEL DESCRIPTION CODES

BLANK = All Purpose FC = Fast Cut HD = Heavy Duty INOX/SS = Contaminant Free LL = Long Life 1-2-3 = Cutting/Notching/Grinding
 ■ = Aluminum ■ = Foundry ■ = Masonry ■ = Stainless ■ = Steel / Metal



Less Body Stress, Shorter Work Days, and Bigger Pay Days!

- Let Norton Quantum3 wheels take a bite out of your daily grind so you can focus on your off hours
 - Our R & D engineers met all your challenges with a proprietary, highest-performing formulation of uniquely-shaped, 100% ceramic alumina grain and a tough new resin bond
1. Less Grinding Time with a sharper wheel for highest metal removal and reduced pressure from faster cutting action
 2. Less Downtime, Waste, and Cost with longer wheel life using fewer wheels
 3. Operator Comfort with reduced hand fatigue from less cutting vibration

Try These New Wheels On Our Norton No Risk Test Policy – Because Right Choices Matter



| | | | | |
|------------|--|--|---|--|
| TIER: | BEST | BETTER | GOOD | GOOD |
| TRADENAME: | NORTON NORZON PLUS | NORTON BLUEFIRE | NORTON GEMINI | NORTON METAL |
| SHAPE: | Type 27/42 | Type 27/42 | Type 27/42 | Type 27/42 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL ALUMINUM | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|--|----------|-----------|-------------|-------------|---------------------|-------------|
| .040, .045, 1/16" – RightCut Cut-off – Type 27/42 | | | | | | |
| 4 x .045 x 5/8 | 15,280 | 25 | | | 66252842180 | 07660705249 |
| 4-1/2 x .040 x 5/8-11 | 13,580 | 10 | | | 66252843227 | |
| 4-1/2 x .045 x 5/8-11 | 13,580 | 10 | 66252842006 | | 66252842025 | |
| | 13,580 | 10 | | | 66252841913 INOX/SS | |
| 4-1/2 x .045 x 7/8 | 13,580 | 25 | 66252843320 | | 66252842026 | 66252843604 |
| | 13,580 | 25 | | | 66252841912 INOX/SS | |
| | 13,580 | 25 | | | 66252841909 ALU 36 | |
| | 13,580 | 25* | | | 66252842161 5-Pk | |
| | 13,580 | 250 | | | 66253370065 250-Pk | |
| 4-1/2 x 1/16 x 5/8-11 | 13,580 | 10 | | 66252843223 | | |
| 4-1/2 x 1/16 x 7/8 | 13,580 | 10 | | 66252843219 | | |
| 5 x .040 x 5/8-11 | 12,225 | 10 | | | 66252843228 | |
| 5 x .045 x 5/8-11 | 12,225 | 10 | | | 66252841939 | |
| 5 x .045 x 7/8 | 12,225 | 25 | 66252843329 | | 66252842036 | 66252843849 |
| | 12,225 | 25 | | | 66252841914 INOX/SS | |
| | 12,225 | 25 | | | 66252841910 ALU 36 | |
| | 12,225 | 25* | | | 66252842171 5-Pk | |
| | 12,225 | 250 | | | 66253370066 250-Pk | |
| 5 x 1/16 x 7/8 | 12,225 | 25 | | 66252843220 | | |
| 6 x .045 x 5/8-11 | 10,185 | 10 | 66252842007 | | 66252830587 | |
| 6 x .045 x 7/8 | 10,185 | 25 | 66252842009 | | 66252842202 | 66252842015 |
| | 10,185 | 25 | | | 66252841916 INOX/SS | |
| | 10,185 | 25 | | | 66252841911 ALU 36 | |
| | 10,185 | 25* | | | 66252842176 5-Pk | |
| | 10,185 | 250 | | | 66253370067 250-Pk | |
| 6 x 1/16 x 7/8 | 10,185 | 25 | | 66252843221 | | |
| 7 x .045 x 5/8-11 | 8,600 | 10 | | | 66252841919 INOX/SS | |
| 7 x .045 x 7/8 | 8,600 | 20 | | | 66252912626 | |
| | 8,600 | 20 | | | 66252841918 INOX/SS | |
| 7 x 1/16 x 7/8 | 8,600 | 10 | | | | 07660705251 |
| 9 x 1/16 x 5/8-11 | 6,600 | 10 | | | 66253019115 | |
| 9 x 1/16 x 7/8 | 6,600 | 10 | | | 66253017734 | |
| <i>RightCut wheels are to be used for cutting only.</i> | | | | | | |
| 3/32", .125" – Cut-off – Type 27/42 | | | | | | |
| 4 x .125 x 3/8 | 15,280 | 25 | 66252842001 | | | |
| 4-1/2 x 3/32 x 5/8-11 | 13,580 | 10 | | | 66252841903 | |
| | 13,580 | 10 | | | 66252842027 INOX/SS | |
| 4-1/2 x 3/32 x 7/8 | 13,580 | 25 | | | 66252841940 | |
| | 13,580 | 25 | | | 66252842028 INOX/SS | |
| | 13,580 | 25 | | | 66252843582 1-2-3 | |
| 4-1/2 x .125 x 5/8-11 | 13,580 | 10 | 66252843321 | | 66252843588 | |
| 4-1/2 x .125 x 7/8 | 13,580 | 25 | 66252843322 | | 66252843589 | |
| 5 x 3/32 x 5/8-11 | 12,225 | 10 | | | 66252841904 | |
| 5 x 3/32 x 7/8 | 12,225 | 25 | | | 66252842037 INOX/SS | |
| | 12,225 | 25 | | | 66252843587 LL | |
| | 12,225 | 25 | | | 66252843583 1-2-3 | |
| 5 x .125 x 7/8 | 12,225 | 25 | | | 66252843595 | |
| 6 x 3/32 x 5/8-11 | 10,185 | 10 | | | 66252841905 | |
| 6 x 3/32 x 7/8 | 10,185 | 25 | | | 66252841906 | |
| | 10,185 | 25 | | | 66252832487 INOX/SS | |
| 6 x .125 x 5/8-11 | 10,185 | 10 | | | 66252841192 | |
| 6 x .125 x 7/8 | 10,185 | 25 | | | 66252842021 | |
| 7 x 3/32 x 5/8-11 | 8,600 | 10 | | | 66252841907 | |
| 7 x 3/32 x 7/8 | 8,600 | 20 | | | 66252841908 | |
| | 8,600 | 20 | | | 66252914638 INOX/SS | |
| 7 x .125 x 5/8-11 | 8,600 | 10 | 66252912625 | | | |
| 7 x .125 x 7/8 | 8,600 | 20 | 66252912624 | | 66252900619 | |
| 9 x 3/32 x 5/8-11 | 6,600 | 10 | | 66252842378 | | |
| 9 x 3/32 x 7/8 | 6,600 | 20 | | 66252842343 | | |

*These wheels are to be used for cutting only. * 5-wheel Job Packs; wheels are packed 5 wheels/Pack, with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.*



| | | |
|------------|--|--|
| TIER: | BEST | GOOD |
| TRADENAME: | NORTON NORZON PLUS | NORTON GEMINI |
| SHAPE: | Type 27/42 | Type 27/42 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # |
|---|----------|-----------|-------------|------------------------|
| 1/8" (5/32") – Pipe Notching – Type 27 | | | | |
| 4-1/2 x 1/8 (5/32) x 5/8-11 | 13,580 | 10 | | 66253370272 XXL |
| 4-1/2 x 1/8 (5/32) x 7/8 | 13,580 | 25 | | 66253370271 XXL |
| 5 x 1/8 (5/32) x 5/8-11 | 12,225 | 10 | | 66253370273 XXL |
| 5 x 1/8 (5/32) x 7/8 | 12,225 | 25 | | 66252842038 XXL |
| 6 x 1/8 (5/32) x 5/8-11 | 10,185 | 10 | | 66252841193 XXL |
| 6 x 1/8 (5/32) x 7/8 | 10,185 | 20 | | 66252835580 XXL |
| 7 x 1/8 (5/32) x 5/8-11 | 8,600 | 10 | 66252939184 | 66253370274 XXL |
| 7 x 1/8 (5/32) x 7/8 | 8,600 | 20 | | 66252835581 XXL |
| 9 x 1/8 (5/32) x 5/8-11 | 6,600 | 10 | 66253049066 | 66253370275 XXL |
| 9 x 1/8 (5/32) x 7/8 | 6,600 | 20 | | 66253370276 XXL |

See Type 27 .040 – 1/4" Foundry, Type 28 Saucer, Type 27 Flexible, and Type 29 Blending Wheels at the end of this section.

Pipe Notchers are to be used for cutting/notching only.



| | | | | | |
|------------|--|--|--|--|-----------------------|
| TIER: | BEST | BETTER | GOOD | GOOD | GOOD |
| TRADENAME: | NORTON NORZON PLUS | NORTON BLUEFIRE | NORTON GEMINI | NORTON METAL | NORTON MASONRY |
| SHAPE: | Type 27 | Type 27 | Type 27 | Type 27 | Type 27 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL ALUMINUM | STAINLESS STEEL/METAL | MASONRY |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|---|----------|-----------|-------------|------------------------|--------------------|------------------|
| 1/8" – Cutting / Notching / Light Grinding – Type 27 | | | | | | |
| 3 x 1/8 x 3/8 | 18,000 | 25 | 66252842177 | | | |
| 4 x 1/8 x 3/8 | 15,280 | 25 | 66252842004 | 66252843178 | 66252842016 | |
| 4 x 1/8 x 5/8 | 15,280 | 25 | 66252842005 | 66252843176 | 66252842017 | 66252842014 |
| 4-1/2 x 1/8 x 5/8-11 | 13,580 | 10 | 66252843323 | 66252843211 | 66252843590 | 66252843609 |
| | 13,580 | 10 | | 66252843191 FC/INOX/SS | 66252842029 ALU 46 | |
| | 13,580 | 10 V | | | 66252842166 2-Pk | |
| 4-1/2 x 1/8 x 7/8 | 13,580 | 25 | 66252843324 | 66252843212 | 66252843591 | 66252843611 |
| | 13,580 | 25 | | 66252843190 FC/INOX/SS | 66252842030 ALU 46 | 66252843601 |
| | 13,580 | 10 V | | | 66252842167 2-Pk | |
| 5 x 1/8 x 5/8-11 | 12,225 | 10 | 66252843330 | 66252843215 | | 66252843615 |
| | 12,225 | 10 | | 66252843195 FC/INOX/SS | | |
| 5 x 1/8 x 7/8 | 12,225 | 25 | 66252843331 | 66252843216 | 66252843596 | 66252843616 |
| | 12,225 | 25 | | 66252843194 FC/INOX/SS | | |
| 6 x 1/8 x 5/8-11 | 10,185 | 10 | 66252841891 | 66252843199 FC/INOX/SS | 66252833965 | |
| 6 x 1/8 x 7/8 | 10,185 | 20 | | 66252843202 | 66252801864 | |
| | 10,185 | 20 | | 66252843198 FC/INOX/SS | | |
| 7 x 1/8 x 5/8-11 | 8,600 | 10 | 66252938855 | 66252843233 | 66252939259 | 07660702678 |
| | 8,600 | 10 | | 66252843183 FC/INOX/SS | | |
| 7 x 1/8 x 7/8 | 8,600 | 20 | 66252938854 | 66252843234 | 66252939207 | |
| | 8,600 | 20 | | 66252843182 FC/INOX/SS | | |
| 9 x 1/8 x 5/8-11 | 8,600 | 25* | | | | 07660775956 5-Pk |
| | 6,600 | 10 | 66253048897 | 66252843244 | 66253048983 | |
| 9 x 1/8 x 7/8 | 6,600 | 10 | | 66252843187 FC/INOX/SS | | |
| | 6,600 | 20 | 66253048896 | 66252843245 | 66253048994 | |
| | 6,600 | 20 | | 66252843186 FC/INOX/SS | | |

* 5-wheel Job Packs; wheels are packed 5 wheels/Pack, with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.
 V Vendible 2-wheel Package. Ideal for vending machinings and small jobs. 5 packs/carton. Order in multiples of 10.

| DEPRESSED CENTER WHEEL DESCRIPTION CODES | | | | | |
|--|---------------|-----------------|----------------------------|-------------------|-----------------------------------|
| BLANK = All Purpose | FC = Fast Cut | HD = Heavy Duty | INOX/SS = Contaminant Free | LL = Long Life | 1-2-3 = Cutting/Notching/Grinding |
| ■ = Aluminum | ■ = Foundry | ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | |



| | | | | | |
|------------|----------------------------------|--------------------------------------|-------------------------------------|----------------------------------|---|
| TIER: | BEST | BEST | BETTER | GOOD | GOOD |
| TRADENAME: | NORTON QUANTUM3 | NORTON NORZON PLUS | NORTON BLUEFIRE | NORTON GEMINI | NORTON METAL OR NORTON MASONRY |
| SHAPE: | Type 27 | Type 27 | Type 27 | Type 27 | Type 27 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina/ Zirconia Alumina | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide – Metal Silicon Carbide – Masonry |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL MASONRY |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|----------------------------------|----------|-----------|-------------|-------------------------|------------------------|---------------------|---------------------|
| 1/4" – Grinding – Type 27 | | | | | | | |
| 3 x 1/4 x 3/8 | 18,000 | 25 | | 66252842178 | | 66252842179 | |
| 4 x 1/4 x 3/8 | 15,280 | 25 | 66253371180 | 66252842002 | 66252843179 | 66252842018 | |
| 4 x 1/4 x 5/8 | 15,280 | 25 | 66253371181 | 66252842003 | 66252843177 | 66252842020 FC | 66252842011 |
| | 15,280 | 25 | | | | 66252842019 | 66252842010 Masonry |
| | 15,280 | 25 | | | | 66252842183 ALU 46 | |
| 4-1/2 x 3/16 x 7/8 | 13,580 | 25 | | | | 66252843592 | |
| 4-1/2 x 1/4 x 5/8-11 | 13,580 | 10 | 66253370793 | 66252843326 | 66252843213 | 66252843593 | 66252843605 |
| | 13,580 | 10 | | 66252843327 LL | 66252843193 FC/INOX/ss | 66252843585 FC | 66252843599 Masonry |
| | 13,580 | 10 | | | | 66252842032 INOX/SS | |
| | 13,580 | 10 | | | | 66252843785 XXL | |
| | 13,580 | 10 | | | | 66252842031 ALU 46 | |
| | 13,580 | 40 | | | | | 66252819559 |
| | 13,580 | 10 V | | 66252829541 2-Pk | 66252842162 2-Pk | 66252842163 2-Pk | |
| 4-1/2 x 1/4 x 7/8 | 13,580 | 25 | 66253370794 | 66252843328 | 66252843214 | 66252843594 | 66252843607 |
| | 13,580 | 25 | | | 66252843192 FC/INOX/ss | 66252843584 FC | 66252843600 Masonry |
| | 13,580 | 25 | | | | 66252842033 INOX/SS | |
| | 13,580 | 25 | | | | 66252843784 XXL | |
| | 13,580 | 25 | | | | 66252842034 ALU 46 | |
| | 13,580 | 50 | | | | | 66252836796 |
| | 13,580 | 10 V | | 66252829540 2-Pk | 66252842164 2-Pk | 66252842165 2-Pk | |
| 5 x 1/4 x 5/8-11 | 12,225 | 10 | 66253370795 | 66252843332 | 66252843217 | 66252843597 | 66252843613 |
| | 12,225 | 10 | | 66252843333 LL | 66252843197 FC/INOX/ss | 66252843787 XXL | |
| | 12,225 | 10 | | | | | |
| 5 x 1/4 x 7/8 | 12,225 | 25 | 66253370796 | 66252843334 | 66252843218 | 66252843598 | 66252843614 |
| | 12,225 | 25 | | | 66252843196 FC/INOX/ss | 66252843586 FC | |
| | 12,225 | 25 | | | | 66252842040 INOX/SS | |
| | 12,225 | 25 | | | | 66252843786 XXL | |
| | 12,225 | 25 | | | | 66252842039 ALU 46 | |
| | 12,225 | 10 V | | | | 66252842172 2-Pk | |
| 6 x 1/4 x 5/8-11 | 10,185 | 10 | 66253370797 | 66252841920 | 66252843224 | 66252832390 | |
| | 10,185 | 10 | | | 66252843201 FC/INOX/ss | 66252843789 XXL | |
| 6 x 1/4 x 7/8 | 10,185 | 20 | 66253370798 | 66252809376 | 66252843203 | 66252801865 | |
| | 10,185 | 20 | | | 66252843200 FC/INOX/ss | 66252843788 XXL | |
| 7 x 1/4 x 5/8-11 | 8,600 | 10 | 66253370799 | 66252917881 | 66252843235 | 66252940147 FC | 66252912633 |
| | 8,600 | 10 | | 66252835578 LL | 66252843185 FC/INOX/ss | 66252940148 LL | 07660775942 Masonry |
| | 8,600 | 10 | | | | 66252843791 XXL | |
| | 8,600 | 10 | | | | 66252940514 ALU 24 | |
| | 8,600 | 10 | | | | 66252940515 ALU 46 | |
| | 8,600 | 25* | | | | | 07660775940 5-Pk |
| 7 x 1/4 x 7/8 | 8,600 | 20 | 66253370800 | 66252917880 | 66252843236 | 66252940099 FC | |
| | 8,600 | 20 | | | 66252843184 FC/INOX/ss | 66252940098 LL | |
| | 8,600 | 20 | | | | 66252843790 XXL | |
| | 8,600 | 20 | | | | 66252940516 ALU 24 | |
| | 8,600 | 25* | | | | | 07660775936 5-Pk |
| 9 x 1/4 x 5/8-11 | 6,600 | 10 | 66253370801 | 66253021634 | 66252843246 | 66253049105 FC | 07660775937 Masonry |
| | 6,600 | 10 | | 66252830728 LL | 66252843189 FC/INOX/ss | 66253049104 LL | |
| | 6,600 | 10 | | | | 66252843793 XXL | |
| | 6,600 | 10 | | | | 66253049045 ALU 24 | |
| | 6,600 | 25* | | | | | 07660775938 5-Pk |
| 9 x 1/4 x 7/8 | 6,600 | 20 | 66253370802 | 66253021633 | 66252843247 | 66253049077 FC | |
| | 6,600 | 20 | | 66253049069 | 66252843188 FC/INOX/ss | 66253048991 LL | |
| | | | | NorZon III – Rail Grind | | | |
| | 6,600 | 20 | | | | 66252843792 XXL | |

* 5-wheel Job Packs; wheels are packed 5 wheels/Pack. with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.
 V Vendible 2-wheel Package. Ideal for vending machinings and small jobs. 5 packs/carton. Order in multiples of 10.

See 1/4 inch thick Type 27 Foundry and Type 28 Saucer Wheels on the next page.



| | | | | | | |
|------------|--|--|--|--|--|--|
| TIER: | BEST | BEST | BEST | BEST | BETTER | GOOD |
| TRADENAME: | NORTON QUANTUM3 | NORTON NORZON PLUS | NORTON DIALAST | NORTON DIALAST | NORTON BLUEFIRE | NORTON GEMINI |
| SHAPE: | Type 28 | Type 28 | Type 29 | Reversible | Type 28 | Type 28 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina/ Zirconia Alumina | Diamond | Diamond | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|---|----------|-----------|-------------|-------------|--------|-------------|-------------|-------------|
| 1/4" - Grinding - Type 28 Saucer | | | | | | | | |
| 7 x 1/4 x 5/8-11 | 8,600 | 10 | 66253370803 | 66252905369 | | | 66252843229 | 66252940149 |
| 7 x 1/4 x 7/8 | 8,600 | 20 | | 66252905368 | | | | 66252940095 |
| 9 x 1/4 x 5/8-11 | 6,600 | 10 | 66253370804 | 66253006335 | | | 66252843237 | 66253049106 |
| 9 x 1/4 x 7/8 | 6,600 | 20 | 66253370805 | | | | | 66253049081 |
| Light Grinding - Type 29 | | | | | | | | |
| 4-1/2 x 5/8-11 | 13,600 | 1 | | 66253370009 | | | | |
| 5 x 5/8-11 | 12,225 | 1 | | 66253370010 | | | | |
| 6 x 5/8-11 | 10,200 | 1 | | 66253370011 | | | | |
| 7 x 5/8-11 | 8,600 | 1 | | 66253370012 | | | | |
| 9 x 5/8-11 | 6,600 | 1 | | 66253370013 | | | | |
| 1/4" - Grinding - Reversible Grinding Disc | | | | | | | | |
| 4-1/2 x 1/4 x 5/8-11 | 13,600 | 1 | | | | 66253370019 | | |
| 7 x 1/4 x 5/8-11 | 8,600 | 1 | | | | 66253370020 | | |



| | | | | | |
|------------|------------------------|--------------------------------------|-----------------------|--------------------------------------|-------------------------|
| TIER: | BEST | BEST | BEST | BETTER | GOOD |
| TRADENAME: | NORTON QUANTUM3 | NORTON NORZON PLUS | NORTON DIALAST | NORTON BLUEFIRE | NORTON FOUNDRY X |
| SHAPE: | Type 27 | Type 27 | Type 29 | Type 27 | Type 27 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina/ Zirconia Alumina | Diamond | Zirconia Alumina/ Silicon Carbide | Aluminum Oxide |
| MATERIAL: | FOUNDRY | FOUNDRY | FOUNDRY | FOUNDRY | FOUNDRY |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--|----------|-----------|----------------|-------------|-------------|--------|----------------|-------------|
| .140", 1/8" - Cutting / Notching / Lt. Grinding - Type 27 and Type 29 | | | | | | | | |
| 4-1/2 x 1/8 x 5/8-11 | 13,580 | 10 | | | | | 66252843206 | |
| 4-1/2 x 1/8 x 7/8 | 13,580 | 25 | | | | | 66252843204 | |
| 7 x .140 x 5/8-11 | 8,600 | 1 | | | 66253370014 | | | |
| 7 x 1/8 x 5/8-11 | 8,600 | 10 | | | | | 66252843232 | |
| 7 x 1/8 x 7/8 | 8,600 | 20 | | | | | 66252915526 | |
| 9 x .140 x 5/8-11 | 6,600 | 1 | | | 66253370015 | | | |
| 9 x 1/8 x 5/8-11 | 6,600 | 10 | | | | | 66252843240 | |
| 9 x 1/8 x 7/8 | 6,600 | 20 | | | | | 66252843238 | |
| 1/4" - Grinding - Type 27 and Type 29 | | | | | | | | |
| 4 x 1/4 x 3/8 | 15,280 | 25 | | | | | 66252843181 | |
| 4 x 1/4 x 5/8 | 15,280 | 25 | | | | | 66252843180 | |
| 4-1/2 x 1/4 x 5/8-11 | 13,580 | 10 | | | | | 66252843207 | |
| 4-1/2 x 1/4 x 7/8 | 13,580 | 25 | | | | | 66252843205 | |
| 7 x 1/4 x 5/8-11 | 8,600 | 10 | | | | | 66252843231 | |
| 7 x 1/4 x 7/8 | 8,600 | 20 | | | | | 66252843230 | |
| 9 x 1/4 x 5/8-11 | 6,600 | 10 | 66253370849 HD | 66253007014 | | | 66252843241 | |
| | | | 6,600 | 10 | | | 66252843261 HD | |
| 9 x 1/4 x 7/8 | 6,600 | 20 | 66253370848 HD | 66253007013 | | | 66252843239 | 66252842776 |
| | | | 6,600 | 20 | | | 66252843260 HD | |

| DEPRESSED CENTER WHEEL DESCRIPTION CODES | | | | | |
|--|---------------|-----------------|----------------------------|-------------------|-----------------------------------|
| BLANK = All Purpose | FC = Fast Cut | HD = Heavy Duty | INOX/SS = Contaminant Free | LL = Long Life | 1-2-3 = Cutting/Notching/Grinding |
| ■ = Aluminum | ■ = Foundry | ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | |



| | | |
|--|---------------------------|----------------------|
| TIER: GOOD | BETTER | GOOD |
| TRADENAME: NORTON GEMINI FLEXIBLE | NORTON GEMINI AVOS | NORTON GEMINI |
| SHAPE: Type 27 | Type 29 | Type 29 |
| ABRASIVE: Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| MATERIAL: ALUMINUM | ALUMINUM | ALUMINUM |
| STEEL/METAL | STEEL/METAL | STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | GRIT | PART # | PART # | PART # |
|--|----------|-----------|------|--------------|-------------|-------------|
| 1/8", 1/4" – Blending – Type 27 and 29 | | | | | | |
| 2 x 1/8 x 3/8 | 30,560 | 25 | 60 | 66252835632* | | |
| | 30,560 | 25 | 80 | 66252835633* | | |
| 4 x 1/8 x 5/8 | 15,280 | 20 | 36 | 66243529721# | | |
| | 15,280 | 20 | 60 | 66243529722# | | |
| 4-1/2 x 1/8 x 5/8-11 | 12,000 | 10 | 36 | | 66252842208 | 66252842203 |
| 4-1/2 x 1/8 x 7/8 | 12,000 | 25 | 36 | 66252830424# | 66252842209 | 66252842204 |
| | 12,000 | 25 | 60 | 66252830425# | 66252842211 | |
| 5 x 1/8 x 7/8 | 12,225 | 25 | 36 | | 66252842212 | 66252842205 |
| 7 x 1/8 x 5/8-11 | 8,600 | 10 | 36 | 66252939024 | | 66252917052 |
| 7 x 1/8 x 7/8 | 8,600 | 20 | 36 | 66252939028# | | 66252917051 |
| Plastic Back-up Pad for Type 27 Flexible Wheels | | | | | | |
| | | 5 | | 66252844332 | | 66252844332 |

*5 wheels per display pack; 5 display packs per standard package.
 # These wheels are packed 20 per box, and must be used with this specific back plate. Two back plates are included in each box.

| DEPRESSED CENTER WHEEL DESCRIPTION CODES | | | | | | |
|--|---------------|-----------------|----------------------------|-------------------|-----------------------------------|--|
| BLANK = All Purpose | FC = Fast Cut | HD = Heavy Duty | INOX/SS = Contaminant Free | LL = Long Life | 1-2-3 = Cutting/Notching/Grinding | |
| ■ = Aluminum | ■ = Foundry | ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | | |



Norton Depressed Center Adapter Kit

This reusable adapter kit contains everything you need to mount depressed center wheels and saucers with 7/8" center holes on to portable right angle or vertical shaft grinders. Adapter hubs are threaded for mounting on to standard 5/8"-11 NCRH spindles.

| KIT NO. | WHEEL DIAMETER | WHEEL THICKNESS | PART # | STD. PKG. |
|---------|----------------|-----------------|-------------|-----------|
| 114 | 6" thru 9" | 1/16" thru 1/4" | 07660789275 | 1 |



For consistent, quality performance in foundries, welding shops, fabrication facilities, steel mills and shipyards, Norton portable snagging wheels maximize your productivity. Used on horizontal/straight shaft grinders or right angle portable cup grinders.

- Applications:** Removing flaws, cracks, gates, risers and parting lines, smoothing weld seams, cleaning castings, and rough beveling
- Size Range:** Type 01 Straight Wheels: 2-1/2" – 8" diameter
Type 06 and 11 Cup Wheels: 4" – 6" diameter
Cones and Plugs: Type 16, 17, 17R, 18 and 18R
- Grit Range:** 14 – 24
- Abrasive Types:** Zirconia Alumina NZ and NV; Zirconia Alumina/Silicon Carbide Blend NVC; Aluminum Oxide 57A and Metal; Aluminum Oxide/Silicon Carbide Blend 57AC, Silicon Carbide 37C and Masonry
- Machine Used:**



MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|---|--------------------------|---|--|---|
| IRON | Gray | NorZon Plus NZ14-R | BlueFire NV16-Q | Gemini 57A16-Q, Metal |
| | Ductile/Malleable | NorZon Plus NZ14-R | BlueFire NV16-Q | Gemini 57A16-Q, Metal |
| | Dirty/Scale-covered | | BlueFire NVC16-Q | Gemini 57AC16-Q |
| STEEL | Carbon and Low Alloy | NorZon Plus NZ16-Q | BlueFire NV16-Q | Gemini 57A16-Q, Metal |
| | Stainless and High Alloy | NorZon Plus NZ16-P | BlueFire NV16-Q | Gemini 57A16-Q, Metal |
| ALUMINUM, COPPER, BRASS, & BRONZE ALLOYS | | | BlueFire NVC16-Q | Gemini 57AC16-Q |

NOTE: Grade, Grit and Abrasive tuning may be necessary to obtain optimum performance

CROSS REFERENCE GUIDE FOR TYPE 01, 06 AND 11 WHEELS

| NORTON | TOTAL PERFORMANCE | | | INITIAL PRICE | | |
|-------------|-------------------|---------------|--------------|------------------|-------------|--------------------|
| | BEST | BETTER | GOOD | | | |
| | NorZon Plus NZ | BlueFire NV | BlueFire NVC | Gemini 57A/Metal | Gemini 57AC | Gemini 37C/Masonry |
| Brilliant | — | ZA16QB | — | A16QB | — | C16QB |
| Bullard | — | ZA16PB | — | A16R | AC16 | C16P |
| Camel | — | — | — | A | CA | C |
| Flexovit | ZA16PB | — | — | A16QB | AC16QB | C16PB |
| Gulf States | Zirconium | — | — | A16 | — | C16 |
| Pacific | Z, Z-GPC | — | — | A | CA | — |
| Pearl | — | — | — | A16Q | — | C16-Q |
| Pferd | ZA 16 Q SG | — | — | A 16 Q SG | — | C 16 Q SG |
| Sait | — | Z16 | — | A16, 20 | CA16 | C16 |
| Tyrolit | — | — | — | A16PB | — | C16PB |
| Walter | — | — | — | A | — | C |

NORTON NORZON PLUS ZIRCONIA ALUMINA

BEST CHOICE FOR HEAVY-DUTY STOCK REMOVAL ON MEDIUM- AND HIGH-HORSEPOWER GRINDERS

FEATURES

- NZ Plus (NZ IV) – premium zirconia alumina grain

BENEFITS

- Engineered for medium- and high-powered machines; 10X life, 50% faster grinding versus aluminum oxide products



NORTON BLUEFIRE ZIRCONIA ALUMINA

BETTER CHOICE FOR STOCK REMOVAL ON HIGH- AND MEDIUM-HORSEPOWER GRINDERS

FEATURES

- More friable zirconia alumina grain and durable resin bond technologies
- NVC – zirconia alumina/silicon carbide blend

BENEFITS

- Higher metal removal rates, faster, freer-cutting than standard zirconia alumina blends
- Up to 5X the life of aluminum oxide products; better grinding action
- Highly effective on dirty, scale-covered castings



NORTON NORZON III ZIRCONIA ALUMINA

BETTER CHOICE FOR HIGH-POWERED MACHINES

FEATURES

- NorZon III (NZ III) – Durable zirconia alumina grain

BENEFITS

- Engineered for high-powered machines; outstanding cut rate and wheel life



NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR STEEL AND FERROUS METALS AS WELL AS SPECIALTY APPLICATIONS IN ALUMINUM AND FOUNDRIES

FEATURES

- Quality aluminum oxide

BENEFITS

- Consistent performance at a competitive price



VENDIBLE

NORTON METAL A/O AND MASONRY S/C

GOOD CHOICE FOR STEEL/FERROUS METAL AND MASONRY APPLICATIONS WITH LOW INITIAL PRICE

FEATURES

- Norton Metal: aluminum oxide abrasive
- Norton Masonry: silicon carbide
- Low initial price point

BENEFITS

- Engineered for all steel/ferrous materials
- Engineered for concrete and non-ferrous applications
- Ideal for small-volume jobs where performance need not be measured



EXPANDED OFFERING

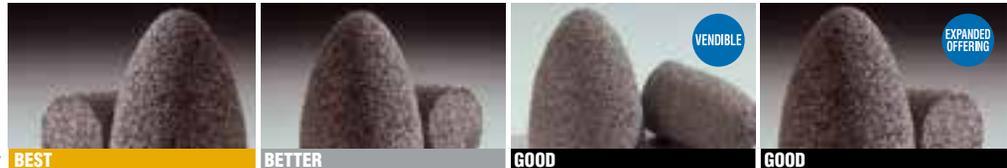


| | | | | | |
|------------|--------------------------|---|---------------------|--|---|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | NZ IV | BLUEFIRE | NZ III | GEMINI | METAL/MASONRY |
| SHAPE: | Type 01, 06, and 11 | Type 01 and 11 | Type 01, 06, and 11 | Type 01 and 11 | Type 11 |
| ABRASIVE: | Premium Zirconia Alumina | Zirconia Alumina NV Zirconia Alumina/ Silicon Carbide NVC | Zirconia Alumina | Aluminum Oxide 57A, Silicon Carbide 37C, Aluminum Oxide/ Silicon Carbide 57AC | Metal – Aluminum Oxide Masonry – Silicon Carbide |

EXPANDED OFFERING

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | SPEC | PART # | SPEC | PART # | SPEC | PART # | SPEC | PART # | SPEC | PART # |
|--|----------|-----------|------------|-------------|---------|---------------|-------------|-------------|----------|-------------|------------|-------------|
| Type 01 Straight | | | | | | | | | | | | |
| 2-1/2 x 1/2 x 3/8 | 21,700 | 20 | | | | | | | 57A24-R | 66243522381 | | |
| 3 x 1/4 x 3/8 | 20,370 | 25 | | | NV20-T | 66253343872** | | | 57A24-T | 66243528831 | | |
| 3 x 3/8 x 3/8 | 18,080 | 10 | | | | | | | 57A24-R | 66243522415 | | |
| 3 x 1/2 x 3/8 | 18,080 | 10 | | | | | | | 57A24-P | 66243522417 | | |
| 4 x 1/4 x 3/8 | 15,280 | 10 | | | NV20-T | 66253344098 | | | 57A24-R | 66243522221 | | |
| 6 x 1 x 5/8 | 8,000 | 5 | | | NV14-R | 66253198589 | NZ III 14-Q | 66252838075 | 57A16-QS | 66252809563 | | |
| S Webs | 8,000 | 5 | | | | | NZ III 14-R | 66252837961 | | | | |
| 8 x 3/4 x 5/8 | 6,000 | 10 | | | NV14-S | 66253344347 | | | | | | |
| S Webs | | | | | | | | | | | | |
| 8 x 1 x 5/8 | 6,000 | 5 | NZ IV 16-O | 66253030778 | NV16-Q | 66253198590 | | | | | | |
| S Webs | 6,000 | 5 | NZ IV 16-Q | 66253044532 | | | | | | | | |
| | 6,000 | 10 | | | NV14-R | 66253344355 | | | | | | |
| | 6,000 | 10 | | | NV14-T | 66253344365 | | | | | | |
| | 6,000 | 10 | | | NVC16-Q | 66253198592 | | | | | | |
| Type 06 Straight Cup | | | | | | | | | | | | |
| 6 x 2 x 5/8-11 | 6,000 | 5 | | | | | NZ III 16-R | 66252838577 | | | | |
| Rim 2" Back 3/4" | | | | | | | | | | | | |
| Type 11 Flaring Cup | | | | | | | | | | | | |
| 4/3 x 2 x 5/8-11 | 9,070 | 10 | NZ IV 16-Q | 66243530761 | NV16-Q | 66253198583 | | | 57A16-Q | 66243510512 | Metal 16-Q | 66243510512 |
| Rim 3/4" Back 3/4" | | | | | | | | | | | Masonry | 07660789431 |
| | | | | | | | | | | | C16-Q | |
| 5/3-3/4 x 2 x 5/8-11 | 7,260 | 5 | | | NV16-Q | 66253146918 | | | 57A16-Q | 66252809598 | Metal 16-Q | 07660789430 |
| Rim 1" Back 3/4" | | | | | | | | | | | Masonry | 07660789432 |
| | | | | | | | | | | | AC16-P | |
| 6/4-3/4 x 2 x 5/8-11 | 6,000 | 5 | | | NV16-Q | 66253146925 | NZ III 16-Q | 66252838568 | 57A16-Q | 66252825201 | | |
| Rim 1" Back 3/4" | 6,000 | 5 | | | | | NZ III 16-R | 66252838566 | | | | |
| 6/4-3/4 x 2 x 5/8-11 | 6,000 | 5 | NZ IV 16-P | 66252830765 | NV14-R | 66253344371 | | | 37C16-P | 66252809609 | Masonry | 66252809609 |
| Rim 1-1/2" Back 3/4" | | | | | | | | | | | C16-P | |
| | 6,000 | 5 | | | NV16-Q | 66253198584 | | | 57A16-Q | 66252809618 | | |
| | 6,000 | 5 | | | NVC16-Q | 66253146922 | | | 57AC16-Q | 66252809608 | | |
| Type 11 Flaring Cup with Steel Back | | | | | | | | | | | | |
| 4/3 x 2 x 5/8-11 | 9,070 | 10 | | | NV16-Q | 66253146917 | | | | | | |
| Rim 3/4" Back 3/4" | | | | | | | | | | | | |
| 5/3-13/16 x 2 x 5/8-11 | 7,260 | 10 | | | NV16-Q | 66253146920 | | | | | | |
| Rim 1" Back 3/4" | | | | | | | | | | | | |
| 6/4-13/16 x 2 x 5/8-11 | 6,000 | 5 | | | NV14-R | 66253344373 | | | 57A16-Q | 66252809599 | | |
| Rim 1-1/2" Back 3/4" | 6,000 | 5 | | | NV16-Q | 66253198586 | | | 57AC16-Q | 66252809600 | | |
| | 6,000 | 5 | | | NVC16-Q | 66253146929 | | | | | | |

** Std. Pkg. = 50



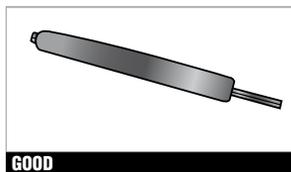
TIER: **BEST** **BETTER** **GOOD** **GOOD**
 TRADENAME: **NORTON NORZON PLUS** **NORTON BLUEFIRE** **NORTON GEMINI** **NORTON METAL**
 ABRASIVE: Zirconia Alumina Zirconia Alumina/Aluminum Oxide Aluminum Oxide Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | SPEC | PART # | SPEC | PART # | SPEC | PART # | SPEC | PART # |
|--------------------------------------|----------|-----------|------------|-------------|--------|-------------|---------|-------------|----------|-------------|
| Type 16 Cones | | | | | | | | | | |
| 1 x 3 x 3/8-24 (ME 107019) | 36,290 | 10 | | | NV20-S | 66253344376 | 57A24-R | 61463622342 | Metal 24 | 66253349752 |
| 1-1/2 x 2-1/2 x 3/8-24 (ME 44436) | 24,190 | 10 | | | | | 57A24-R | 61463622349 | Metal 24 | 66253349754 |
| 1-1/2 x 3 x 3/8-24 (ME 139029) | 24,190 | 10 | | | NV20-S | 66253344377 | | | | |
| 1-1/2 x 3 x 5/8-11 (ME 70535) | 24,190 | 10 | NZ IV 20-R | 61463644231 | NV20-S | 66253344379 | 57A24-R | 61463622190 | Metal 24 | 66253349757 |
| | | | | | | | 57A24-R | 66253325911 | | |
| 1-3/4 x 3 x 3/8-24 (ME49226) | 20,735 | 10 | | | | | 57A24-R | 61463614503 | Metal 24 | 66253349840 |
| 1-3/4 x 3 x 5/8-11 (ME 33432) | 20,740 | 10 | | | | | 57A24-R | 61463622195 | Metal 24 | 66253349841 |
| 2 x 3 x 5/8-11 (ME 28229) | 18,145 | 10 | NZ IV 20-R | 61463644232 | NV20-S | 66253344381 | 57A24-R | 61463622218 | Metal 24 | 66253349846 |
| 2-3/4 x 3-1/2 x 5/8-11 (ME 18265) | 13,195 | 10 | | | NV20-S | 66253344383 | 57A24-R | 61463622387 | Metal 24 | 66253349855 |
| 3 x 3 x 5/8-11 (ME70537) | 12,100 | 10 | | | | | | | Metal 24 | 66243496885 |
| Type 17 Cones, Square Tip | | | | | | | | | | |
| 1-1/2 / 1/2 x 3 x 3/8-24 | 24,190 | 10 | | | | | 57A24-R | 61463622194 | Metal 24 | 66253349753 |
| 2 / 1/2 x 3 x 5/8-11 | 18,145 | 10 | | | | | 57A24-R | 61463615722 | Metal 24 | 66253349845 |
| Type 17R Cones, Round Tip | | | | | | | | | | |
| 2 / 3/4 x 3 x 5/8-11 (ME 151373) | 18,145 | 10 | | | NV20-S | 66253344384 | | | | |
| Type 18 Plugs, Square Tip | | | | | | | | | | |
| 1-1/2 x 2-1/2 x 3/8-24 | 24,190 | 10 | | | | | 57A24-R | 61463622217 | Metal 24 | 66253349755 |
| | 24,190 | 1 V | | | | | 57A24-R | 66253325902 | | |
| 1-1/2 x 2-1/2 x 5/8-11 | 24,190 | 10 | NZ IV 20-R | 61463644224 | NV20-S | 66253344385 | 57A24-R | 61463622351 | | |
| | 24,190 | 1 V | | | | | 57A24-R | 66253325905 | | |
| 1-1/2 x 3 x 5/8-11 | 24,190 | 10 | | | NV20-S | 66253344386 | 57A24-R | 61463622191 | Metal 24 | 66253349838 |
| | 24,190 | 1 V | | | | | 57A24-R | 66253325909 | | |
| 2 x 3 x 5/8-11 | 18,145 | 10 | NZ IV 20-R | 61463644234 | NV20-S | 66253344387 | 57A24-R | 61463622219 | Metal 24 | 66253349847 |
| | 18,145 | 10 | | | NV24-S | 66253344391 | | | | |
| 2 x 4 x 5/8-11 | 18,145 | 10 | | | | | 57A24-R | 61463622366 | Metal 24 | 66253349850 |
| Type 18R Plugs, Round Tip | | | | | | | | | | |
| 1-1/2 x 3 x 3/8-24 | 24,190 | 10 | | | | | 57A24-R | 61463622192 | Metal 24 | 66253349756 |
| | 24,190 | 1 V | | | | | 57A24-R | 66253325907 | | |
| 2 x 3 x 5/8-11 | 18,145 | 10 | | | NV20-S | 66253344389 | 57A24-R | 61463622220 | Metal 24 | 66253349849 |

V = Vendible Package. IDEAL FOR VENDING MACHINES & SMALL JOBS.

Core Files

These files consist of coarse grit silicon carbide abrasive in a hard grade, resin-bonded to a reinforcing rod. Half-round in shape, they are a frequent choice for easy cleaning of rough castings.



TIER: **GOOD**
 BRAND: Norton
 ABRASIVE: Silicon Carbide

| SIZE (T x W x L) | STD. PKG. | SPEC. | PART # |
|--|-----------|----------|-------------|
| Stock Resinoid Core Files – Silicon Carbide | | | |
| 1/2 x 1 x 10 | 5 | 37C24-SB | 61463610314 |

FLOORSTAND AND SWINGFRAME SNAGGING



Norton snagging wheels maximize your productivity in foundries, welding shops, fabrication facilities, steel mills, and ship yards.

| | |
|-----------------|--|
| Applications: | Removing unwanted metal on castings, removing flaws and cracks, removing gates, risers and parting lines |
| Size Range: | 24" and 30" diameters in stock; other diameters available as made-to-order |
| Abrasive Grain: | Zirconia Alumina, Zirconia Alumina/Silicon Carbide blend, Aluminum Oxide |
| Shape: | Type 01 Straight |
| Reinforcement: | Strong fiberglass webbing and steel rings for maximum strength |

FLOORSTAND SNAGGING WHEEL MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| CASTING TYPE | | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|--------------|--------------------------|--|---|--|
| IRON | Gray | 4ZF1434-R5B38S, ZI/25-R, ZI/26-Q | Charger Long Life | Gemini All Purpose |
| | Ductile / Malleable | 4ZF1434-Q5B38S, ZI/25-R, ZI/26-Q | Charger Long Life | Gemini All Purpose |
| STEEL | Carbon and Low Alloy | 4NZ1434-R5B38S | Charger Free Cut | Gemini All Purpose |
| | Stainless and High Alloy | 4NZ1634-Q5B38S | Charger Free Cut | Gemini All Purpose |

Note: Grade, Grit and Abrasive tuning may be necessary to obtain optimum performance

SWINGFRAME SNAGGING WHEEL MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| CASTING TYPE | | BEST Highest Productivity; Lowest Total Cost | GOOD Consistent Performance; Low Initial Price |
|--------------------------------|--------------------------|--|--|
| IRON | Gray | 4ZF1234-R5B38S, ZI/25-R, ZI/26-Q | Gemini All Purpose |
| | Ductile / Malleable | 4ZF1234-R5B38S, ZI/25-R, ZI/26-Q | Gemini All Purpose |
| STEEL | Carbon and Low Alloy | 4ZF1434-R5B38S | Gemini All Purpose |
| | Stainless and High Alloy | | Gemini All Purpose |
| ALUMINUM ALLOY | | NZC142-R5B38S | |
| COPPER ALLOYS / BRASS / BRONZE | | NZC142-R5B38S | |

Note: Grade, Grit and Abrasive tuning may be necessary to obtain optimum performance

TROUBLESHOOTING GUIDE

| PROBLEM | POSSIBLE CAUSES | SUGGESTED CORRECTION |
|---|-------------------------------|---|
| Poor stock removal | Insufficient pressure applied | Increase pressure to use all available power |
| | Wheel too coarse or hard | Use finer grit and/or softer grade wheel |
| | Inadequate abrasive | Try NorZon, 4ZF, or ZI/25 specification |
| Grinding costs too high | Wheel acting too soft | Use harder and/or coarser wheel |
| | Low performance specification | Try NorZon or ZI products |
| Wheel loading or glazing | Grade too hard | Try softer grade |
| | Grit too coarse | Try finer grit |
| | Dirty, scale-covered parts | Try NZC wheels |
| Wheels "dusty" | Wheel too soft | Try harder grade |
| Wheel doesn't hold corner or wheel spalling | Wheel too coarse | Use finer grit and/or 2 grit combination |
| | Wheel too soft | Use harder grade |
| Burning the workpiece | Wheel too hard | Use softer grade |
| | Wheel glazed or loaded | Dress the wheel face |
| | Grinding pressure too low | Increase grinding force |
| | Grinding pressure too high | Reduce grinding force |
| Surface finish too rough | Wheel too coarse | Try finer grit or try ZI/26 specification |
| | Wheel speed too slow | Try higher speed machine (Do not exceed maximum operating speed of wheel) |
| | Worn machine bearings | Rebuild machine |
| Vibration | Wheel worn out of round | Try truing the wheel |
| | Faulty flanges | Check flanges for flatness and burrs (see ANSI B7.1) |
| | Bent machine spindle | Check spindle run-out |
| | Worn machine bearings | Rebuild machine |
| Wheel stalls or slows | Grinding force too high | Reduce pressure or contact area |
| | Wheel too hard | Use softer grade wheel |
| | Machine power too low | Replace machine with higher power grinder |

FLOORSTAND AND SWINGFRAME SNAGGING

4ZF, 4NZ, ZI, AND NZC ZIRCONIA ALUMINA

BEST CHOICE FOR DEMANDING APPLICATIONS

FEATURES

- 4ZF – zirconia alumina grain for long life
- 4NZ – zirconia alumina grain for sharpness
- ZI – zirconia alumina grain stays sharper, longer
- NZC – zirconia alumina and silicon carbide blend

BENEFITS

- Engineered for high-pressure, heavy-duty, snagging operations, particularly on iron
- Exceptional wheel life
- Developed for low- to medium-pressure operations, especially on steel and steel castings
- Exceptionally high cut rate
- The most operator-friendly wheels
- The choice for iron castings: ZI/25 for tough metal removal, ZI/26 for finer surface finish
- Ideal for dirty, scale-covered castings

CHARGER ZIRCONIA ALUMINA

BETTER CHOICE FOR STRONG PERFORMANCE TO PRICE RATIO

FEATURES

- Strong zirconia alumina abrasive

BENEFITS

- Very good cut rate and life

5ZF ZIRCONIA ALUMINA AND GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR NUMEROUS SMALL JOBS

FEATURES

- Gemini – versatile aluminum oxide formulation
- Low initial price
- 5ZF – zirconia alumina

BENEFITS

- Works well with a variety of machines, horsepower, and operations
- The choice for initial-price-conscious end-users
- Ideal for lower horsepower or low-pressure applications

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BEST | | BETTER | | GOOD | |
|--|----------|-----------|-------------------|-------------|-------------------|-------------|------------------|-------------|
| | | | SPEC. | PART # | SPEC. | PART # | SPEC. | PART # |
| Type 01 Straight | | | | | | | | |
| 24 x 3 x 12 | 1,990 | 1 | 4ZF1234-R5B38S | 69083166310 | | | 5ZF14-QS | 69083166858 |
| HS Steel Rings with Fine Centers, S Webs | 1,990 | 1 | ZI/25-R | 66253119637 | | | Gemini All Purp. | 69083167173 |
| 30 x 2 x 12 | 1,595 | 1 | 4NZ1634-Q5B38S | 69210421412 | Charger Free Cut | 69210421417 | 5ZF14-R | 69210467105 |
| HS Steel Rings with Fine Centers, S Webs | 1,595 | 1 | 4ZF1434-R5B38S | 69210466458 | Charger Long Life | 69210421418 | Gemini All Purp. | 69210417463 |
| | 1,595 | 1 | 4ZF1634-Q5B38S | 69210466460 | | | | |
| | 1,595 | 1 | ZI/25-R | 66253119636 | | | | |
| | 1,595 | 1 | ZI/26-Q | 66253119638 | | | | |
| | 1,595 | 1 | NZC142-R5B38S | 69210421414 | | | | |

For your safety: all floorstand and swingframe wheels have strong fine centers, steel rings and high-strength fiberglass reinforcement construction.

TECH TIP

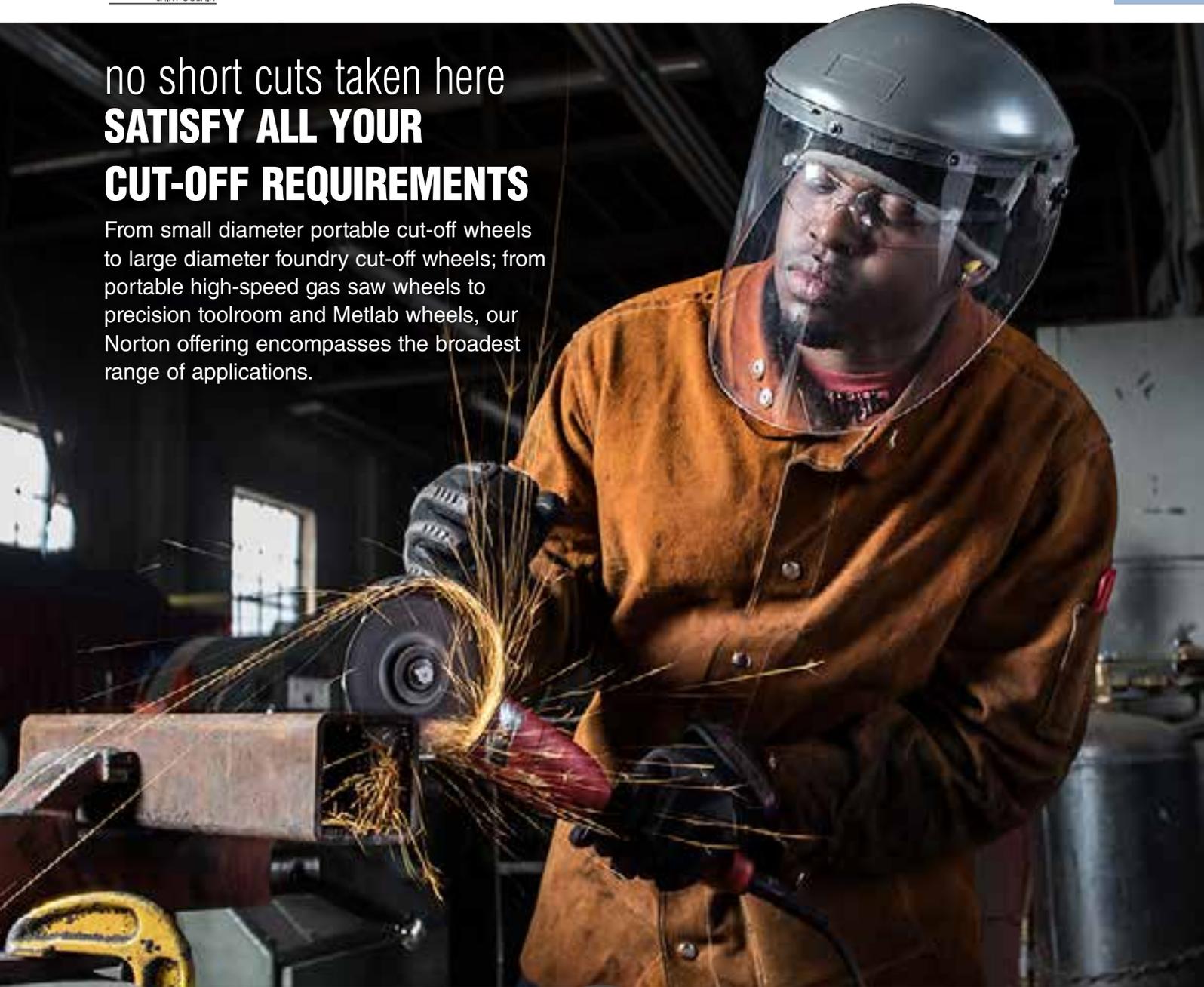
- Always ensure proper mounting of floorstand and swingframe wheels by mounting with arrow down as marked on wheel
- Always use safety guard
- Always run wheel for 1 minute before grinding
- For optimum performance, ensure adequate air pressure and air volume when using pneumatic machines
- Use constant surface foot per minute machines for highest efficiency
- Do not overdress the wheel face
- Avoid loading or glazing by changing the contact angle
- Use pressure assist whenever possible to obtain maximum cut rate



It is the user's responsibility to refer to and comply with ANSI B7.1

no short cuts taken here
**SATISFY ALL YOUR
CUT-OFF REQUIREMENTS**

From small diameter portable cut-off wheels to large diameter foundry cut-off wheels; from portable high-speed gas saw wheels to precision toolroom and Metlab wheels, our Norton offering encompasses the broadest range of applications.



Work Smarter, Not Harder

The fastest cutting wheels in today's market; the ultimate choice for highest productivity on steel, stainless steel, and all ferrous metals.



A Wheel for Every Chop Saw Job

Free Cut side-reinforced wheels for large cross-sections, Long Life wheels for small cross-sections and centrally-reinforced non-binding wheels for burr and burn-free cuts.



Performance on Fire

No job is too tough for our FoundryX wheels to tackle. Designed with tough, durable abrasives, bonds and reinforcement types specific to foundry machine parameters and materials.

SMALL DIAMETER REINFORCED CUT-OFF



The Norton small diameter cut-off wheel line consists of Type 01/41 straight and Type 27/42 depressed center cut-off wheels from 1-1/2" to 9" diameters. These wheels come in ultra thin .035 for quick burn-free and burr-free cutting to .125" for more durable applications. All are reinforced for the demanding nature of portable cut-off.

Applications: Cutting sheet metal, cutting pipe, and metal fabrication
 Size Range: 1-1/2" - 9" diameter
 Thickness Range: .035, .040, .045, .050, .060, 1/16, .090, 3/32 and .125
 Abrasive Grain: Ceramic Alumina/Zirconia Alumina, Zirconia Alumina/Aluminum Oxide, Aluminum Oxide, Silicon Carbide, Diamond
 Shape: Type 01/41 Straight and Type 27/42 Depressed Center
 Machine Used:



TYPE-TO-APPLICATION RECOMMENDATION GUIDE

| Wheel Type/Thickness | Applications | |
|--------------------------------------|--|---|
| TYPE 01/41 | Type 01/41 straight cut-off wheels are designed for portable cut-off tool applications. All are supplied with full fiberglass reinforcing. | |
| .035, .040, .060, and 1/16 .125 | Where fast cutting and low kerf loss are desired | ■ |
| TYPE 01/41 RIGHTCUT | For tough cutting and notching applications where stability is important Type 01/41 RightCut straight cut-off wheels are designed for use on right angle grinder cut-off applications. All are supplied with full fiberglass reinforcing. | |
| .035, .040, .045, .050, 1/16 3/32 | Where fast cutting and low kerf loss are desired | ■ |
| TYPE 27/42 RIGHTCUT | For tough cutting and notching applications where stability is important Type 27/42 RightCut depressed center cut-off wheels are designed for use on right angle grinder cut-off applications. Their depressed center shape provides a recess for the hub, which allows flush cutting. All are supplied with full fiberglass reinforcing. | |
| .040, .045, 1/16 3/32, .125 | Where fast cutting and low kerf loss are desired | ■ |
| | For tough cutting and notching applications where stability is important | ■ |

HOW TO PICK THE RIGHT BOND TYPE

| | | |
|------------------|----------|---|
| All Purpose | Unmarked | Where an excellent blend of cut rate and life is needed |
| Free Cut | FC | Where fast stock removal is needed, or the application only allows low-pressure or under-horsepowered grinders |
| Long Life | LL | Where durability is needed due to severe application, and when horsepower of the grinder allows heavy pressure |
| Contaminate Free | INOX/SS | Contain <0.1% iron, sulfur or chlorine for rust-free and corrosion-free results; will not contaminate stainless steel |
| Aluminum | ALU | Specially formulated bond for reduced loading and surface contamination while cutting aluminum and soft materials |

SAFETY

Dangerous Pairing: Die Grinders and Cut-off Wheels

While die grinders and cut-off tools may look similar, they are not interchangeable. Small diameter cut-off wheels can be used only on portable cut-off tools. Several crucial differences exist between the two handheld machines.

- Small diameter cut-off wheels must be used on portable cut-off tools with guards for the safety of the operator and bystanders. Also, portable cut-off tool guards prevent use of an oversize wheel.
- These cut-off wheels must be mounted between proper flanges on portable cut-off tools as described in the national safety standard for abrasive wheels, ANSI B7.1. Die grinders make use of a collet for mounting.
- All cut-off wheels must be used at or below their maximum operating speed, marked clearly on the side of the wheel. Die grinders operate above cut-off wheel speeds. Excessive speed can result in breakage and serious personal injury.



It is the user's responsibility to refer to and comply with ANSI B7.1

SMALL DIAMETER REINFORCED CUT-OFF

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & price | GOOD Consistent Performance; Low Initial Price |
|----------------------------------|---|--|---|
| CUTTING | | | |
| Mild Carbon / High Tensile Steel | Norton NorZon Plus | Norton BlueFire | Norton Metal |
| Stainless Steel / Alloys | Norton NorZon Plus | Norton BlueFire INOX/SS | Norton Gemini INOX/SS |
| Contaminate Free | | Norton BlueFire INOX/SS | Norton Gemini INOX/SS |
| Cast Iron | Norton NorZon Plus | Norton BlueFire | Norton Gemini |
| Aluminum / Bronze / Brass | | | Norton Gemini ALU |
| Asphalt / Brick / Concrete | | | Norton Masonry |

CROSS REFERENCE GUIDES

Type 01/41 .035 - .125 Reinforced Cut-off Wheels for Portable Cut-off Tools



| | TOTAL PERFORMANCE ← | | | INITIAL PRICE → | |
|---------------|-------------------------|---------------|--------------------------|--------------------------------|------------------|
| | BEST | BETTER | GOOD | | |
| NORTON | NorZon Plus | BlueFire | Gemini Free Cut | Gemini Long Life | Metal |
| Brilliant | — | Brill-Max ZA | — | — | Safe-Tex FC, LL |
| Bullard | — | ZA46T, ZA60T | TA36T | TA46T, TA60T | A36T, A60T Comp. |
| Camel | — | ZA60-TBF | A36 RBF | A60 RBF | Fast Cut RBF |
| Flexovit | Flexon Fast Cut A46, 60 | — | High Perf Fast Grind A36 | High Perf Fast Cut A36, 46, 60 | — |
| Pearl | — | SRT, Zirconia | — | Premium | Silver Line |
| Pferd | — | — | — | — | PSF-A |
| Sait | Saittech | — | A60S | A24R, A36T, A60T | — |
| Spedecut | — | — | — | — | A46, 60 TBXX |
| Walter | — | — | A24 ZIP | A60 ZIP | — |

Type 01/41 and Type 27/42 .035 - .125 Reinforced Cut-off Wheels for Right Angle Grinders



| | TOTAL PERFORMANCE ← | | | INITIAL PRICE → | | SPECIALITY → | |
|---------------|---------------------|----------------------|----------------------|---------------------------|---------------------------|-----------------|-----------------------------|
| | BEST | | GOOD | | GOOD | | |
| NORTON | NorZon Plus | BlueFire | Gemini Free Cut | Gemini | Metal | Gemini ALU | Gemini INOX/SS |
| Brilliant | — | — | Brill-Blade Extra FC | Brill-Blade Heavy Duty | Hornet Stinger | — | — |
| Bullard | — | ZA60T | SGA60U | TA46T, TA60T, TA60U | A46T, A60T Comp. | AL46N | — |
| Camel | — | ZA Quickie Cut | A36-S-BF | Super Quickie Cut | Quickie Cut | A46 Quickie Cut | A60-T-BF, WA60R Quickie Cut |
| Flexovit | — | — | Razorblade A60SST | Razorblade A24T, 30V, 36T | — | Razorblade A30Q | — |
| Metabo | — | A 60 XP Super Slicer | — | A 60 TX Slicer-Plus | A 60 TZ Slicer | — | — |
| Pearl | — | Redline Max Slimcut | — | Slimcut | Slimcut Pro-V, Silverline | — | — |
| Pferd | — | SGP-ZA-Q-INOX | — | SG-A-S, SGP-A-T | PSF-A-P | S-G-N-ALU | SG-A-R-INOX, SGP-A-S-INOX |
| Sait | Saittech | Z-tech | SAIT.M.X | A60S | — | A46N | XA46R |
| SpedeCut | — | — | — | — | A46, 60 TBXX | — | — |
| Walter | — | — | A-30-ZIP | A-60-ZIP | — | A-60-ZIP-ALU | A60-SS-ZIP |

SMALL DIAMETER REINFORCED CUT-OFF NORTON NORZON PLUS CERAMIC/ZIRCONIA BLEND

BEST CHOICE FOR HIGHEST PRODUCTIVITY FOR STEEL, STAINLESS STEEL AND ALL FERROUS METALS



FEATURES

- Norton SG (ceramic alumina) / NorZon (zirconia alumina) grain combination
- Highly-advanced bond system
- RightCut right angle grinder wheels

BENEFITS

- Fastest cutting wheel available on the market, up to 3X faster cutting versus aluminum oxide
- 3X – 10X life versus aluminum oxide wheels on carbon steel, stainless and cast iron
- Noticeably longer life and faster cut rate
- Less pressure required for first cut

NORTON BLUEFIRE ZIRCONIA ALUMINA/AO BLEND

BETTER CHOICE FOR STAINLESS STEEL, CARBON STEEL, ALLOYS AND GRAY IRON



FEATURES

- A blend of R&D advanced chemistry and shaped zirconia alumina abrasive and premium aluminum oxide grain
- IMPROVED PERFORMANCE! RightCut right angle grinder wheels

BENEFITS

- 2-3 times the life of aluminum oxide wheels
- Broad utility from light-to heavy-pressure applications
- Excellent performance-to-price ratio for lower total grinding costs
- Over 50% more life; the true choice for broad versatility and better value, to lower production costs
- Less pressure required for first cut

NORTON GEMINI ALUMINUM OXIDE

GOOD, VERSATILE CHOICE FOR STEEL AND FERROUS METALS



FEATURES

- Quality, versatile aluminum oxide
- Gemini Contaminate-Free INOX/SS
- .040 and .045 ultra-thin Gemini RightCut right angle grinder Type 01/41 straight and T27/42 depressed center cut-off wheels

BENEFITS

- Consistent performance at a competitive price
- Contain <0.1% iron, sulfur or chlorine for rust-free and corrosion-free results; will not contaminate stainless steel
- Precise cutting; more stability and a narrower pass
- Up to 70% longer life and 20% faster cut rate than standard aluminum oxide wheels – for substantial savings
- Require less pressure, providing increased operator comfort

NORTON METAL ALUMINUM OXIDE

GOOD CHOICE FOR GRINDING ALLOYS, METALS, STEELS, AND FERROUS METALS



FEATURES

- Quality aluminum oxide
- Low initial cost per wheel

BENEFITS

- Consistent performance at a competitive price
- Ideal for small-volume jobs where performance need not be measured

NORTON DIALAST DIAMOND WHEELS

BEST FOR METAL PLATE, PIPE, TUBING, CAST IRON, CARBON AND MILD STEEL, FOUNDRY AND WELDING APPLICATIONS, AND CERAMICS



FEATURES

- A combination of high-quality diamond and advanced brazed single-layer bonding technology
- Environmentally-friendly grinding

BENEFITS

- Extra-long life versus conventional abrasives or other vacuum-brazed diamond tools
- Retains the diamond grains and wheel shape for full life with low sparks, while keeping a continuous grinding depth for exceptional wheel life
- Less blade changes reduce downtime and labor costs
- Generate minimal dust for less clean-up and safer working conditions

SMALL DIAMETER REINFORCED CUT-OFF



| | | | | | | |
|------------|--|--|--|--|--|--|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD | GOOD |
| TRADENAME: | NORTON NORZON PLUS | NORTON BLUEFIRE | NORTON A60-OBNA2 | NORTON GEMINI | NORTON GEMINI LONG LIFE | NORTON METAL |
| SHAPE: | Type 01/41 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--|----------|-----------|------------------|------------------|-----------------------|----------------|----------------|-------------------------------------|
| .035", .040", .060", 1/16" and .125" Type 01/41 – Cut-off | | | | | | | | |
| 1-1/2 x .035 x 1/16 | 40,745 | 25 | | | 66243427764 | | | |
| 1-1/2 x .035 x 1/8 | 40,745 | 25 | | | 66243427831 | | | |
| 1-1/2 x .035 x 1/4 | 40,745 | 25 | | | 66243427875 | | | |
| 2 x .035 x 1/8 | 30,560 | 25 | | | | 66243411392 FC | | |
| 2 x .035 x 1/4 | 30,560 | 25 | | | 66243428014 | 66243411393 FC | | |
| 2 x .035 x 3/8 | 30,560 | 25 | | | | 66243411394 FC | | |
| 2 x .060 x 1/8 | 30,560 | 25 | | | 66243428041 | | | |
| 2 x 1/16 x 1/4 | 30,560 | 25 | | | | 66243411395 FC | | |
| 2 x 1/16 x 3/8 | 30,560 | 25 | | | | 66243411396 FC | | |
| 2 x .125 x 1/4 | 30,560 | 25 | | | | 66243411402 FC | | |
| 2 x .125 x 3/8 | 30,560 | 25 | | | | 66243411403 FC | | |
| 2-1/2 x .035 x 1/8 | 30,560 | 25 | | | 66243528476 | | | |
| 2-1/2 x .035 x 1/4 | 30,560 | 25 | | | 66243528425 | | | |
| 2-1/2 x 1/16 x 1/4 | 30,560 | 25 | | | | 66243510640 FC | | |
| 2-1/2 x 1/16 x 3/8 | 30,560 | 25 | | | | 66243510641 FC | | |
| 3 x .035 x 1/4 | 25,465 | 25 | 66243510668 | | 66243528573 | 66243510627 FC | | |
| | 25,465 | 25* | 66243531753 5-Pk | | | | | |
| 3 x .035 x 3/8 | 25,465 | 25 | 66243510669 | 66252843174 | 66243528574 | 66243510628 FC | 66243537271 LL | 07660789451 |
| | 25,465 | 25* | | 66243534821 5-Pk | | | | |
| 3 x 1/16 x 1/4 | 25,465 | 25 | 66243510670 | | 66243528471 | 66243510645 FC | 66243510649 LL | |
| 3 x 1/16 x 3/8 | 25,465 | 25 | 66243510671 | 66252843175 | 66243528552 | 66243510647 FC | 66243510648 LL | 66252835553 |
| | 25,465 | 25 | 66243510835 LL | | | | | |
| | 25,465 | 25* | | | | | | 07660747767 5-Pk |
| | 25,465 | 100 | | | | | | 07660789012 |
| | 25,465 | 10-Pk+ | | | | | | 66252843624 5 Whls & 1 Mandrel/Pack |
| 3 x .125 x 1/4 | 25,465 | 25 | | | | 66243510650 FC | 66243510652 LL | |
| 3 x .125 x 3/8 | 25,465 | 25 | 66243510673 | | | 66243510651 FC | 66243510653 LL | |
| 4 x .035 x 1/4 | 15,300 | 25 | | | 66243529606 | | | |
| | 19,100 | 25 | | | | 66243510629 FC | | |
| 4 x .035 x 3/8 | 19,100 | 25 | 66243510675 | 66252843173 | 66243529621 | 66243510630 FC | 66243537273 LL | 07660789453 |
| 4 x .035 x 1/2 | 19,100 | 25 | | | 66243529622 | | | |
| 4 x .035 x 3/4 | 19,100 | 25 | | | 66243529609 | | | |
| 4 x .040 x 3/8 | 19,100 | 25 | | | 66243529516 | | | |
| 4 x 1/16 x 1/4 | 19,100 | 25 | 66243510676 | | | 66243510654 FC | | |
| 4 x 1/16 x 3/8 | 19,100 | 25 | 66243510677 | 66252843171 | | 66243510655 FC | 66243510657 LL | 66252843848 |
| 4 x 1/16 x 5/8 | 19,100 | 100 | | | 66243527827 FabCut | | | |
| 4 x .125 x 1/4 | 19,100 | 25 | | | | 66243510658 FC | | |
| 4 x .125 x 3/8 | 19,100 | 25 | 66243510841 | 66252843172 | | 66243510659 FC | 66243510661 LL | |
| | 19,100 | 25 | 66243510680 LL | | | | | |
| Drill Mount Mandrel | | 5 | | | | | | 07660747769+ |

+ For mounting 2" and 3" x 3/8" hole cut-off wheels on to a drill
 * 5-wheel Job Packs; wheels are packed 5 wheels/Pack, with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.
 † Order per number of pack, in multiples of 10 packs. Priced per pack.

| WHEEL DESCRIPTION CODES | | | |
|-------------------------|---------------|----------------------------|----------------|
| BLANK = All Purpose | FC = Fast Cut | INOX/SS = Contaminant Free | LL = Long Life |
| ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | |

SMALL DIAMETER REINFORCED CUT-OFF



| | | | | | |
|------------|--------------------------------------|----------------------------------|-------------------------------------|----------------------------------|----------------------------------|
| TIER: | BEST | BEST | BETTER | GOOD | GOOD |
| TRADENAME: | NORTON NORZON PLUS RIGHTCUT | NORTON DIALAST RIGHTCUT | NORTON BLUEFIRE RIGHTCUT | NORTON GEMINI RIGHTCUT | NORTON METAL RIGHTCUT |
| SHAPE: | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Diamond | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|--|----------|-----------|------------------------|-------------|------------------|---------------------|--------------------|
| .035", .040", .045", .050", 1/16, and 3/32" Type 01/41 – RightCut Cut-off | | | | | | | |
| 4 x .040 x 5/8 | 15,280 | 25 | | | | | 07660701616 |
| 4 x .045 x 5/8 | 15,280 | 25 | | | | 66243527956 | |
| 4 x 3/32 x 5/8 | 15,280 | 25 | | | | 66243527955 | |
| 4-1/2 x .035 x 7/8 | 13,580 | 25 | | | | | 66252843846 |
| 4-1/2 x .040 x 7/8 | 13,580 | 25 | | | | 66252843225 | 07660701617 |
| | 13,580 | 50 | | | | | 66253370222 |
| | 13,580 | 250• | | | | | 66252840001 250-Pk |
| | 13,580 | 25* | | | | | 66252842158 5-Pk |
| 4-1/2 x .045 x 7/8 | 13,580 | 25 | 66252830730 | | | 66252823602 | |
| | 13,580 | 25 | | | | 66252841994 ALU | |
| | 13,580 | 25 | | | | 66252841997 INOX/SS | |
| | 13,580 | 250• | | | | 66252841213 250-Pk | |
| | 13,580 | 25* | | | | 66252842160 5-Pk | |
| 4-1/2 x .050 x 7/8 | 13,580 | 1 | | 66253370016 | | | |
| 4-1/2 x 1/16 x 7/8 | 13,580 | 25 | | | 66252843208 | | 66252843845 |
| | 13,580 | 25* | | | 66252842159 5-Pk | | |
| | 13,580 | 250• | | | 66253371660 | | |
| 4-1/2 x 3/32 x 7/8 | 13,580 | 25 | | | | 66252823599 | |
| 5 x .040 x 5/8 | 12,225 | 25 | | | | | 66252843847 |
| 5 x .040 x 7/8 | 12,225 | 25 | | | | 66252843226 | 07660701618 |
| 5 x .045 x 7/8 | 12,225 | 25 | 66252830731 | | | 66252823603 | |
| | 12,225 | 25 | | | | 66252841995 ALU | |
| | 12,225 | 25 | | | | 66252841998 INOX/SS | |
| | 12,225 | 250• | | | | 66252841214 250-Pk | |
| | 12,225 | 25* | | | | 66252842170 5-Pk | |
| 5 x .050 x 7/8 | 12,225 | 25 | 66252809829 NZ ThinCut | | | | |
| | 12,225 | 1 | | 66253370017 | | | |
| 5 x 1/16 x 7/8 | 12,225 | 25 | | | 66252843209 | | |
| | 12,225 | 250• | | | 66253371661 | | |
| | 12,225 | 25* | | | 66252842169 5-Pk | | |
| 5 x 3/32 x 7/8 | 12,225 | 25 | | | | 66252823600 | |
| 6 x .040 x 7/8 | 10,185 | 25 | | | | | 07660702757 |
| | 10,185 | 50 | | | | | 66253370223 |
| | 10,185 | 250• | | | | | 66252841212 250-Pk |
| 6 x .045 x 7/8 | 10,185 | 25 | 66252842008 | | | 66252823604 | |
| | 10,185 | 25 | | | | 66252841996 ALU | |
| | 10,185 | 25 | | | | 66252841999 INOX/SS | |
| | 10,185 | 250• | | | | 66252841215 250-Pk | |
| | 10,185 | 25* | | | 66252842174 5-Pk | 66252842175 5-Pk | |
| 6 x .050 x 7/8 | 10,185 | 1 | | 66253370018 | | | |
| 6 x 1/16 x 7/8 | 10,185 | 25 | | | 66252843210 | | |
| | 10,185 | 250• | | | 66253371662 | | |
| 6 x 3/32 x 7/8 | 10,185 | 25 | | | | 66252823601 | |
| 7 x .045 x 7/8 | 8,600 | 25 | | | | 66252832323 | |
| | 8,600 | 20 | | | | 66252842000 INOX/SS | |
| 7 x 1/16 x 7/8 | 8,600 | 25 | 66252900652 | | | | |
| | 8,600 | 1 | | 70184694055 | | | |
| 9 x .060 x 7/8 | 6,600 | 1 | | 70184694056 | | | |

RightCut wheels are to be used for cutting only
 * 5-wheel Job Packs; wheels are packed 5 wheels/Pack, with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.
 • Bulk packed 250 Wheels/carton; 5 inner boxes of 50 wheels each. Order in multiples of 250 wheels.



BlueFire RightCut Right Angle Grinder Cut-off Wheels

- Double your production with the improved performance of Norton BlueFire RightCut right angle grinder wheels
- Gain over 50% more wheel life with our advanced-chemistry blend of zirconia and aluminum oxide abrasives
- Excellent performance/price ratio, with broadest versatility, guaranteed to lower your production costs
- Available in Type 01/41 straight and Type 27/42 depressed center wheels.

And, that's money in the bank!

SMALL DIAMETER REINFORCED CUT-OFF



| | | | | |
|------------|--|--|---|--|
| TIER: | BEST | BETTER | GOOD | GOOD |
| TRADENAME: | NORTON NORZON PLUS | NORTON BLUEFIRE | NORTON GEMINI | NORTON METAL |
| SHAPE: | Type 27/42 | Type 27/42 | Type 27/42 | Type 27/42 |
| ABRASIVE: | Ceramic Alumina/ Zirconia Alumina | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL ALUMINUM | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|--|----------|-----------|-------------|-------------|---------------------|-------------|
| .040, .045, 1/16" – RightCut Cut-off – Type 27/42 | | | | | | |
| 4 x .045 x 5/8 | 15,280 | 25 | | | 66252842180 | 07660705249 |
| 4-1/2 x .040 x 5/8-11 | 13,580 | 10 | | | 66252843227 | |
| 4-1/2 x .045 x 5/8-11 | 13,580 | 10 | 66252842006 | | 66252842025 | |
| | 13,580 | 10 | | | 66252841913 INOX/SS | |
| 4-1/2 x .045 x 7/8 | 13,580 | 25 | 66252843320 | | 66252842026 | 66252843604 |
| | 13,580 | 25 | | | 66252841912 INOX/SS | |
| | 13,580 | 25 | | | 66252841909 ALU 36 | |
| | 13,580 | 25* | | | 66252842161 5-Pk | |
| | 13,580 | 250 | | | 66253370065 250-Pk | |
| 4-1/2 x 1/16 x 5/8-11 | 13,580 | 10 | | 66252843223 | | |
| 4-1/2 x 1/16 x 7/8 | 13,580 | 10 | | 66252843219 | | |
| 5 x .040 x 5/8-11 | 12,225 | 10 | | | 66252843228 | |
| 5 x .045 x 5/8-11 | 12,225 | 10 | | | 66252841939 | |
| 5 x .045 x 7/8 | 12,225 | 25 | 66252843329 | | 66252842036 | 66252843849 |
| | 12,225 | 25 | | | 66252841914 INOX/SS | |
| | 12,225 | 25 | | | 66252841910 ALU 36 | |
| | 12,225 | 25* | | | 66252842171 5-Pk | |
| | 12,225 | 250 | | | 66253370066 250-Pk | |
| 5 x 1/16 x 7/8 | 12,225 | 25 | | 66252843220 | | |
| 6 x .045 x 5/8-11 | 10,185 | 10 | 66252842007 | | 66252830587 | |
| 6 x .045 x 7/8 | 10,185 | 25 | 66252842009 | | 66252842202 | 66252842015 |
| | 10,185 | 25 | | | 66252841916 INOX/SS | |
| | 10,185 | 25 | | | 66252841911 ALU 36 | |
| | 10,185 | 25* | | | 66252842176 5-Pk | |
| | 10,185 | 250 | | | 66253370067 250-Pk | |
| 6 x 1/16 x 7/8 | 10,185 | 25 | | 66252843221 | | |
| 7 x .045 x 5/8-11 | 8,600 | 10 | | | 66252841919 INOX/SS | |
| 7 x .045 x 7/8 | 8,600 | 20 | | | 66252912626 | |
| | 8,600 | 20 | | | 66252841918 INOX/SS | |
| 7 x 1/16 x 7/8 | 8,600 | 10 | | | | 07660705251 |
| 9 x 1/16 x 5/8-11 | 6,600 | 10 | | | 66253019115 | |
| 9 x 1/16 x 7/8 | 6,600 | 10 | | | 66253017734 | |

RightCut wheels are to be used for cutting only.

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|--|----------|-----------|-------------|-------------|---------------------|--------|
| 3/32", .125" – Cut-off – Type 27/42 | | | | | | |
| 4 x .125 x 3/8 | 15,280 | 25 | 66252842001 | | 66252841903 | |
| 4-1/2 x 3/32 x 5/8-11 | 13,580 | 10 | | | 66252842027 INOX/SS | |
| | 13,580 | 10 | | | 66252841940 | |
| 4-1/2 x 3/32 x 7/8 | 13,580 | 25 | | | 66252842028 INOX/SS | |
| | 13,580 | 25 | | | 66252843582 1-2-3 | |
| 4-1/2 x .125 x 5/8-11 | 13,580 | 10 | 66252843321 | | 66252843588 | |
| 4-1/2 x .125 x 7/8 | 13,580 | 25 | 66252843322 | | 66252843589 | |
| 5 x 3/32 x 5/8-11 | 12,225 | 10 | | | 66252841904 | |
| 5 x 3/32 x 7/8 | 12,225 | 25 | | | 66252842037 INOX/SS | |
| | 12,225 | 25 | | | 66252843587 LL | |
| | 12,225 | 25 | | | 66252843583 1-2-3 | |
| 5 x .125 x 7/8 | 12,225 | 25 | | | 66252843595 | |
| 6 x 3/32 x 5/8-11 | 10,185 | 10 | | | 66252841905 | |
| 6 x 3/32 x 7/8 | 10,185 | 25 | | | 66252841906 | |
| | 10,185 | 25 | | | 66252832487 INOX/SS | |
| 6 x .125 x 5/8-11 | 10,185 | 10 | | | 66252841192 | |
| 6 x .125 x 7/8 | 10,185 | 25 | | | 66252842021 | |
| 7 x 3/32 x 5/8-11 | 8,600 | 10 | | | 66252841907 | |
| 7 x 3/32 x 7/8 | 8,600 | 20 | | | 66252841908 | |
| | 8,600 | 20 | | | 66252914638 INOX/SS | |
| 7 x .125 x 5/8-11 | 8,600 | 10 | 66252912625 | | | |
| 7 x .125 x 7/8 | 8,600 | 20 | 66252912624 | | 66252900619 | |
| 9 x 3/32 x 5/8-11 | 6,600 | 10 | | 66252842378 | | |
| 9 x 3/32 x 7/8 | 6,600 | 20 | | 66252842343 | | |

These wheels are to be used for cutting only. * 5-wheel Job Packs; wheels are packed 5 wheels/Pack, with 5 Job Packs/carton. Order per each wheel in standard package quantities of 25. Order in multiples of 25.

SMALL DIAMETER REINFORCED CUT-OFF



| | | | | | |
|------------|-----------------------|-------------------------------------|----------------------|---------------------|-----------------------|
| TIER: | BEST | BETTER | GOOD | GOOD | GOOD |
| TRADENAME: | NORTON DIALAST | NORTON CHARGER | NORTON GEMINI | NORTON METAL | NORTON MASONRY |
| SHAPE: | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: | Diamond | Zirconia Alumina/ Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide |
| MATERIAL: | STAINLESS | STEEL/METAL | STEEL/METAL | STEEL/METAL | MASONRY |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|----------------------------------|----------|-----------|-------------|----------------|-------------|-------------|--------|
| Type 01/41 – Circular Saw | | | | | | | |
| 6 x .035 x 5/8 | 10,185 | 25 | | 66252809714 | | | |
| 6 x 1/16 x 5/8 | 10,185 | 25 | | 66252809718 | | | |
| 6-1/2 x .125 x DM-5/8 | 9,405 | 10 | | | 07660789098 | 07660789089 | |
| 7 x 1/16 x 5/8 | 8,730 | 25 | | 66252905957 | | | |
| 7 x .060 x 7/8 | 8,600 | 1 | 70184694055 | | | | |
| 7 x 1/8 x DM-5/8 | 8,730 | 25 | | | 07660789097 | 07660789088 | |
| 8 x 1/16 x 5/8 | 7,640 | 25 | | 66253017771 LL | 66253007025 | | |
| | 7,640 | 10 | | | 66253017795 | | |
| 8 x 1/8 x DM-5/8 | 7,640 | 10 | | | 07660789096 | 07660789086 | |
| 9 x .060 x 7/8 | 6,600 | 1 | 70184694056 | | | | |



DM Denotes Diamond Mount; 5/8" hole bushings included

| WHEEL DESCRIPTION CODES | | | |
|-------------------------|---------------|----------------------------|----------------|
| BLANK = All Purpose | FC = Fast Cut | INOX/SS = Contaminant Free | LL = Long Life |
| ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | |



Dialast Diamond: Introducing The Last Cut-Off and Depressed Center Wheels Standing!

Metal working demands tools that will cut or grind fast, throw a minimum of sparks, and above all, LAST.

Norton DiaLast diamond cutting and grinding wheels give the operator everything needed to get the job done right, the very first time:

- Right angle grinder, circular saw, and chop saw blades for cutting steel, metal studs, stainless steel, nonferrous materials, tile, brick, plastic, and much more.
- DiaLast depressed center cutting and grinding wheels are an excellent choice on steel, cast iron, ductile pipe, tubing, and metal plate when high stock removal is desired

To learn more, see DiaLast depressed center (page 11) and cut-off wheel Features and Benefits (page 19).

HIGH-SPEED REINFORCED CUT-OFF



Norton high-speed cut-off abrasive wheels provide the industry's leading performance in all high-speed gas and electric-powered applications.

- Applications:** Metalworking: steel, stainless, ductile, cast iron, rail steel and metal decking
 Non-Metal Building Materials: concrete, brick, masonry, asphalt aggregate, stone and schedule 40 and 80 PVC pipe
 Rescue and Demolition: steel, acrylic, fiberglass, rubber, glass, wood, concrete, brick and asphalt
- Size Range:** 12" – 16" diameter
- Thickness Range:** 1/8" and 5/32"
- Abrasive Grain:** Aluminum Oxide, Silicon Carbide, Silicon Carbide/Aluminum Oxide Blend
- Shape:** Type 01/41 Straight
- Reinforcement:** Wheels are offered in standard two-layer reinforcement as well as three-layer reinforcement for higher-speed saws and heavy-duty applications
- Arbor:** Wheels are offered with patented universal arbor that accommodates both 20mm and all other machines with 1" arbors
- Machine Used:**



MATERIAL / APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| Icon | | Application |
|------|-------------------|---|
| | Metal | High-performance aluminum oxide grain wheels designed for general purpose cutting of all steel and stainless parts including rebar, steel pipe, structural steel, sheet metal, cable and small to medium diameter solid pieces. |
| | Metal Decking | High-performance aluminum oxide abrasive combined with a thicker wheel (5/32") that stands up to the sharp edges of sheet metal and roof decking. |
| | Ductile/Cast Iron | A special blend of silicon carbide abrasive for cutting and aluminum oxide abrasive for life, designed to cut ductile and cast iron pipe, concrete-lined water pipes, sewer construction and heavy duty PVC. |
| | Rescue | For ventilation, forcible entry, rescue and demolition. A versatile abrasive formula that can be used on a wide range of materials including all types of metals and masonry. |
| | Concrete | Coarse grit silicon carbide abrasive provides a low initial cost solution for cutting brick, block, concrete or other masonry materials. For higher-production applications that require optimum speed of cut and product life, please see our complete selection of high-speed diamond wheels in our Norton Construction diamond product line. |
| | Asphalt | A special blend of extra coarse silicon carbide abrasive grains provides a low initial cost solution for cutting asphalt, green concrete, asphalt over concrete, a wide range of aggregates and abrasive materials. For higher-production applications that require optimum speed of cut and product life, please see our Norton Construction diamond blade product offering in the Construction Product section of this catalog -and the complete offering in our "Diamond, Abrasives and Equipment for the Construction Market Catalog" #7719 found on www.nortonabrasives.com |

HOW TO PICK THE RIGHT REINFORCEMENT

| | |
|--|--|
| | Two full layers of reinforcing are offered for lower power machines, and light-to-medium applications where speed of cut is the primary selection criterion. |
| | Three full layers of reinforcing are recommended for high-speed, high-power machines where the application is heavy-duty, and durability is the primary selection criterion. |



Universal Arbor

Two Blade Sizes in One

Our Norton patented 1"/20mm knock-out arbor fits all gas and electric high-speed saws. A 20mm bushing is pre-mounted into the 1" molded arbor hole. The wheel, with the 20mm bushing, can be mounted directly on any 20mm arbor high-speed saw. With the bushing removed, exposing the 1" arbor hole, the wheel can be mounted on any 1" arbor high-speed saw. Combining this arbor, with heavy-duty triple reinforcing results in a higher performing, extra strong, longer lasting cutting wheel. Once the 20mm bushing is removed, it cannot be replaced.

HIGH-SPEED REINFORCED CUT-OFF

CROSS REFERENCE GUIDE

SPECIALITY

| NORTON | Gemini Metal | Gemini Metal Decking | Gemini Ductile | Gemini Concrete | Gemini Asphalt |
|------------------------------|-------------------------------------|----------------------|----------------------------------|--------------------------------|----------------------------|
| Abmast | A 24 R, Kompetitor Metal | A 24 T | AC 24 R, Kompetitor Ductile Iron | C 24 R, Kompetitor Concrete | C 16 T, Kompetitor Asphalt |
| Brilliant | Metal/Stainless | — | — | Concrete/Masonry | — |
| Bullard Blaze & Road Warrior | A24R, ZA24Q | TA24R | AC24R | C24R, The Competitor | CC20R |
| Camel | A24-R | A24-T | AC24-R | C24-R | C16-U |
| Flexovit | A24/30SB | A24TB | AC24SB | C30UB | C16UB |
| Husqvarna | Blue XHS, Blue QMS-CM, Blue EHS | Grey QMS-CM | Green QMS-CM, Green EHS | Red XHS, Red QHS-CM, Red EHS | Black QMS-AS |
| Pearl | SRT, Premium A36S, Silver Line A30R | — | AC30S | Premium C36S, Silver Line C24R | — |
| Pferd | A 24 R SG | A 24 Q SG-RAIL | AC 24 Q SG | C 24 R SG | — |
| Sait | A24R, A30S, XFC | Brute | Ductile | C24R | Big M.A.C, XFC |
| Tyrolit | A30P, A30BF | — | AC24, AC30BF | 1C24, C30BF | — |
| Virginia Abrasives | Metal | — | Ductile | Concrete | Asphalt |
| Walter | A-24 | — | — | — | — |

| | | | |
|-----------------------------------|---------------------|-----------------------------|--------------------------------------|
| | | | |
| TIER: GOOD | GOOD | GOOD | GOOD |
| BRAND: Norton | Norton | Norton | Norton |
| TRADENAME: GEMINI METAL HD | GEMINI METAL | GEMINI METAL DECKING | GEMINI RESCUE |
| SHAPE: Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide/Aluminum Oxide Blend |
| REINFORCING: 3 Layers | 2 Layers | 2 Layers | 2 Layers |
| MATERIAL: | | | |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|---|----------|-----------|-------------|-------------|-------------|-------------|
| Type 01/41 Cut-off – for Gas & Electric-Powered Saws | | | | | | |
| 12 x 1/8 x 1" / 20mm | 6,300 | 10 | 66252836708 | 66252837838 | | |
| 14 x 1/8 x 1" / 20mm | 5,400 | 10 | 66252835386 | 66252837841 | | 66243578262 |
| 14 x 5/32 x 1" / 20mm | 5,400 | 10 | | | 66252832521 | |
| 16 x 1/8 x 1" / 20mm | 4,800 | 10 | | 66252830886 | | |
| 16 x 1/8 x 1" | 4,800 | 10 | | | | |

See additional Rail Cut wheels on the next page for larger-volume jobs.

| | | | | |
|--|--|---------------------------|------------------------|-----------------------|
| | | | | |
| TIER: GOOD | GOOD | GOOD | GOOD | GOOD |
| BRAND: Norton | Norton | Norton | Norton | Norton |
| TRADENAME: GEMINI DUCTILE HD | GEMINI DUCTILE | GEMINI CONCRETE HD | GEMINI CONCRETE | GEMINI ASPHALT |
| SHAPE: Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: Silicon Carbide / Aluminum Oxide Blend | Silicon Carbide / Aluminum Oxide Blend | Silicon Carbide | Silicon Carbide | Silicon Carbide |
| REINFORCING: 3 Layers | 2 Layers | 3 Layers | 2 Layers | 2 Layers |
| MATERIAL: | | | | |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| Type 01/41 Cut-off – for Gas & Electric-Powered Saws | | | | | | | |
| 12 x 1/8 x 1" / 20mm | 6,300 | 10 | | 66252837840 | | 66252837839 | 70184670243 |
| 14 x 1/8 x 1" / 20mm | 5,400 | 10 | 66252835388 | 66252837843 | 66252835387 | 66252837842 | 70184672877 |
| 16 x 1/8 x 1" / 20mm | 4,800 | 10 | | | | 70184623029 | |

RAIL REINFORCED CUT-OFF



The Norton RailCut line is designed for high-speed fixtured hydraulic or gas-powered rail saws.

Applications: Fixed rail track cutting
 Size range: 14" and 16" diameter
 Thickness range: 1/8"
 Grit range: 14 – 16
 Abrasive grain: Zirconia Alumina/Aluminum Oxide Blend, Zirconia Alumina, and Aluminum Oxide
 Shape: Type 01/41 Straight
 Reinforcement: Side reinforced with R (rough) sides
 Speed rating: All wheels are rated for 20,000 SFPM applications
 Machines Used:



CROSS REFERENCE GUIDE AND MACHINE-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST | BETTER | GOOD | GOOD |
|------------------|----------------------------------|----------------------------------|----------------------------|------------------------|
| NORTON | RailCut X | RailCut NorZon III | RailCut A30X | RailCut Metal |
| Bullard Abrasive | Trackmaster Pro ZA24 Q-BF (Blue) | Trackmaster Pro ZA24 Q-BF (Blue) | Trackmaster A30 R-BF (Red) | |
| DiaTool | | | | RailMaster Rail Cut 27 |
| Flexovit USA | - | | A30-PB | |
| Giesmar | AM303-R | AM303-R | NR242-Q | NR242-Q |
| Klingspor | A 24 SX Special | A 24 SX Special | - | |
| Portaco | A30 R-BF | A30 R-BF | - | |
| Racine Kwik Kut | A24R | A24R | - | |

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|---------------------------------|--|---|--|
| HYDRAULIC SAW | RailCut X | | RailCut A30X, RailCut Metal |
| GAS SAW | | | |
| High-Horsepower / Newer Machine | RailCut X | RailCut NorZon III | RailCut A30X, RailCut Metal |
| Low-Horsepower / Older Machine | RailCut X | RailCut NorZon III FastCut | RailCut A30X, RailCut Metal |

NORTON RAILCUT X ZIRCONIA ALUMINA / A/O BLEND

BEST CHOICE FOR HIGH PERFORMANCE CUTTING OF RAILS ON APPLICATIONS WHERE THE HYDRAULIC OR GAS SAW IS FIXTURED AND HAS ADEQUATE POWER

FEATURES

- High-performance zirconia alumina/ engineered aluminum oxide blend; R (rough) sides

BENEFITS

- Expertly cuts a broad range of materials
- Longest lasting and fastest cutting wheels

NORTON RAILCUT METAL ALUMINUM OXIDE

GOOD CHOICE FOR PRICE-SENSITIVE JOBS WITH LOWEST INITIAL PRICE

FEATURES & BENEFITS

- Good choice for small jobs, applications where performance is not measured, and price-sensitive operations
- Great versatility from multi-purpose aluminum oxide abrasive formulated specifically for cutting rail
- Consistent performance at a low initial price



| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
|---------------------------|--|----------------------------------|--|----------------------------|-----------------------------|
| TRADENAME: | NORTON RAILCUT X | NORTON RAILCUT NORZON III | NORTON RAILCUT NORZON III FASTCUT | NORTON RAILCUT A30X | NORTON RAILCUT METAL |
| ABRASIVE: | Zirconia Alumina/ Aluminum Oxide Blend | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide | Aluminum Oxide |
| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # |
| Type 01/41 Cut-Off | | | | | |
| 14 x 1/8 x 1 | 5,400 | 10 | 66253337716 | 66253360493 | 66253363694 |
| 16 x 1/8 x 1 | 4,800 | 10 | 66253335024 | 66253464607 | 66253464415 |
| | | | | | 66253260462 |
| | | | | | 66253259935 |
| | | | | | 66243482068 |
| | | | | | 66243482066 |

WALK-BEHIND REINFORCED CUT-OFF



These powerful, self-propelled machines are designed to cut concrete slabs and asphalt and are normally fitted with diamond blades. For inexperienced operators or small jobs, the machines can accommodate these low initial cost, conventional abrasives wheels.

- Applications: Cutting straight sections of concrete surfaces
 Size Range: 14" and 18" diameter
 Thickness Range: 3/16" – 3/8"
 Abrasive Grain: Silicon Carbide
 Bond: Hot Pressed (HP) – for higher-horsepower machine applications where additional durability is needed, may be used wet or dry
 Cold Pressed (CP) – for lower-horsepower machines, which need a free-cutting wheel
 Shape: Type 01/41 Straight
 Arbor: All are 1" with a drive pin
 Machine Used:



CROSS REFERENCE GUIDE

| NORTON | SPECIALITY | | |
|--------------------------------------|----------------------|-------------------------------------|--------------------------------|
| | BETTER | GOOD | GOOD |
| Gemini Asphalt / Green Concrete – HP | Gemini Asphalt - CP | Gemini Concrete - CP | |
| Abmast | — | C 16 T. Competitor Asphalt/Concrete | C 24 R |
| Bullard Blaze & Road Warrior | — | C16R & T, C16R3 | — |
| Camel | — | C16-U | C24-R |
| Flexovit | HPC16AG | C16 G.P. C16UB | C20SB/C16TB |
| Husqvarna | Red GC-7A | Black EWC | Gold RTC, Blue RTC, Blue EWC |
| Pearl | — | — | Premium C36S, Silver Line C24R |
| Pferd | — | C 24 R SG ASP | C 24 R SG GP |
| Sait | Street Runner | C16 | C24R, Street Walker |
| Tyrolit | Concrete/Asphalt CHP | Asphalt CP | Concrete CP |
| Virginia Abrasives | — | GC/Asphalt | Concrete |
| Walter | — | — | C-24 |



| | | |
|---------------------------------------|-------------------------|-------------------------|
| TIER: BETTER | GOOD | GOOD |
| BRAND: Norton | Norton | Norton |
| TRADENAME: GEMINI ASPHALT - HP | GEMINI ASPHALT - CP | GEMINI CONCRETE - CP |
| SHAPE: Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: Silicon Carbide | Silicon Carbide | Silicon Carbide |
| BOND: Hot Pressed - Long Life | Cold Pressed - Free Cut | Cold Pressed - Free Cut |



| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # |
|--|----------|-----------|-------------|-------------|-------------|
| Type 01/41 Cut-off – For Walk-Behind Saws | | | | | |
| 14 x 3/16 x 1 Pin Hole | 4,365 | 10 | | 70184680324 | 70184680323 |
| 14 x 1/4 x 1 Pin Hole | 4,365 | 5 | | | 70184670533 |
| 18 x 1/4 x 1 Pin Hole | 4,250 | 5 | 70184670103 | 70184670098 | |



For higher-production applications, optimum speed of cut and product life, please see our diamond blade product offering for walk-behind saws in the Construction Product section of this catalog and the complete offering in our Diamond, Abrasives and Equipment for the Construction Market Catalog #7719 found on www.nortonabrasives.com.

CHOP SAW REINFORCED CUT-OFF



A chop saw is a light, low-horsepower portable machine. Although very similar to a compound miter saw, it is designed for cutting denser materials, like metal bar, tubing or pipe. Chop saw cut-off wheels are designed specifically for this machine with finer grit, softer grades, and reinforcement layers that match the application.

- Applications: Cutting small-diameter metal pieces, bar stock, metal pipe, tubing, decking, cable, drywall studs, and metal plate dimensioning
- Size Range: 10" - 16" diameter
- Thickness Range: 3/32" and 7/64"
- Abrasive Grain: Zirconia Alumina/Aluminum Oxide Blend, Aluminum Oxide, and Diamond
- Shape: Type 01/41 Straight
- Reinforcement Type: Side reinforced, centrally reinforced
- Machine Used:



CROSS REFERENCE GUIDE

| NORTON | TOTAL PERFORMANCE | | | INITIAL PRICE | | | SPECIALITY | |
|-----------|----------------------|--------------------|--------------------|---------------------------|------------------|------------------|-------------------|-----------------|
| | BETTER | | GOOD | GOOD | | GOOD | | |
| | BlueFire Free Cut | BlueFire Rapid Cut | BlueFire Long Life | Gemini Free Cut | Gemini Rapid Cut | Gemini Long Life | Stud Cutter | Gemini Aluminum |
| Brilliant | — | — | — | Super-G | Tube/Pipe | — | Drywall Stud | Aluminum |
| Bullard | ZA36T | — | — | TA36T | A36R | A36R | A46T | AL36R |
| | | | | A46T | The Competitor | Ironmaster | Studmaster | |
| Camel | — | — | ZA24-S | A36-P, WA36-P | — | A36-S | A30-R Mr. Stud | A30-N |
| Dewalt | — | — | XP | GP, Stainless Fabrication | — | — | Stud Cutting | — |
| Flexovit | — | — | — | A30R Fast Cut | — | A30S Long Life | A30T Drywall Stud | — |
| | | | | A30-Q Free Cut | — | — | — | — |
| Makita | — | — | — | — | General Purpose | — | — | — |
| Pearl | SRT36 | — | — | A36P Premium | A30P Silver Line | — | A46S Stud Cutting | — |
| Pferd | — | — | — | A 36 K SG CHOP | PSF CHOP | — | A 36 K SG-STUD | — |
| Sait | Saitech Steel Worker | Z-tech | — | EZ-Chop | EZ-Chop Attacker | Iron Worker | Stud King | Aluminum |
| Walter | — | — | — | — | A-30 | A-30-HC+ | — | A30-ALU |

APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

Wheel Type/Reinforcement

TYPE 01/41 STRAIGHT SIDE-REINFORCED CUT-OFF WHEEL

Side-reinforced wheels have two full layers of reinforcing and are designed for a fast cut and the most aggressive applications. All Purpose, Free Cut, and Long Life are side reinforced.



TYPE 01/41 STRAIGHT CENTRALLY-REINFORCED CUT-OFF WHEEL

Centrally-reinforced wheels have a single layer of reinforcing with exposed rough sides for free-cutting, non-binding applications where minimal burr and burn are the key requirements. Rapid Cut wheels are centrally reinforced.



HOW TO PICK THE RIGHT BOND TYPE

| | | |
|------------------|----------|---|
| All Purpose | Unmarked | Where an excellent blend of cut rate and life is needed |
| Free Cut | FC | Used when fast, burn-free cutting is desired or when cutting pieces with larger cross sections |
| Long Life | LL | Where durability is needed due to severe application, and when cutting parts with small cross sections |
| Rapid Cut | RC | Where a free cutting, non-binding wheel is needed for burn-free and burr-free cuts |
| High-Performance | STUD | High-performance aluminum oxide/resin bond combination designed for cleaner cuts and longer life when cutting steel studs |
| Aluminum | ALU | Specially formulated bond for reduced loading/surface contamination when cutting aluminum/soft materials |

CHOP SAW REINFORCED CUT-OFF NORTON BLUEFIRE ZIRCONIA ALUMINA / A/O BLEND

BETTER CHOICE FOR STEEL, STAINLESS STEEL AND ALL OTHER FERROUS METALS



FEATURES

- Durable zirconia alumina / premium aluminum oxide abrasive blend
- Free Cut: side reinforced
- Long Life: side reinforced
- Rapid Cut: centrally reinforced, rough sides

BENEFITS

- 2X the life and cut rate of aluminum oxide
- Engineered for larger cross-sections and/or hard-to-cut materials
- Ideal for small cross-section workpieces
- Free cutting, non-binding; burr- and burn-free cuts

NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR ALL STEEL AND FERROUS METALS AS WELL AS SPECIALTY APPLICATIONS IN ALUMINUM



FEATURES

- Free Cut: side reinforced
- Long Life: side reinforced
- Rapid Cut: centrally reinforced, rough sides
- Aluminum: specially formulated bond for aluminum and other soft, nonferrous metals; no wax or rubber fillers

BENEFITS

- Engineered for larger cross-sections and/or hard-to-cut materials
- Ideal for small cross-section workpieces
- Free cutting, non-binding; burr- and burn-free cuts
- Free cutting; resist loading
- No surface contamination

NORTON METAL STUD CUTTER ALUMINUM OXIDE

GOOD CHOICE FOR DRYWALL STUDS



FEATURES

- Stud Cutter: thin, side-reinforced; with high-performance aluminum oxide abrasive

BENEFITS

- Designed specifically for cutting steel studs

NORTON DIALAST DIAMOND

DESIGNED FOR CUTTING STEEL, METAL STUDS, STAINLESS STEEL, NONFERROUS MATERIALS, TILE, BRICK, PLASTIC AND MUCH MORE



FEATURES

- A combination of high-quality diamond and advanced brazed single-layer bonding technology
- Environmentally friendly grinding
- Engineered with sound-dampening technology

BENEFITS

- Extra-long life vs. conventional abrasives or other vacuum-brazed diamond tools
- Retains the diamond grains and wheel shape for full life with low sparks, while keeping a continuous grinding depth for exceptional wheel life
- Less blade changes reduce downtime and labor costs
- Generates minimal dust for less clean-up and safer working conditions
- Makes the blade environmentally-friendly when cutting indoors or out

CHOP SAW REINFORCED CUT-OFF



| | | | | | | | |
|--------------|-----------------------|--|--|--|--|--|--|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD | GOOD | GOOD |
| TRADENAME: | NORTON DIALAST | NORTON BLUEFIRE | NORTON BLUEFIRE | NORTON GEMINI | NORTON GEMINI | NORTON METAL | NORTON METAL |
| SHAPE: | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: | Diamond | Zirconia Alumina/Aluminum Oxide | Zirconia Alumina/Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| REINFORCING: | | Side | Central | Side | Central | Side | Central |
| MATERIAL: | STAINLESS | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|------------------------------------|----------|-----------|-------------|----------------|----------------|-----------------|------------------|------------------|
| Type 01/41 Straight Cut-off | | | | | | | | |
| 10 x 7/64 x 1 | 6,110 | 10 | | | 66253106109 LL | | | |
| 12 x 7/64 x 1 | 5,095 | 10 | | 66252843250 | 66253207554 LL | 66253214561 RC | | |
| | 5,095 | 5 | | | | | 07660789400 | |
| 14 x 3/32 x 1 | 4,365 | 10 | | | 66253306627 FC | 66253313588 RC | 66252835554 | |
| | 4,365 | 10 | | | 66253306626 LL | | 07660789405 STUD | |
| | 4,365 | 5 V | | | | | | 07660789399 |
| 14 x 7/64 x 1 | 4,365 | 10 | | 66252843252 FC | 66252843254 RC | 66253314816 ALU | | |
| | 4,365 | 10 | | 66252843253 LL | | | | |
| | 4,365 | 25 | | | | | | 07660703970 5-Pk |
| 14 x .155 x 1 | 5,400 | 1 | 70184694053 | | | | | |
| 16 x 3/32 x 1 | 3,820 | 10 | | | 66253410198 LL | | | |
| 16 x 7/64 x 1 | 3,820 | 10 | | 66252843256 FC | | | | |
| | 3,820 | 10 | | 66252843257 LL | | | | |



CUT-OFF WHEEL DESCRIPTION CODES

BLANK = All Purpose ALU = Aluminum FC = Free Cut LL = Long Life RC = Rapid Cut STUD = Stud Cutter
 ■ = Masonry ■ = Stainless ■ = Steel / Metal



STATIONARY SAW REINFORCED CUT-OFF



The Norton stationary saw reinforced cut-off wheel line consists of Type 01/41 straight 10" - 24" wheels, designed to fit on fixed-base stationary saws that are free-standing or mounted on a workbench.

Applications: Primary applications are cutting of all metal parts (flat stock, bars, studs, pipes, tubes, angle iron, cable), wire rope and hydraulic hose used in fabrication, construction and plant maintenance.

Size Range: 10" – 20" diameter

Thickness Range: 3/32", 1/8", 5/32", 3/16"

Abrasive Grain: Zirconia Alumina/Aluminium Oxide Blend, Aluminum Oxide, Silicon Carbide

Shape: Type 01/41 Straight

Machine Used:

CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE | | | | INITIAL PRICE | SPECIALITY |
|---------------|-------------------|--------------------------------|----------------------------------|-------------------|-----------------|-------------------|
| | BETTER | GOOD | | | | GOOD |
| NORTON | BlueFire | Gemini Free Cut | Gemini Long Life | Gemini Rapid Cut* | Norton Masonry | Foundry Cut** |
| Abmast | Z 24 R3 | A 30 R | — | — | — | AC 24 R3 |
| Brilliant | — | GP Fast Cut | GPX Long Life | XL , XLX | — | — |
| Bullard | — | A30-R | A30-T | A300 | C20R | — |
| Camel | ZA24-R | A24-R, A46-T | — | — | C24-R | WA24-S |
| Flexovit | — | A30RB Multi Purpose | A30SB Long Life, A24TB Long Life | — | C24RB | AC24PB Heavy Duty |
| Metabo | — | A30N, A30R | A30S, A30V | — | C30S | — |
| Pearl | SRT36 | A30P Premium, A30Q Silver Line | A30S Premium, A36R Premium | — | C24 Silver Line | — |
| Pferd | ZA 24 Q/R SG-HD | A 24 N/P SG-HD | A 24 Q/S SG-HD | — | C 24 0 SG | — |
| Sait | — | A24N, A36R | A24R | — | C24R | — |
| Tyrolit | — | A30BF | — | — | C30BF | — |
| Walter | — | A-24-FC | A-24-RIP | — | — | — |

* For Burr-Free applications, please see centrally-reinforced BlueFire Rapid Cut and Gemini Rapid Cut wheels in Chop Saw cut-off wheel section or at www.nortonabrasives.com

** For Foundry and other cut-off wheels, please refer to that section of this Norton Full Line Catalog #7362 or at www.nortonabrasives.com



| TIER: | BETTER | GOOD | GOOD | GOOD |
|------------|---------------------------------|-------------------------------|--------------------------------|-----------------------|
| TRADENAME: | NORTON BLUEFIRE | NORTON GEMINI FREE CUT | NORTON GEMINI LONG LIFE | NORTON MASONRY |
| SHAPE: | Type 01/41 | Type 01/41 | Type 01/41 | Type 01/41 |
| ABRASIVE: | Zirconia Alumina/Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide |
| MATERIAL: | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | STAINLESS STEEL/METAL | MASONRY |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|------------------------------------|----------|-----------|----------------|----------------|----------------|-------------|
| Type 01/41 Straight Cut-Off | | | | | | |
| 10 x 3/32 x 5/8 | 6,110 | 10 | 66252843248 | 66253106101 FC | 66253106102 LL | |
| | 6,110 | 5 | | | | 07660789391 |
| 12 x 1/8 x 1 | 5,095 | 10 | 66252843249 | | 66253207548 LL | |
| | 5,095 | 5 | | | | |
| 14 x 1/8 x 1 | 4,365 | 10 | 66252843251 | 66253306609 FC | 66253306611 LL | |
| | 4,365 | 5 | | | | |
| 16 x 1/8 x 1 | 3,820 | 10 | | 66253422942 | | |
| 16 x 5/32 x 1 | 3,820 | 10 | 66252843255 | 66253410183 FC | 66253410184 LL | |
| 18 x 5/32 x 1 | 3,015 | 10 | | 66253410185 FC | | |
| 20 x 5/32 x 1 | 2,710 | 5 | 66252843258 FC | 69078609031 FC | 69078609032 LL | |
| | 2,710 | 5 | 66252843259 LL | | | |
| 20 x 3/16 x 1 | 2,710 | 5 | | 69078609033 FC | 69078609034 LL | |

| CUT-OFF WHEEL DESCRIPTION CODES | | | | | | |
|---------------------------------|---------------|----------------|-------------|---------------|-------------------|--|
| BLANK = All Purpose | FC = Free Cut | LL = Long Life | ■ = Masonry | ■ = Stainless | ■ = Steel / Metal | |



Foundry cut-off wheels are designed with abrasives, bonds and reinforcement types specific to foundry machine parameters and materials. Most of the specifications are non-stock. This stock listing is designed to provide popular size and starting specifications.

- Size Range: Reinforced: 14" – 30" diameter; Non-reinforced: 12" – 20" diameter
 Grit Range: 24 – 46 grit
 Abrasive Grain: Ceramic Alumina (Norton Quantum; non-stock only), Zirconia Alumina, Aluminum Oxide
 Reinforcement: Reinforced: Engineered with strengthening fabric or filaments, which make wheels resistant to cross-bending breakage. All portable cut-off, swingframe, locked-head push-through and foundry chop stroke operations require reinforced cut-off wheels.
 B: One or more full diameter pieces of filament molded inside each wheel. This construction leaves the abrasive exposed on the side of the wheel, improving freeness of cut. Used for fixed work operations with low probability of side pressure.
 N: Full diameter pieces of reinforcement on the side of the wheel. Offers greatest possible resistance to side pressure and bending.
 Non-Reinforced: Designed for use on fixed-base types of machines where the work is securely clamped and guarded, and where the wheel operates on a controlled cutting plane.
 W: Reinforcement around the center hole only. These wheels are not considered to be truly reinforced.
 Side Patterns: Smooth sides: Used for precision cutting applications
 Rough (R) sides: Abrasive particles protrude from sides of wheel
 Used wet or dry on most metals

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|--------------------------------|--|---|--|
| INVESTMENT CAST ALLOYS | | | |
| Stainless Steel | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| Titanium | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| CAST IRON | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| CAST STEEL | | | |
| Carbon and Low Alloy | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| Stainless Steel and High Alloy | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| Aluminum Alloy | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |
| Copper Alloys, Brass, Bronze | Foundry X Quantum | Foundry X BlueFire | Foundry Metal |

Foundry X Quantum wheels are custom, made-to-order to your exact requirements. Contact your Norton representative for recommendations, quotations, and lead-times.

CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE ← | | INITIAL PRICE → | |
|---------------|---|--|-------------------------|---------------|
| | BEST | BETTER | GOOD | GOOD |
| NORTON | Foundry X Quantum and B97 (Non-stock; custom-made to your exact requirements) | Foundry X BlueFire | Foundry X | Foundry Metal |
| Allison | TA362 R6 8045HA, YW462 MR B2HA | TA302-T6-B6HA, A46-T6-BX5T6A, HF 1247 K – CHALLENGER | | Economiser |
| Avery | | TA30-V680 | A 3226 C7A, C11922 W071 | 92871H |
| Buckeye | | Steel Shark | | |
| DiaTool | BV1734R 710 | BV 1397-5284-C | | |
| Flexovit | | ZAX30TB | A24PB, A30RB | |
| Klingspor | 20A24-QBF | | T 1584 HA | |
| NATAB | | | | |
| Rappold | | 6Z30U-B3F2 | | |

NORTON FOUNDRY X BLUEFIRE REINFORCED

BETTER CHOICE ON STAINLESS STEEL, AEROSPACE ALLOYS, CAST IRON, AND STEEL

FEATURES

- Durable zirconia alumina/aluminum oxide blend with Foundry X bond technology

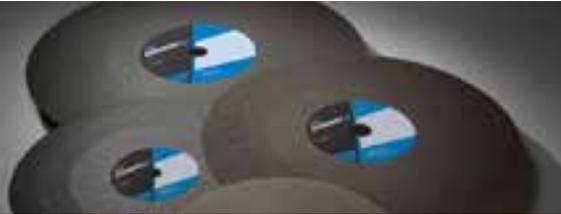
BENEFITS

- Excellent value on stainless steel and exotic aerospace alloys
- More aggressive; can withstand demanding applications
- Improved durability and heat resistance result in longer abrasive life, showing up to 80% better G-ratios (material removed/wheel wear); cost effective wheels



NORTON FOUNDRY X ALUMINUM OXIDE

GOOD CHOICE ON GENERAL PURPOSE APPLICATIONS



FEATURES

- Strong aluminum oxide abrasive with Foundry X bond technology

BENEFITS

- Consistent performance
- Tough and versatile abrasive
- Low initial price

NORTON FOUNDRY METAL ALUMINUM OXIDE

GOOD CHOICE FOR PRICE-SENSITIVE JOBS WITH LOWEST INITIAL PRICE



FEATURES & BENEFITS

- Good choice for small jobs, applications where performance is not measured, and price-sensitive operations
- Great versatility from multi-purpose aluminum oxide abrasive formulated specifically for typical foundry cutting applications
- Lowest initial price
- Consistent performance

Reinforced

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | SPEC. | PART # | FOUNDRY X | | FOUNDRY METAL | |
|---|-------------|--------------|------------|-------------|--------------|-------------|----------------------|-------------|
| | | | | | SPEC. | PART # | SPEC. | PART # |
| Type O1/41 Straight Cut-off – Foundry Reinforced | | | | | | | | |
| 14 x 1/8 x 1 | 4,365 | 10 | NV24-TB75N | 66253347674 | U57A30-TB75N | 66253345779 | Side Reinforced | 66243485918 |
| | 4,365 | 10 | NV24-VB75N | 66253179193 | U57A30-VB75N | 66253179191 | | |
| | 4,365 | 10 | NV24-YB97N | 66253347698 | U57A30-YB97N | 66253347692 | | |
| 16 x 5/32 x 1 | 3,820 | 10 | NV24-TB75N | 66253347676 | U57A30-TB75N | 66253345781 | Side Reinforced | 66243485919 |
| | 3,820 | 10 | NV24-VB75N | 66253179147 | U57A30-VB75N | 66253179148 | | |
| | 3,820 | 10 | NV24-YB97N | 66253347693 | | | | |
| 20 x 5/32 x 1 | 2,710 | 10 | NV24-TB75N | 66253347683 | U57A30-TB75N | 66253347546 | Side Reinforced | 66243485920 |
| | 2,710 | 10 | NV24-VB75N | 66253179363 | U57A30-VB75N | 66253179364 | | |
| | 2,710 | 10 | NV24-YB97N | 66253347694 | U57A30-YB97N | 66253347701 | | |
| 20 x 3/16 x 1 | 2,710 | 10 | NV24-TB75B | 66253347684 | U57A30-TB75B | 66253347547 | Centrally Reinforced | 66243485921 |
| | 2,710 | 10 | NV24-VB75B | 66253179366 | U57A30-VB75B | 66253179367 | | |
| | 2,710 | 10 | NV24-YB97B | 66253347699 | U57A30-YB97B | 66253347702 | | |
| 24 x 7/32 x 1-3/4 | 2,260 | 10 | NV24-TB75B | 66253347685 | | | | |
| | 2,260 | 10 | NV24-VB75B | 66253179374 | U57A30-VB75B | 66253179375 | | |
| | 2,260 | 10 | NV24-YB97B | 66253347697 | | | | |
| 30 x 1/4 x 1-3/4 | 1,810 | 10 | NV24-TB75B | 66253347722 | U57A30-TB75B | 66253347720 | | |
| | 1,810 | 10 | NV24-YB97B | 66253347723 | U57A30-YB97B | 66253347721 | | |

Specifications ending in "B" are centrally reinforced; specifications ending in "N" are side reinforced.

Non-Reinforced

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | SPEC | PART # | FOUNDRY METAL | |
|---|-------------|--------------|---------------|-------------|---------------|-------------|
| | | | | | SPEC | PART # |
| Type O1/41 Straight Cut-off – Foundry Non-Reinforced R-Sides | | | | | | |
| 12 x 3/32 x 1 | 5,095 | 10 | U57A461-PB25 | 66253261887 | | |
| 16 x 1/8 x 1 | 3,820 | 10 | | | AP | 66253422942 |
| 20 x 1/8 x 1 | 2,710 | 10 | U57A304-VB25W | 69078665497 | | |

Ask your Norton representative about our custom, made-to-order Norton Foundry X Quantum ceramic alumina wheels for high alloys, stainless steel, and aerospace applications.

CUT-OFF WHEEL DESCRIPTION CODES

AP = All Purpose

Where a good blend of cut rate and life is needed



Reinforced and non-reinforced engineered cut-off wheels for cutting all types of tool steel with fixed-based cut-off machines.

| | |
|-----------------|---|
| Applications: | Reinforced cut-off wheels are designed to resist breakage caused by severe cross-bending and are required on any operation where the work is not securely clamped. Non-Reinforced cut-off wheels are designed for use on fixed-based machines where the work is securely clamped, guarded, and where the wheel operates on a controlled cutting plane. |
| Size range: | 6" – 12" diameter |
| Grit range: | 36 – 90 grit |
| Abrasive grain: | Aluminum Oxide |
| Bond: | Resinoid, Rubber, and Shellac |
| Shape: | Type 01/41 Straight |

CROSS REFERENCE GUIDE

| NORTON | BETTER | | |
|-----------|-------------------------|----------------------------|-----------------------------|
| | Reinforced A60-OBNA2 | Reinforced 57A364-TB25N | Non-Reinforced 57A60-M8B |
| Bates | A602-T-BF | A36-R-BF | - |
| Buffalo | A60-R-BF2 | - | - |
| Dia. Tool | A80-SP | A46-SP | - |
| Radiac | A54-N6-B20 | - | A54-N6-B20 |
| Tyrolit | A60-QBF38A2 | - | - |

TECH TIP

- Smooth side pattern – Used when a precise thickness tolerance is needed
- Rough (R) side pattern – Abrasive particles protrude from sides of wheel

TROUBLESHOOTING GUIDE

| PROBLEM | POSSIBLE CAUSES | SUGGESTED CORRECTION |
|-----------------|-----------------------------|--|
| Poor cut rate | Insufficient power used | Increase feed or pressure to full power |
| | Wheel too hard | Use softer grade, or thinner wheel |
| | Contact area too large | Reduce contact area |
| | Wheel too coarse | Use finer grit |
| | Wheel side out of truth | Check spindle runout |
| Non-square cuts | Work not clamped properly | Check clamp and clean to remove swarf |
| | Misaligned spindle bearings | Check for bearing truth and alignment |
| | Poor coolant distribution | Ensure equal volume of coolant to each wheel side |
| | Wheel is too hard | Use softer acting wheel: softer grade, or finer grit |
| Workpiece burn | Insufficient feed rate | Work machine to maximum power available |
| | Poor coolant flow | Increase volume and direct at cutting point |
| | Wheel is too coarse | Use finer grit or more machine power |
| | Wheel is too hard | Use softer grade wheel |
| | Wheel is running out | Check spindle and flanges |
| | Wheel speed is too slow | Ensure tight flanges and maximum safe operating speed being used |
| Poor finish | Too much burr | Use finer grit, or softer grade |
| | Wheel too coarse | Use finer grit |

TECH TIP

- Wheels with a "W" reinforcement (reinforcement around the hole) are not considered to be truly reinforced.
- Clamp or fixture the workpiece for straightest cuts.
- Run wheels at the highest possible speed marked on the wheel and make cuts as quickly as possible. Do not overspeed wheels.
- It is recommended that a cut-off machine should have 1 horsepower for every inch of wheel diameter. For less than this, we recommend using a softer specification.
- Using a harder grade wheel increases wheel life, but it also increases burn, power required and decreases cut rate.
- Using a coarser grit wheel increases wheel life and cut rate, but it also increases burr and power required.

TOOLROOM REINFORCED ALUMINUM OXIDE

BETTER CHOICE FOR CUTTING TOOL STEEL ON FIXED-BASED MACHINES WHEN WORK IS NOT SECURELY CLAMPED



FEATURES

- OBNA2 full side reinforced, resin bond
- B25N full side reinforced, resin bond

BENEFITS

- Yields maximum cut rate and minimum kerf loss; ideal when thin cut is desired
- Versatile; durable, free cutting; offer greatest stiffness

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BETTER SPEC. | PART # |
|---|----------|-----------|------------------------------|-------------|
| Type 01/41 Straight Cut-off – Reinforced | | | | |
| 6 x .035 x 1/2 | 10,190 | 25 | A60-OBNA2 | 66252835053 |
| 6 x .035 x 1-1/4 | 10,190 | 25 | A60-OBNA2 | 66252835055 |
| 6 x .060 x 1/2 | 10,190 | 25 | A60-OBNA2 | 66252835164 |
| 6 x .060 x 1/2 | 10,190 | 25 | 57A364-TB25N | 66252822969 |
| 6 x .060 x 1-1/4 | 10,190 | 25 | A60-OBNA2 | 66252835165 |
| 7 x .035 x 1/2 | 8,730 | 25 | A60-OBNA2 | 66252938786 |
| 7 x .035 x 1-1/4 | 8,730 | 25 | A60-OBNA2 | 66252938788 |
| 7 x .060 x 1/2 | 8,730 | 25 | A60-OBNA2 | 66252938816 |
| 7 x .060 x 1-1/4 | 8,730 | 25 | A60-OBNA2 | 66252938796 |
| 7 x .060 x 1-1/4 | 8,730 | 25 | 57A364-TB25N | 66252922676 |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BETTER SPEC. | PART # |
|---|----------|-----------|------------------------------|-------------|
| Type 01/41 Straight Cut-off – Reinforced | | | | |
| 8 x .035 x 1/2 | 7,640 | 25 | A60-OBNA2 | 66253043014 |
| 8 x .035 x 1-1/4 | 7,640 | 25 | A60-OBNA2 | 66253042980 |
| 8 x .060 x 1/2 | 7,640 | 25 | A60-OBNA2 | 66253043009 |
| 8 x .060 x 1-1/4 | 7,640 | 25 | A60-OBNA2 | 66253042983 |
| 8 x .060 x 1-1/4 | 7,640 | 25 | 57A364-TB25N | 66253022705 |
| 10 x .060 x 5/8 | 6,110 | 25 | A60-OBNA2 | 66253149317 |
| 10 x .060 x 1-1/4 | 6,110 | 25 | A60-OBNA2 | 66253149186 |
| 12 x .060 x 1 | 5,095 | 10 | A60-OBNA2 | 66253261811 |
| 12 x .075 x 1 | 5,095 | 10 | A60-OBNA2 | 66253261910 |
| 12 x .075 x 1-1/4 | 5,095 | 10 | A60-OBNA2 | 66253261858 |

TOOLROOM NON-REINFORCED ALUMINUM OXIDE

BETTER CHOICE FOR CUTTING TOOL STEEL ON FIXED-BASED MACHINES WHEN THE WORK IS SECURELY CLAMPED



FEATURES

- B bond (smooth sides)
- B25 bond (smooth sides)
- E7 bond (smooth sides)
- R30 bond (smooth sides)

BENEFITS

- A mild acting resin bond for light cut-off applications
- A versatile, free-cutting, more durable resin bond
- Ideal for dry cutting metal in high production runs
- A shellac bond with very mild cutting action, recommended for highly critical applications where no burr, heat checks, or discoloration is permitted
- Mild acting rubber bond primarily for wet, ultra-thin cutting

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BETTER SPEC. | PART # |
|---|----------|-----------|------------------------------|--------------|
| Type 01/41 Straight Cut-off – Non-Reinforced | | | | |
| 6 x .015 x 1-1/4 | 6,370 | 25 | 57A90-ROR30 | 66252822953 |
| 6 x .020 x 1-1/4 | 6,370 | 25 | 57A90-ROR30 | 66252822954 |
| 6 x .035 x 1-1/4 | 6,370 | 25 | 57A60-M8B | 66252822958 |
| 6 x .060 x 1/2 | 7,640 | 25 | 57A541-RB25 | 66252822970 |
| 6 x .060 x 1-1/4 | 7,640 | 25 | 57A60-M8B | 66252822975 |
| 7 x .035 x 1-1/4 | 5,460 | 25 | 57A60-M8B | 66252922983 |
| | 5,460 | 25 | 57A60-Q8B | 66252922986 |
| | 5,460 | 25 | 57A60-Q8B | 66252922987 |
| 7 x .035 x 1-1/4 | 5,460 | 25 | 57A601-PB25 | 66252922988 |
| | 5,460 | 25 | 57A601-RB25 | 66252922989 |
| | 5,460 | 25 | 57A601-RB25 | 66252922985 |
| 7 x .035 x 1-1/4 | 5,185 | 25 | 57A60-OE7 | 66252922985 |
| 7 x .035 x 1-1/4 | 5,460 | 25 | 23A601-PB25 | 66252938701 |
| 7 x .050 x 1-1/4 | 5,460 | 25 | 23A601-PB25 | 66252938724* |
| 7 x .060 x 1/2 | 6,550 | 25 | 57A60-Q8B | 66252922672 |

*Exception: rough sides

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BETTER SPEC. | PART # |
|---|----------|-----------|------------------------------|-------------|
| Type 01/41 Straight Cut-off – Non-Reinforced | | | | |
| 7 x .060 x 1-1/4 | 6,550 | 25 | 57A46-M8B | 66252922677 |
| | 6,550 | 25 | 57A60-M8B | 66252922681 |
| | 6,550 | 25 | 57A60-Q8B | 66252922684 |
| 7 x .060 x 1-1/4 | 5,185 | 25 | 57A60-OE7 | 66252922683 |
| 7 x .090 x 1-1/4 | 6,550 | 25 | 57A60-M8B | 66252922690 |
| 7 x .125 x 1-1/4 | 6,550 | 25 | 57A60-M8B | 66252922692 |
| 8 x .035 x 1-1/4 | 4,775 | 25 | 57A60-N8B | 66253022694 |
| 8 x .060 x 1/2 | 5,730 | 25 | 57A60-M8B | 66253022702 |
| 8 x .060 x 1-1/4 | 5,730 | 25 | 57A60-M8B | 66253022708 |
| 8 x .060 x 1-1/4 | 4,540 | 25 | 57A60-OE7 | 66253022709 |
| 10 x .060 x 5/8 | 4,585 | 25 | 57A46-Q8BW | 66253122816 |
| | 4,585 | 25 | 57A60-M8BW | 66253122818 |
| 10 x .090 x 5/8 | 4,585 | 25 | 57A60-M8BW | 66253122824 |

METALLURGICAL NON-REINFORCED CUT-OFF



The Norton metallurgical line of Type 01/41 straight cut-off wheels was developed specifically for sectioning off metal samples; burr-free cutting, minimal burn and distortion.

Applications: Designed specifically for cutting off metal samples ranging from mild steel to super alloys on fixed-based machinery by scientists, engineers, and lab technicians
 Size range: 9" – 13.75" diameter

CROSS REFERENCE GUIDE

| SIZE | MATERIAL CUT | NORTON | | BUEHLER | | LECO | | LECO | | STRUERS | |
|--|-------------------------------|--------|-------------|------------------|----------------------|-------------|-------------|--------|-----------------|---------|-------|
| | | SPEC. | PART # | METABRASE PART # | BUEHLERMET II PART # | PART # | PART # | PART # | AXITOM-5 PART # | | |
| 9 x .063 x 1-1/4 (229mm x 1.6mm x 32mm) | Very Hard Steels (Rc 55 - 68) | ML-109 | 66253117874 | 10-4110-010 | | | | | | 60A24* | |
| | Medium Steels (Rc 30 - 40) | ML-309 | 66253117877 | 10-4116-010 | 10-5112-010 | 811-043-010 | | | | 40A24* | |
| | Soft Steels (Rc 20 - 30) | ML-409 | 66253117828 | 10-4120-010 | 10-5116-010 | 811-049-010 | | | | 30A24* | |
| 10 x .063 x 1-1/4 (254mm x 1.6mm x 32mm) | Very Hard Steels (Rc 55 - 68) | ML-110 | 66253117879 | 10-4210-010 | | 808-673 | 812-231 | | | 60A25• | |
| | Hard Steels (Rc 40 - 55) | ML-210 | 66253117880 | 10-4212-010 | 10-5210-010 | 811-059-010 | 810-310-010 | | | 54A25• | |
| | Medium Steels (Rc 30 - 40) | ML-310 | 66253117881 | 10-4216-010 | 10-5212-010 | 811-067-010 | 810-310-010 | | | 40A25• | |
| | Soft Steels (Rc 20 - 30) | ML-410 | 66253117830 | 10-4220-010 | 10-5216-010 | 811-073-010 | | | | 30A25• | |
| 12 x .078 x 1-1/4 (305mm x 2.0mm x 32mm) | Very Hard Steels (Rc 55 - 68) | ML-112 | 66253322151 | 10-4410-010 | | 808-674 | 811-065-010 | | | 60A30† | |
| | Hard Steels (Rc 40 - 55) | ML-212 | 66253322152 | 10-4412-010 | 10-5410-010 | 811-081-010 | 810-311-010 | | | 50A30† | |
| 13.75 x .098 x 1-1/4 (350mm x 2.5mm x 32mm) | Very Hard Steels (Rc 55 - 68) | ML-114 | 66253322863 | 10-4310-010 | | 808-675 | 812-232 | | | 60A35▲ | 50A35 |
| | Hard Steels (Rc 40 - 55) | ML-214 | 66253322156 | 10-4312-010 | 10-5310-010 | 809-346 | 811-977-010 | | | 50A35▲ | 40A35 |

*Discotom/Labotom • Discotom-5/-6/Labotom-3 † Unitom/Discotom-50/-60/-65 ▲ Exotom/Unitom-2/-5/-50

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PRODUCT # | APPLICATION | TIER: BEST | |
|---|----------|-----------|-----------|-------------------------------|-------------|--|
| | | | | | PART # | |
| Type 01/41 Straight Cut-off – Non-Reinforced | | | | | | |
| 9 x .063 x 1-1/4 (229mm x 1.6mm x 32mm) | 4,025 | 10 | ML-109 | Very Hard Steels (Rc 55 - 68) | 66253117874 | |
| | 4,025 | 10 | ML-309 | Medium Steels (Rc 30 - 40) | 66253117877 | |
| | 5,085 | 10 | ML-409 | Soft Steels (Rc 20 - 30) | 66253117828 | |
| 10 x .063 x 1-1/4 (254mm x 1.6mm x 32mm) | 3,500 | 10 | ML-110 | Very Hard Steels (Rc 55 - 68) | 66253117879 | |
| | 3,500 | 10 | ML-210 | Hard Steels (Rc 40 - 55) | 66253117880 | |
| | 3,500 | 10 | ML-310 | Medium Steels (Rc 30 - 40) | 66253117881 | |
| | 4,585 | 10 | ML-410 | Soft Steels (Rc 20 - 30) | 66253117830 | |
| 12 x .078 x 1-1/4 (305mm x 2.0mm x 32mm) | 3,820 | 10 | ML-112 | Very Hard Steels (Rc 55 - 68) | 66253322151 | |
| | 3,820 | 10 | ML-212 | Hard Steels (Rc 40 - 55) | 66253322152 | |
| 13.75 x .098 x 1-1/4 (350mm x 2.5mm x 32mm) | 2,770 | 10 | ML-114 | Very Hard Steels (Rc 55 - 68) | 66253322863 | |
| | 2,770 | 10 | ML-214 | Hard Steels (Rc 40 - 55) | 66253322156 | |

B82 BOND NON-REINFORCED WHEELS

A HIGH-PERFORMANCE RESIN BOND FOR WET CUTTING METALLURGICAL APPLICATIONS

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | TIER: BETTER | |
|---|----------|-----------|--------------------|-------------|
| | | | SPEC. | PART # |
| Type 01/41 Straight Cut-off – Non-Reinforced | | | | |
| 10 x 1/16 x 1-1/4 | 4,585 | 5 | 88A901-HB82 Metlab | 66253149449 |
| 12 x 1/16 x 1-1/4 | 3,820 | 5 | 88A901-HB82 Metlab | 66253262172 |

the NEW Norton Clipper brand **HITS THE PAVEMENT**

The leader for diamond blades, tools, and light machines for construction and cutting materials is “Redefining Jobsite Muscle – Rugged. Reliable. Affordable.”



4X4 MaxCut High-Speed Blades

A new level of high-speed cutting versatility. Our new bond and diamond specification improve blade life on a wide range of materials, excelling in steel.



Infiltrated High-Density Cup Grinders

A revolutionary product, the iHD cup grinders offer a unique segment design, low vibration levels, and enhanced comfort on your right angle grinder.



Get to the Core of the Matter

Get a BIT more from the innovative Norton Clipper Paradigm design. Our turbo segment permits the core to penetrate the toughest cured concrete, quickly and easily.



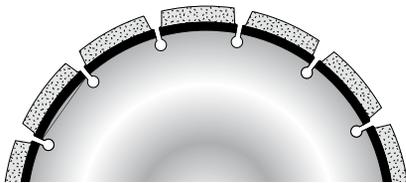
With faster cut rates, constant depth of cut, and less downtime, Norton diamond blades are the choice of professionals versus conventional abrasive blades. Norton diamond blades are available for high-speed saws, portable hand-held saws, and walk-behind saws. For the full offering of diamond blades, see the Norton Construction Products Catalog #7719.

- Applications: Cutting concrete, stone, tile, and other building materials
- Size Range: 4" – 18"
- Thickness Range: .080" – .375"
- Segment Height Range: .210" – .550"
- Abrasive Grain: Diamond
- Mounting Options: 1"/20mm universal arbor, 7/8"-5/8"-20mm, DM-7/8"-5/8", 5/8"-11
- Shape: Type 01
- Machines Used:



DIAMOND BLADE RIM TYPES

There are three main diamond blade rim types: segmented, turbo, and continuous rim.



Segmented

- Most aggressive cutting action for general-purpose and masonry applications
- Use when cutting speed and productivity are more important than finish
- Best life, best cut rate, good finish



Turbo

- Aggressive cutting action with a smoother quality of cut than segmented rim blades
- For use on harder materials, such as granite, marble, and stone to reduce chipping
- Better life and cut rate, better finish



Continuous

- Provides the smoothest of cuts
- Best performance when used wet
- Use on porcelain, tile, marble, and other hard materials requiring a high-quality cut
- Good life, good cut rate, best finish

MATERIAL / APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| Icon | Description | Application |
|------|---|---|
| | Multi-Purpose, All Materials | Concrete, reinforced concrete, granite, building materials, thin steel sections, angle iron up to 1/2" material thickness, rebar up to no. 5. |
| | Natural Stone and Tiles | Ceramic and stone tiles, granite, marble, very hard bricks and other very hard and dense materials. |
| | Reinforced Concrete and Harder Building Materials | Reinforced concrete, hard bricks, limestone, terrazzo, and other hard materials. |
| | General Purpose and Masonry Building Materials | Blocks, medium-hard building bricks, paving slabs, concrete roof tiles and other medium-hard materials. |
| | Asphalt | Asphalt, green concrete, asphalt over concrete, abrasive blocks, mortar and other abrasive materials. |

DIAMOND PERFORMANCE TIERS

- 5 **Best**
Best Performance
- 4 **Better**
High Performance
- 3 **Value and Good**
Consistent Performance
- 2
- 1

TECH TIP

- Never twist or turn a segmented wheel in the cut because it may result in segment breakage
- Never use wet wheels dry
- Remove dry wheels from cut for 10 seconds of each minute of cut to air cool
- Never operate any saw, wet or dry, without the blade guard



It is the user's responsibility to refer to and comply with ANSI B7.1

DIAMOND BLADES – HIGH-SPEED SAWS

For Reinforced Concrete and Harder Building Materials

DRY – Segmented Rim  



NORTON CLIPPER DUO EVO

The unique shape of the DUO EVO segments optimizes the angle of attack while enhancing the evacuation of the debris. With a new manufacturing process, the DUO EVO segments provide an exceptional cutting speed for optimum performance and increased life up to 20% over the original DUO EVO design.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|-------------|---------------|
| 12 x .110 x 1/20mm | .472" | 6300 | DUOEVO12110 | 70184684217 4 |
| 14 x .118 x 1/20mm | .590" | 5460 | DUOEVO14118 | 70184684218 1 |
| 16 x .125 x 1/20mm | .472" | 4500 | DUOEVO16125 | 70184684549 6 |



NORTON CLIPPER DUO

Our exclusive design has become a dominant name in the market. The unique dual segment per land technology provides excellent cutting speed with low vibration and high comfort of cut. The exclusive arrow shape gullets not only indicate blade direction, but also assist in fast removal of cutting debris. Maximum general purpose performance when cutting medium to low reinforcement, hard materials.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|---------------|---------------|
| 12 x .110 x 1/20mm | .393" | 6300 | DUO12110 | 70184683611 1 |
| 14 x .110 x 1/20mm | .393" | 5460 | DUO14110 | 70184683612 8 |
| 14 x .110 x 1/20mm | .393" | 5460 | DUO14110 6PK | 70184684430 7 |
| 14 x .110 x 1/20mm | .393" | 5460 | DUO14110 12PK | 70184684431 4 |
| 14 x .125 x 1/20mm | .393" | 5460 | DUO14125 | 70184683613 5 |
| 14 x .125 x 1/20mm | .393" | 5460 | DUO14125 6PK | 70184684432 1 |
| 14 x .125 x 1/20mm | .393" | 5460 | DUO14125 12PK | 70184684433 8 |
| 16 x .125 x 1/20mm | .393" | 4500 | DUO16125 | 70184683798 9 |



For Asphalt and Abrasive Materials

DRY – Segmented Rim  



NORTON CLIPPER DUO ASPHALT

Dry cutting laser welded blade for asphalt and green concrete. Laser welded drop segment wear-retardant extends blade life. Scoop gullets for faster swarf removal increases cut speed. Stroboscopic indicators to control cut depth and show rotation direction.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|-------------|---------------|
| 12 x .110 x 1/20mm | .393" | 6300 | DUOASP12125 | 70184684543 4 |
| 14 x .125 x 1/20mm | .393" | 5460 | DUOASP14125 | 70184684315 7 |
| 16 x .125 x 1/20mm | .393" | 4500 | DUOASP16125 | 70184684544 1 |



NORTON CLIPPER DUO ABRASIVE

Utilizes the basic characteristics of original DUO blade and adds a unique segment shape that optimizes the angle of attack while enhancing the evacuation of the particles. The result is an exceptional cutting speed allied with very good performance and life in abrasive materials and concrete block. The bond specification lends additional life when high-speed cutting.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|------------|---------------|
| 14 x .110 x 1/20mm | .393" | 5460 | DUOAB14110 | 70184684291 4 |
| 14 x .125 x 1/20mm | .393" | 5460 | DUOAB14125 | 70184684292 1 |



For General-Purpose and Masonry Building Materials

DRY – Segmented Rim  



NORTON CLIPPER CLASSIC

The improved bond provides longer life at an economical price in medium hard materials such as concrete with light to medium reinforcement.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|-------------|---------------|
| 12 x .110 x 1/20mm | .275" | 6300 | COHSGP1220 | 70184681383 9 |
| 14 x .110 x 1/20mm | .275" | 5460 | COHSGP1420 | 70184681309 9 |
| 14 x .125 x 1/20mm | .275" | 5460 | COHSGP1420P | 70184684268 6 |
| 16 x .125 x 1/20mm | .275" | 4500 | COHSGP1620 | 70184640356 6 |



NORTON CLIPPER VALUPLUS

For value and performance on small- to medium-size jobs. The sintered blade cuts unreinforced soft-to-medium concrete fast on saws up to 13 HP.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|-----------------|---------------|
| 12 x .110 x 1/20mm | .393" | 6300 | VPHSGP1220 | 70184684180 1 |
| 14 x .110 x 1/20mm | .393" | 5460 | VPHSGP1420 | 70184684181 8 |
| 14 x .110 x 1/20mm | .393" | 5460 | VPHSGP1420 20PK | 70184684428 4 |



DIAMOND BLADES – HIGH-SPEED SAWS

Multi-Purpose, For All Materials

Dry – Segmented Rim +



NORTON CLIPPER 4x4 MAX CUT

Taking high-speed cutting versatility to an all new level. The same standard features as the 4X4 with its anti-crack gullets and patented depth indicators that not only cool the blade but also allow the operator to know how deep they are cutting. An all new bond and diamond specification improves blade life in a wide range of materials while excelling in steel. New segment wear indicators give the operator an idea of remaining blade life.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|------------|---------------|
| 12 x .118 x 1/20mm | .472" | 6300 | 4X4MC12118 | 70184645927 3 |
| 14 x .125 x 1/20mm | .472" | 5460 | 4X4MC14125 | 70184645926 6 |



NORTON CLIPPER 4x4

Multi-purpose laser welded blade for dry cutting a range of construction materials without sacrificing performance or price. Depth of cut is easily controlled with the patented depth-of-cut indicators cut into the steel core. Anti-crack gullets for enhanced safety cutting steel and metal (up to 5mm thick).

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|----------|---------------|
| 12 x .110 x 1/20mm | .393" | 6300 | 4X412110 | 70184684548 9 |
| 14 x .125 x 1/20mm | .393" | 5460 | 4X414125 | 70184684547 2 |
| 16 x .125 x 1/20mm | .393" | 4500 | 4X416125 | 70184645306 6 |



NORTON CLIPPER 3x3

It's everything expected for high-speed cutting when both performance and price are a factor. The laser welded 3X3 cuts concrete, reinforced concrete, asphalt and abrasive building materials and more. High quality diamond increases the speed of cut on a variety of materials without changing blades. Premium blade characteristics and price point where it would take normally multiple sintered blades to achieve.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------------|----------------|---------|----------|---------------|
| 12 x .118 x 1/20mm | .314" | 6300 | 3X312118 | 70184647500 6 |
| 14 x .118 x 1/20mm | .314" | 5460 | 3X314118 | 70184647499 3 |



TECH TIP

High-Speed Hand Saw Blades – Maximum Blade Cutting Depths and Recommended Operating Speeds

Note: Diamond blade cutting depths listed are approximate. Actual cutting depth will vary with the exact blade diameter or saw type, or the exact diameter of the blade flanges. Cutting depth will also be reduced if saw components extend below the blade flanges.

| BLADE DIAMETER | CUTTING DEPTH | MAXIMUM SPEED (RPM) |
|----------------|---------------|---------------------|
| 12 | 4 | 6,300 |
| 14 | 5 | 5,460 |
| 16 | 6 | 4,500 |

It is the user's responsibility to refer to and comply with ANSI B7.1

DIAMOND BLADES – HAND-HELD SAWS

For Reinforced Concrete and Harder Building Materials

DRY – Crack Chasing 



NORTON CLIPPER CHARGER

A heavy V-shaped segment designed with a special bond and diamond content for maximum removal of grout, mortar jointing, crack chasing and crack widening. Fast cutting and long life in abrasive materials using portable tools. Highly competitive to others of its kind in the market.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-------------------------|----------------|---------|----------|---------------|
| 4 x .375 x 7/8-5/8-20mm | .550" | 15000 | CGCC0400 | 70184683856 6 |
| 7 x .375 x 7/8-5/8-20mm | .550" | 8730 | CGCC0700 | 70184683859 7 |

For Asphalt and Abrasive Materials

Dry – Tuck Pointing 



NORTON CLIPPER CLASSIC

An economical solution for small to medium tuck pointing jobs. High quality performance for heavy grout removal or mortar jointing. The heavy-duty wide segment reduces wear in abrasive materials.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-----------------------------|----------------|---------|------------|---------------|
| 4 x .250 x 7/8-5/8-20mm | .275" | 15000 | CHTUCK0400 | 70184681776 9 |
| 4-1/2 x .250 x 7/8-5/8-20mm | .275" | 13300 | CHTUCK0450 | 70184681777 6 |
| 5 x .250 x 7/8-5/8-20mm | .275" | 12,225 | CHTUCK0500 | 70184681778 3 |
| 7 x .250 x 7/8-5/8-20mm | .275" | 8730 | CHTUCK0700 | 70184681779 0 |
| 8 x .250 x 7/8-5/8-20mm | .275" | 7640 | CHTUCK0800 | 70184681780 6 |

For General-Purpose and Masonry Building Materials

Dry – Segmented Rim 



NORTON CLIPPER CHARGER

High-performance dry cutting of a variety of materials. The segment specification allows extended life and fast cut for medium to large jobs.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-----------------------------|----------------|---------|------------|----------------|
| 4 x .080 x 7/8-5/8-20mm | .393" | 15000 | CGDSEG0400 | 70184681505 5 |
| 4-1/2 x .080 x 7/8-5/8-20mm | .393" | 13300 | CGDSEG0450 | 076607 04021 3 |
| 5 x .080 x 7/8-5/8-20mm | .393" | 12,225 | CGDSEG0500 | 70184682851 2 |
| 6 x .080 x 7/8-5/8-20mm | .393" | 10185 | CGDSEG0600 | 70184683820 7 |
| 7 x .090 x DM-7/8-5/8 | .393" | 8730 | CGDSEG0700 | 07660704020 6 |
| 8 x .090 x DM-7/8-5/8 | .393" | 7640 | CGDSEG0800 | 70184681513 0 |
| 9 x .090 x 7/8-5/8" | .393" | 6600 | CGDSEG0900 | 70184669483 4 |

NORTON CLIPPER VALUPLUS

For value and performance on small- to medium-size jobs cutting soft abrasive materials like brick and tile. The sintered rim delivers a quality cut and good life.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-----------------------------|----------------|---------|-----------|---------------|
| 4 x .080 x 7/8-5/8-20mm | .275" | 15000 | VPSEG0400 | 70184684098 9 |
| 4-1/2 x .080 x 7/8-5/8-20mm | .275" | 13300 | VPSEG0450 | 70184684099 6 |
| 7 x .090 x DM-7/8-5/8 | .275" | 8730 | VPSEG0700 | 70184684100 9 |

Dry – Turbo Rim 

NORTON CLIPPER CHARGER

Combines the characteristics of standard Charger blade with a turbo rim configuration for cutting hard, dense materials with minimal effort. A better bond and diamond concentration for maximum cutting speed, life and quality of cut.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-----------------------------|----------------|---------|------------|---------------|
| 4 x .080 x 7/8-5/8-20mm | .394" | 15000 | CGTURB0400 | 07660705475 3 |
| 4-1/2 x .080 x 7/8-5/8-20mm | .394" | 13300 | CGTURB0450 | 07660704023 7 |
| 5 x .080 x 7/8-5/8-20mm | .394" | 12,225 | CGTURB0500 | 70184682853 6 |
| 6 x .080 x 7/8-5/8-20mm | .394" | 10185 | CGTURB0600 | 70184683821 4 |
| 7 x .090 x DM-7/8-5/8 | .394" | 8730 | CGTURB0700 | 07660704022 0 |
| 8 x .090 x DM-7/8-5/8 | .394" | 7640 | CGTURB0800 | 70184681512 3 |

For Natural Stone and Tiles

Dry – Continuous Rim 



NORTON CLIPPER CLASSIC

An economical solution for small- to medium-size jobs cutting softer ceramic tile and stone materials with efficient cutting ability.



| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|-----------------------------|----------------|---------|---------|---------------|
| 4 x .080 x 7/8-5/8-20mm | .275" | 15000 | CON4DT | 07660702793 1 |
| 4-1/2 x .080 x 7/8-5/8-20mm | .275" | 13300 | CON45DT | 07660701194 7 |
| 7 x .090 x DM-7/8-5/8 | .275" | 8730 | CON7DT | 07660702788 7 |

DIAMOND BLADES – WALK-BEHIND SAWS

For Reinforced Concrete and Harder Building Materials

WET – Medium Aggregates



NORTON CLIPPER CHARGER The steel core is designed to keep the cut straight while the .410" segment height prolongs cutting wear. Suitable for cutting medium aggregates with up to 35 HP flat saws.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | POWER | PART # | UPC # |
|------------------|----------------|---------|-------|------------|---------------|
| 14 x .125 x 1 | .410" | 4365 | 35hp | CGWCMD1412 | 70184681366 2 |
| 18 x .125 x 1 | .410" | 3395 | 35hp | CGWCMD1812 | 70184681368 6 |



NORTON CLIPPER CLASSIC Laser welded blade at an economical price for general purpose cutting of cured concrete, medium hard aggregate and no steel reinforcement. The bond and diamond combination allow fast cutting action on limited horse powered flat saws.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | POWER | PART # | UPC # |
|------------------|----------------|---------|-------|------------|---------------|
| 14 x .125 x 1 | .326" | 4365 | 35hp | CHWCGP1412 | 70184681359 4 |
| 18 x .125 x 1 | .326" | 3395 | 35hp | CHWCGP1812 | 70184681361 7 |



For Asphalt and Abrasive Materials

DRY – Green/Cured Concrete +



NORTON CLIPPER GMAX – MULTI-PURPOSE Designed specifically for our GC55/GC25E down-cut green concrete push saw, the GMAX Multi-Purpose blade is excellent in both green and cured concrete. The unique segment specification and anchor slot gullet allows this blade to be used in a variety of applications with outstanding results.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | POWER | PART # | UPC # |
|-----------------------|----------------|---------|-------|------------|---------------|
| 8 x .095 x 7/8-5/8 | .295" | 8730 | 6hp | NXDGRN0895 | 70184683758 3 |
| 9 x .110 x 7/8-5/8 | .295" | 6600 | 6hp | EE9110 | 70184675125 4 |
| 10 x .110 x 1-7/8-5/8 | .295" | 6115 | 6hp | EE10110 | 70184684508 3 |



WET – Asphalt

NORTON CLIPPER CHARGER For large road and construction jobs with saws up to 35 HP. Higher diamond content increases productivity and offers faster cutting and longer life in asphalt and green concrete applications.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | POWER | PART # | UPC # |
|------------------|----------------|---------|-------|------------|---------------|
| 14 x .125 x 1 | .326" | 4365 | 35hp | CGWASP1412 | 70184681478 2 |
| 18 x .125 x 1 | .326" | 3395 | 35hp | CGWASP1812 | 70184681479 9 |



NORTON CLIPPER CLASSIC An economical choice for fast cutting and good life when performing jobs in a variety of abrasive materials such as green concrete and asphalt on saws up to 35 HP.

| SIZE (D x T x H) | SEGMENT HEIGHT | MAX RPM | POWER | PART # | UPC # |
|------------------|----------------|---------|-------|------------|---------------|
| 14 x .125 x 1 | .326" | 4365 | 35hp | CHWASP1412 | 70184681375 4 |
| 18 x .125 x 1 | .326" | 3395 | 35hp | CHWASP1812 | 70184681376 1 |



TECH TIP

Walk-Behind Saw Blades – Maximum Blade Cutting Depths and Recommended Operating Speeds

Note: Diamond blade cutting depths listed are approximate. Actual cutting depth will vary with the exact blade diameter or saw type, or the exact diameter of the blade flanges. Cutting depth will also be reduced if saw components extend below the blade flanges.

| BLADE DIAMETER | CUTTING DEPTH | IDEAL SPEED (RPM) | MAXIMUM SPEED (RPM) |
|----------------|---------------|-------------------|---------------------|
| 8" | 2" | 4,536 | 7,640 |
| 9" | 2-1/2" | 2,640 | 6,600 |
| 10" | 3" | 2,446 | 6,115 |
| 14" | 4-5/8" | 2,592 | 4,365 |
| 18" | 6-5/8" | 2,016 | 3,395 |

It is the user's responsibility to refer to and comply with ANSI B7.1



Norton cup grinders are available in a range of specifications and diameters providing a solution for a number of applications in the building and construction industry. There are many benefits to diamond grinding. It's very fast, low-cost and creates little noise compared to other concrete cutting options. It has become a very popular choice in the commercial construction and DIY home improvement industries.

Applications: Used on right angle grinders to grind concrete, stone and masonry materials.
 Size Range: 4" – 7"
 Segment Height Range: .177", .210"
 Abrasive Grain: Diamond
 Mounting Options: 5/8"-11 attachment optimized for all popular angle grinders, 7/8-5/8"-20mm
 Options: Standard – single row or double row available
 iHD (Infiltrated High-Density) has thicker body, larger ventilation holes for better cooling

Machines Used:

General-Purpose and Masonry Building Materials

Dry – Cup Grinder +

NORTON CLIPPER 3X3 WITH IHD TECHNOLOGY

The Norton 3X3 cup grinder ensures very high material removal rate, extreme comfort while working without vibrations and a self-sharpening feature. These new iHD cups offer the best finishing and longest life even on softer, more abrasive materials.

| SIZE (D x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------|----------------|---------|-----------|-------------|
| 4" x 5/8"-11 | .177 | 15,000 | 3X3CG0400 | 70184601763 |
| 5" x 5/8"-11 | .177 | 12,225 | 3X3CG0500 | 70184601766 |
| 7" x 5/8"-11 | .177 | 8,730 | 3X3CG0700 | 70184601769 |

NORTON CLIPPER CHARGER WITH IHD TECHNOLOGY

The Norton Charger cup grinder ensures a high material removal rate and more comfortable work. These new iHD cups provide a better finish and long life on a wide range of materials.

| SIZE (D x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------|----------------|---------|----------|-------------|
| 4" x 5/8"-11 | .177 | 15,000 | CGCG0400 | 70184601762 |
| 5" x 5/8"-11 | .177 | 12,225 | CGCG0500 | 70184601765 |
| 7" x 5/8"-11 | .177 | 8,730 | CGCG0700 | 70184601768 |

NORTON CLIPPER CLASSIC WITH IHD TECHNOLOGY

The Norton Classic cup grinder provides efficient material removal rate thanks to the small contact surfaces of the segments. The cups also have flat sides to avoid damaging walls or ceilings during flush grinding.

| SIZE (D x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--------------|----------------|---------|----------|-------------|
| 4" x 5/8"-11 | .177 | 15,000 | CCCG0400 | 70184601761 |
| 5" x 5/8"-11 | .177 | 12,225 | CCCG0500 | 70184601764 |
| 7" x 5/8"-11 | .177 | 8,730 | CCCG0700 | 70184601767 |

NORTON CLIPPER CLASSIC

Available in a range of sizes and segment designs for optimum performance by life or by speed. Ideal for levelling all types of masonry materials, brick, block, concrete and stone. Strategically placed hole designs help ventilate dust from the surface to extend the life of the cups.

| SIZE (D x H) | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|--|----------------|---------|------------|---------------|
| Single Row for Fast Stock Removal | | | | |
| 4 x 7/8-5/8-20mm | .210" | 15,000 | CHSCPH0400 | 70184682585 6 |
| 5 x 7/8-5/8-20mm | .210" | 12,225 | CHSCPH0500 | 70184684035 4 |
| 7 x 7/8-5/8-20mm | .210" | 8,730 | CHSCPH0700 | 70184682594 8 |
| 4 x 5/8"-11 | .210" | 15,000 | CHSCPT0400 | 70184682555 9 |
| 5 x 5/8"-11 | .210" | 12,225 | CHSCPT0500 | 70184684036 1 |
| 7 x 5/8"-11 | .210" | 8,730 | CHSCPT0700 | 70184682593 1 |
| Double Row for Long Life, Smooth Finish | | | | |
| 4 x 7/8-5/8-20mm | .210" | 15,000 | CHDCPH0400 | 70184682588 7 |
| 5 x 7/8-5/8-20mm | .210" | 12,225 | CHDCPH0500 | 70184684037 8 |
| 7 x 7/8-5/8-20mm | .210" | 8,730 | CHDCPH0700 | 70184682596 2 |
| 4 x 5/8"-11 | .210" | 15,000 | CHDCPT0400 | 70184682586 3 |
| 5 x 5/8"-11 | .210" | 12,225 | CHDCPT0500 | 70184684038 5 |
| 7 x 5/8"-11 | .210" | 8,730 | CHDCPT0700 | 70184682595 5 |



Accessories

VACUUM SHROUD KIT

The Vacuum Shroud's design creates a cyclonic affect extracting dust and debris from the work surface into the support vacuum. This prolongs the life of the grinding cup and grinder and provides a smoother surface while decreasing the chance of dust particle inhalation.

| DESCRIPTION | UPC # |
|---|---------------|
| Kit includes: one shroud, five different adapter rings to fit most popular right angle grinders, and one 7" Norton Classic single row cup wheel | 70184641039 7 |





Core bits are cutting tools used to remove a cylindrically shaped piece of material. A core drill is designed to cut a hole and remove a core sample or to drill a hole without leaving material behind. Diamond core bits have diamond cutting tips and are frequently used for drilling in materials such as concrete, stone, and asphalt.

Applications: Used on core drills in materials such as concrete, stone and other hard materials
 Size Range: 2" – 10"
 Segment Height Range: .254", .393"
 Abrasive Grain: Diamond
 Mounting Options: 1-1/4"-7 threads
 Machines Used:



Reinforced Concrete and Harder Building Materials

WET – Hard Aggregates



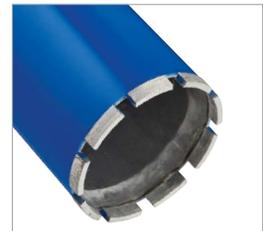
NORTON CLIPPER PARADIGM Premium diamond of the turbo segment permits the core to penetrate quickly and efficiently into the toughest cured concrete, for significantly increased performance. The 14" tube length with 1-1/4"-7 threads fits a wide range of core drill mounting arbors.

| SIZE IN INCHES | SIZE IN MM | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|----------------|------------|----------------|---------|-----------|-------------|
| 2" | 51mm | .393" (10mm) | 2000 | PDBIT0200 | 70184601410 |
| 2-1/2" | 64mm | .393" (10mm) | 1300 | PDBIT0250 | 70184601411 |
| 3" | 76mm | .393" (10mm) | 1300 | PDBIT0300 | 70184601412 |
| 3-1/2" | 89mm | .393" (10mm) | 1300 | PDBIT0350 | 70184601413 |
| 4" | 102mm | .393" (10mm) | 1000 | PDBIT0400 | 70184601414 |
| 4-1/2" | 114mm | .393" (10mm) | 800 | PDBIT0450 | 70184601415 |
| 5" | 127mm | .393" (10mm) | 800 | PDBIT0500 | 70184601416 |
| 6" | 152mm | .393" (10mm) | 665 | PDBIT0600 | 70184601417 |
| 7" | 178mm | .393" (10mm) | 600 | PDBIT0700 | 70184601418 |
| 8" | 203mm | .393" (10mm) | 500 | PDBIT0800 | 70184601419 |
| 10" | 254mm | .393" (10mm) | 400 | PDBIT1000 | 70184601706 |



NORTON CLIPPER CLASSIC Economical choice for use in harder concrete with heavy reinforcement and masonry materials with good performance.

| SIZE IN INCHES | SIZE IN MM | SEGMENT HEIGHT | MAX RPM | PART # | UPC # |
|----------------|------------|----------------|---------|-----------|---------------|
| 2" | 51mm | .254" | 2,000 | CHBIT0200 | 70184682762 1 |
| 3" | 76mm | .254" | 1,300 | CHBIT0300 | 70184682765 2 |
| 4" | 102mm | .254" | 1,000 | CHBIT0400 | 70184682767 6 |
| 6" | 152mm | .254" | 665 | CHBIT0600 | 70184682771 3 |
| 8" | 203mm | .254" | 500 | CHBIT0800 | 70184682773 7 |
| 10" | 254mm | .254" | 400 | CHBIT1000 | 70184682774 4 |



TECH TIP

Core Bits – Minimum and Maximum Recommended Operating Speeds

| BIT DIAMETER | MINIMUM RPM | IDEAL SPEED (RPM) | MAXIMUM RPM |
|--------------|-------------|-------------------|-------------|
| 1" | 2,400 | 3,200 | 4,000 |
| 2" | 1,200 | 1,600 | 2,000 |
| 3" | 800 | 1,050 | 1,300 |
| 4" | 600 | 800 | 1,000 |
| 5" | 475 | 640 | 800 |
| 6" | 400 | 530 | 665 |
| 7" | 340 | 450 | 600 |
| 8" | 300 | 400 | 500 |
| 10" | 240 | 320 | 400 |

Note: For half inch increments, go to the next larger bit diameter.



It is the user's responsibility to refer to and comply with ANSI B7.1



High-Speed Gas Saws

No more pre-mixing oil and fuel – the patented iLube option automatically controls mixing for maximum efficiency, and the saw drops to idle speed when the oil is low – eliminating possible machine damage

Walk-Behind Saws

Proven, robust and functional for ideal user comfort. The professionals' choice for outstanding walk behind cutting performance, wet or dry.

Masonry Saws

Norton introduced the first masonry saw over 70 years ago and they have become the industry standard for masons worldwide.

For the full line of quality Norton equipment, please contact your local Norton sales representative

High-Speed Gas Saws

NORTON CLIPPER CP500 SERIES HIGH-SPEED SAWS

The Norton Clipper CP500 high-speed cut-off saw might be new to the market, but it's destined to be an asset on any crew. It's fully designed with the user in mind to not only cut a smooth, fast track, but it's also fully equipped to handle the everyday performance of any jobsite with unrelenting durability and reliability. Select a standard model or upgrade to the world's first patented automatic lubrication system, Norton iLube.

The patented iLube option automatically controls mixing of oil and fuel for maximum efficiency. An electronic sensor will indicate a low oil level and adjust the engine to idle to prevent engine damage.

| DESCRIPTION | SHAFT RPM | PART # | UPC # |
|-------------------------------------|-----------|------------------|---------------|
| 12" Standard High-Speed Cut-Off Saw | 4500 | CP512-300 | 70184647559 4 |
| 12" iLube High-Speed Cut-Off Saw | 4500 | CP512-300i iLube | 70184647561 7 |
| 14" Standard High-Speed Cut-Off Saw | 4500 | CP514-350 | 70184647563 1 |
| 14" iLube High-Speed Cut-Off Saw | 4500 | CP514-350i iLube | 70184647565 5 |

ACCESSORIES

| | |
|--------------------------|---------------|
| High-Speed Saw Wheel Kit | 00510109845 1 |
| High-Speed Saw Tool Kit | 00510109846 8 |



Walk-Behind Push Saws



NORTON CLIPPER GC55 EARLY ENTRY/GREEN SAW

With a compact, light-weight design backed by the reliable Honda 5HP gasoline engine, the GC55 early entry saw is intended for a variety of applications. From green, cured or decorative concrete cutting to expansion joints, the features of this small push saw are hard to beat in a single saw. The low, wide profile of the frame, along with the front mount blade, contribute to producing a more disciplined cut.

| UPC # | MOTOR | WEIGHT | GUARD |
|---------------|-------------|---------|-------|
| 70184630005 6 | Honda GX160 | 115 lbs | 10" |



NORTON CLIPPER C1318P GASOLINE SAW

The next generation of 13HP saws. The C1318P features shock-absorbing handle bars. The new sleek design of the water tank, with increased capacity and improved securing, adds an additional 1.5 gallons of water over the cut. And, a newly-designed belt tensioning system helps keep the saw cutting true. All these features, coupled with the Honda 13HP engine, make the C1318P the premiere choice for rental and service work.

| UPC # | MOTOR | WEIGHT | GUARD |
|---------------|-------------|---------|-------|
| 70184642453 0 | Honda GX390 | 220 lbs | 18" |



NORTON CLIPPER C13PE GASOLINE SAW

Rental equipment has to withstand any and all conditions by user and application. For that reason, the Norton Clipper C13PE or CP14PE suits any rental fleet that both the novice and expert will appreciate to hold-up through tough situations. The 18" blade guard, ride-on water system and quick-release blade guard lock all keep safety in mind while the rugged frame, powerful engine and easy-to-use console makes cutting a breeze.

| UPC # | MOTOR | WEIGHT | GUARD |
|---------------|-------------|---------|-------|
| 70184647524 2 | Honda GX390 | 220 lbs | 18" |

Large Masonry Saws

NORTON CLIPPER BBL BLOCKBUSTER LARGE MASONRY SAWS

Having introduced the first masonry saw over 70 years ago, the Norton Clipper BBL heavy-duty block saws have become the industry standard for masons worldwide. These models are equipped with single-phase electric motor and come with a blade capacity of 14" or 20". Extended water pan and open back frame allow cutting of larger materials. The balanced cutting head makes for effortless cutting depth positioning. Having a rugged all-steel frame design with forklift brackets allows these saws to resist twisting and damage during transport around a job site.

For other sizes and horsepower machines, or for gasoline-powered versions, contact your Norton sales representative.

| DESCRIPTION | HP | PART # | UPC # |
|---|----|--------|-------------|
| BBL547 Blockbuster Saw with Baldor electric motor; 14" blade guard capacity | 5 | BBL547 | 70184683211 |
| BBL527 Blockbuster Saw with Baldor electric motor; 20" blade guard capacity | 5 | BBL527 | 70184683150 |
| ACCESSORIES | | | |
| Electric Water Pump – PE-1 | | | 70184668392 |
| Conveyor Cart Replacement for BBL | | | 00310007390 |



Electric Water Pump



Conveyor Cart Replacement



Compact Masonry Saws

NORTON CLIPPER BBC BLOCKBUSTER COMPACT MASONRY SAWS

Combines the performance of a full size masonry saw with the convenience of portability. Also available in gas or electric versions, the BBC saws have a rugged jig-welded frame, durable enough for even the heaviest work load. Standard rear wheel dolly design and removable legs make transport and set-up easy.

For other sizes and horsepower machines, or for gasoline-powered versions, contact your Norton sales representative..

| DESCRIPTION | HP | PART # | UPC # |
|---|-----|--------|-------------|
| BBC157 Blockbuster Saw with Baldor electric motor; 14" blade guard capacity | 1.5 | BBC157 | 70184682488 |
| BBC207 Blockbuster Saw with Baldor electric motor; 14" blade guard capacity | 2 | BBC207 | 70184682501 |
| BBC207 Blockbuster Saw with Baldor electric motor; 20" blade guard capacity | 3 | BBC307 | 70184630011 |
| BBC547 Blockbuster Saw with Honda gasoline motor; 14" blade guard capacity | 5.5 | BBC547 | 70184682175 |
| BBC507 Blockbuster Saw with Honda gasoline motor; 20" blade guard capacity | 5.5 | BBC507 | 70184630012 |
| ACCESSORIES | | | |
| Electric Water Pump – PE-1 | | | 70184668392 |
| Conveyor Cart Replacement for BBC | | | 00310007367 |



Mini Masonry Saws

NORTON CLIPPER BBM BLOCKBUSTER MINI MASONRY SAWS

The innovative design of these small masonry saws has been copied many times due to its compact, all-steel unibody construction, giving the best weight-to-strength distribution. A 14" blade capacity and ergonomically-designed, three-position locking, cutting head provides a safe, clear view of the work area. Whether your choice is the 3HP brush motor or the 1.5HP induction motor for heavier commercial use, both come with features such as overload protection, garden hose connection and a channeled-flow water pan to direct dust and slurry away from the operator.

| DESCRIPTION | HP | PART # | UPC # |
|--|----|--------|-------------|
| Blockbuster Mini Masonry Saw with AC universal motor; gear drive | 3 | BBM307 | 70184600684 |
| Blockbuster Mini Masonry Saw with Induction motor; belt drive | 2 | BBM158 | 70184626327 |
| ACCESSORIES | | | |
| Vacuum Adaptor Kit (includes: back splash, adaptor and hardware) | | | 70184600753 |
| Wet Kit | | | 70184600704 |
| Stand | | | 70184600691 |



Wet Kit



Stand



All saws on this page come equipped with genuine Norton diamond blades.

we've got you covered
**FROM DIY TO TOOLCRIB
TO PRODUCTION FLOOR**

Our bench wheels keep your tools sharp and productive. Reach tight spots with our mounted points, and produce sharp edges with our sharpening stones.



Never a Dull Moment

Our bench and pedestal wheel line answers all your metal removal, deburring, shaping and sharpening needs, for high-speed tool steels to non-ferrous metals.



An All-Points Bulletin

Rely on A-shaped mounted points for medium-to heavy-duty blending; B shapes for light deburring and blending; W shapes for offhand and precision medium- to heavy-duty grinding.



Sharpen Your Reputation

Whether you are filing, honing, sharpening or edge finishing... Norton benchstones, files, slips, and specialty stones will get the job done, fast.

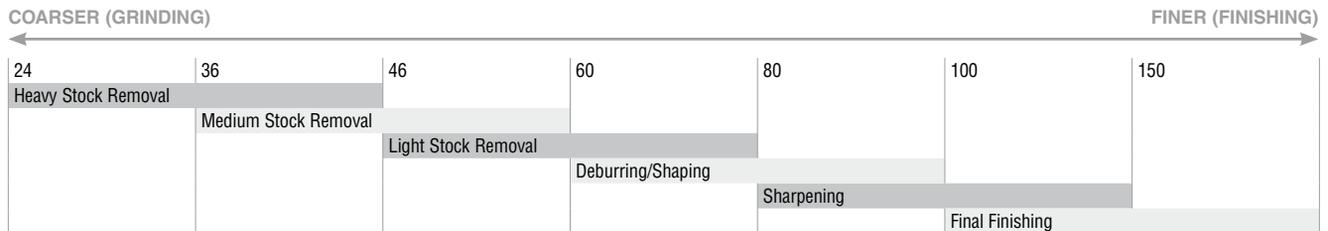


The Norton bench and pedestal wheel line consists of numerous wheel diameters and arbor sizes, abrasive types and grit sizes. Our offering answers all metal removal, deburring, shaping and sharpening needs: white aluminum oxide for high-speed tool steels, brown aluminum oxide for carbon steel, and silicon carbide for non-ferrous metals and carbide tooling.

Applications: Offhand deburring and sharpening of parts and tools
 Size Range: 5" – 18"
 Grit Range: 24 – 150
 Abrasive Types: Aluminum Oxide (Alundum), Silicon Carbide (Crystolon)
 Bushings: Telescopic arbor bushings to fit all popular grinders are packaged with the wheel
 Machine Used:



APPLICATION/GRIT RECOMMENDATION GUIDE



PREMIUM WHITE ALUMINUM OXIDE



BETTER CHOICE FOR LIGHT METAL REMOVAL AND SHARPENING OF HIGH-SPEED TOOL STEELS (55 RC AND HIGHER)

FEATURES

- White aluminum oxide in a premium vitrified bond

BENEFITS

- Maximum cut rate and cool grinding action on hardened or high-speed tool steels

NORTON 57A ALUMINUM OXIDE & 39C SILICON CARBIDE



BETTER CHOICE FOR END USER THAT NEEDS SPECIFIC GRIT SIZE AND HARDNESS FOR ENGINEERED APPLICATIONS

FEATURES

- High quality aluminum oxide or silicon carbide abrasive in a premium vitrified bond system

BENEFITS

- Precision engineered grit size and hardness to maximize cut rate, finish and wheel life
- 57A for ferrous metals: 39C for nonferrous materials

NORTON GEMINI ALUMINUM OXIDE



GOOD CHOICE FOR ALL GENERAL-PURPOSE BENCH AND PEDESTAL APPLICATIONS

FEATURES

- Quality, brown aluminum oxide

BENEFITS

- Economical prices; ideal for small job shops and numerous general-purpose applications

NORTON GEMINI SILICON CARBIDE



GOOD CHOICE FOR ALL GENERAL-PURPOSE BENCH AND PEDESTAL APPLICATIONS ON NONFERROUS MATERIALS AND CARBIDE TOOLING

FEATURES

- Sharp, green silicon carbide

BENEFITS

- Economical prices; ideal for small job shops and numerous general-purpose applications



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **PREMIUM ALUNDUM**
 ABRASIVE: White Aluminum Oxide



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **57A**
 ABRASIVE: Brown Aluminum Oxide



TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **GEMINI ALUNDUM**
 ABRASIVE: Brown Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC | PART # | MIN./STD. PKG. | SPEC | PART # | MIN./STD. PKG. | SPEC | PART # |
|--------------------|----------|----------------|---------------|-------------|----------------|------|--------|----------------|----------------|-------------|
| 5 x 1/2 x 1 | 4,965 | | | | | | | 1/5 | Medium 60/80 | 07660788202 |
| | 4,965 | | | | | | | 1/5 | Fine 100/120 | 07660788201 |
| 5 x 3/4 x 1 | 4,965 | | | | | | | 1/5 | Coarse 36/46 | 07660788215 |
| | 4,965 | | | | | | | 1/5 | Medium 60/80 | 07660788210 |
| 5 x 1 x 1 | 4,965 | | | | | | | 1/5 | Fine 100/120 | 07660788205 |
| | 4,965 | | | | | | | 1/5 | Coarse 36/46 | 07660788230 |
| 6 x 1/2 x 1 | 4,140 | | | | | | | 1/5 | Medium 60/80 | 07660788225 |
| | 4,140 | | | | | | | 1/5 | Coarse 36/46 | 66252836132 |
| 6 x 3/4 x 1 | 4,140 | | | | | | | 1/5 | Medium 60/80 | 66252836131 |
| | 4,140 | | | | | | | 1/5 | Fine 100/120 | 66252836133 |
| 6 x 1 x 1 | 4,140 | 1/5 | Medium 60 | 07660788246 | | | | 1/5 | Coarse 36/46 | 07660788245 |
| | 4,140 | 1/5 | Fine 100 | 07660788247 | | | | 1/5 | Medium 60/80 | 07660788240 |
| 6 x 1 x 1 | 4,140 | 1/5 | Very Fine 150 | 07660788248 | | | | 1/5 | Fine 100/120 | 07660788235 |
| | 4,140 | 1/5 | Medium 60 | 07660788261 | | | | 1/5 | Coarse 36/46 | 07660788260 |
| 7 x 1 x 1 | 4,140 | 1/5 | Fine 100 | 07660788262 | | | | 1/5 | Medium 60/80 | 07660788255 |
| | 3,600 | 1/5 | Very Fine 150 | 07660788263 | | | | 1/5 | Fine 100/120 | 07660788250 |
| 7 x 1 x 1 | 3,600 | | | | | | | 1/5 | Coarse 36/46 | 07660788275 |
| | 3,600 | | | | | | | 1/5 | Medium 60/80 | 07660788270 |
| 8 x 3/4 x 1 | 3,600 | | | | | | | 1/5 | Fine 100/120 | 07660788265 |
| | 3,600 | | | | | | | 1/5 | Coarse 36/46 | 07660788278 |
| 8 x 1 x 1 | 3,600 | | | | | | | 1/5 | Medium 60/80 | 07660788277 |
| | 3,600 | 1/5 | Fine 100 | 07660788282 | | | | 1/5 | Fine 100/120 | 66253042317 |
| 8 x 1 x 1 | 3,600 | 1/5 | Medium 60 | 07660788281 | | | | 1/5 | Very Coarse 24 | 66253044454 |
| | 3,600 | 1/5 | Very Fine 150 | 07660788283 | | | | 1/5 | Coarse 36/46 | 07660788286 |
| 10 x 1 x 1-1/4 | 2,485 | | | | | | | 1/5 | Medium 60/80 | 07660788285 |
| | 2,485 | | | | | | | 1/5 | Fine 100/120 | 07660788280 |
| 10 x 1 x 1-1/4 | 2,485 | | | | | | | 1/2 | Very Coarse 24 | 66253160788 |
| | 2,485 | | | | | | | 1/2 | Coarse 36/46 | 07660788295 |
| 10 x 1-1/4 x 1-1/4 | 2,485 | | | | | | | 1/2 | Medium 60/80 | 07660788290 |
| | 2,485 | | | | | | | 1/2 | Fine 100/120 | 66253160350 |
| 10 x 1-1/2 x 1-1/4 | 2,485 | | | | | | | 1/2 | Coarse 36/46 | 66253161250 |
| | 2,485 | | | | | | | 1/2 | Medium 60/80 | 66253161251 |
| 12 x 1 x 1-1/4 | 2,070 | | | | | | | 1/2 | Coarse 36/46 | 66253161393 |
| | 2,070 | | | | | | | 1/2 | Medium 60/80 | 66253161395 |
| 12 x 1-1/2 x 1-1/2 | 2,070 | | | | | | | 1/5 | 57A46-MVBE | 66253116280 |
| | 2,070 | | | | | | | 1/5 | 57A46-MVBE | 66253220947 |
| 12 x 2 x 1-1/2 | 2,070 | | | | | | | 1/2 | Coarse 36/46 | 66253263052 |
| | 2,070 | | | | | | | 1/2 | Medium 60/80 | 66253263053 |
| 14 x 2 x 1-1/2 | 1,800 | | | | | | | 1/4 | 57A30-MVBE | 66253220951 |
| | 1,800 | | | | | | | 1/4 | 57A36-OVBE | 66253220952 |
| 14 x 2-1/2 x 1-1/2 | 1,800 | | | | | | | 1/4 | 57A46-MVBE | 66253220953 |
| | 1,800 | | | | | | | 1/2 | Medium 60/80 | 66253263055 |
| 14 x 3 x 1-1/2 | 1,800 | | | | | | | 1/4 | 57A60-MVBE | 66253220955 |
| | 1,800 | | | | | | | 1/3 | 57A24-QVBE | 66253319972 |
| 18 x 3 x 1-1/2 | 1,275 | | | | | | | 1/3 | 57A36-OVBE | 66253319973 |
| | 1,275 | | | | | | | 1/3 | 57A46-MVBE | 66253319974 |
| 18 x 3 x 1-1/2 | 1,275 | | | | | | | 1/2 | 57A24-QVBE | 66253319976 |
| | 1,275 | | | | | | | 1/2 | 57A46-MVBE | 66253319975 |
| 18 x 3 x 1-1/2 | 1,275 | | | | | | | 1/2 | 57A36-OVBE | 66253319977 |
| | 1,275 | | | | | | | 1/2 | 57A24-QVBE | 66253462610 |



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **39C (GREEN) / 37C (GRAY)**
 ABRASIVE: Silicon Carbide



TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **GEMINI CRYSTOLON**
 ABRASIVE: Green Silicon Carbide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC | PART # | MIN./STD. PKG. | SPEC | PART # |
|--------------------|----------|----------------|-----------|-------------|----------------|----------------|-------------|
| 6 x 1/2 x 1 | 4,140 | | | | 1/5 | Medium 60 | 66252836571 |
| | 4,140 | | | | 1/5 | Fine 80 | 66252836572 |
| | 4,140 | | | | 1/5 | Extra Fine 120 | 66252836573 |
| 6 x 3/4 x 1 | 4,140 | | | | 1/5 | Medium 60 | 66252837190 |
| | 4,140 | | | | 1/5 | Fine 80 | 66252837191 |
| | 4,140 | | | | 1/5 | Extra Fine 120 | 66252837192 |
| 6 x 1 x 1 | 4,140 | | | | 1/5 | Medium 60 | 66252837187 |
| | 4,140 | | | | 1/5 | Fine 80 | 66252837193 |
| | 4,140 | | | | 1/5 | Extra Fine 120 | 66252837194 |
| 7 x 1 x 1 | 3,600 | | | | 1/5 | Medium 60 | 66252942300 |
| | 3,600 | | | | 1/5 | Fine 80 | 66252942301 |
| | 3,600 | | | | 1/5 | Extra Fine 120 | 66252942302 |
| 8 x 1 x 1 | 3,600 | | | | 1/5 | Medium 60 | 66253044087 |
| | 3,600 | | | | 1/5 | Fine 80 | 66253044534 |
| | 3,600 | | | | 1/5 | Extra Fine 120 | 66253044535 |
| 10 x 1 x 1-1/4 | 2,485 | 1/5 | 39C60-IVK | 66253116262 | 1/2 | Medium 60 | 66253144536 |
| | 2,485 | | | | 1/2 | Fine 80 | 66253160366 |
| 10 x 1-1/2 x 1-1/4 | 2,485 | 1/5 | 39C60-IVK | 66253116265 | | | |
| 12 x 2 x 1-1/4 | 2,070 | | | | 1/2 | Medium 60 | 66253263359 |
| | 2,070 | | | | 1/2 | Fine 80 | 66253263360 |
| 12 x 2 x 1-1/2 | 2,070 | 1/4 | 39C60-KVK | 66253220942 | | | |
| 14 x 2 x 1-1/2 | 1,800 | 1/3 | 37C24-RVK | 66253319967 | | | |
| | 1,800 | 1/3 | 39C60-JVK | 66253319968 | | | |

Bench and Pedestal Wheel Arbor Bushings

| WHEEL DIAMETER | WHEEL CENTER HOLE | 1/2" | 5/8" | 3/4" | 7/8" | 1" | 1-1/4" |
|----------------|-------------------|------|------|------|------|----|--------|
| 5", 6", 7" | 1" | • | • | • | • | | |
| 8" | 1" | | • | • | • | | |
| 10" | 1-1/4" | | | • | • | • | |
| 12" x 2" | 1-1/4" | | | | | • | |
| 12" and 14" | 1-1/2" | | | | | • | • |

These size bushings shipped free of charge with your wheel order.

TECH TIP

- Unsecured machines can move, causing grinding breakage and injury. Fixed-based bench and pedestal grinders **MUST** be secured.
- Do not grind wood, plastic, or any other non-metallic material on a bench or pedestal grinder.
- All bench and pedestal wheels must be dressed to prevent loading. Loading can cause excessive heat, damage to the workpiece, and wheel breakage. Dressing exposes new cutting edges and provides chip clearance.
- Recommended starting dressing stick: 1 x 1 x 6 37C24-SVK Part # 61463610462.



It is the user's responsibility to refer to and comply with ANSI B7.1



Resin bond, vitrified bond, center lap, and cotton fiber mounted points are available in a wide range of shapes.

- Industries:
- Aerospace
 - Tool and Die
 - Construction
 - Metal Fabrication
 - Automotive
 - Cutlery
 - Mold Shops
 - Stainless Steel Equipment

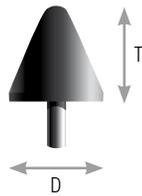
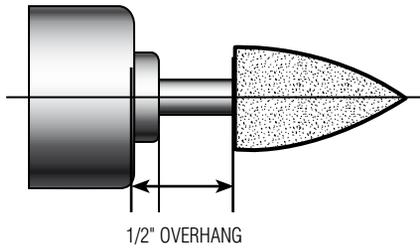
Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Zirconia Alumina/Aluminum Oxide Blend, Aluminum Oxide

Shape Availability: A, B, and W

Machine Used:



MEASUREMENT GUIDE



Description of Overhang

Overhang is the distance between the grinder chuck and the abrasive on the spindle. The larger the overhang, the lower the maximum safe operating speed.

Size

Measured by diameter (D) x thickness (T)

FEATURED PRODUCTS



COTTON FIBER ALUMINUM OXIDE - RESIN BOND

GOOD FOR BLENDING AND POLISHING

FEATURES

- 80 grit
- 120 grit

BENEFITS

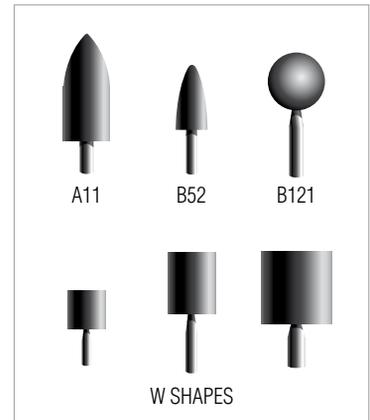
- For most materials
- For polishing and stainless steel applications

TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **COTTON FIBER**
 ABRASIVE: Aluminum Oxide

| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # |
|------------------------------------|--------------|----------------|-----------|----------------|-----------|-------------|
| Cotton Fiber Mounted Points | | | | | | |
| A11 | 7/8 x 2 | 1/4 | 19,860 | 5/25 | A80-HBF3 | 61463622664 |
| B52 | 3/8 x 3/4 | 1/8 | 45,370 | 5/25 | A120-HBF3 | 61463620242 |
| B121 | 1/2" Ball | 1/8 | 45,370 | 5/25 | A80-HBF3 | 61463622657 |
| W163 | 1/4 x 1/2 | 1/8 | 60,000 | 5/25 | A80-HBF3 | 61463622655 |
| | | | 60,000 | 5/25 | A120-HBF3 | 61463622656 |
| W176 | 3/8 x 1/2 | 1/8 | 45,370 | 5/25 | A80-HBF3 | 61463622654 |
| W185 | 1/2 x 1/2 | 1/8 | 34,500 | 5/25 | A80-HBF3 | 61463622649 |
| W187 | 1/2 x 1 | 1/8 | 20,620 | 5/25 | A80-HBF3 | 61463622651 |
| W220 | 1 x 1 | 1/4 | 25,500 | 5/25 | A80-HBF3 | 61463622646 |

† Spindle length is 1-1/2"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.



CENTER LAP ALUMINUM OXIDE - VITRIFIED BOND

FOR EXCELL-O CENTER LAP AND SIMILAR MACHINES

FEATURES & BENEFITS

- Specially formulated wheel treatment (#5 wood resin) adds lubricity to the wheel, minimizing risk of metallurgical damage
- Larger diameter spindle for minimum deflection, rigid support
- Precise dimensional tolerances ensure accurate location of part centers

TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **CENTER LAP**
 ABRASIVE: Aluminum Oxide

| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # |
|----------------------------------|--------------|----------------|-----------|----------------|---------|-------------|
| Center Lap Mounted Points | | | | | | |
| – | 1/2 x 2** | 1/2 | 65,000 | 5/25 | A80-VVM | 61463621421 |
| – | 1 x 2** | 1/2 | 15,900 | 5/25 | A80-VVM | 61463622926 |

† Spindle length is 1-1/4"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.

** Pointed 60°

TECH TIP

Dress the center lap mounted points frequently to ensure accurate and smooth center holes.



It is the user's responsibility to refer to and comply with ANSI B7.1

NORTON NORZON ZIRCONIA ALUMINA – RESIN BOND

BEST CHOICE FOR FAST STOCK REMOVAL

FEATURES & BENEFITS

- NZ (NorZon) zirconia alumina self-sharpening abrasive and durable organic bond provide 2X faster stock removal than competitive aluminum oxide products, while lasting 4X longer

NORTON CHARGER Z/A & A/O BLEND – RESIN BOND

BETTER CHOICE FOR FAST STOCK REMOVAL AND LONG LIFE

FEATURES & BENEFITS

- Zirconia alumina/aluminum oxide abrasive blend provides 35% faster cut rate than standard aluminum oxide mounted points
- An aggressive, free cut cleans more parts in less time to substantially increase productivity
- Specially formulated organic bond for 2X greater life than ordinary aluminum oxide mounted points, with reduced vibration and wheel chatter
- Charger mounted point pre-packed in small packages are ideal for vending machines, pegboards, small jobs, and carrying to job site

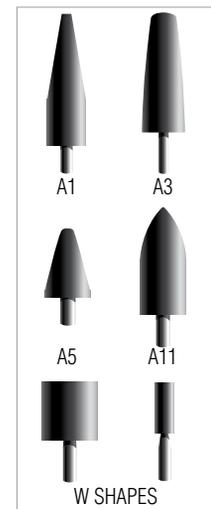
TIER: **BEST**
 BRAND: Norton
 TRADENAME: **NORZON**
 ABRASIVE: Zirconia Alumina

| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # | SPEC | PART # |
|----------------------------------|--------------|----------------|-----------|----------------|------------|-------------|---------|-------------|
| Resin Bond Mounted Points | | | | | | | | |
| A1 | 3/4 x 2-1/2 | 1/4 | 19,800 | 5/25 | NZ24-UBXR1 | 61463616457 | Charger | 61463616458 |
| A3 | 1 x 2-3/4 | 1/4 | 16,100 | 5/25 | NZ24-UBXR1 | 61463616459 | Charger | 61463616460 |
| | | | 16,100 | 2 V | | | Charger | 66253325924 |
| A5 | 3/4 x 1-1/8 | 1/4 | 45,000 | 5/25 | | | Charger | 61463616462 |
| | | | 45,000 | 5 V | | | Charger | 66253325926 |
| A11 | 7/8 x 2 | 1/4 | 19,860 | 5/25 | NZ24-UBXR1 | 61463616463 | Charger | 61463616464 |
| W189 | 1/2 x 2 | 1/4 | 24,000 | 5/25 | NZ24-UBXR1 | 61463616465 | Charger | 61463616466 |
| | | | 24,000 | 5 V | | | Charger | 66253325928 |
| W197 | 5/8 x 2 | 1/4 | 21,000 | 5/25 | NZ24-UBXR1 | 61463616467 | | |
| W207 | 3/4 x 1-1/2 | 1/4 | 24,000 | 5/25 | | | Charger | 61463616470 |
| W208 | 3/4 x 2 | 1/4 | 18,750 | 5/25 | NZ24-UBXR1 | 61463616471 | Charger | 61463616472 |
| W220 | 1 x 1 | 1/4 | 25,500 | 5/25 | NZ24-UBXR1 | 61463617520 | Charger | 61463617521 |
| | | | 25,500 | 5 V | | | Charger | 66253325930 |
| W221 | 1 x 1-1/2 | 1/4 | 19,120 | 5/25 | NZ24-UBXR1 | 61463616473 | Charger | 61463616474 |
| W222 | 1 x 2 | 1/4 | 15,900 | 5/25 | NZ24-UBXR1 | 61463616475 | Charger | 61463616476 |

† Spindle length is 1-1/2"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.

V = Vendible package. Ideal for vending machines and small jobs. Min. Pkg. Qty = number of mounted points per vendible pack. Order in multiples of min qty.



NORTON QUANTUM CERAMIC ALUMINA – VITRIFIED BOND

BEST CHOICE FOR HIGH VOLUME OPERATIONS



FEATURES

- Unique, engineered ceramic grain shape and chemistry with proven bond technology
- Oil and Gas 36 grit mounted points

BENEFITS

- Ideal for high-volume foundry operations – grinding Inconel and similar alloy turbine blade components
- Minimal loading and heat build-up
- 33% + longer life versus competitive ceramic products
- 30% + higher metal removal rates
- Versatile, optimized for all low-, medium- and high-force applications
- Exceptional productivity and life
- Specifically engineered to efficiently grind the carbide matrix material of oil field drill heads

NORTON GEMINI ALUMINUM OXIDE– VITRIFIED BOND

GOOD VALUE FOR GENERAL PURPOSE, SMALL JOB SHOP APPLICATIONS



FEATURES

- 38A abrasive
- Diverse shapes and sizes

BENEFITS

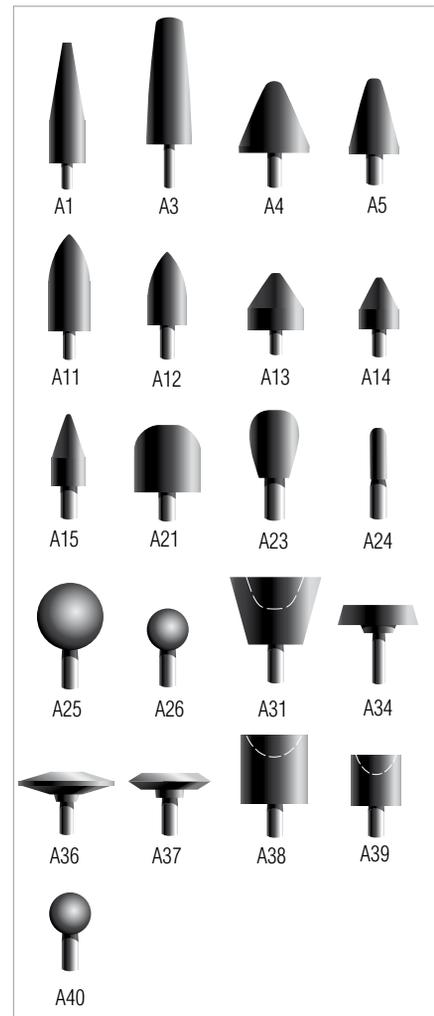
- Cool cutting, less burn
- Ideal when initial price is the main purchasing consideration

| | | |
|------------|-----------------|--------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | QUANTUM | GEMINI |
| ABRASIVE: | Ceramic Alumina | 38A Aluminum Oxide |

| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # | SPEC | PART # |
|---|---------------|----------------|-----------|----------------|--------------|-------------|---------|-------------|
| Vitrified Bond Mounted Points – A Shapes | | | | | | | | |
| A1 | 3/4 x 2-1/2 | 1/4 | 19,800 | 25/250 | Oil & Gas 36 | 61463686139 | | |
| A1 | 3/4 x 2-1/2 | 1/4 | 19,800 | 5/25 | 3NQ80 | 69083149139 | 38A36-T | 61463624374 |
| A1 | 3/4 x 2-1/2 | 1/4 | 19,800 | 5/25 | | | 38A60-P | 61463624375 |
| A3 | 1 x 2-3/4 | 1/4 | 16,100 | 25/250 | Oil & Gas 36 | 61463686138 | | |
| A3 | 1 x 2-3/4 | 1/4 | 16,100 | 5/25 | | | 38A36-T | 61463624377 |
| A3 | 1 x 2-3/4 | 1/4 | 16,100 | 5/25 | | | 38A60-P | 61463624378 |
| A4 | 1-1/4 x 1-1/4 | 1/4 | 30,560 | 5/25 | | | 38A60-P | 61463624380 |
| A5 | 3/4 x 1-1/8 | 1/4 | 45,000 | 5/25 | 3NQ80 | 69083149140 | 38A36-T | 61463624381 |
| A5 | 3/4 x 1-1/8 | 1/4 | 45,000 | 5/25 | | | 38A60-P | 61463624382 |
| A11 | 7/8 x 2 | 1/4 | 19,860 | 5/25 | 3NQ80 | 69083149141 | 38A36-T | 61463624384 |
| A11 | 7/8 x 2 | 1/4 | 19,860 | 5/25 | | | 38A60-P | 61463624385 |
| A12 | 11/16 x 1-1/4 | 1/4 | 48,000 | 5/25 | 3NQ60 | 61463677679 | 38A60-P | 61463624388 |
| A13 | 1-1/8 x 1-1/8 | 1/4 | 33,950 | 5/25 | | | 38A60-P | 61463624389 |
| A14 | 11/16 x 7/8 | 1/4 | 55,560 | 5/25 | | | 38A60-P | 61463624390 |
| A15 | 1/4 x 1-1/16 | 1/4 | 72,750 | 5/25 | | | 38A60-P | 61463624391 |
| A21 | 1 x 1 | 1/4 | 34,500 | 5/25 | 3NQ80 | 69083149144 | 38A60-P | 61463624392 |
| A23 | 3/4 x 1 | 1/4 | 39,370 | 5/25 | 3NQ80 | 69083149143 | 38A60-P | 61463624394 |
| A24 | 1/4 x 3/4 | 1/4 | 76,500 | 5/25 | | | 38A60-P | 61463624395 |
| A25 | 1" Ball | 1/4 | 35,620 | 5/25 | 3NQ80 | 61463677680 | 38A60-P | 61463624396 |
| A26 | 5/8" Ball | 1/4 | 61,120 | 5/25 | 3NQ80 | 69083149145 | 38A60-P | 61463624397 |
| A31 | 1-3/8 x 1 | 1/4 | 27,780 | 5/25 | | | 38A60-P | 61463624399 |
| A34 | 1-1/2 x 3/8 | 1/4 | 25,470 | 5/25 | | | 38A60-P | 61463624402 |
| A36 | 1-5/8 x 3/8 | 1/4 | 23,520 | 25/250 | Oil & Gas 36 | 66253145562 | | |
| A36 | 1-5/8 x 3/8 | 1/4 | 23,520 | 5/25 | 3NQ80 | 69083149146 | 38A60-P | 61463624404 |
| A37 | 1-1/4 x 1/4 | 1/4 | 30,560 | 5/25 | | | 38A60-P | 61463624405 |
| A38 | 1 x 1 | 1/4 | 34,500 | 5/25 | 3NQ80 | 61463677682 | 38A60-P | 61463624406 |
| A39 | 3/4 x 3/4 | 1/4 | 47,250 | 5/25 | 3NQ80 | 69083149147 | 38A60-P | 61463624407 |
| A40 | 3/4" Ball | 1/4 | 47,250 | 5/25 | | | 38A60-P | 61463624408 |

† Standard spindle size is 1/4" x 1-1/2"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.

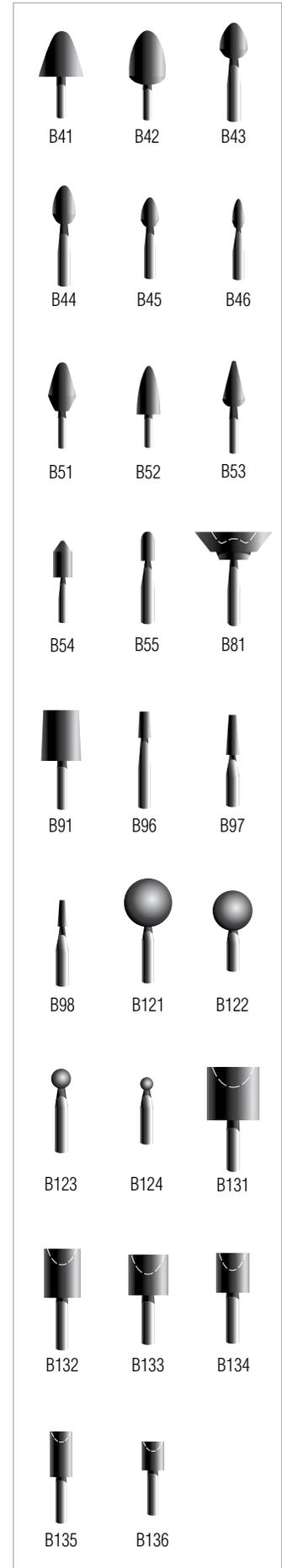


| | | |
|------------|-----------------|--------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | QUANTUM | GEMINI |
| ABRASIVE: | Ceramic Alumina | 38A Aluminum Oxide |

| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # | SPEC | PART # |
|---|--------------|----------------|-----------|----------------|-------|-------------|---------|-------------|
| Vitrified Bond Mounted Points – B Shapes | | | | | | | | |
| B41 | 5/8 x 5/8 | 1/8 | 33,570 | 5/25 | | | 38A60-P | 61463624410 |
| B42 | 1/2 x 3/4 | 1/8 | 33,570 | 5/25 | 3NQ80 | 69083149045 | 38A60-P | 61463624412 |
| B43 | 1/4 x 5/16 | 1/8 | 81,370 | 5/25 | | | 38A60-P | 61463624413 |
| B44 | 7/32 x 3/8 | 1/8 | 68,400 | 5/25 | | | 38A60-P | 61463624414 |
| B45 | 3/16 x 5/16 | 1/8 | 104,250 | 5/25 | | | 38A60-P | 61463624415 |
| B46 | 1/8 x 5/16 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624416 |
| B51 | 7/16 x 3/4 | 1/8 | 45,370 | 5/25 | | | 38A60-P | 61463624418 |
| B52 | 3/8 x 3/4 | 1/8 | 45,370 | 5/25 | 3NQ80 | 69083149046 | 38A60-P | 61463624420 |
| B52 | 3/8 x 3/4 | 1/4 | 81,000 | 5/25 | | | 38A60-P | 61463624419 |
| B52 | 3/8 x 3/4 | 1/8 | 45,370 | 5/25 | | | 38A90-Q | 61463624422 |
| B53 | 5/16 x 5/8 | 1/8 | 60,000 | 5/25 | | | 38A60-P | 61463624423 |
| B54 | 1/4 x 1/2 | 1/8 | 60,000 | 5/25 | | | 38A60-P | 61463624424 |
| B55 | 1/8 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624425 |
| B81 | 3/4 x 3/16 | 1/8 | 50,930 | 5/25 | | | 38A60-P | 61463624437 |
| B91 | 1/2 x 5/8 | 1/8 | 34,500 | 5/25 | | | 38A60-P | 61463624443 |
| B96 | 1/8 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624448 |
| B96 | 1/8 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A90-Q | 61463624449 |
| B97 | 1/8 x 3/8 | 1/8 | 105,000 | 5/25 | 3NQ80 | 69083149048 | 38A60-P | 61463624451 |
| B98 | 3/32 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624452 |
| B121 | 1/2" Ball | 1/8 | 45,370 | 5/25 | | | 38A60-P | 61463624466 |
| B122 | 3/8" Ball | 1/8 | 61,650 | 5/25 | 3NQ80 | 69083149050 | 38A60-P | 61463624470 |
| B122 | 3/8" Ball | 1/8 | 61,650 | 5/25 | | | 38A90-Q | 61463624471 |
| B123 | 3/16" Ball | 1/8 | 104,250 | 5/25 | | | 38A60-P | 61463624472 |
| B124 | 1/8" Ball | 1/8 | 105,000 | 5/25 | | | 38A90-Q | 61463624474 |
| B131 | 1/2 x 1/2 | 1/8 | 34,500 | 5/25 | 3NQ80 | 69083149049 | 38A60-P | 61463624475 |
| B132 | 3/8 x 1/2 | 1/8 | 45,370 | 5/25 | | | 38A60-P | 61463624479 |
| B133 | 3/8 x 3/8 | 1/8 | 54,000 | 5/25 | | | 38A60-P | 61463624481 |
| B134 | 5/16 x 3/8 | 1/8 | 61,650 | 5/25 | | | 38A60-P | 61463624482 |
| B135 | 1/4 x 1/2 | 1/8 | 60,000 | 5/25 | | | 38A60-P | 61463624484 |
| B136 | 1/4 x 5/16 | 1/8 | 77,250 | 5/25 | | | 38A60-P | 61463624485 |

† Spindle size is 1/8" or 1/4" x 1-1/2"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.



TECH TIP

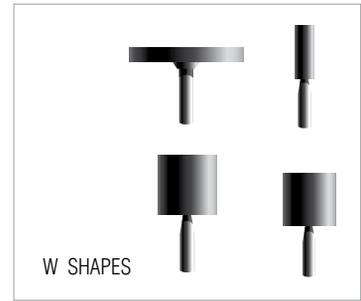
- For best mounted point performance, always run the mounted point at the maximum allowable speed according to ANSI B7.1. Refer to the speed chart included in each shipment for proper operating speeds.
- Use "A" shapes for medium- to heavy-duty blending.
- Use "B" shapes for light deburring and finishing/polishing.
- Use "W" shapes for offhand and precision grinding of medium to heavy stock.
- Use 36 grit and coarser for rough grinding.
- Use 60 and 90 grits for imparting fine finishes or when grinding on narrow surfaces.



It is the user's responsibility to refer to and comply with ANSI B7.1



| | | |
|------------|-----------------|--------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | QUANTUM | GEMINI |
| ABRASIVE: | Ceramic Alumina | 38A Aluminum Oxide |



| SHAPE | SIZE (D x T) | SPINDLE DIA. † | MAX. RPM* | MIN./STD. PKG. | SPEC | PART # | SPEC | PART # |
|---|---------------|----------------|-----------|----------------|--------------|-------------|---------|-------------|
| Vitrified Bond Mounted Points – W Shapes | | | | | | | | |
| W144 | 1/8 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624488 |
| W145 | 1/8 x 3/8 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624489 |
| W146 | 1/8 x 1/2 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624491 |
| W152 | 3/16 x 1/4 | 1/8 | 105,000 | 5/25 | | | 38A60-P | 61463624495 |
| W153 | 3/16 x 3/8 | 1/8 | 80,850 | 5/25 | | | 38A60-P | 61463624496 |
| W154 | 3/16 x 1/2 | 1/8 | 70,500 | 5/25 | 3NQ80 | 69083149133 | 38A60-P | 61463624497 |
| W160 | 1/4 x 1/4 | 1/8 | 81,370 | 5/25 | | | 38A60-P | 61463624501 |
| W162 | 1/4 x 3/8 | 1/8 | 64,800 | 5/25 | | | 38A60-P | 61463624503 |
| W163 | 1/4 x 1/2 | 1/8 | 60,000 | 5/25 | | | 38A60-P | 61463624504 |
| W164 | 1/4 x 3/4 | 1/8 | 45,900 | 5/25 | 3NQ80 | 69083149135 | 38A60-P | 61463624505 |
| W170 | 5/16 x 1/2 | 1/8 | 52,500 | 5/25 | | | 38A60-P | 61463624511 |
| W175 | 3/8 x 3/8 | 1/8 | 54,000 | 5/25 | | | 38A60-P | 61463624516 |
| W176 | 3/8 x 1/2 | 1/8 | 45,370 | 5/25 | | | 38A60-P | 61463624517 |
| W177 | 3/8 x 3/4 | 1/8 | 33,750 | 5/25 | | | 38A60-P | 61463624518 |
| W179 | 3/8 x 1-1/4 | 1/4 | 20,415 | 25/250 | Oil & Gas 36 | 69083154055 | | |
| W185 | 1/2 x 1/2 | 1/8 | 34,500 | 5/25 | 3NQ80 | 69083149137 | 38A60-P | 61463624525 |
| W185 | 1/2 x 1/2 | 1/4 | 61,500 | 5/25 | | | 38A60-P | 61463624526 |
| W186 | 1/2 X 3/4 | 1/4 | 51,000 | 5/25 | | | 38A60-P | 61463624528 |
| W188 | 1/2 x 1-1/2 | 1/4 | 30,370 | 5/25 | | | 38A60-P | 61463624530 |
| W189 | 1/2 x 2 | 1/4 | 24,000 | 25/250 | Oil & Gas 36 | 61463686137 | | |
| W189 | 1/2 x 2 | 1/4 | 24,000 | 5/25 | 3NQ80 | 61463677683 | 38A60-P | 61463624531 |
| W196 | 5/8 x 1 | 1/4 | 35,250 | 5/25 | | | 38A60-P | 61463624539 |
| W200 | 3/4 x 1/8 | 1/8 | 50,930 | 5/25 | | | 38A60-P | 61463624543 |
| W200 | 3/4 x 1/8 | 1/8 | 50,930 | 5/25 | | | 38A90-Q | 61463624544 |
| W204 | 3/4 x 3/4 | 1/4 | 42,750 | 5/25 | | | 38A60-P | 61463624549 |
| W205 | 3/4 x 1 | 1/4 | 34,500 | 5/25 | | | 38A60-P | 61463624550 |
| W208 | 3/4 x 2 | 1/4 | 18,750 | 5/25 | 3NQ80 | 61463677684 | 38A60-P | 61463624553 |
| W215 | 1 x 1/8 | 1/8 | 38,200 | 5/25 | 3NQ80 | 69083149138 | 38A60-P | 61463624560 |
| W216 | 1 x 1/4 | 1/4 | 38,200 | 5/25 | | | 38A60-P | 61463624562 |
| W218 | 1 x 1/2 | 1/4 | 38,200 | 25/250 | Oil & Gas 36 | 69083154061 | | |
| W218 | 1 x 1/2 | 1/4 | 38,200 | 5/25 | | | 38A60-P | 61463624564 |
| W220 | 1 x 1 | 1/4 | 25,500 | 5/25 | 3NQ80 | 61463677685 | 38A60-P | 61463624566 |
| W221 | 1 x 1-1/2 | 1/4 | 19,120 | 5/25 | | | 38A60-P | 61463624567 |
| W222 | 1 x 2 | 1/4 | 15,900 | 5/25 | | | 38A60-P | 61463624569 |
| W230 | 1-1/4 x 1-1/4 | 1/4 | 20,400 | 5/25 | | | 38A60-P | 61463624578 |
| W235 | 1-1/2 x 1/4 | 1/4 | 25,470 | 5/25 | | | 38A60-P | 61463624583 |
| W236 | 1-1/2 x 1/2 | 1/4 | 25,470 | 5/25 | 3NQ80 | 61463677686 | 38A60-P | 61463624585 |
| W237 | 1-1/2 x 1 | 1/4 | 22,500 | 5/25 | | | 38A60-P | 61463624587 |
| W238 | 1-1/2 x 1-1/2 | 1/4 | 15,600 | 5/25 | | | 38A60-P | 61463624588 |
| W242 | 2 x 1 | 1/4 | 19,100 | 5/25 | 3NQ80 | 69083149148 | 38A60-P | 61463624592 |

† Spindle size is 1/8" or 1/4" x 1-1/2"

* Maximum RPM valid to 1/2" overhang. See package insert for other overhangs.



50-Piece Mounted Point Kits

- Each kit contains 5 each of 10 of our best selling mounted point shapes and specifications
- The 1/4" spindle kits contain "A"-shaped points that are ideal for general maintenance and metalworking applications
- The 1/8" spindle kits contain "B"-shaped points for light deburring machine parts or finishing/polishing dies
- The "W"-shaped points in all of these kits work well for precision grinding of medium to heavy stock

| | | |
|-------------|----------------|---------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADE NAME: | QUANTUM | GEMINI |

| SHAPE | SPINDLE DIA. † | MIN./STD. PKG. | PART # | PART # |
|---------------------------|----------------|----------------|---|-------------|
| Mounted Point Kits | | | | |
| Assorted | 1/4 | 1 | 50 piece Premium Norton Quantum 1/4" Spindle Mounted Point Kit contains 5 each of Norton Quantum A1, A5, A11, A21, A23, A26, A36, A39, W242, and A80-HBF3 W220 | 69083147810 |
| Assorted | 1/8 | 1 | 50 piece Premium Norton Quantum 1/8" Spindle Mounted Point Kit contains 5 each of Norton Quantum B42, B52, B97, B122, B131, W154, W164, W185, W215, and A80-HBF3 W163 | 69083147806 |
| Assorted | 1/4 | 1 | 50 piece Norton Gemini 1/4" Spindle Mounted Point Kit contains 5 each of 38A60-P A1, A5, A11, A21, A23, A26, A36, A39, W242, and A80-HBF3 W220 | 69083147789 |
| Assorted | 1/8 | 1 | 50 piece Norton Gemini 1/8" Spindle Mounted Point Kit contains 5 each of 38A60-P B42, B52, B97, B122, B131, W154, W164, W185, W215, and A80-HBF3 W163 | 69083147669 |

† Spindle size is 1/8" or 1/4" x 1-1/2"



Since 1823, Norton stones have lead the marketplace with conventional and diamond benchstones, waterstones, sharpening systems, files, slips and specialty stones for industrial, commercial and DIY sharpening applications. Our comprehensive line of sharpening and finishing products is the industry's broadest line with premier performance and quality.

Applications:
Grit Range:
Abrasive Types:
Machine Used:

Deburring, dimensioning, sharpening, honing
Coarse, Medium, Fine, Extra Fine, Ultra Fine
Aluminum Oxide (India), Silicon Carbide (Crystolon), Arkansas (Soft and Hard Translucent), and Diamond



APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

Benchstones

| | Coarse/Medium Sharpening | Fine Stoning | Finish Honing |
|----------------|--|--|---|
| Chip Breakers | – | Fine Crystolon Benchstone | – |
| Draw Knives | Coarse Crystolon Benchstone | Fine India Benchstone | Hard Arkansas Benchstone |
| Scrapers | Coarse Crystolon Benchstone | Fine India Benchstone | Hard Arkansas Benchstone |
| Chisels (Wood) | Coarse Crystolon Benchstone 1000 Waterstone | Fine India Benchstone 4000 Waterstone | Hard Arkansas Benchstone 8000 Waterstone |
| Plane Blades | Coarse Crystolon Benchstone 1000 Waterstone | Fine India Benchstone 4000 Waterstone | Hard Arkansas Benchstone 8000 Waterstone |

Slips

| | Coarse/Medium Sharpening | Fine Stoning |
|-----------------------|------------------------------|---------------------------------------|
| Milling Cutter | Medium India Round Edge Slip | Fine India Round Edge Slip |
| Carbide Tools | | Fine Crystolon Slip for Carbide Tools |

Abrasive Files

| | Coarse/Medium Sharpening | Fine Stoning | Finish Honing |
|------------------|------------------------------------|------------------------------------|-------------------------------|
| Form Cutter | Coarse or Medium India Knife Blade | Fine India Knife Blade | – |
| Keyways | Coarse or Medium India Square File | Fine India Square File | – |
| Lathe Bits | Medium India Square File | Fine India Square File | – |
| Radius Tools | Medium India Round File | Fine India Round File | – |
| Reamers | Medium India Reamer Stone | Fine India Reamer Stone | – |
| Router Bits | – | Fine India Square File | – |
| Saws | Coarse India Triangular File | Fine India Tapered Triangular File | – |
| Center Punches | Medium India Triangular File | Fine India Triangular File | – |
| Magnetic Chucks | Medium Crystolon Round File | Fine India Round File | – |
| Molding Cutters* | Coarse or Medium India File | Fine India File | – |
| Countersinks | Coarse India Triangular File | Fine India Triangular File | Hard Arkansas Triangular File |
| Tap Threads | – | Fine India Triangular File | – |

* Select shape to fit configuration

Relative Sharpening Comparisons for Norton Products

| Crystolon (Silicon Carbide); India (Aluminum Oxide) | Arkansas (Soft, Hard Translucent) | Diamond Stones | Waterstones | Coated Abrasives (Waterproof Sandpaper) | | Diamond Compound |
|---|-----------------------------------|----------------------------|-------------|---|------------|------------------|
| | | | | JIS (Japan) | CAMI (USA) | FEP (Europe) |
| Coarse Crystolon | | | | | P100 | 141 |
| | | | | | P120 | 127 |
| Coarse India | | | | 120 | | 116 |
| | | | | | P150 | 97 |
| Medium Crystolon | | | | 150 | | 93 |
| | | | | 180 | P180 | 78 |
| | | Extra Coarse Diamond (220) | Norton 220 | | P220 | 65 |
| | | | | 220 | | 60 |
| | | | | | P240 | 58 |
| Medium India | | | | 240 | | 53.5 |
| | | | | | P280 | 52.5 |
| | | | | | P320 | 50 |
| Fine Crystolon | | | | | | 46 |
| | | | | | | 45 |
| | | Coarse Diamond (325) | | 280 | | 43 |
| | | | | | P360 | 40.5 |
| | | | 360 | 320 | | 36 |
| Fine India | | | | | P400 | 35 |
| | | | | 360 | | 29 |
| | | | | | P600 | 25.8 |
| | | | | 400 | | 23 |
| | Soft Arkansas | Fine Diamond (600) | 600 | | P800 | 22 |
| | | | | | | 20 |
| | | | 800 | 600 | P1200 | 16 |
| | | | Norton 1000 | 700 | | 14 |
| | | | | 800 | P1500 | 12.6 |
| | | | 1200 | | | 11 |
| | | | | | P2000 | 10.3 |
| | | | 1500 | 1000 | | 9.2 |
| | | | | | | 9 |
| | | | | 1500 | P2500 | 8.4 |
| | | | | | | 7.5 |
| | Hard Translucent Arkansas | | Norton 4000 | 2000 | | 6 |
| | | | | | | 5 |
| | | | Norton 8000 | | | 3 |
| | | | | | | 1.2 |
| | | | | | | 1 |
| | | | 15000 | | | 0.5 |

Benchstones

PRECISION BENCHSTONES

BETTER CHOICE FOR SHARPENING TOOLS AND KNIVES

FEATURES AND APPLICATIONS

- Jewelers' Benchstones – These stones are excellent for sharpening the fine, precision cutting tools used by jewelers, engravers and artisans.
- Penknife Precision Benchstones – Ideal for sharpening cutting tools, laboratory blades, surgical instruments, engravers' and die makers' tools, and pocket knives to the keenest edge.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|--|-----------|-------------|
| Precision Benchstones – Jewelers' | | | | |
| 4 x 2 x 3/8 | 5 | Ultra Fine – Hard Translucent Arkansas | HB24 | 61463687525 |
| 6 x 2 x 3/8 | 5 | Ultra Fine – Hard Translucent Arkansas | HB26 | 61463687530 |
| <i>Jewelers' stones are packed in individual boxes within a case. Order in multiples of stones/case.</i> | | | | |
| Precision Benchstones – Penknife | | | | |
| 3 x 1 x 3/8 | 5 | Extra Fine – Soft Arkansas | SB13 | 61463687560 |
| | | Ultra Fine – Hard Translucent Arkansas | HB13 | 61463687550 |
| 4 x 1 x 3/8 | 5 | Extra Fine – Soft Arkansas | SB14 | 61463687565 |
| | | Ultra Fine – Hard Translucent Arkansas | HB14 | 61463687555 |

Benchstones *continued*

SINGLE GRIT ABRASIVE BENCHSTONES

BETTER CHOICE FOR EDGE SHAPING AND HONING



FEATURES

- Crystolon – Premium silicon carbide abrasive
- India – Smooth cutting aluminum oxide abrasive; our best product for a fine finish
- Arkansas – Natural premium Novaculite quarried in Arkansas and available in Soft or Hard Translucent

BENEFITS

- Fast cutting stone; ideal for general sharpening of cutting tools
- Fast stock removal for quick edge shaping with minimal loading
- Long lasting cutting edge
- The choice of artisans, craftsmen and mechanics
- Ideal for clean deburring, generating keen edges and quality finishes
- Sharpest possible razor edges
- Near mirror finishes
- Use for finer honing after India stone

TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|--------------|
| Single Grit Benchstones – Crystolon (Silicon Carbide) | | | | |
| 4 x 1 x 1/4 | 5 | Coarse | CJB14 | 61463685470 |
| | 5 | Medium | MJB14 | 61463685465 |
| | 5 | Fine | FJB14 | 61463685460 |
| | 5 V | Fine | FJB14-V | 66253325915+ |
| 4 x 1 x 1/2 | 5 | Coarse | CJB24 | 61463685485 |
| | 5 | Medium | MJB24 | 61463685480 |
| | 5 | Fine | FJB24 | 61463685475 |
| 5 x 2 x 5/8 | 5 | Medium | MJB35 | 61463685495 |
| | 5 | Fine | FJB35 | 61463685490 |
| 6 x 2 x 1 | 5 | Coarse | CJB6 | 61463685510 |
| | 5 | Medium | MJB6 | 61463685505 |
| | 5 | Fine | FJB6 | 61463685500 |
| 8 x 2 x 1 | 5 | Coarse | CJB8 | 61463685525 |
| | 5 | Medium | MJB8 | 61463685520 |
| | 5 | Fine | FJB8 | 61463685515 |
| 8 x 3 x 1/2 | 5 | Coarse | CJB83 | 61463654459* |
| | 5 | Medium | MJB83 | 61463654458* |
| | 5 | Fine | FJB83 | 61463654457* |
| 11-1/2 x 2-1/2 x 1/2 | 1 | Coarse | JM3 | 61463685980# |
| | 1 | Medium | JM6 | 61463685975# |
| Single Grit Benchstones – Soft Arkansas | | | | |
| 4 x 2 x 3/4-1 | 5 | Extra Fine | SB4 | 61463685670 |
| 6 x 2 x 3/4-1 | 5 | Extra Fine | SB6 | 61463685675 |
| 8 x 2 x 3/4-1 | 5 | Extra Fine | SB8 | 61463685680 |

V = Vendible Package. Ideal for vending machines, small jobs, and carrying to job site. Pre-packed in sturdy boxes of 5 per pack. Order by total number of stones needed in multiples of 5.

* May be used as replacement stone for IM-83 Sharpening System.

May be used as replacement stone for IM-313 Sharpening Stone System.

These benchstones (except for 8 x 3 x 1/2 and vendibles) are packed in individual boxes within a case. Order in multiples of stones/case.

TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|--------------|
| Single Grit Benchstones – India (Aluminum Oxide) | | | | |
| 4 x 1 x 1/4 | 5 | Coarse | CB14 | 61463685580 |
| | 5 | Medium | MB14 | 61463685575 |
| | 5 | Fine | FB14 | 61463685570 |
| | 5 V | Fine | FB14-V | 66253325919 |
| 4 x 1 x 1/2 | 5 | Coarse | CB24 | 61463685595 |
| | 5 | Medium | MB24 | 61463685590 |
| | 5 | Fine | FB24 | 61463685585 |
| 5 x 2 x 5/8 | 5 | Medium | MB35 | 61463685605 |
| | 5 | Fine | FB35 | 61463685600 |
| 6 x 2 x 1 | 5 | Coarse | CB6 | 61463685620 |
| | 5 | Medium | MB6 | 61463685615 |
| | 5 | Fine | FB6 | 61463685610 |
| 8 x 2 x 1 | 5 | Coarse | CB8 | 61463685635 |
| | 5 | Medium | MB8 | 61463685630 |
| | 5 | Fine | FB8 | 61463685625 |
| 8 x 3 x 1/2 | 5 | Coarse | CB83 | 61463654462* |
| | 5 | Medium | MB83 | 61463654461* |
| | 5 | Fine | FB83 | 61463654460* |
| 11-1/2 x 2-1/2 x 1/2 | 1 | Medium | IM6 | 61463654214# |
| | 1 | Fine | IM9 | 61463685970# |
| Single Grit Benchstones – Hard Translucent Arkansas | | | | |
| 4 x 2 x 3/4-1 | 5 | Ultra Fine | HB4 | 61463685655 |
| 6 x 2 x 3/4-1 | 5 | Ultra Fine | HB6 | 61463685660 |
| 8 x 2 x 3/4-1 | 5 | Ultra Fine | HB8 | 61463685665 |
| 8 x 3 x 1/2 | 5 | Ultra Fine | HTB83 | 61463654464* |
| 11-1/2 x 2-1/2 x 1/2 | 1 | Ultra Fine | HM11 | 61463685965# |

Benchstones *continued*

COMBINATION GRIT ABRASIVE BENCHSTONES

BETTER CHOICE FOR ECONOMICAL SOLUTION FOR GENERAL SHARPENING AND FINISHING WITH ONE STONE

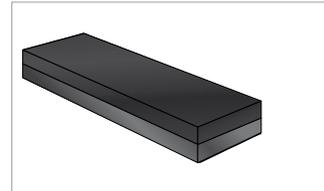
FEATURES AND APPLICATIONS

- **Crystolon Combination**
Coarse and fine grit sharp-cutting silicon carbide abrasive surfaces for general sharpening (to moderate tolerances) when the speed of sharpening is more important than the fineness of the cutting edges. Gray in color.
- **India Combination**
Coarse and fine grit aluminum oxide abrasive surfaces produce strong, keen, long-lasting edges on quality tools. Orange/brown in color.
- **Crystolon/India Combination**
Fast-sharpening, medium grit silicon carbide (Crystolon) and fine aluminum oxide (India) abrasive surfaces for keen, long-lasting edges on quality tools. Crystolon side is dark gray in color, India side is orange.
- **Giant Combination Stones**
11-1/2" and 12" bench oil stones are used to sharpen large edge tools with long sweeping strokes.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|----------------------------------|-----------|-------------|
| Combination Grit Benchstones – Crystolon (Silicon Carbide) | | | | |
| 4 x 1 Round | 5 | Coarse/Fine | JB64 | 61463685435 |
| 4 x 1-3/4 x 5/8 | 5 | Coarse/Fine | JB134 | 61463685440 |
| 5 x 2 x 3/4 | 5 | Coarse/Fine | JB45 | 61463685445 |
| 6 x 2 x 1 | 5 | Coarse/Fine with Anniversary Box | JB6 | 61463685450 |
| 8 x 2 x 1 | 5 | Coarse/Fine with Anniversary Box | JB8 | 61463685455 |
| 11-1/2 x 2-1/2 x 1 | 2 | Coarse/Fine | JUM3 | 61463685840 |
| 12 x 2-1/2 x 1-1/2 | 2 | Coarse/Fine | JUM4 | 61463685855 |
| Combination Grit Benchstones – India (Aluminum Oxide) | | | | |
| 4 x 1 Round | 5 | Coarse/Fine | IB64 | 61463685545 |
| 4 x 1-3/4 x 5/8 | 5 | Coarse/Fine | IB134 | 61463685550 |
| 5 x 2 x 3/4 | 5 | Coarse/Fine | IB45 | 61463685555 |
| 6 x 2 x 1 | 5 | Coarse/Fine with Anniversary Box | IB6 | 61463685560 |
| 8 x 2 x 1 | 5 | Coarse/Fine with Anniversary Box | IB8 | 61463685565 |
| 11-1/2 x 2-1/2 x 1 | 2 | Coarse/Fine | IM2 | 61463685851 |
| Combination Grit Benchstones – Crystolon/India | | | | |
| 6 x 2 x 1 | 5 | Medium/Fine | IC6 | 61463685643 |
| 11-1/2 x 2 x 1 | 2 | Medium/Fine | IC11 | 61463687239 |
| Oil Stone Instructional DVD | | | | |
| N/A | 1 | Oil Stone DVD | | 07660787945 |



These benchstones are packed in individual boxes within a case. Order in multiples of stones/case.

APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| | FAST CUT STOCK REMOVAL | INITIAL SHARPENING | FINAL SHARPENING | HONING | SHARPEST EDGE |
|---------------|------------------------|--------------------|------------------|---------------|---------------|
| Grit Size | Coarse | Medium | Fine | Extra Fine | Ultra Fine |
| Abrasive | Crystolon | Crystolon | India | Soft Arkansas | Hard Arkansas |
| Product/Color | Grey | Grey | Orange | Milky White | Translucent |



Instructional DVD Offering

| | |
|-------------|-------------|
| Waterstone: | 07660787944 |
| Oil Stone: | 07660787945 |

Ideal for sales training and end-user self-study. Learn to efficiently use these sharpening products to maintain tools at peak performance and prolong their life – to make all your sharpening, honing, etc. applications easier.

Waterstones

Waterstones are synthetic stones designed to be softer than oil stones. These softer grade stones are used with water as the lubricant (versus oil) to develop a fast cutting slurry. The Norton Waterstone system was designed in a carefully planned sequence to create sharpening efficiency. You get the level of abrasiveness you need at each stage, without wasting time trying to sharpen your tools on a grit that is too fine, too soon.

WATERSTONES

BETTER CHOICE FOR PRODUCING SUPERIOR EDGES ON PLANES AND STRAIGHT CHISELS

FEATURES

- System of four synthetic “Japanese-type” stones designed to work together, with water
- Softer than traditional oilstones – providing lapping action
- Color-coded by grit

BENEFITS

- Fast sharpening, fine finish
- Superb results with low pressure
- Easy to differentiate grit size

PREP STONE

BETTER CHOICE FOR RAISING SLURRY

FEATURES

- This synthetic stone raises the slurry

BENEFITS

- Speeds up the slurry-making process needed to cut and polish with waterstones

FLATTENING STONE

BETTER CHOICE FOR PRODUCING FLAT SURFACES ON WATERSTONES

FEATURES

- Coarse grit silicon carbide stone
- Diagonal grooves
- Superbly flat with hard bond

BENEFITS

- Promotes maximum cutting for all grit sizes of waterstones
- Provide swarf removal
- Produces extremely flat results on all waterstones

| SIZE (L x W x H) | QTY./CASE | SPEC. | TIER: BETTER | PART # |
|---------------------------------------|-----------|---|---------------------|-------------|
| Waterstones – Single Grit | | | | |
| 8 x 3 x 1 | 5 | 220 | | 61463689505 |
| | 5 | 1000 | | 61463689506 |
| | 5 | 4000 | | 61463689507 |
| | 5 | 8000 | | 61463689508 |
| Set | 1 | 4 Stones: 220, 1000, 4000, 8000 Grit | | 61463624334 |
| Waterstones – Combination Grit | | | | |
| 8 x 3 x 1 | 5 | 220 / 1000 | | 61463624335 |
| | 5 | 1000 / 4000 | | 61463624450 |
| | 5 | 1000 / 8000 | | 69936655039 |
| | 5 | 4000 / 8000 | | 61463624336 |
| Prep Stone | | | | |
| 20mm x 20mm x 3" | 5 | Aluminum Oxide | | 66243439361 |
| Flattening Stone | | | | |
| 9 x 3 x 3/4 | 5 | Silicon Carbide | | 69936687444 |
| Waterstone Kit | | | | |
| N/A | 1 | Kit includes: 1-220/1000 and 1-4000/8000 waterstone, 1 flattening stone and 1 instructional DVD | | 07660787943 |
| Waterstone Instructional DVD | | | | |
| N/A | 1 | Waterstone DVD | | 07660787944 |

Waterstones are packed in individual boxes within a case. Order in multiples of stones/case.

TECH TIP

Maximizing Waterstone Performance

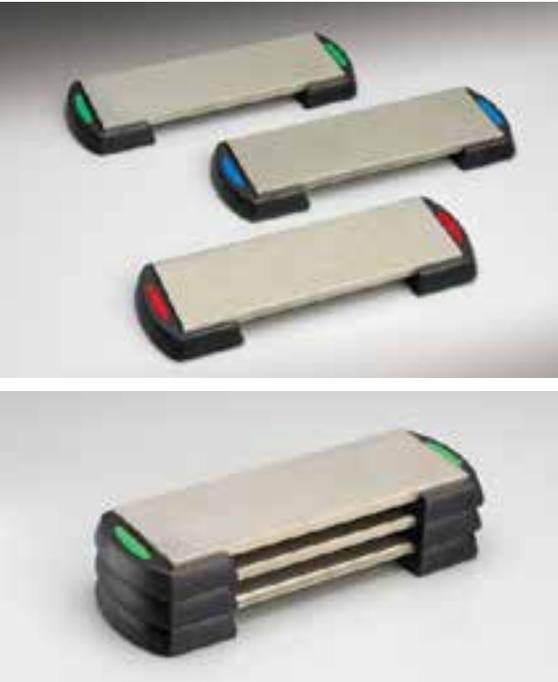
- Wet waterstone
- Rub evenly with the prep stone to create slurry
- Evening off the high spots will make for less-frequent flattening of the waterstones
- Waterstones wear concave with use; periodically flatten with flattening stone

Diamond Benchstones

Made in the USA, these benchstones have unique stackable non-skid rubber feet designed to keep the diamond plate steady while you sharpen, and efficiently stacked for space-saving storage when not in use. Our simple grit-size color-coding makes them easy to differentiate.

STACKABLE DIAMOND BENCHSTONES

BETTER CHOICE FOR PRODUCING SUPERIOR EDGES ON PLANES AND STRAIGHT CHISELS



FEATURES

- Made in the USA
- Flat, diamond surface plated onto a nickel-coated steel bar precision ground to a tolerance of .001"
- Even diamond distribution; continuous diamond sharpening surface
- Available in 3 grit sizes: 220 (red), 325 (blue), 600 (green), and 2 sizes: 6" and 8"
- Color-coded tabs on stones and packaging
- Stackable; the stones firmly stack on top of each other
- Non-skid rubber base

BENEFITS

- Quality industrial diamonds and workmanship
- Fast, even blade and tool edge sharpening
- Easily lubricated with water, but oil may be used
- Excellent sharpening performance across entire surface of stone
- Quicker sharpening than conventional interrupted-surface diamond stones
- Pointed tools will not snag, as on interrupted-surface diamond stones
- Ideal for all your large and small tool sharpening and finishing needs
- Easy identification of grit sizes for use and displaying
- Easy, small-profile storage
- Stays in place while sharpening for smoother, efficient sharpening

TIER: **BETTER**

| SIZE WITH RUBBER FEET (L x W x H) | QTY./CASE | SPEC. | PART # |
|--------------------------------------|-----------|-------|-------------|
| Stackable Diamond Benchstones | | | |
| 6 x 2 x 1/4* | 5 | D220 | 66253268082 |
| 6 x 2 x 1/4* | 5 | D325 | 66253268081 |
| 6 x 2 x 1/4* | 5 | D600 | 66253268080 |
| 8 x 2 x 1/4 | 5 | D220 | 66253268087 |
| 8 x 2 x 1/4 | 5 | D325 | 66253268086 |
| 8 x 2 x 1/4 | 5 | D600 | 66253268083 |

Diamond benchstones are packed in individual boxes within a case. Order in multiples of stones/case.



6" stones come retail packaged

Sharpening Stone Oil

SHARPENING STONE OIL

BETTER CHOICE FOR IMPROVING SHARPENING STONE PERFORMANCE



FEATURES

- Norton oil is a highly refined lubricating oil
- Meets U.S. Pharmacopoeia standards for mineral oil purity

BENEFITS

- Specifically formulated for sharpening stone use
- Equally ideal for all lubricating jobs
- It will not load or "gum-up" sharpening stones
- May be used around food preparation operations

TIER: **BETTER**

| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
|-----------------------------|-----------|-------|-----------|-------------|
| Sharpening Stone Oil | | | | |
| 4-1/2 oz. | 20 | Oil | XB1 | 61463687760 |
| 1 Pint | 20 | Oil | XB5 | 61463687770 |
| 1 Quart | 5 | Oil | XB2 | 61463687775 |

TECH TIP

- All oil stones are porous in nature; oil is required to keep the pores open and working efficiently
- Use Norton oil to optimize the performance of Crystolon, India and Arkansas stones
- While sharpening knives, blades and tools, be careful to keep fingers away from sharp edges

Sharpening Systems

Tri-Stone Systems

The base of the tri-stone system acts as an oil reservoir permitting continuous submersion of the unused stones, keeping them clean and saturated, ready for immediate use and years of utility. Rotating the handle brings the desired stone into position for sharpening. All offer a range of replacement stones to replace worn or damaged stones, or substitute different specifications to customize the system.



IM313 MULTI-OILSTONE SHARPENING SYSTEM

BETTER CHOICE FOR LARGE, STRAIGHT-EDGED TOOL SHARPENING

FEATURES AND BENEFITS

- Considered by many to be the ultimate sharpening system, the IM313 contains three oil stones. The 11-1/2" stone length permits long, sweeping strokes for faster and more precise sharpening and honing of all large, wider straight-edged tools. The heavy base has a non-skid bottom.
- A pint of Norton oil, plastic angle guide, and reservoir unit are included with each IM313 system. For general sharpening – coarse Crystolon stone quickly restores worn edges; medium Crystolon stone produces the average edge needed for most tools; and fine India stone hones for a sharper edge.



IM200 PROFESSIONAL SHARPENING SYSTEM

BETTER CHOICE FOR A VERSATILE, MULTI-SIZE TOOL AND KNIFE SHARPENER

FEATURES AND BENEFITS

- The smaller 8" stone IM200 system provides the same quality sharpening features as the IM313 – making it the perfect choice for small restaurants and home DIYers.
- The system contains 4-1/2 oz. of lubricating oil, plastic angle guide, and the reservoir unit. For general sharpening – coarse Crystolon stone quickly restores worn edges; medium Crystolon stone produces the average edge needed for most tools; and fine India stone hones for a sharper edge.



IM100 3-IN-1 TOOL AND KNIFE SHARPENING SYSTEM

BETTER CHOICE FOR SMALL STRAIGHT-EDGED TOOL SHARPENING

FEATURES AND BENEFITS

- The smallest system, designed for general sharpening, the IM100 is an affordable choice for small knives, cutlery, and woodworking tools.
- 4-1/2 oz. of lubricating oil and a reservoir unit complete the system. For general sharpening – coarse Crystolon stone quickly restores worn edges; medium Crystolon stone produces the average edge needed for most tools; and fine India stone hones for a sharper edge.

Portable Sharpening Systems



IM83 PORTABLE SHARPENING STONE SYSTEM

BETTER CHOICE FOR ALL SHARPENING ENTHUSIASTS WHO CARRY THEIR SYSTEM WITH THEM

FEATURES AND BENEFITS

- Sturdy metal latches secure the cover and storage case – where small tools can be housed. The IM83 system is designed like all our other sharpening systems; the stones can be replaced to customize the unit to individual requirements.
- Ideal for industrial toolrooms, restaurants, knife manufacturers, DIYers, and sportsmen.
- Both IM83 systems include 3 sharpening stones, an instructional DVD in the base, and a reservoir carrying case. The oil stone system also includes 4-1/2 oz. oil.
- IM83-W Portable Waterstone System – Tool Repair to Fine Finishes
This portable sharpening system is equipped with a carefully engineered sequence of waterstones for clean, efficient sharpening. The waterstones can easily be maintained with the flattening stone provided.
- IM83-O Portable Oil Stone System – Straight-Edged Tool Sharpening
The coarse silicon carbide (Crystolon) stone in this system repairs damaged edges quickly; the medium aluminum oxide (India) stone imparts a durable, smooth cutting edge; and the fine aluminum oxide (India) stone provides the final sharpening and polishing stage.



Sharpening Systems *continued*

| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|--|-----------|-------------|
| <i>TIER: BETTER</i> | | | | |
| IM313 Multi-Oilstone Sharpening System | | | | |
| 11-1/2 x 2-1/2 x 1/2 | 1 | 1 Coarse Crystolon, 1 Medium Crystolon, and 1 Fine India Stone, 1 Pint Oil, Angle Guide, Reservoir Unit | IM313 | 61463685960 |
| IM200 Professional Sharpening System | | | | |
| 8 x 2 x 3/8 | 1 | 1 Coarse Crystolon, 1 Medium Crystolon, and 1 Fine India Stone, 4-1/2 oz. Oil, Angle Guide, Reservoir Unit | IM200 | 61463691260 |
| IM100 3-in-1 Tool and Knife Sharpening System | | | | |
| 6 x 2 x 1/2 | 1 | 1 Coarse Crystolon, 1 Medium Crystolon, and 1 Fine India Stone, 4-1/2 oz. Oil, Reservoir Unit | IM100 | 61463685356 |
| IM83 Portable Systems | | | | |
| 8 x 3 x 1/2 | 1 | Oilstones: 1 Coarse Crystolon, 1 Medium India, 1 Fine India, 4-1/2 oz. Oil, Instructional DVD in Base, Reservoir Carrying Case | IM83-O | 66243582823 |
| 8 x 3 x 1 | 1 | Waterstones: 1 ea. of 1000, 4000, 8000 Grit, 1 Flattening Stone, Instructional DVD in Base, Reservoir Carrying Case | IM83-W | 66243582825 |

For sharpening system replacement stones: see Single Grit Benchstone charts, or your Norton representative for replacement stones and parts which may be used as replacements or to customize your system.

Abrasive Files

Norton abrasive files hold their shape while imparting the finest, most uniform finish on precision machine parts and in tool and die making. They are ideal for any deburring, chamfering or radiusing job, or for filing delicate parts. Select the file shape that matches the contour of the surface being stoned.

ABRASIVE FILES

BETTER CHOICE FOR ANY DEBURRING, CHAMFERING OR RADIUSING JOB, OR FOR FILING DELICATE PARTS

FEATURES AND APPLICATIONS

- Crystolon Files – Fast-acting silicon carbide products, Crystolon files are designed for use where moderate tolerances are acceptable, and speed of sharpening is more important than fineness.
- India Files – India files are ideal when close tolerance, and strong, keen, long-lasting edges are needed.
- Hard Translucent Arkansas Files – Hard Arkansas has an ultra fine grit that produces the finest edge possible while maintaining tolerances unequalled by any other abrasive file. It will also produce a highly polished finish.



Square Abrasive Files

Square File applications range from dimensioning keyways to maintain fit, stoning faces on router bits, touching-up edges of reamer teeth, and lapping/honing to close tolerances to produce the finest edge on precision instruments, die work and delicate tools.



| SIZE (L x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|-------------|
| <i>TIER: BETTER</i> | | | | |
| Square Abrasive Files – Crystolon (Silicon Carbide) | | | | |
| 4 x 3/8 | 5 | Fine | FJF34 | 61463686030 |
| 4 x 1/2 | 5 | Medium | MJF44 | 61463686045 |
| | 5 | Fine | FJF44 | 61463686040 |
| Square Abrasive Files – Hard Translucent Arkansas | | | | |
| 3 x 1/4 | 5 | Ultra Fine | HF13 | 61463686590 |
| 3 x 3/8 | 5 | Ultra Fine | HF33 | 61463686595 |
| 3 x 1/2 | 5 | Ultra Fine | HF43 | 61463686600 |

All square files are bulk packed

TIER: BETTER

| SIZE (L x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|--------|-----------|-------------|
| Square Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/4 | 5 | Coarse | CF14 | 61463686075 |
| | 5 | Medium | MF14 | 61463686070 |
| | 5 | Fine | FF14 | 61463686065 |
| 4 x 3/8 | 5 | Coarse | CF34 | 61463686090 |
| | 5 | Medium | MF34 | 61463686085 |
| | 5 | Fine | FF34 | 61463686080 |
| 4 x 1/2 | 5 | Coarse | CF44 | 61463686105 |
| | 5 | Medium | MF44 | 61463686100 |
| | 5 V | Medium | MF44-V | 66253325913 |
| | 5 | Fine | FF44 | 61463686095 |
| 6 x 1/2 | 5 | Coarse | CF46 | 61463686120 |
| | 5 | Medium | MF46 | 61463686115 |
| | 5 | Fine | FF46 | 61463686110 |
| 6 x 5/8 | 5 | Medium | MF56 | 61463686130 |
| | 5 | Fine | FF56 | 61463686125 |
| 6 x 3/4 | 5 | Coarse | CF66 | 61463686150 |
| | 5 | Medium | MF66 | 61463686145 |
| | 5 | Fine | FF66 | 61463686140 |
| 6 x 1 | 5 | Coarse | CF76 | 61463686165 |
| | 5 | Medium | MF76 | 61463686160 |
| | 5 | Fine | FF76 | 61463686155 |

V = Vending Package. Ideal for vending machines, small jobs, and carrying to job site. Pre-packed in sturdy boxes of 5 per pack. Order by total number of stones needed in multiples of 5.

Abrasive Files *continued*

Triangular Abrasive Files

Triangular Files are used for a variety of deburring, chamfering and radiusing applications including cleaning tap threads, stoning cutting surfaces of milling cutters, lapping honing tools, dies and molds, and putting precision points on center punches.

The India line also offers Tapered Triangles, used by mechanics and tool and die makers to impart the correct edge in the least time.



TIER: BETTER

| SIZE (L x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|-------------|
| Triangular Abrasive Files – Crystolon (Silicon Carbide) | | | | |
| 4 x 1/4 | 5 | Fine | FJF114 | 61463686185 |
| 4 x 1/2 | 5 | Fine | FJF144 | 61463686205 |
| Triangular Abrasive Files – Hard Translucent Arkansas | | | | |
| 3 x 1/4 | 5 | Ultra Fine | HF113 | 61463686620 |
| 3 x 3/8 | 5 | Ultra Fine | HF133 | 61463686625 |
| 3 x 1/2 | 5 | Ultra Fine | HF143 | 61463686630 |

All Triangular files are bulk packed

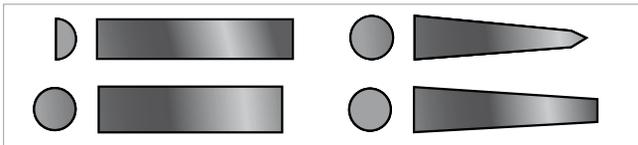
Round Abrasive Files

Half Round Files offer both a round and a flat surface for imparting a fine finish on precision machine parts, tools and dies.

Round Files are ideal for deburring, chamfering, radiusing, lapping, honing, cleaning radius tools to a burr-free edge, and dimensioning compound curves on templates.

Round Pointed Files are ideally suited for engravers and die sinkers for stoning difficult recesses on instruments and die tools.

Round Tapered Files are used by craftsmen, woodworkers, and die makers as their unique shape imparts the correct edge quickly.



TIER: BETTER

| SIZE (L x D) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|--------|-----------|-------------|
| Half Round Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/4 | 5 | Medium | MF314 | 61463686355 |
| | 5 | Fine | FF314 | 61463686350 |
| 4 x 3/8 | 5 | Medium | MF334 | 61463686385 |
| | 5 | Fine | FF334 | 61463686380 |
| 4 x 1/2 | 5 | Coarse | CF344 | 61463686405 |
| | 5 | Medium | MF344 | 61463686400 |
| | 5 | Fine | FF344 | 61463686395 |

All Half-Round and Round files are bulk packed

TIER: BETTER

| SIZE (L x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|--------|-----------|-------------|
| Triangular Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/4 | 5 | Coarse | CF114 | 61463686240 |
| | 5 | Medium | MF114 | 61463686235 |
| | 5 | Fine | FF114 | 61463686230 |
| 4 x 3/8 | 5 | Coarse | CF134 | 61463686255 |
| | 5 | Medium | MF134 | 61463686250 |
| | 5 | Fine | FF134 | 61463686245 |
| 4 x 1/2 | 5 | Coarse | CF144 | 61463686270 |
| | 5 | Medium | MF144 | 61463686265 |
| | 5 | Fine | FF144 | 61463686260 |
| 6 x 1/2 | 5 | Coarse | CF146 | 61463686285 |
| | 5 | Medium | MF146 | 61463686280 |
| | 5 | Fine | FF146 | 61463686275 |
| 6 x 5/8 | 5 | Medium | MF156 | 61463686295 |
| | 5 | Fine | FF156 | 61463686290 |
| 6 x 3/4 | 5 | Medium | MF166 | 61463686310 |
| | 5 | Fine | FF166 | 61463686305 |
| 6 x 1 | 5 | Medium | MF176 | 61463686325 |
| | 5 | Fine | FF176 | 61463686320 |
| Triangular Tapered Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/2 x 1/4 | 5 | Medium | MF544 | 61463686685 |
| | 5 | Fine | FF544 | 61463686680 |

TIER: BETTER

| SIZE (L x D) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|------------|-----------|-------------|
| Round Abrasive Files – Crystolon (Silicon Carbide) | | | | |
| 4 x 1/4 | 5 | Medium | MJF214 | 61463686430 |
| | 5 | Fine | FJF214 | 61463686425 |
| 4 x 3/8 | 5 | Medium | MJF234 | 61463686440 |
| Round Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/4 | 5 | Coarse | CF214 | 61463686480 |
| | 5 | Medium | MF214 | 61463686475 |
| | 5 | Fine | FF214 | 61463686470 |
| 4 x 3/8 | 5 | Coarse | CF234 | 61463686495 |
| | 5 | Medium | MF234 | 61463686490 |
| | 5 | Fine | FF234 | 61463686485 |
| 4 x 1/2 | 5 | Coarse | CF244 | 61463686510 |
| | 5 | Medium | MF244 | 61463686505 |
| | 5 | Fine | FF244 | 61463686500 |
| 6 x 1/2 | 5 | Coarse | CF246 | 61463686525 |
| | 5 | Medium | MF246 | 61463686520 |
| | 5 | Fine | FF246 | 61463686515 |
| 6 x 5/8 | 5 | Medium | MF256 | 61463686535 |
| 6 x 3/4 | 5 | Medium | MF266 | 61463686550 |
| 6 x 1 | 5 | Medium | MF276 | 61463686565 |
| Round Abrasive Files – Hard Translucent Arkansas | | | | |
| 3 x 1/4 | 5 | Ultra Fine | HF813 | 61463686800 |
| Round Pointed Abrasive Files – India (Aluminum Oxide) | | | | |
| 3 x 5/16 Base | 5 | Coarse | CF723 | 61463686750 |
| | 5 | Medium | MF723 | 61463686745 |
| | 5 | Fine | FF723 | 61463686740 |
| Round Pointed Abrasive Files – Hard Translucent Arkansas | | | | |
| 3 x 1/4 Base | 5 | Ultra Fine | HF863 | 61463686825 |
| Round Tapered Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1/2 x 1/4 | 5 | Coarse | CF644 | 61463686660 |
| | 5 | Medium | MF644 | 61463686655 |
| | 5 | Fine | FF644 | 61463686650 |

Abrasive Files *continued*

Diamond-shaped Abrasive Files

Diamond-shaped Files are precision sharpening favorites for cleaning acute angles in dies and molds, and for stoning geometric chasers and sewing machine feeds.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|------------|-----------|-------------|
| Diamond-Shaped Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 9/16 x 3/16 | 5 | Coarse | CT134 | 61463686720 |
| | 5 | Medium | MT134 | 61463686715 |
| | 5 | Fine | FT134 | 61463686710 |
| Diamond-Shaped Abrasive File – Hard Translucent Arkansas | | | | |
| 3 x 1/2 x 3/16 | 5 | Ultra Fine | HF843 | 61463686815 |

All Diamond-shaped files are bulk packed

Beveled Abrasive Files

Beveled Files are preferred by exacting artisans, jewelers, mechanics, and watchmakers for honing the finest of finishes. These extremely hard files provide years of service.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|-------------|
| Beveled Abrasive File – Hard Translucent Arkansas | | | | |
| 3 x 3/8 x 1/8 | 5 | Ultra Fine | HF833 | 61463686810 |

All Beveled files are bulk packed

Flat Abrasive Files

The Flat File is the choice of mechanics, artisans and jewelers. This long lasting file produces the finest finishes.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|------------|-----------|-------------|
| Flat Abrasive File – Hard Translucent Arkansas | | | | |
| 3 x 3/8 x 1/8 | 5 | Ultra Fine | HF823 | 61463686805 |

All Flat files are bulk packed

Oval Abrasive Files

The Oval File's shape makes it ideal for finishing and honing recesses or curved edges of precision instruments.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|------------|-----------|-------------|
| Oval Abrasive File – Hard Translucent Arkansas | | | | |
| 3 x 1/2 x 3/16 | 5 | Ultra Fine | HF853 | 61463686820 |

All Oval files are bulk packed

Knife Blade Abrasive Files

Knife Blade Files are used by clock and watch makers to quickly sharpen, hone, and maintain the edges and points of cutting tools.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
|--|-----------|------------|-----------|-------------|
| Knife Blade Abrasive Files – India (Aluminum Oxide) | | | | |
| 4 x 1 x 1/8 Back | 5 | Coarse | CF724 | 61463686780 |
| | 5 | Medium | MF724 | 61463686775 |
| | 5 | Fine | FF724 | 61463686770 |
| Knife Blade Abrasive File – Hard Translucent Arkansas | | | | |
| 3 x 3/4 x 1/8 | 5 | Ultra Fine | HF873 | 61463686830 |

All Knife Blade files are bulk packed

Abrasive File Sets

Hard Translucent Arkansas File Set

This set provides a selection of our most popular square, triangular, round and knife blade files in ultra fine Hard Translucent Arkansas for honing and polishing a wide range of configurations.

Hard Translucent Arkansas-India File Set

This set contains an assortment of files for finishing, honing and polishing applications. It contains a selection of the most popular square, triangular, round and knife blade files in both fine grit India and ultra fine grit Hard Translucent Arkansas.



TIER: **BETTER**

| SIZE (L x W x H) | QTY./CASE | PRODUCT # | PART # |
|--|-----------|-----------|-------------|
| File Set – Hard Translucent Arkansas | | | |
| | 1 | | 61463686839 |
| 1 Each of Ultra Fine Hard Arkansas HF13, HF113, HF813, and HF873 | | | |
| File Set – Hard Translucent Arkansas and India (Aluminum Oxide) | | | |
| | 1 | | 61463686840 |
| 1 Each of Ultra Fine Hard Arkansas HF13, HF43, HF113, HF813, HF873, and Fine India FF14, FF44, FF114, FF214, FF724 | | | |

See the "Norton Professional Sharpening Products and Dressing Sticks Catalog #200" on www.nortonabrasives.com to view the complete list and descriptions of our many sharpening products.

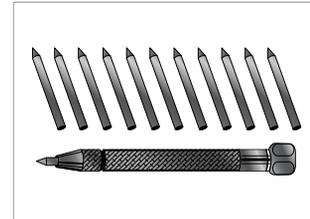
Abrasive Files *continued*

Engravers' Chuck & Points

Engravers' Points are the choice of professional die-makers for cleaning tight corners and recesses where close tolerances and accuracy are a must. The Engravers' Chuck is a knurled nickel-plated tool designed to hold the Engravers' Point.

| TIER: BETTER | | | | |
|--|-----------|------------|-----------|-------------|
| SIZE (L x POINT) | QTY./CASE | SPEC. | PRODUCT # | PART # |
| Engravers' Chuck | | | | |
| Engravers' Chuck | 5 | | XT1 | 61463687485 |
| Engravers' Point – India (Aluminum Oxide) | | | | |
| 1 x 1/8 Point | 5 | Fine | FT11 | 61463687495 |
| Engravers' Point – Soft Arkansas | | | | |
| 1 x 1/8 Point | 5 | Extra Fine | AT11 | 61463687490 |

All Engravers' Chucks and Points are bulk packed.

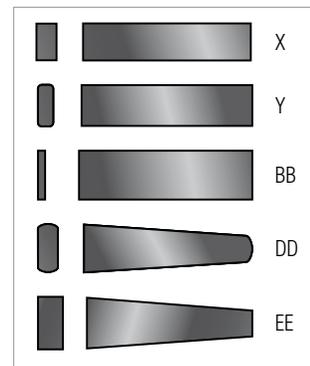


Silversmith Precision Files

These aluminum oxide precision-shaped stones are designed for use by silversmiths and mechanics for close tolerance lapping, touching-up instruments, and for cleaning tools and dies.

| TIER: BETTER | | | | |
|---|-----------|--------|-----------|-------------|
| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
| Silversmith Precision Files – India (Aluminum Oxide) | | | | |
| 4 x 5/16 x 3/16 x 5/16 x 1/16 - X | 5 | Medium | MF414 | 61463686855 |
| | 5 | Fine | FF414 | 61463686850 |
| 4 x 3/8 x 3/16 x 1/8 x 1/16 - Y | 5 | Fine | FF424 | 61463686910 |
| 4 x 7/16 x 3/16 x 1/8 - BB | 5 | Fine | FF434 | 61463686940 |
| 4 x 1/2 x 1/16 - BB | 5 | Coarse | CF444 | 61463686965 |
| | 5 | Medium | MF444 | 61463686960 |
| | 5 | Fine | FF444 | 61463686955 |
| 4 x 1/2 x 1/4 x 5/16 x 1/8 - DD | 5 | Fine | FF464 | 61463686985 |
| 4 x 1/2 x 1/4 x 5/16 x 1/8 - EE | 5 | Medium | MF474 | 61463687005 |
| | 5 | Fine | FF474 | 61463687000 |

All Silversmith Precision Files are bulk packed.



Pocket Stones



POCKET STONES

BETTER CHOICE FOR OUTDOOR ENTHUSIASTS

FEATURES AND BENEFITS

- Convenient and easily transported
- Ideal for outdoor enthusiasts to sharpen scissors, knives, axes, etc.
- Available in a protective case

| TIER: BETTER | | | | |
|--|-----------|-------------|-----------|-------------|
| SIZE (L x W x H) | QTY./CASE | SPEC. | PRODUCT # | PART # |
| Sportsman Pocket Stone – India (Aluminum Oxide) | | | | |
| 3 x 1-1/2 x 1/2 | 50 | Coarse/Fine | IBP4 | 61463690705 |
| Pocket Stone – India (Aluminum Oxide) | | | | |
| 4 x 3/4 x 1/4 | 25 | Fine | IBP4 | 61463624153 |
| Pocket Stone with Case – India (Aluminum Oxide) | | | | |
| 3 x 7/8 x 3/8 with case | 50 | Fine | FBP3 | 61463691122 |
| Pocket Stone with Case – Crystolon (Silicon Carbide) | | | | |
| 3 x 7/8 x 3/8 with case | 50 | Fine | JP14 | 61463690703 |
| Pocket Stone with Case – Soft Arkansas | | | | |
| 4 x 1 x 3/4 with case; in retail package | 5 | Extra Fine | | 66253142544 |
| Fish Hook Stone With Pouch – Crystolon Half-Round (Silicon Carbide) | | | | |
| 3 x 1/2 with pouch | 50 | Fine | | 61463624072 |

All Pocket Stones except 66253142544 are bulk packed.

Abrasive Slips

ABRASIVE SLIPS

BETTER CHOICE FOR IMPARTING FINE, UNIFORM FINISHES

FEATURES AND BENEFITS

- Norton abrasive slips impart the finest, most uniform finishes on curved knives and tools, molders' knives, wood gouges, bead planers, and carbide-tipped tools. These fast-acting slips hold their shape and are long lasting.
- The Crystolon and India stones are designed for preliminary sharpening and the Norton Hard Translucent Arkansas stones are the choice for achieving the finest finish possible.



Carbide Tool Slips

Crystolon (silicon carbide) Slips are used to maintain the edge of carbide tools – keeping regrinding costs and time to an absolute minimum. Not oil-filled.

Round Edge Slips

Round Edge Slips are ideal for precision sharpening and honing of bead planers, curved knives and tools, molders' knives and wood gouges.



| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
|---|-----------|-----------------------|-----------|-------------|
| <i>TIER: BETTER</i> | | | | |
| Carbide Tool Slips – Crystolon (Silicon Carbide) | | | | |
| 3-1/2 x 3/4 x 1/2 | 5 | Coarse | CJT63 | 61463687295 |
| | 5 | Medium | MJT63 | 61463687290 |
| | 5 | Fine | FJT63 | 61463687285 |
| Set of Three Above | 5 | Coarse, Medium & Fine | J63 | 61463687300 |
| Carbide Tool Slips – India (Aluminum Oxide) | | | | |
| 2-1/4 x 7/8 x 3/16 | 5 | Medium | MS12 | 61463687215 |
| Round Edge Slips – Crystolon (Silicon Carbide) | | | | |
| 4-1/2 x 1-3/4 x 1/4 x 1/16 | 5 | Medium | MJS24 | 61463687080 |
| | 5 | Fine | FJS24 | 61463687075 |
| 4-1/2 x 1-3/4 x 1/2 x 3/16 | 5 | Coarse | CJS44 | 61463687100 |
| | 5 | Medium | MJS44 | 61463687095 |
| | 5 | Fine | FJS44 | 61463687090 |
| 6 x 2-1/4 x 3/4 x 3/8 | 5 | Medium | MJS66 | 61463687110 |
| | 5 | Fine | FJS66 | 61463687105 |
| Round Edge Slips – India (Aluminum Oxide) | | | | |
| 4 x 1 x 7/16 x 3/16 | 5 | Medium | MS14 | 61463687140 |
| | 5 | Fine | FS14 | 61463687135 |
| 4-1/2 x 1-3/4 x 1/4 x 3/32 | 5 | Coarse | CS24 | 61463687155 |
| | 5 | Medium | MS24 | 61463687150 |
| 4-1/2 x 1-3/4 x 3/8 x 1/8 | 5 | Fine | FS24 | 61463687145 |
| | 5 | Coarse | CS34 | 61463687170 |
| 4-1/2 x 1-3/4 x 1/2 x 3/16 | 5 | Medium | MS34 | 61463687165 |
| | 5 | Fine | FS34 | 61463687160 |
| | 5 | Coarse | CS44 | 61463687185 |
| 5 x 1 x 5/16 x 3/32 | 5 | Medium | MS15 | 61463687195 |
| | 5 | Fine | FS15 | 61463687190 |
| | 5 | Extra Fine | SS4 | 61463687055 |
| Round Edge Slips – Soft Arkansas | | | | |
| Round Edge Slips – Hard Translucent Arkansas | | | | |
| 3 x 1-3/4 x 1/4 x 1/16 | 5 | Ultra Fine | HS3 | 61463687040 |
| 4 x 1-1/4 x 1/4 x 1/8 | 5 | Ultra Fine | HS14 | 61463687050 |
| 4 x 1-3/4 x 3/8 x 1/8 | 5 | Ultra Fine | HS4 | 61463687045 |

All Slips are bulk packed.

Specialty Stones

SPECIALTY STONES

BETTER CHOICE FOR SPECIFIC SHARPENING OR DEBURRING APPLICATIONS

FEATURES AND BENEFITS

- Norton continues to offer specialty stones with optimum specifications and unique shapes that conform to, and quickly sharpen, specific tools

Specialty Stones for Machine Tools

Gouge Sharpening Stone

This stone has a unique shape for sharpening and lapping inside and outside curved surfaces on gouges and other cutting tools.

Jointer Stones

These stones provide a fast method of restoring and maintaining the cutting edges of mechanical jointing devices on automatic planers.

Machine Knife Stone

Crystolon (silicon carbide) machine knife stones offer both coarse and fine sides for sharpening and honing paper and cloth-cutting knives and planer knives on the machine. The groove around the middle of the stone protects fingers and provides a secure hold.

Reamer Stones

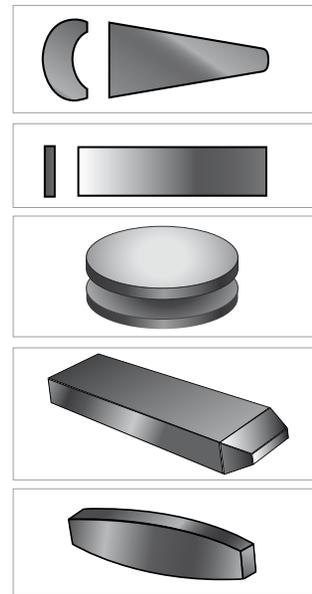
Durable, fast-cutting stones designed for imparting a professional edge on reamers, taps, and rough rounders on shoe machine tools.

Boat Stones

Boat Stones are medium grit, medium grade stones that are easy to hold and use. Excellent for deburring and breaking sharp edges on dies, fixtures and machined parts, and for deburring grinder magnetic chucks.

| TIER: BETTER | | | | |
|--|-----------|-------------|-----------|-------------|
| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
| Gouge Sharpening Stone – India (Aluminum Oxide) | | | | |
| 6 x 2 x 1 x 1/2 x 3/8 | 5 | Fine | FS76 | 61463687305 |
| Jointer Stones | | | | |
| 4 x 3/4 x 3/8 – Crystolon (Silicon Carbide) | 5 | Medium | JE74 | 61463687335 |
| 4 x 3/4 x 3/8 – India (Aluminum Oxide) | 5 | Coarse | IE74 | 61463687375 |
| 4 x 3/4 x 1/2 – Crystolon (Silicon Carbide) | 5 | Medium | JE84 | 61463687340 |
| Machine Knife Stone – Crystolon (Silicon Carbide) | | | | |
| 4" Diam. x 1-1/2" Thick | 5 | Coarse/Fine | JB74 | 61463687570 |
| Reamer Stones – India (Aluminum Oxide) | | | | |
| 4-1/2 x 1 x 5/16 | 10 | Medium | MT124 | 61463687420 |
| | 10 | Fine | FT124 | 61463687415 |
| 5 x 1 x 3/16 | 10 | Medium | MT125 | 61463687430 |
| | 10 | Fine | FT125 | 61463687425 |
| 6 x 1 x 1/4 | 10 | Medium | MT126 | 61463687440 |
| | 10 | Fine | FT126 | 61463687435 |
| Boat Stone – Crystolon (Silicon Carbide) | | | | |
| 9 x 2-1/2 x 1-1/2 | 10 | 37C80-HV | | 61463610369 |
| Boat Stone – India (Aluminum Oxide) | | | | |
| 9 x 2-1/2 x 1-1/2 | 10 | 38A60-IVBE | | 61463610503 |

Boat and Reamer Stones are bulk packed. All these other Specialty Stones are packed in individual boxes within a case.



Large Specialty Stones

Tradesmen's Utility Stones

Used for sharpening trimming knives and as an abrasive file in many different industries. The JT910 does not have a handle, while the JT920 and JT930 have wooden handles.

Sickle and Scythe Stones

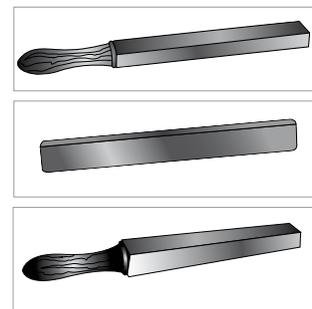
These silicon carbide stones quickly produce a fast-cutting edge on sickles, scythes, and brush hooks. These stones are most frequently chosen where the speed of sharpening is the primary consideration.

Utility File

A long wedge-shaped stone with four flat sides designed for sharpening coarse cutting edges on cutting implements and edged garden tools. Wooden handles make them easy to use. They will outlast and out-sharpen metal files.

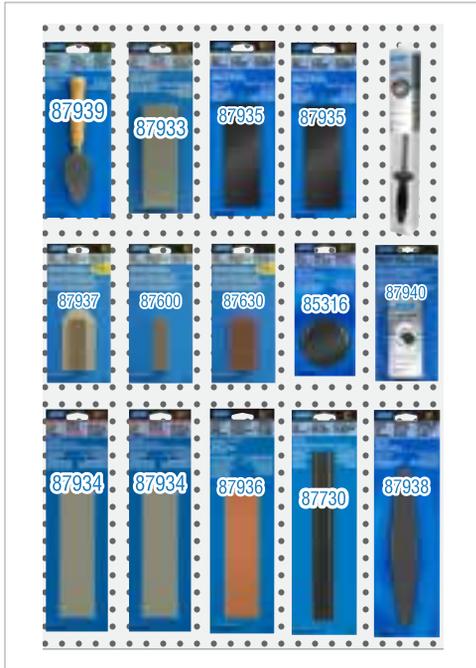
| TIER: BETTER | | | | |
|---|-----------|-------------|-----------|-------------|
| SIZE | QTY./CASE | SPEC. | PRODUCT # | PART # |
| Tradesmen's Utility Stones – Crystolon (Silicon Carbide) | | | | |
| 10 x 1-1/4 x 3/4 | 10 | Medium | JT910 | 61463687665 |
| 14-3/4 Overall (with Handle) | 10 | Coarse/Fine | JT930 | 61463687675 |
| | 10 | Medium | JT920 | 61463687670 |
| Sickle and Scythe Stones | | | | |
| 10 x 1-1/4 x 3/4 Crystolon (Silicon Carbide) | 10 | Coarse | TJ3 | 61463687731 |
| 10 x 1-5/16 x 3/4 India (Aluminum Oxide) | 10 | Coarse | TD1 | 61463687715 |
| Utility File – Crystolon (Silicon Carbide) | | | | |
| 14 Overall (w/ Handle) | 10 | Coarse | JD2 | 61463687750 |

All Large Specialty Stones are bulk packed.



Retail Packaged Sharpening Products

Our retail-packaged line brings Norton quality to your distributor showroom, vending machine, tool crib, and your tool box. Each stone is specifically designed for a popular sharpening application and packaged to sell or carry to the job site.



| SIZE (L x W x H) | SPEC. | TIER: BETTER | |
|---|---|--------------|-------------|
| | | QTY./CASE | PART # |
| Axe and Hatchet Sharpener | | | |
| 3 x 5/8 round | Coarse/Fine Crystolon (Silicon Carbide) | 10 | 07660785316 |
| Pocket Knife Sharpener | | | |
| 3 x 7/8 x 3/8 | Fine Crystolon (Silicon Carbide) | 5 | 07660787600 |
| 3 x 7/8 x 3/8 with case | Medium India (Aluminum Oxide) | 5 | 07660787937 |
| 3 x 1-1/2 x 1/2 with case | Coarse/Fine India (Aluminum Oxide) | 5 | 07660787630 |
| Economy Tool & Knife Benchstone | | | |
| 6 x 2 x 3/4 | Coarse/Fine Crystolon (Silicon Carbide) | 5 | 07660787933 |
| 8 x 2 x 3/4 | Coarse/Fine India (Aluminum Oxide) | 10 | 07660787934 |
| 8 x 2 x 1 | Coarse/Fine India (Aluminum Oxide) | 10 | 61463685755 |
| High Quality Tool & Knife Benchstone | | | |
| 6 x 2 x 3/4 | Coarse/Fine Crystolon (Silicon Carbide) | 5 | 07660787935 |
| Chisel & Planer Blade Sharpener | | | |
| 8 x 2 x 3/4 | Coarse/Fine India (Aluminum Oxide) | 10 | 07660787936 |
| Household Knife & Tool Sharpener | | | |
| 7-1/2 | Fine Crystolon (Silicon Carbide) | 5 | 07660787939 |
| Farm Tool Sharpener | | | |
| 10 x 1-1/4 x 3/4 | Coarse Crystolon (Silicon Carbide) | 10 | 07660787730 |
| Lawn & Garden Tool Sharpener | | | |
| 9-1/2 x 1-3/8 x 1/2 | Medium Crystolon (Silicon Carbide) | 10 | 07660787938 |
| Sharpening Stone Oil | | | |
| 4-1/2 oz. | Oil | 5 | 07660787940 |
| Sharpening Steel | | | |
| 1/2 x 10 | Round file with rubber handle | 8 | 66253240433 |
| Vitrified Dressing Stick | | | |
| 1 x 1 x 6 | Medium Silicon Carbide | 5 | 07660710466 |

Knife and Scissor Sharpener

The knife and scissor mechanical sharpener is a quick and portable tool for hundreds of sharpening applications.



| SPECIFICATION | QTY./CASE | PART # |
|------------------------------------|-----------|-------------|
| Knife and Scissor Sharpener | | |
| Carbide | 6 | 07660787520 |

Norton Professional Sharpening Products and Dressing Sticks

See the "Norton Professional Sharpening Products and Dressing Sticks Catalog #200" on www.nortonabrasives.com to view the complete list and descriptions of our many sharpening products.



Hard silicon carbide rubbing bricks are used for heavy-duty applications such as rubbing floors, cleaning and scouring castings, rubbing down concrete, and removing mold marks.

Applications:

Floor Rubbing Bricks – are used to rub down concrete and remove mold marks. These are designed to fit the chucks of common concrete floor grinding equipment. Reusable wooden wedges anchor the bricks to the equipment chucks.

Plain Hand Rubbing Bricks – are the choice of mechanics and foundry workers for dressing grinding wheels and cleaning or scouring castings.

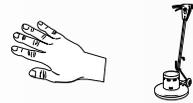
Fluted Hand Rubbing Bricks – are used by masons and stone workers for rubbing down concrete and removing mold marks. The diagonal flutes provide sharp edges, a clean shearing action, and carry away debris.

Fluted Hand Rubbing Bricks with Handle – make quick work of removing mold marks and rubbing down concrete. The firmly attached handle reduces fatigue and facilitates overhead, wall, and floor work.

Griddle Bricks – quickly clean away carbon build-up and other residue on your grill without leaving fibers, which grill brushes often do.

Grit Range:
Abrasive Type:
Machine Used:

6 – 120
Silicon Carbide



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PART # |
|--|------------|-------|-----------------|-------------|
| Plain Floor Rubbing Bricks with Wooden Wedges | | | | |
| 4 x 2 x 2 | 6 | C6-R | Silicon Carbide | 61463653292 |
| | 6 | C10-R | Silicon Carbide | 61463653293 |
| | 6 | C24-R | Silicon Carbide | 61463653294 |
| | 6 | C80-R | Silicon Carbide | 61463653295 |



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PART # |
|--|------------|---------|-----------------|--------------|
| Floor Rubbing Brick with Center Score | | | | |
| 8 x 2 x 2 | 6 | C120-R* | Silicon Carbide | 61463685296* |

*8" brick has a center score to facilitate dividing the brick in half – an economical alternative to buying two 4" bricks.



| SIZE (L x W x H) | QTY./ CASE | PART # |
|----------------------|------------|-------------|
| Wooden Wedges | | |
| | 6 | 61463685297 |



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PRODUCT # | PART # |
|----------------------------------|------------|-------|-----------------|-----------|-------------|
| Plain Hand Rubbing Bricks | | | | | |
| 8 x 2 x 2 | 5 | C24 | Silicon Carbide | BP28 | 61463687830 |



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PRODUCT # | PART # |
|-----------------------------------|------------|-------|-----------------|-----------|-------------|
| Fluted Hand Rubbing Bricks | | | | | |
| 6 x 2 x 2 | 5 | C20 | Silicon Carbide | BF26 | 61463687840 |
| 8 x 2 x 2 | 5 | C20 | Silicon Carbide | BF28 | 61463687845 |



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PRODUCT # | PART # |
|---|------------|-------|-----------------|-----------|-------------|
| Fluted Hand Rubbing Bricks with Handle | | | | | |
| 6 x 3 x 1 | 5 | C20 | Silicon Carbide | BFH6 | 61463687800 |
| 8 x 3-1/2 x 1-1/2 | 5 | C20 | Silicon Carbide | 235 | 61463687795 |

All Bricks and Wedges are bulk packed.



| SIZE (L x W x H) | QTY./ CASE | SPEC. | ABRASIVE | PART # |
|----------------------|------------|--------|----------|-------------|
| Griddle Brick | | | | |
| 4-1/2 x 3 x 2 | 5 | Medium | Alundum | 61463687870 |

the brightest
product solutions from
**A TOTAL SPECTRUM
OF INNOVATION**

For everything from heavy-to-medium stock removal, to fine finishing, to light blending and polishing, coated abrasive products are available in many shapes, abrasive grains, specialty coatings and backing configurations to meet many application needs.



Blaze Your Way to Greater Productivity

The latest-generation, cooler cutting ceramic abrasive grain of Norton Blaze delivers highest productivity on stainless steel, titanium, and super alloys.



Unleash the Controlled Heat

Achieve the highest productivity on mild carbon steel, stainless, and ferrous metals under the toughest conditions from stock removal to quality finish



True Blue - Reinvented

Delivering success on a wide range of materials; the better choice for stainless, alloys, steel to cast iron and high-pressure applications.



The strongest of coated abrasive discs with resin over resin construction on heavy-duty fiber backing. Designed for applications ranging from heavy stock removal to surface blending. Used with back-up pads on portable angle grinders.

- Applications: Stock removal, edge chamfering, weld blending, deburring/deflashing, rust removal, cleaning and finishing
- Size Range: 4" x 5/8" hole, 4-1/2" – 9-1/8" x 7/8" and 5/8"-11 hole
- Grit Range: 16 – 120
- Abrasive Grain: Ceramic Alumina, Zirconia Alumina Blend, and Aluminum Oxide
- Product Options: Conventional, Speed-Change hubs (5/8-11"), and AVOS technology
- Accessories: Air-cooled, smooth-faced, and AVOS back-up pads
- Machines Used:

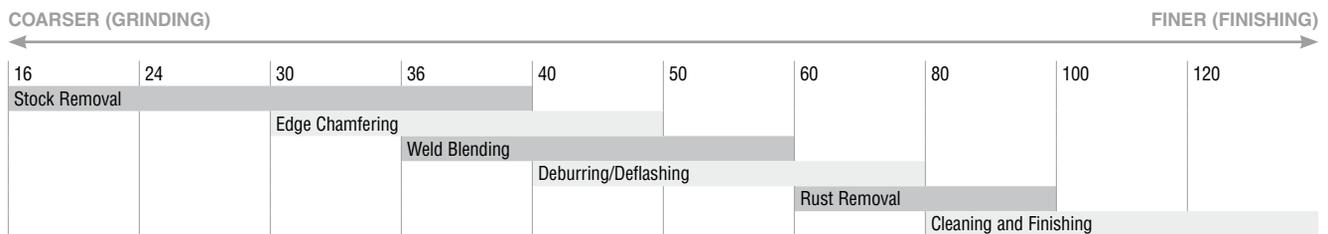


MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|--|---|--|---|
| Stainless Steel / Titanium / Super Alloys* | Norton Blaze F980 | Norton BlueFire F826P | Norton Metal F240 |
| Mild Carbon Steel / Welds | Norton Red Heat F981 | Norton BlueFire F826P | Norton Metal F240 |
| Ferrous Metals / Cast Iron | Norton Red Heat F981 | Norton BlueFire F826P | Norton Metal F240 |
| Brass / Bronze / Aluminum | – | – | Norton Metal F240 |

*Nickel/Cobalt Based – Hastelloy, Inconel, Waspalloy

APPLICATION/GRIT RECOMMENDATION GUIDE



CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE | | INITIAL PRICE | |
|---------------|-------------------|---------------|---------------------|----------------|
| | BEST | | BETTER | GOOD |
| NORTON | Blaze F980 | Red Heat F981 | BlueFire F826P | Metal F240 |
| 3M | 985C, 982C | 988C, 983C | 501C | 281C GreenCorp |
| Camel | – | – | Zirconia | A/O |
| Flexovit | – | – | Flexon | High Perf |
| GemTex | – | – | ZEE | A |
| Hermes | CB844X | CB444X/J | RB414X/J | – |
| Klingspor | CS661 | – | CS570, CS565 | CS561 |
| Metabo | – | – | Z/A | A |
| Mirka | – | – | Blue A/Z, Gold A/Z | Red A/O |
| Pearl | – | – | Zirconia | A/O Silver |
| Pferd | CO Cool | CO | Z Cool, Z | A |
| Sait | 9S | 8S | 3Z, Z | A, 2At |
| SIA | – | 4515 | 4815, 4819 | 4919 |
| Standard | – | – | Zirconia | A/O |
| VSM | XF870 | XF750 | ZF745, ZF713, ZF714 | KF708 |
| Walter | – | – | Topcut, Inox | – |
| Weiler | – | – | Zirconium | A/O |

The Perfect Product for Every Performance/Price Level



Norton Blaze

Latest generation ceramic alumina abrasive provides the industry's fastest cutting discs and 50-200% longer life on stainless, titanium, and super alloys.



Norton BlueFire

Durable zirconia abrasive blend for an increased cut rate and longer life over conventional zirconia products on high pressure applications.



Norton Metal

Versatile aluminum oxide abrasive provides a good starting specification, and good performance, when initial price is the primary purchasing consideration.

NORTON BLAZE F980 CERAMIC ALUMINA

BEST CHOICE FOR STAINLESS STEEL, TITANIUM, AND SUPER ALLOYS



EXPANDED OFFERING

FEATURES

- Micro-fracturing ceramic alumina grain
- 100% ceramic alumina grain
- Self-lubricating, advanced supersize treatment
- Strong resin bond system
- Extra heavy-duty backing on 50 grit and coarse disc

BENEFITS

- Constantly exposing sharper grain edges and improved grain life
- Significant cut rate and life over competitive blended/low-ratio ceramic alumina discs
- Minimizes heat, loading and glazing on stainless, titanium and super alloys
- Improved grain retention for longer life
- Increased life and durability

NORTON RED HEAT F981 AND F981S CERAMIC ALUMINA

BEST CHOICE/HIGHEST PRODUCTIVITY FOR MILD CARBON STEEL (F981), STAINLESS (F981S), AND FERROUS METALS



FEATURES

- Premium, self-sharpening full-ratio ceramic abrasive grain
- F981: durable, long lasting
- F981S: supersized grinding aid

BENEFITS

- Faster initial cut rate, longer life and improved finishes versus competitive ceramic discs
- Great performance-to-price ratio
- Excellent starting specifications when the performance of ceramic is needed
- Excellent performance on carbon steel
- Minimizes heat and loading on stainless and aluminum

NORTON BLUEFIRE F826P ZIRCONIA ALUMINA

BETTER CHOICE FOR STAINLESS, SUPER ALLOYS, STEEL, CAST IRON AND HIGH-PRESSURE APPLICATIONS



VENDIBLE

FEATURES

- High-performance zirconia alumina abrasive blend
- Vendible 10-disc package

BENEFITS

- 15% faster cut and longer life with less power draw than conventional zirconia discs
- Broad utility on a wide range of materials
- Ideal for vending machines, small jobs, or carrying to a job site

NORTON METAL F240 ALUMINUM OXIDE

GOOD CHOICE FOR SMALL JOBS, APPLICATIONS WHERE PERFORMANCE IS NOT MEASURED, AND PRICE-SENSITIVE OPERATIONS



FEATURES

- Multi-purpose aluminum oxide abrasive

BENEFITS

- Consistent performance
- Versatile; works on numerous materials
- Lowest initial price



| | | | | | |
|------------|-------------------|----------------------|-----------------------|------------------------|-------------------|
| TIER: | BEST | BEST | BEST | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE F980 | RED HEAT F981 | RED HEAT F981S | BLUEFIRE F826P | METAL F240 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina Blend | Aluminum Oxide |
| OTHER: | Supersize | | Supersize | | |

| SIZE (D x H) | GRIT | STD. PKG. | PART # |
|--------------|------|-----------|-------------|-------------|-------------|-------------|-------------|
| 4 x 5/8 | 24 | 25 | | | | | 05539510595 |
| | 36 | 25 | | | | | 05539510594 |
| | 50 | 25 | | | | | 05539510593 |
| | 60 | 25 | | | | | 05539510592 |
| | 80 | 25 | | | | | 05539510591 |
| 4-1/2 x 7/8 | 24 | 25 | 69957398000 | 77696008400 | 77696008462 | 66261138457 | 66623353309 |
| | 36 | 25 | 69957398001 | 77696008401 | 77696008465 | 66261138456 | 66623353306 |
| | 36 | 50 V | | | | 66623377276 | |
| | 50 | 25 | 69957398002 | 77696008402 | 77696008466 | 66261138454 | 66623353310 |
| | 60 | 25 | 69957398003 | 77696008403 | 77696008467 | 66261138453 | 66623353311 |
| | 60 | 50 V | | | | 66623377278 | |
| | 80 | 25 | 69957398004 | 77696008404 | 77696008470 | 66261138452 | 66623353312 |
| | 80 | 50 V | | | | 66623377279 | |
| | 100 | 25 | | 77696008405 | | | 66623353313 |
| | 120 | 25 | 66254425332 | 77696008406 | | | 66623353314 |
| 5 x 7/8 | 16 | 25 | | | | | 05539510684 |
| | 24 | 25 | 69957398005 | 77696008407 | 77696008480 | 66261138563 | 66623357276 |
| | 36 | 25 | 69957398006 | 77696008412 | 77696008481 | 66261138562 | 66623357277 |
| | 36 | 50 V | | | | 66623377283 | |
| | 50 | 25 | 69957398007 | 77696008413 | 77696008482 | 66261138561 | 66623357278 |
| | 60 | 25 | 69957398008 | 77696008414 | 77696008483 | 66261138601 | 66623357279 |
| | 60 | 50 V | | | | 66623377285 | |
| | 80 | 25 | 69957398009 | 77696008422 | 77696008484 | 66261138600 | 66623357280 |
| | 100 | 25 | | 77696008423 | | | 66623357281 |
| | 120 | 25 | 66254409084 | 77696008425 | | | 66623357282 |
| 6 x 7/8 | 24 | 25 | 66261160033 | | | | |
| | 36 | 25 | 66261160034 | | | | |
| | 50 | 25 | 66261160035 | | | | |
| | 60 | 25 | 66261160036 | | | | |
| | 80 | 25 | 66261160037 | | | | |
| 7 x 7/8 | 16 | 25 | | | | | 05539510693 |
| | 24 | 25 | 69957398010 | 77696010018 | 77696010006 | 66261138594 | 66623357283 |
| | 36 | 25 | 69957398011 | 77696008429 | 77696010007 | 66261138593 | 66623357284 |
| | 36 | 50 V | | | | 66623377287 | |
| | 50 | 25 | 69957398012 | 77696008430 | 77696010008 | 66261138592 | 66623357285 |
| | 50 | 50 V | | | | 66623377289 | |
| | 60 | 25 | 69957398013 | 77696008431 | 77696010009 | 66261138591 | 66623357286 |
| | 80 | 25 | 69957398014 | 77696008432 | 77696010011 | 66261138590 | 66623357287 |
| | 100 | 25 | | 77696008433 | | | 66623357288 |
| | 120 | 25 | 66254411528 | 77696008436 | | | 66623357289 |
| 9-1/8 x 7/8 | 24 | 25 | 69957398015 | 77696008437 | 77696010012 | 66261138584 | 05539510702 |
| | 36 | 25 | 69957398016 | 77696008440 | 77696010013 | 66261138583 | 05539510701 |
| | 50 | 25 | 69957398017 | 77696008444 | 77696010017 | 66261138582 | |
| | 60 | 25 | | 77696008449 | | | 05539510699 |
| | 80 | 25 | | 77696008452 | | | |
| | 100 | 25 | | 77696008453 | | | |

Note: Fiber discs must be used with back-up pads shown on the last page of this section.

V = Vendible Package. Ideal for vending machines and small jobs. 10 discs/package, 5 packages per standard carton. Order in multiples of 50.

Speed-Change Fiber Discs

These fiber discs feature Norton quick, tool-free, twist-on and -off Speed-Change fasteners. Discs lock to standard back-up pads with a unique nut design and are easily removed, increasing your productivity with more time to grind.



| | | | |
|------------|-------------------|----------------------|------------------------|
| TIER: | BEST | BEST | BETTER |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | BLAZE F980 | RED HEAT F981 | BLUEFIRE F826P |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina Blend |
| OTHER: | Supersize | | |

| SIZE (D x H) | GRIT | STD. PKG. | PART # | PART # | PART # |
|----------------|------|-----------|-------------|-------------|-------------|
| 4-1/2 x 5/8-11 | 24 | 25 | 66261023269 | 77696009735 | |
| | 36 | 25 | 66261185294 | 77696009737 | |
| | 50 | 25 | | 77696009739 | |
| | 60 | 25 | 66261042247 | 77696009740 | |
| | 80 | 25 | 66623328529 | 77696009741 | |
| | 100 | 25 | | 77696009746 | |
| 5 x 5/8-11 | 120 | 25 | | 77696009747 | |
| | 24 | 25 | 66254425336 | 77696009748 | 66261138797 |
| | 36 | 25 | 66261185801 | 77696009749 | 66261138796 |
| | 50 | 25 | | 77696009750 | |
| | 60 | 25 | 66261185803 | 77696009752 | |
| | 80 | 25 | 66623316697 | 77696009753 | |
| 7 x 5/8-11 | 100 | 25 | | 77696009754 | |
| | 120 | 25 | | 77696009755 | |
| | 24 | 25 | 69957349782 | 77696009759 | 66261138819 |
| | 36 | 25 | 66261029863 | 77696009760 | 66261138818 |
| | 50 | 25 | | 77696009761 | 66261138817 |
| | 60 | 25 | 66261042249 | 77696009762 | 66261138816 |
| | 80 | 25 | 66254474373 | 77696009767 | |
| | 100 | 25 | | 77696009771 | |
| | 120 | 25 | | 77696009772 | |

Note: Speed Change fiber discs must always be used with smooth face back-up pads, see next page for details.

AVOS Fiber Discs

- Patented, see-through design allows interrupted cut which reduces heat up to 30% over standard discs
- The scooped holes create air flow to pull swarf away from grinding zone; cool cutting and extended product life
- 15° back-up pad for full utilization of discs – no gouging
- Quick, tool-free, twist-on and -off Speed-Lok fasteners



| | | | |
|------------|-------------------|-----------------------|------------------------|
| TIER: | BEST | BEST | BETTER |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | BLAZE F980 | RED HEAT F981S | BLUEFIRE F826P |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina Blend |

| SIZE | GRIT | STD. PKG. | PART # | PART # | PART # |
|--------------------------|------|-----------|-------------|-------------|-------------|
| 4-1/2 Speed-Lok (3 hole) | 24 | 10 | 66254468389 | 77696008454 | 66261129718 |
| | 36 | 10 | 66254468390 | 77696008456 | 66261129719 |
| | 50 | 10 | 66254468391 | 77696008457 | 66261129720 |
| | 60 | 10 | 66254468392 | 77696008459 | 66261129721 |
| | 80 | 10 | 66254468393 | 77696008460 | 66261129722 |
| 5 Speed-Lok (3 hole) | 24 | 10 | 66254468385 | 77696008471 | 66261126556 |
| | 36 | 10 | 66254468386 | 77696008474 | 66261126557 |
| | 50 | 10 | 66254468387 | 77696008475 | 66261126558 |
| | 60 | 10 | 66254468388 | 77696008477 | 66261126559 |
| | 80 | 10 | | 77696008478 | 66261126560 |
| 7 Speed-Lok (6 hole) | 24 | 10 | 66254468381 | 77696008485 | 66261137454 |
| | 36 | 10 | 66254468382 | 77696010001 | 66261137455 |
| | 50 | 10 | 66254468383 | 77696010002 | 66261137456 |
| | 60 | 10 | 66254468384 | 77696010003 | 66261137457 |
| | 80 | 10 | | 77696010005 | 66261137458 |

Note: AVOS fiber discs must be used with AVOS Speed-Lok back-up pads, see next page for details.



Fiber Disc Accessories



Air-Cooled Standard Back-up Pad
Slotted hub design and curved ribs draw heat away from the grinding zone, reducing disc loading and increasing life. All pads have a 5/8"-11 threaded female hub for mounting. We also offer a no-nose pad for shorter-shafted right angle grinders.



Smooth Face Speed-Change Back-up Pad
Molded rubber back-up pads with a smooth face.

- Hard density pads are for aggressive cutting action
- Medium density pads are for all-purpose applications



AVOS Fiber Disc Back-up Pad

- Patented, see-through design allows interrupted cut which reduces heat up to 30% over standard discs
- The scooped holes create air flow to pull swarf away from grinding zone; cool cutting and extended product life
- 15° back-up pad for full utilization of discs – no gouging
- Quick, tool-free, twist-on and -off Speed-Lok fasteners

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|--|----------|-----------|--------------|
| Rubber Back-up Pads | | | |
| Air-Cooled Standard | | | |
| 4" Medium | 12,000 | 5 | 63642504918 |
| 4-1/2" Medium | 11,000 | 5 | 63642502122 |
| 5" Medium | 10,000 | 5 | 63642543421 |
| 6" | 8,500 | 1 | 66261160043 |
| 7" Hard | 8,600 | 5 | 63642543425 |
| 7" Medium | 8,600 | 5 | 63642543422 |
| 9" Hard | 6,600 | 5 | 63642543426 |
| 9" Medium | 6,600 | 5 | 63642543423 |
| <i>Note: Retainer nuts are not included with back-up pads. These must be ordered separately.</i> | | | |
| Air-Cooled No-Nose | | | |
| 4-1/2" Medium | 11,000 | 5 | 63642504872 |
| 5" Medium | 10,000 | 5 | 63642503000 |
| 7" Medium | 8,600 | 5 | 66254487375+ |
| Smooth Face / Speed-Change | | | |
| 4-1/2" Medium | 20,000 | 5 | 66254492277 |
| 5" Medium | 12,000 | 5 | 63642543235 |
| 7" Hard | 8,600 | 5 | 63642543240 |
| 7" Medium | 8,600 | 5 | 63642543245 |
| 9" Medium | 7,000 | 5 | 63642543270 |
| AVOS Speed-Lok Back-up Pads | | | |
| AVOS Triangular Speed-Lok Back-up Pads | | | |
| 4-1/2" x 5/8-11 | 13,000 | 5 | 63642502985 |
| 5" x 3/8-24 Pistol Grip* | 20,000 | 5 | 63642503029 |
| 5" x 5/8-11 | 13,000 | 5 | 63642502517 |
| 5" x 7/16-20 Pistol Grip* | 20,000 | 5 | 63642503030 |
| AVOS Speed-Lok Back-up Pads – Round | | | |
| 7 x 5/8-11 Hard | 8,600 | 5 | 63642504873 |
| *Use on air pneumatic and high-speed pistol grip Sanders | | | |
| Tools | | | |
| #103 Retainer Nut | — | 10 | 63642543463 |
| Spanner Wrench | — | 5 | 63642543005 |
| 66NS Short Retainer Nut | — | 10 | 63642543461 |

+ Non-stock. Ask your Norton representative for current order quantities, lead-times, and quotation.

All fiber disc back-up pads are packed in individual boxes within the shipping carton. Each box can be used in a vending machine.



Corner Store Convenience – Right on the Floor

Metal Fabrication Vending Solutions

– Industry's best selection of vendible abrasive solutions

See the many popular products conveniently pre-packed in small quantity packages

- Perfect for vending machines, pegboards, new test orders, small orders and jobs, and carrying cleanly to job site
- Pre-selected product assortment for optimal coverage of popular applications
- Available in fiber, flap, paper, and quick-change discs, belts, hand pads, depressed center, cut-off and bench wheels, mounted points, cones and plugs, and sharpening stones



Flap discs are versatile grinding and finishing tools having four main components: abrasive flaps, flap density (how the flaps are stacked), backing plate shape (flat or conical), backing plate material (fiberglass or plastic). All flap discs have flaps that are overlapped and glued to the backing plate. The flaps wear during use, exposing new abrasive grain. The different variations of the components above provide a variety of application choices ranging from heavy stock removal to blending to finishing. Flap discs are designed for portable grinder applications and can be the preferred choice over depressed center wheels or fiber discs.

| | |
|-------------------------|--|
| Applications: | Grinding, stock removal, edge chamfering/beveling, weld blending, deburring/deflashing, rust removal, blending, cleaning and finishing |
| Size Range: | 4": 5/8" hole 4-1/2" - 7": 5/8"-11 discard mount, 7/8" hole, and 2" - 3" quick-change |
| Grit Range: | 24 - 120 |
| Abrasive Grain: | Ceramic Alumina, Zirconia Alumina, and Aluminum Oxide |
| Abrasive Flaps: | Polyester, Cotton/Poly Blend |
| Flap Disc Shape: | Type 27 Flat and Type 29 Conical |
| Abrasive Flap Density: | Standard or high |
| Backing Plate Material: | Fiberglass and plastic |
| Machine Used: | |

FLAP DISC SHAPES



GRIND AT FLATTER ANGLES:
0° - 15°

Type 27 Flat – The Best Choice for Finishing

- Used primarily on flat surfaces
- The best choice for blending and smooth finishing



GRIND AT STEEPER ANGLES:
15° - 25°

Type 29 Conical – The Best Choice for Aggressive Stock Removal

- Conical flap discs have angled flaps and may be used on both contoured and edge work
- The angle provides greater surface contact for stock removal on flat surfaces
- The best choice when speed and stock removal are primary considerations

ABRASIVE FLAP DENSITIES



Standard Density

- Excellent for heavy-duty applications and rapid stock removal

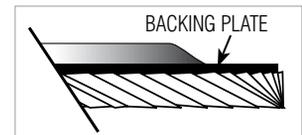


High Density

- Ideal when working on uneven or curved surfaces, as well as finer grit blending

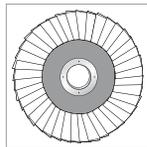
BACKING PLATE MATERIALS

All flap discs are a combination of abrasive flaps adhered to a rigid backing plate. It is the backing plate that provides stability during operation. There are two main materials used: fiberglass and plastic. The fiberglass backing plate, along with the flap shape, helps to absorb vibration and is consumed during use with no smearing. Fiberglass is the most popular material because of its high strength and light weight. The plastic backing plate offers some additional conformability and is trimmable.



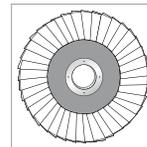
WHY CHOOSE FLAP DISCS?

Flap discs replace both grinding wheels and fiber discs. The same flap disc can be used for applications ranging from stock removal to blending.



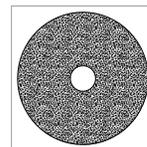
Flap Discs vs. Grinding Wheels

- Faster stock removal
- Smoother finish, no gouging
- Cooler cutting, less glazing
- Lightweight, easier to control
- Less vibration, less operator fatigue
- Reduced noise



Flap Discs vs. Fiber Discs

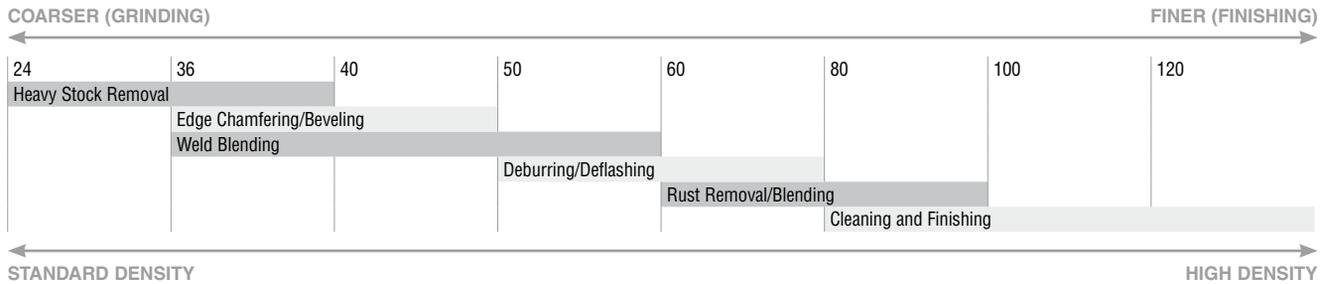
- 20X longer life, reduced abrasive cost
- Fewer disc changes, reduced labor cost
- More consistent finish
- No back-up pad required
- Easier storage, no curling
- Reduced loading
- Use flap discs one grit size coarser than fiber discs, except in 36 grit.



MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|---|---|--|---|
| TYPE 29 FOR STOCK REMOVAL | | | |
| Stainless Steel / Titanium / Super Alloys | Norton Blaze R980P | Norton BlueFire R884P | Norton Metal R828 |
| Mild Carbon Steel / Welds | Norton Red Heat R983 | Norton BlueFire R884P | Norton Metal R828 |
| Ferrous Metals / Cast Iron | Norton Red Heat R983 | Norton BlueFire R884P | Norton Metal R828 |
| Brass / Bronze / Aluminum | – | Norton BlueFire R884P | |
| TYPE 27 FOR BLENDING AND FINISHING | | | |
| Stainless Steel / Titanium / Super Alloys | Norton Blaze R980P | Norton BlueFire R884P | Norton Metal R828 |
| Mild Carbon Steel / Welds | Norton Red Heat R983 | Norton BlueFire R884P | Norton Metal R828 |
| Ferrous Metals / Cast Iron | Norton Red Heat R983 | Norton BlueFire R884P | Norton Metal R828 |
| Brass / Bronze / Aluminum | – | Norton BlueFire R884P | Norton Metal R828 |

APPLICATION/GRIT RECOMMENDATION GUIDE



CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE | | | INITIAL PRICE |
|---------------|--------------------------|---------------------|---------------------------|---------------------------------------|
| | BEST | | BETTER | GOOD |
| NORTON | Blaze R980P | Red Heat R983 | BlueFire R884P | Norton Metal R828 |
| 3M | Cubitron II 967A, 947D | 747D | 563D, 546D | – |
| DeWalt | – | – | – | Z/A |
| Camel | – | C3 | Z-Stainless | Z3 |
| Flexovit | – | – | – | Zircotex Premium, Zircotex HP |
| Garryson | – | – | Zirc+, Zirconium | – |
| GemTex | – | Ceramic | – | Zirconia |
| Hermes | – | – | – | – |
| Klingspor | SMT 996 | – | SMT 630 | SMT 618, 619, 624, 626, 627, 628, 640 |
| Metabo | – | – | – | Z/A |
| Pearl | Red Line CB | Stainless Max | Zirconia Premium, TuffMax | Z/A Silver Line |
| Pferd | CO-Cool | Ceramic | Cool Zirconia, CO-COOL | Zirconia |
| Sait | – | – | Z | – |
| SIA | – | – | – | Z/A |
| Standard | – | Ceramic Oxide | Zirconia Pro | Zirconia |
| Tyrolit | – | – | Z/A | – |
| Walter | Enduro-Flex Stainless | – | Enduro Flex | – |
| Weiler | – | Saber Tooth Ceramic | – | Tiger Zirconium, Vortec |

When You Want Fast and Tough, You Want Norton

Whether you want maximum productivity or simply the lowest initial cost solution, Norton products are the solution for all your right angle grinding and blending applications.



BEST Norton Blaze
Highest Productivity – Lowest Total Cost



BETTER Norton BlueFire
Exceptional Blend of Performance and Price



GOOD Norton Metal
Good Performance – Low Initial Price

NORTON BLAZE R980P CERAMIC ALUMINA

BEST/HIGHEST PRODUCTIVITY FOR STAINLESS STEEL, TITANIUM, AND SUPER ALLOYS



FEATURES & BENEFITS

- Latest-generation ceramic alumina abrasive grain lasts 50% – 200% longer than any flap discs on stainless steel, cobalt, chrome, Inconel, titanium and other hard-to-grind materials
- Y-weight polyester flaps with a supersize grinding aid significantly improve life, grain retention, and fray resistance while providing a cool, noticeably fast cut rate
- High-strength fiberglass back on Type 29 and Type 27 High Density is durable, lightweight, and absorbs vibration
- Black, flexible plastic backing plate on Type 27 Quick Trim is the industry standard for trimmability
- 2" and 3" quick-change mini flap discs are ideal for tight spaces

NORTON RED HEAT R983 CERAMIC ALUMINA

BEST/HIGH PRODUCTIVITY FOR MILD CARBON STEEL, CAST IRON AND FERROUS METALS



FEATURES & BENEFITS

- Our exclusive premium ceramic alumina abrasive blend cuts faster and outlasts aluminum oxide and zirconia abrasives in most applications.
- New, thicker, Y+ weight engineered backing provides extended durability and reduced edge wear
- Advanced self-lubricating grain treatment reduces heat on hard-to-grind materials
- Trimtable Type 27 plastic backing discs are engineered for finishing
- Type 29 conical fiberglass backing flap discs excel at aggressive stock removal
- Type 29 fiberglass high-density flap discs last 40% longer than standard density flap discs on contoured surfaces

NORTON BLUEFIRE R884P ZIRCONIA ALUMINA

BETTER CHOICE FOR MILD CARBON STEEL, AND WELDS



FEATURES & BENEFITS

- High performance zirconia alumina plus abrasive for aggressive cut and long life, with up to 30% longer life than competitive zirconia alumina products
- Polyester flaps with semi-open coat provide improved durability and retards loading on aluminum
- High-strength fiberglass back on Type 29 and Type 27 High Density is durable, lightweight, and absorbs vibration
- Blue, flexible plastic backing plate on Type 27 Quick Trim is the industry standard for trimmability
- Vendible 2-disc package is ideal for vending machines, small jobs, or carrying to a job site
- 2" and 3" quick-change mini flap discs are ideal for tight spaces

NORTON METAL R828 ZIRCONIA ALUMINA

GOOD CONSISTENT PERFORMANCE WITH LOW INITIAL PRICE



FEATURES & BENEFITS

- Durable zirconia alumina abrasive provides good cut rate and life with consistent finish



| | | | | | | |
|----------------|--------------------|----------------------|----------------------|-----------------------|-------------------|-------------------|
| TIER: | BEST | BEST | BEST | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | RED HEAT R983 | RED HEAT R983 | BLUEFIRE R884P | METAL R828 | METAL R828 |
| SHAPE: | Type 29 Conical | Type 29 Conical | Type 29 Conical | Type 29 Conical | Type 29 Conical | Type 29 Conical |
| FLAP DENSITY: | Standard | Standard | High | Standard | Standard | High |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina Plus | Zirconia Alumina | Zirconia Alumina |
| BACKING PLATE: | Fiberglass | Fiberglass | Fiberglass | Fiberglass | Fiberglass | Fiberglass |
| OTHER: | Supersize | Supersize | Supersize | | | |

| SIZE (D x H) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|------------------------|------|----------|-----------|-------------|-------------|-------------|--------|--------------------|-------------|
| Type 29 Conical | | | | | | | | | |
| 4 x 5/8 | 36 | 15,300 | 10 | | | | | 66623399049 | |
| | 40 | 15,300 | 10 | | | | | 66623399050 | |
| | 60 | 15,300 | 10 | | | | | 66623399051 | |
| | 80 | 15,300 | 10 | | | | | 66623399052 | |
| 4-1/2 x 5/8-11 | 36 | 13,300 | 10 | 66261183490 | 66261132771 | | | 66254461165 | 66254419991 |
| | 36 | 13,300 | 10 V | | | | | 66623341104 2-Pack | |
| | 40 | 13,300 | 10 | 66261183491 | 66261132772 | 66261132844 | | 66254461167 | 66254419994 |
| | 60 | 13,300 | 10 | 66261183492 | 66261132773 | 66261132845 | | 66254461170 | 66254419996 |
| | 60 | 13,300 | 10 V | | | | | 66623341105 2-Pack | |
| | 80 | 13,300 | 10 | 66261183493 | 66261132774 | 66261132846 | | 66254461173 | 66254419997 |
| | 80 | 13,300 | 10 V | | | | | 66623341106 2-Pack | |
| | 120 | 13,300 | 10 | | 66261132775 | | | | |
| 4-1/2 x 7/8 | 24 | 13,300 | 10 | | | | | 66623399204 | |
| | 36 | 13,300 | 10 | 66261183486 | 66261132776 | | | 66254461155 | 66254419963 |
| | 36 | 13,300 | 10 V | | | | | 66623341107 2-Pack | |
| | 40 | 13,300 | 10 | 66261183487 | 66261132777 | 66261132847 | | 66254461161 | 66254419978 |
| | 60 | 13,300 | 10 | 66261183488 | 66261132778 | 66261132848 | | 66254461163 | 66254419984 |
| | 60 | 13,300 | 10 V | | | | | 66623341108 2-Pack | |
| | 80 | 13,300 | 10 | 66261183489 | 66261132779 | 66261132849 | | 66254461164 | 66254419987 |
| | 80 | 13,300 | 10 V | | | | | 66623341109 2-Pack | |
| 5 x 5/8-11 | 120 | 13,300 | 10 | | 66261132780 | | | | |
| | 36 | 12,000 | 10 | | 66261132781 | | | 66623399189 | |
| | 36 | 12,000 | 10 V | | | | | 66623341110 2-Pack | |
| | 40 | 12,000 | 10 | | 66261132782 | | | 66623399190 | |
| | 60 | 12,000 | 10 | | 66261132783 | | | 66623399191 | |
| | 80 | 12,000 | 10 | | 66261132784 | | | 66623399192 | |
| 5 x 7/8 | 120 | 12,000 | 10 | | 66261132785 | | | | |
| | 24 | 12,000 | 10 | | | | | 66623399206 | |
| | 36 | 12,000 | 10 | 66261190001 | 66261132786 | | | 66254461174 | 66254419998 |
| | 40 | 12,000 | 10 | 66261190002 | 66261132787 | | | 66254461176 | 66254420001 |
| | 60 | 12,000 | 10 | 66261190003 | 66261132788 | | | 66254461177 | 66254420002 |
| | 80 | 12,000 | 10 | 66261190004 | 66261132789 | | | 66254461178 | 66254420003 |
| 6 x 5/8-11 | 120 | 12,000 | 10 | | 66261132790 | | | | |
| | 40 | 10,200 | 10 | | | | | | 66254491779 |
| | 60 | 10,200 | 10 | | | | | | 66254491780 |
| | 80 | 10,200 | 10 | | | | | | 66254491781 |
| 6 x 7/8 | 24 | 10,200 | 10 | | | | | 66623399066 | |
| | 36 | 10,200 | 10 | | | | | 66623399298 | |
| | 40 | 10,200 | 10 | | 66261132791 | | | 66623399193 | 66254491776 |
| | 60 | 10,200 | 10 | | 66261132792 | | | 66623399194 | 66254491777 |
| | 80 | 10,200 | 10 | | 66261132793 | | | 66623399195 | 66254491778 |
| | 80 | 10,200 | 10 | | 66261132794 | | | 66254461188 | 66254420009 |
| 7 x 5/8-11 | 36 | 8,600 | 10 | 66261183498 | 66261132795 | | | 66254461190 | 66254420010 |
| | 40 | 8,600 | 10 | 66261183499 | 66261132796 | 66261132850 | | 66254461192 | 66254420011 |
| | 60 | 8,600 | 10 | 66261183500 | 66261132797 | 66261132851 | | 66254461193 | 66254420012 |
| | 80 | 8,600 | 10 | 66261183501 | 66261132798 | 66261132852 | | 66254461194 | 66254420013 |
| | 120 | 8,600 | 10 | | 66261132798 | | | | |
| | 120 | 8,600 | 10 | | 66261132803 | | | | |
| 7 x 7/8 | 24 | 8,600 | 10 | | | | | 66623399196 | |
| | 36 | 8,600 | 10 | 66261183494 | 66261132799 | | | 66254461180 | 66254420004 |
| | 40 | 8,600 | 10 | 66261183495 | 66261132800 | 66261132853 | | 66254461183 | 66254420006 |
| | 60 | 8,600 | 10 | 66261183496 | 66261132801 | 66261132854 | | 66254461185 | 66254420007 |
| | 80 | 8,600 | 10 | 66261183497 | 66261132802 | 66261132855 | | 66254461186 | 66254420008 |
| | 120 | 8,600 | 10 | | 66261132803 | | | | 66254420009 |

V = Vendible package. 2 discs/pack; 5 packs/carton. Order in multiples of 10.



| | | | | | | |
|----------------|--------------------|--------------------|----------------------|-----------------------|-----------------------|-------------------|
| TIER: | BEST | BEST | BEST | BETTER | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLAZE R980P | RED HEAT R983 | BLUEFIRE R884P | BLUEFIRE R884P | METAL R828 |
| SHAPE: | Type 27 Flat | Type 27 Flat | Type 27 Flat | Type 27 Flat | Type 27 Flat | Type 27 Flat |
| FLAP DENSITY: | Standard | High | Standard | Standard | High | Standard |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina Plus | Zirconia Alumina Plus | Zirconia Alumina |
| BACKING PLATE: | Quick Trim Plastic | Fiberglass | Quick Trim Plastic | Quick Trim Plastic | Fiberglass | Fiberglass |
| OTHER: | Supersize | Supersize | Supersize | | | |

| SIZE (D x H) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|---------------------|------|----------|-----------|-------------|-------------|-------------|--------------------|-------------|-------------|
| Type 27 Flat | | | | | | | | | |
| 4 x 5/8 | 40 | 15,300 | 10 | | | 66261132804 | | | |
| | 60 | 15,300 | 10 | | | 66261132805 | | | |
| | 80 | 15,300 | 10 | | | 66261132806 | | | |
| 4-1/2 x 5/8-11 | 36 | 13,300 | 10 | | 66254499894 | | 66623399136 | | 66254472655 |
| | 36 | 13,300 | 10 V | | | 66261132807 | 66623341086 2-Pack | | |
| | 40 | 13,300 | 10 | 66254400257 | 66261098290 | 66261132808 | 66623399137 | 77696090086 | 66254437013 |
| | 60 | 13,300 | 10 | 66254400258 | 66261096435 | 66261132809 | 66623399138 | 77696090087 | 66254472656 |
| | 60 | 13,300 | 10 V | | | | 66623341087 2-Pack | | |
| | 80 | 13,300 | 10 | 66254400259 | 66261096436 | 66261132810 | 66623399139 | 77696090088 | 66254472657 |
| 4-1/2 x 7/8 | 120 | 13,300 | 10 | 66254400261 | | 66261132811 | | | |
| | 36 | 13,300 | 10 | 63642501865 | 66261097678 | 66261132812 | 66623399140 | 77696090081 | 66254472653 |
| | 40 | 13,300 | 10 | 66254400253 | 66261020628 | 66261132813 | 66623399141 | 77696090082 | 66254437004 |
| | 60 | 13,300 | 10 | 66254400254 | 66261020633 | 66261132814 | 66623399142 | 77696090083 | 66254448989 |
| | 60 | 13,300 | 10 V | | | | 66623341090 2-Pack | | |
| | 80 | 13,300 | 10 | 66254400255 | 66261020634 | 66261132815 | 66623399143 | 77696090084 | 66254448990 |
| 5 x 5/8-11 | 120 | 13,300 | 10 | 66254400256 | | 66261132816 | | 77696090085 | |
| | 36 | 12,000 | 10 | | | 66261132817 | 66623399144 | | |
| | 40 | 12,000 | 10 | 77696090141 | 66261132141 | 66261132818 | 66623399145 | | |
| | 60 | 12,000 | 10 | 77696090142 | 66261132142 | 66261132819 | 66623399146 | | |
| | 80 | 12,000 | 10 | 77696090143 | 66261132144 | 66261132820 | 66623399147 | | |
| 5 x 7/8 | 120 | 12,000 | 10 | 77696090144 | | 66261132821 | | | |
| | 36 | 12,000 | 10 | | | 66261132822 | 66623399148 | | 66254472659 |
| | 40 | 12,000 | 10 | 66254400262 | 66261132131 | 66261132823 | 66623399149 | | 66254472660 |
| | 60 | 12,000 | 10 | 66254400264 | 66261132133 | 66261132824 | 66623399150 | | 66254472661 |
| | 80 | 12,000 | 10 | 66254400265 | 66261132134 | 66261132825 | 66623399151 | | 66254472662 |
| | 80 | 12,000 | 10 V | | | | 66623341097 2-Pack | | |
| 6 x 5/8-11 | 120 | 12,000 | 10 | 66254400519 | | 66261132826 | | | |
| | 40 | 10,200 | 10 | 66261132128 | 66261132145 | 66261132827 | | | 66254491773 |
| | 60 | 10,200 | 10 | 66261132129 | 66261132146 | 66261132828 | | | 66254491774 |
| | 80 | 10,200 | 10 | 66261132130 | 66261132147 | 66261132829 | | | 66254491775 |
| 6 x 7/8 | 40 | 10,200 | 10 | 66261132123 | 66261132135 | 66261132830 | 66623399152 | | 66254491770 |
| | 60 | 10,200 | 10 | 66261132124 | 66261132136 | 66261132831 | 66623399153 | | 66254491771 |
| | 80 | 10,200 | 10 | 66261132125 | 66261132137 | 66261132832 | 66623399154 | | 66254491772 |
| | 120 | 10,200 | 10 | | | 66261132833 | | | |
| 7 x 5/8-11 | 36 | 8,600 | 10 | | | 66261132834 | 66623399155 | | 66254472669 |
| | 40 | 8,600 | 10 | 66254461066 | 66261132148 | 66261132835 | 66623399156 | 77696090092 | 66254472670 |
| | 60 | 8,600 | 10 | 66254461067 | 66261132168 | 66261132836 | 66623399157 | 77696090093 | 66254472671 |
| | 80 | 8,600 | 10 | 66254461068 | 66261132171 | 66261132837 | 66623399158 | 77696090094 | 66254472672 |
| | 120 | 8,600 | 10 | 66254461069 | | 66261132838 | | | |
| 7 x 7/8 | 36 | 8,600 | 10 | 63642501866 | | 66261132839 | 66623399159 | | 66254472664 |
| | 40 | 8,600 | 10 | 66254461059 | 66261132138 | 66261132840 | 66623399160 | 77696090089 | 66254472665 |
| | 60 | 8,600 | 10 | 66254461060 | 66261132139 | 66261132841 | 66623399161 | 77696090090 | 66254472666 |
| | 80 | 8,600 | 10 | 66254461061 | 66261132140 | 66261132842 | 66623399162 | 77696090091 | 66254472667 |
| | 120 | 8,600 | 10 | 66254461063 | | 66261132843 | | | |

V = Vendible package. Ideal for vending machines & small jobs. 2 Flap Discs/pack, 5 packs/carton. Order in multiples of 10.

NORTON BLUEFIRE R884P ZIRCONIA ALUMINA

PACKAGED FOR RETAIL / WALK-IN SELLING / SMALL JOBS



FEATURES & BENEFITS

- Zirconia alumina plus abrasive for aggressive cut and long life
- Individual hang card provides product selling points
- Product ships in merchandisable display case of small quantities
- Available wire rack (with header card) allows merchandising of 4" and 4-1/2" product three ways: hung on pegboard, mounted on an upright, or placed on a shelf/counter

TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **BLUEFIRE R884P**
 SHAPE: Type 29
 FLAP DENSITY: Standard
 ABRASIVE: Zirconia Alumina Plus
 BACKING PLATE: Fiberglass

| SIZE (D x H) | GRIT | MAX. RPM | STD. PKG. | PART # |
|----------------|------|----------|-----------|-------------|
| 4 x M-10 | 40 | 15,300 | 5 | 07660703214 |
| | 60 | 15,300 | 5 | 07660703215 |
| | 80 | 15,300 | 5 | 07660703216 |
| 4-1/2 x 5/8-11 | 40 | 13,300 | 5 | 07660703211 |
| | 60 | 13,300 | 5 | 07660703212 |
| | 80 | 13,300 | 5 | 07660703213 |
| 7 x 5/8-11 | 40 | 8,600 | 5 | 07660703205 |
| | 60 | 8,600 | 5 | 07660703206 |
| | 80 | 8,600 | 5 | 07660703207 |
| Wire Rack | | | 2 | 07660704157 |



WIRE RACK (WITH HEADER CARD) ALLOWS MERCHANDISING OF 4" AND 4-1/2" PRODUCT THREE WAYS: HUNG ON PEGBOARD, MOUNTED ON AN UPRIGHT, OR PLACED ON A SHELF/COUNTER

NORTON MINI FLAP DISCS

PACKAGED FOR RETAIL / WALK-IN SELLING / SMALL JOBS

FEATURES & BENEFITS

- High performance ceramic and zirconia alumina abrasive blend provides maximum cut rate and life
- Layered flaps wear away evenly, producing a high quality and consistent finish



| TIER: | BEST | BETTER | BEST | BETTER |
|-------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| BRAND: | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLUEFIRE R884P | BLAZE R980P | BLUEFIRE R884P |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina Plus | Ceramic Alumina | Zirconia Alumina Plus |
| FLAP: | Polyester | Polyester | Polyester | Polyester |
| BACKING MATERIAL: | Extra Heavy-Duty Plastic | Extra Heavy-Duty Plastic | Extra Heavy-Duty Plastic | Extra Heavy-Duty Plastic |
| ATTACHMENT: | TR (Type III) | TR (Type III) | TS (Type II) | TS (Type II) |



| SIZE (D) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # |
|----------|------|-----------|-------------|-------------|-------------|-------------|
| 2 | 36 | 10 | 77696090145 | 77696090165 | 77696090155 | 77696090175 |
| | 40 | 10 | 77696090146 | 77696090166 | 77696090156 | 77696090176 |
| | 60 | 10 | 77696090147 | 77696090167 | 77696090157 | 77696090177 |
| | 80 | 10 | 77696090148 | 77696090168 | 77696090158 | 77696090178 |
| | 120 | 10 | 77696090149 | 77696090169 | 77696090159 | 77696090179 |
| 3 | 36 | 10 | 77696090150 | 77696090170 | 77696090160 | 77696090180 |
| | 40 | 10 | 77696090151 | 77696090171 | 77696090161 | 77696090181 |
| | 60 | 10 | 77696090152 | 77696090172 | 77696090162 | 77696090182 |
| | 80 | 10 | 77696090153 | 77696090173 | 77696090163 | 77696090183 |
| | 120 | 10 | 77696090154 | 77696090174 | 77696090164 | 77696090184 |

| DESCRIPTION | MAX. RPM | STD. PKG. | TR (TYPE III) | TS (TYPE II) |
|------------------------------------|----------|-----------|---------------|--------------|
| Mini Flap Disc Back-up Pads | | | | |
| 2" Medium Density Back-up Pad | 30,000 | 1 | 08834164922 | 08834164198 |
| 3" Medium Density Back-up Pa | 20,000 | 1 | 08834164949 | 08834164113 |



For use on dual action and random orbital sanders. The industry's highest performing and broadest selection of paper discs in PSA (pressure sensitive adhesive) disc rolls and individual discs, and hook and loop discs.

Applications: Stripping and preparing primed and painted surfaces for finishing, sanding of plastics, fiberglass and composites, bare wood sanding, light weld blending, preparing and finishing metal, and sanding of all gel coat and body filler compounds

Size Range: 3" – 8"

Grit Range: 36 – 1500

Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Aluminum Oxide, Silicon Carbide

Attachment Systems: PSA (pressure-sensitive adhesive), hook and loop

Paper Weights: Heavyweight – E and F; Lightweight – B and C

Vacuum Holes: See product availability charts

Machine Used:



MATERIAL/APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity Lowest Total Cost | | BETTER Excellent Blend of Performance & Price | | GOOD Consistent Performance: Low Initial Price |
|-------------------------------------|--|----------------------------------|--|----------------------------------|---|
| | Heavy-Medium Stock Removal | Light Stock Removal-Finishing | Heavy-Medium Stock Removal | Light Stock Removal-Finishing | Light Stock Removal-Finishing |
| Primed, Painted Surfaces | | Dry Ice A975 | BlueFire H875P | OP A275 | Gold Reserve A296 |
| Fiberglass / Composites / Gel Coats | | Dry Ice A975 | BlueFire H875P | OP A275 | Gold Reserve A296 |
| Wood | | Dry Ice A975 | BlueFire H875P | OP A275 | Gold Reserve A296 |
| Metal | Norton SG H920 | Dry Ice A975 | BlueFire H822 | OP A275 | Gold Reserve A296 |
| Body Fillers / Compounds / Plastics | | Dry Ice A975 | BlueFire H875P | OP A275 | Gold Reserve A296 |

APPLICATION/GRIT RECOMMENDATION GUIDE

| COARSER (GRINDING) | | | | | | | | | | FINER (FINISHING) | | | | | | | | | |
|--------------------------|----|----|----|---------------------------|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-----|----------------------|------|------|------|
| 36 | 40 | 60 | 80 | 100 | 120 | 150 | 180 | 220 | 240 | 280 | 320 | 360 | 400 | 500 | 600 | 800 | 1000 | 1200 | 1500 |
| Roughing to Intermediate | | | | Intermediate to Finishing | | | | | | Fine Finishing | | | | | | Ultra Fine Finishing | | | |

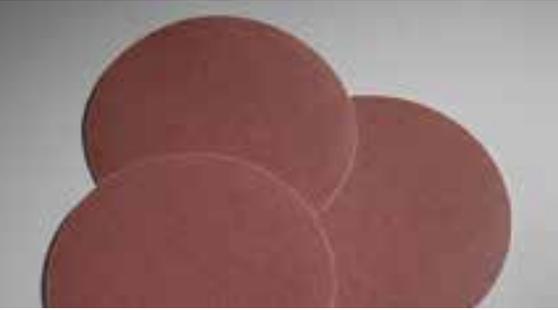
CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE | | | | | | INITIAL PRICE | | |
|---------------|-------------------|------------------|------------------|------------------------|------------------------------|------------------|------------------------------|--------------------------|--------------------|
| | BEST | | BETTER | | | | GOOD | | |
| | F-Wt. | B- & C-Wt. | F-Wt. | E-Wt. | B-Wt. | B-Wt.-Wt. | B-Wt. | C-Wt. | B-Wt. |
| NORTON | Norton SG H920 | Dry Ice A975 | BlueFire H822 | BlueFire H875P | OP A275 | A270 | Durite A475 | A290 | Gold Reserve A296 |
| 3M | 763U, 751I | 734U, 735U, 765L | – | 750U, 751U, 740I, 745I | 216U, 255L, 260L, 334U | 210U, 268L, 360L | 414N, 415N, 405N, 415U, 435U | 236U | 214U, 316U Red. NX |
| Hermes | CB115 | – | BW 115 | – | VC154-LL | VC152 | PSF-LL, SF168 | HCAB-LL, HC135, VC151-LL | – |
| Indasa | – | – | – | – | RedLine | – | – | – | WhiteLine |
| Klingspor | – | PS36 | PS20, PS21, PS22 | – | PS33 | – | PL35 | PS33 | PL36 |
| Mirka | – | – | – | Royal Coarse Cut | Q-Silver, Royal, Royal Micro | Silver | CaratFlex, PolarStar | Bulldog Gold, Basecut | Carat (B), Basecut |
| SIA | – | 1950 | 1820, 1919 | 1820, 1919 | 1940, 1950 | – | 1748 | 1947 | – |
| VSM | – | – | – | KP510E, KP709 | MPG | – | CP131A | KP911 | MP10 |

Heavyweight Paper Discs

NORTON SG H920 CERAMIC ALUMINA

BEST CHOICE FOR MOST DEMANDING STOCK REMOVAL APPLICATIONS



FEATURES

- Durable and friable Norton SG ceramic alumina abrasive
- Strong, heavy F-weight paper, synthetically-coated

BENEFITS

- Fast aggressive cutting action, yet cool cutting
- Maximum durability and resistance to edge chipping and shedding
- Premier product for metal fabricating and blending; ideal for soldered and welded areas

NORTON BLUEFIRE H822 ZIRCONIA ALUMINA

BETTER CHOICE FOR AGGRESSIVE METALWORKING APPLICATIONS



FEATURES & BENEFITS

- Patented zirconia alumina abrasive provides 2X-3X life over aluminum oxide products
- Strong F-weight paper, synthetically-coated for excellent durability and chip resistance
- Designed for "metal in the white" and a variety of wood sanding operations where aggressive cutting action and extra durable backing are needed
- Non-stearated (no anti-loading agents) for non-contaminating; often required for prime auto and aerospace paint applications
- Pressure sensitive adhesive and linked disc roll format allow easy application, removal, and dispensing

NORTON BLUEFIRE H875P ZIRCONIA ALUMINA

BETTER CHOICE FOR SOFT MATERIAL AND WOOD APPLICATIONS



FEATURES

- Next-generation zirconia alumina abrasive
- Strong, heavy, E-weight paper
- Open coat design

BENEFITS

- Extended life over original zirconia alumina products
- Improved cut rate
- Increased durability and chip resistance, flexible
- Reduced loading; ideal for body-filler, fiberglass, wood and composites

Stick & Sand (PSA)
Heavyweight Disc Rolls
Non-Vacuum



| | | | |
|-----------------------|-----------------|----------------------|-----------------------|
| TIER: | BEST | BETTER | BETTER |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | SG H920 | BLUEFIRE H822 | BLUEFIRE H875P |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Zirconia Alumina |
| PAPER BACKING WEIGHT: | F-Weight | F-Weight | E-Weight |
| FASTENING: | PSA | PSA | PSA |

| SIZE | GRIT | ROLLS/STD. PKG. | DISCS/ ROLL | PART # | PART # | PART # |
|------|------|-----------------|-------------|-------------|-------------|-------------|
| 5 | 60 | 4 | 100 | 66261149873 | 66261137310 | |
| | 80 | 4 | 100 | 66261149872 | 66261137309 | 66261124977 |
| | 100 | 4 | 100 | 66261149871 | 66261137308 | |
| | 120 | 4 | 100 | 66261149870 | 66261137307 | |
| 6 | 60 | 4 | 100 | | 66261137323 | |
| | 80 | 4 | 100 | 66261149876 | 66261137322 | 66261125573 |
| | 120 | 4 | 100 | 66261149874 | | |
| 8 | 100 | 4 | 50 | 66261149879 | | |
| | 120 | 4 | 50 | | 66261137333 | |

Refer to the end of this section for back-up pads and accessories.

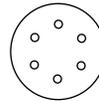
Heavyweight Paper Discs

Stick & Sand (PSA)
Individual Discs
Non-Vacuum and Vacuum



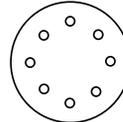
| | | |
|-----------------------|-----------------------|-----------------------|
| TIER: | BETTER | BETTER |
| BRAND: | Norton | Norton |
| TRADENAME: | BLUEFIRE H875P | BLUEFIRE H875P |
| ABRASIVE: | Zirconia Alumina | Zirconia Alumina |
| PAPER BACKING WEIGHT: | E-Weight | E-Weight |
| FASTENING: | PSA | PSA Vacuum |

| SIZE | GRIT | MIN./STD PKG. | PART # | PART # |
|------|------|---------------|-------------|--------|
| 5" | 36 | 50/200 | 66261125436 | |
| | 40 | 50/200 | 66261125307 | |
| | 80 | 50/200 | 66261125244 | |



6" X 6 Hole
Die #3371

| | | | | |
|----|----|--------|-------------|-------------|
| 6" | 36 | 50/200 | 66261123575 | |
| | 40 | 50/200 | 66261123574 | 66261123580 |
| | 80 | 50/200 | 66261123573 | |



8" X 8 Hole
Die #3370

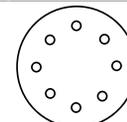
| | | | | |
|----|----|--------|-------------|-------------|
| 8" | 36 | 25/100 | 66261123578 | 66261123584 |
| | 40 | 25/100 | 66261123577 | |
| | 80 | 25/100 | 66261123576 | 66261123582 |

Hook & Loop
Individual Discs
Non-Vacuum and Vacuum



| | | | |
|-----------------------|-----------------|-----------------------|-----------------------|
| TIER: | BEST | BETTER | BETTER |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | SG H920 | BLUEFIRE H875P | BLUEFIRE H875P |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Zirconia Alumina |
| PAPER BACKING WEIGHT: | F-Weight | E-Weight | E-Weight |
| FASTENING: | Hook & Loop | Hook & Loop | Hook & Loop |
| OTHER: | | | Vacuum |

| SIZE | GRIT | MIN./STD PKG. | PART # | PART # | PART # |
|------|------|---------------|-------------|--------------|--------|
| 5" | 40 | 25/100 | | 66261125684 | |
| | 60 | 50/250 | 66261149864 | | |
| | 80 | 50/250 | 66261149865 | 66261125444● | |
| | 100 | 50/250 | 66261149866 | | |
| | 120 | 50/250 | 66261149867 | | |
| 6" | 36 | 25/100 | | 66261123590 | |
| | 40 | 25/100 | | 66261123589 | |
| | 80 | 25/100 | | 66261123588 | |



8 in. x 8 Hole
Die #3370

| | | | | | |
|----|----|--------|--|-------------|-------------|
| 8" | 36 | 25/100 | | 66261123593 | 66261123598 |
| | 40 | 25/100 | | 66261123592 | |
| | 80 | 25/100 | | 66261123591 | 66261123596 |

Packaging Standards: Min. / Std. Pkg. ● H875P = 25/100

Lightweight Paper Discs

NORTON DRYICE A975 NO-FIL CERAMIC ALUMINA

BEST CHOICE FOR THE MOST DEMANDING SANDING APPLICATIONS

FEATURES

- P-graded Norton SG ceramic alumina abrasive
- Unique fiber-reinforced, flexible B- and C-weight latex-saturated backing
- Water-based No-Fil stearate, non-pigmented
- EXPANDED OFFERING! Multi-Air Cyclonic A975 hook and loop laser-cut vacuum discs

BENEFITS

- Fastest cut rate; longest life of any paper disc
- 50-60% improvement in tear strength, longer life in all applications
- Flexible
- Provides maximum load resistance and extended life
- No color transfer to work
- Revolutionary design for maximum vacuum assist (see product page for more details and availability)

NORTON OP A275 NO-FIL ALUMINUM OXIDE

BETTER CHOICE FOR HIGH-PERFORMANCE DRY FINISHING ON ALL MATERIALS

FEATURES

- Premium P-graded, heat-treated aluminum oxide abrasive
- Unique fiber-reinforced, flexible B-weight latex-saturated backing
- Water-based stearate, non-pigmented, No-Fil coating
- 5" and 6" individual PSA discs in fine grits have a tabbed, white translucent liner

BENEFITS

- Superior life, fast cut rate, consistent finish
- 50-60% improvement in tear strength
- Flexible
- Provides maximum load resistance and extended life
- No color transfer to work
- The PSA adhesive is protected from airborne contaminants
- The tab allows easier removal of the paper liner

NORTON DURITE A475 NO-FIL SILICON CARBIDE

BETTER CHOICE FOR HARD-TO-SAND SURFACES AND WOOD APPLICATIONS

FEATURES

- P-graded, hard, silicon carbide abrasive
- Water-based stearate, non-pigmented, No-Fil coating
- Durable, fiber-reinforced, B-weight latex paper

BENEFITS

- Easy penetration of the hardest surfaces
- Resists loading for the longest usable product life
- No color transfer to work
- Provides flexibility and resistance to tearing

NORTON GOLD RESERVE A296 NO-FIL ALUMINUM OXIDE

GOOD CHOICE FOR SANDING A BROAD RANGE OF SUBSTRATES INCLUDING PRIMED OR PAINTED SURFACES, WOOD, COMPOSITES, ALUMINUM, AND FERROUS METALS

FEATURES

- P-graded premium aluminum oxide abrasive produces a quick, cool cut and a more consistent surface finish
- Strong B-weight latex/paper backing resists tearing while staying conformable and flexible
- Water-based, non-loading (No-Fil) stearate resists clogging and increases disc life
- Pressure sensitive adhesive disc roll, and hook and loop disc options allow easy application, removal, and dispensing

BENEFITS

Lightweight Paper Discs

Stick & Sand (PSA)
Lightweight Disc Rolls
Non-Vacuum



| | | | | | |
|-----------------------|---------------------------|-----------------------|---------------------------|---------------------------------|--------------------|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | DRYICE A975 NO-FIL | OP A275 NO-FIL | DURITE A475 NO-FIL | GOLD RESERVE A296 NO-FIL | A290 NO-FIL |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide | Silicon Carbide | Aluminum Oxide | Aluminum Oxide |
| PAPER BACKING WEIGHT: | B- & C-Weight | B-Weight | B-Weight | B-Weight | C-Weight |
| FASTENING: | PSA | PSA | PSA | PSA | PSA |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded |

| SIZE | GRIT | ROLLS/ STD. PKG. | DISCS/ ROLL | PART # | PART # | PART # | PART # | PART # |
|-------|------|---------------------|----------------|--------------|--------------|-------------|-------------|-------------|
| 3-1/2 | 80 | 4 | 100 | | 66261136376 | | | |
| | 120 | 4 | 100 | | 66261136375 | | | |
| | 180 | 4 | 100 | | 66261136373 | | | |
| | 220 | 4 | 100 | | 66261136372 | | | |
| | 280 | 4 | 100 | | 66261136370 | | | |
| | 320 | 4 | 100 | | 66261136369 | | | |
| 5 | 400 | 4 | 100 | | 66261136368 | | | |
| | 60 | 4 | 100 | | | | | 66261149831 |
| | 80 | 4 | 100 | 66261140502 | 66261131464* | 66254487415 | 66261183806 | 66261149830 |
| | 100 | 4 | 100 | 66261140501 | 66261131463* | 66254487417 | 66261183807 | 66261149829 |
| | 120 | 4 | 100 | 66261140500 | 66261131462* | 66254487418 | 66261183808 | 66261149828 |
| | 150 | 4 | 100 | 66261140499 | 66261131461* | 66254487440 | 66261183809 | 66261149827 |
| | 180 | 4 | 100 | 66261140498 | 66261131460* | 66254487441 | 66261183810 | 66261149826 |
| | 220 | 4 | 100 | 66261142474 | 66261131459* | 66254487442 | 66261183811 | 66261149825 |
| | 240 | 4 | 100 | 66261155380 | 66261131458* | 66254487443 | 66261183812 | 66261149824 |
| | 280 | 4 | 100 | 66261155379 | 66261131457* | | | 66261149823 |
| | 320 | 4 | 100 | 66261155378 | 66261131456* | 66254487444 | 66261183813 | 66261149822 |
| | 400 | 4 | 100 | 66261155377 | 66261131454* | 66261065293 | 66261183814 | 66261149821 |
| | 500 | 4 | 100 | | 66261131453* | | | |
| | 600 | 4 | 100 | 66623305608 | 66261131452* | 66254421217 | | |
| 800 | 4 | 100 | 66254480230 | 66261131451* | 66254401221 | | | |
| 6 | 60 | 4 | 100 | | | | | 66261149847 |
| | 80 | 4 | 100 | 66261140512 | 66261131481* | 66254487446 | 66261183815 | 66261149842 |
| | 100 | 4 | 100 | 66261140511 | 66261131480* | | 66261183816 | 66261149841 |
| | 120 | 4 | 100 | 66261140510 | 66261131479* | 66254487447 | 66261183817 | 66261149840 |
| | 150 | 4 | 100 | 66261140509 | 66261131478* | | 66261183818 | 66261149839 |
| | 180 | 4 | 100 | 66261140508 | 66261131477* | 66254487448 | 66261183819 | 66261149838 |
| | 220 | 4 | 100 | 66261148340 | 66261131476* | 66254487449 | 66261183820 | 66261149837 |
| | 240 | 4 | 100 | 66261155376 | 66261131475* | | 66261183821 | 66261149836 |
| | 280 | 4 | 100 | | 66261131474* | | | 66261149835 |
| | 320 | 4 | 100 | 66261155374 | 66261131473* | 66254487450 | 66261183822 | 66261149834 |
| | 400 | 4 | 100 | 66261155373 | 66261131471* | | 66261183823 | 66261149833 |
| | 500 | 4 | 100 | 63642506198 | 66261131470* | | | |
| | 600 | 4 | 100 | 63642506199 | 66261131469* | | 66261040261 | |
| | 800 | 4 | 100 | 63642506200 | 66261131468* | | 63642506164 | |
| 8 | 80 | 4 | 100 | | 66261131617 | | | |
| | 120 | 4 | 100 | | 66261131615 | | | |
| | 150 | 4 | 100 | | 66261131614 | | | |
| | 180 | 4 | 100 | | 66261131613 | | | |
| | 220 | 4 | 100 | | 66261131612 | | | |
| 320 | 4 | 100 | | 66261131609 | | | | |

* Packaging Standards A275 = 6/100

Refer to the end of this section for back-up pads and accessories.

Lightweight Paper Discs

Stick & Sand (PSA)
Lightweight Disc Rolls
Vacuum



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **OP A275 NO-FIL**
 ABRASIVE: Aluminum Oxide
 PAPER BACKING WEIGHT: B-Weight
 FASTENING: PSA
 OTHER: P-Graded



TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **A290 NO-FIL**
 ABRASIVE: Aluminum Oxide
 C-Weight
 PSA
 P-Graded

Stick & Sand (PSA)
Individual Discs
Non-Vacuum



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **OP A275 NO-FIL**
 ABRASIVE: Aluminum Oxide
 PAPER BACKING WEIGHT: B-Weight
 FASTENING: PSA Tabbed
 OTHER: P-Graded

| SIZE | GRIT | ROLLS/ STD. PKG. | DISCS/ ROLL | PART # | ROLLS/ STD. PKG. | DISCS/ ROLL | PART # |
|------|------|---------------------|----------------|---|---------------------|----------------|---|
| | | | |  | | |  |
| | | | | 5 in. X 5 Hole Die #3329 | | | 5 in. X 5 Hole Die #3329 |
| 5" | 60 | | | | 4 | 100 | 66261130266 |
| | 80 | 6 | 100 | 66261131498 | 4 | 100 | 66261130265 |
| | 100 | 6 | 100 | 66261131497 | 4 | 100 | 66261130264 |
| | 120 | 6 | 100 | 66261131496 | 4 | 100 | 66261130263 |
| | 150 | 6 | 100 | 66261131495 | 4 | 100 | 66261130262 |
| | 180 | 6 | 100 | 66261131494 | 4 | 100 | 66261130261 |
| | 220 | 6 | 100 | 66261131493 | 4 | 100 | 66261130260 |
| | 240 | 6 | 100 | 66261131492 | 4 | 100 | 66261130259 |
| | 320 | 6 | 100 | 66261131490 | 4 | 100 | 66261130258 |
| | 400 | 6 | 100 | 66261131488 | | | |
| | 500 | 6 | 100 | 66261131487 | | | |

| SIZE | GRIT | MIN./ STD PKG. | PART # |
|------|------|-------------------|-------------|
| 5" | 1000 | 100/400 | 66261131450 |
| | 1200 | 100/400 | 66261131449 |
| 6" | 36 | 50/200 | |
| | 1000 | 100/400 | 66261131467 |
| | 1200 | 100/400 | 66261131466 |
| | 1500 | 100/400 | 66261131465 |

| SIZE | GRIT | ROLLS/ STD. PKG. | DISCS/ ROLL | PART # | ROLLS/ STD. PKG. | DISCS/ ROLL | PART # |
|------|------|---------------------|----------------|--|---------------------|----------------|--|
| | | | |  | | |  |
| | | | | 6 in. X 6 Hole Die #3333 | | | 6 in. X 6 Hole Die #3333 |
| 6" | 80 | 6 | 100 | 66261131515 | 4 | 100 | 66261130276 |
| | 100 | 6 | 100 | 66261131514 | 4 | 100 | 66261130275 |
| | 120 | 6 | 100 | 66261131513 | 4 | 100 | 66261130274 |
| | 150 | 6 | 100 | 66261131512 | 4 | 100 | 66261130273 |
| | 180 | 6 | 100 | 66261131511 | 4 | 100 | 66261130272 |
| | 220 | 6 | 100 | 66261131510 | 4 | 100 | 66261130271 |
| | 240 | 6 | 100 | 66261131509 | | | |
| | 280 | 6 | 100 | 66261131508 | | | |
| | 320 | 6 | 100 | 66261131507 | 4 | 100 | 66261130268 |
| | 400 | 6 | 100 | 66261131505 | | | |
| | 600 | 6 | 100 | 66261131503 | | | |

Refer to the end of this section for back-up pads and accessories.



PSA Disc Roll Dispenser

- Norton disc roll dispensers feature heavy-duty construction and a rubberized finish to protect your product, as well as the finish on your workpiece
- These versatile dispensers are designed to accommodate any 5" or 6" disc roll or sheet roll
- They can be attached to a wall or stacked for multi-grit or multi-diameter operations
- Discs are individually dispensed and removed from the roll by a cutter bar

| DESCRIPTION | STD. PKG. | PART # |
|------------------------------------|-----------|-------------|
| PSA Disc Roll Dispenser | | |
| Single Disc Roll Dispenser | 1 | 63642542772 |
| Double Disc Roll Dispenser (shown) | 1 | 63642502981 |

Lightweight Paper Discs

MULTI-AIR CYCLONIC HOOK & LOOP VACUUM

LESS DUST; MORE PRODUCTIVITY



FEATURES

- Precision laser-cut, spiral-hole design based on the Golden Ratio
- Norton SG ceramic alumina grain
- Unique fiber-reinforced latex/paper backing
- Water-based stearate coating (No-Fil)

BENEFITS

- Maximum dust extraction for cleaner work environment and less potential for contamination
- Consistent cut throughout the life of the disc
- Superior cut on difficult to sand surfaces
- Substantially longer life and faster cut than conventional abrasives
- Quick, cool cut
- Flexible, strong and tear resistant
- Load resistant for extended product life



TIER: **BEST**

BRAND: Norton

TRADENAME: **DRY ICE A975 NO-FIL**

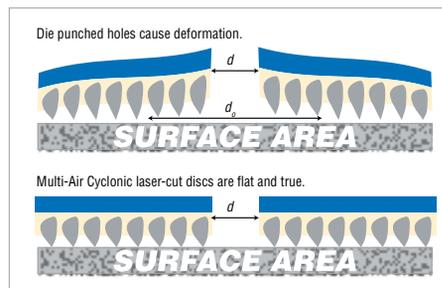
ABRASIVE: Ceramic Alumina

PAPER BACKING WEIGHT: B- & C-Weight

FASTENING: Hook & Loop

OTHER: P-Graded

| SIZE | GRIT | MIN./STD PKG. | PART # |
|-------------------------------|--------|---------------|-------------|
| 3" | 80 | 50/200 | 77696095005 |
| | 120 | 50/200 | 77696095006 |
| | 150 | 50/200 | 77696095007 |
| | 180 | 50/200 | 77696095008 |
| | 220 | 50/200 | 77696095009 |
| | 240 | 50/200 | 77696095010 |
| | 320 | 50/200 | 77696095011 |
| | 400 | 50/200 | 77696095012 |
| | 500 | 50/200 | 77696095013 |
| | 600 | 50/200 | 77696095014 |
| 5" x 11/16" (125mm x 18mm) | 80 | 50/200 | 77696007745 |
| | 120 | 50/200 | 77696007753 |
| | 150 | 50/200 | 77696007755 |
| | 180 | 50/200 | 77696007756 |
| | 220 | 50/200 | 77696007757 |
| | 240 | 50/200 | 77696007760 |
| | 280 | 50/200 | 77696007762 |
| | 320 | 50/200 | 77696007763 |
| | 400 | 50/200 | 77696007765 |
| | 500 | 50/200 | 77696007768 |
| 6" x 11/16" (150mm x 18mm) | 80 | 50/200 | 77696007770 |
| | 120 | 50/200 | 77696007773 |
| | 150 | 50/200 | 77696007774 |
| | 180 | 50/200 | 77696007775 |
| | 220 | 50/200 | 77696007776 |
| | 240 | 50/200 | 77696007777 |
| | 280 | 50/200 | 77696007778 |
| | 320 | 50/200 | 77696007781 |
| | 400 | 50/200 | 77696007784 |
| | 500 | 50/200 | 77696007785 |
| 600 | 50/200 | 77696007786 | |
| 800 | 50/200 | 77696007787 | |
| 1000 | 50/200 | 77696007788 | |



Improved Dust Extraction / Increased Productivity
The upgrade to precise, flat, laser-cut holes instead of die-punched holes, dramatically increases surface area contact allowing Norton Multi-Air Cyclonic discs to improve productivity by 32% versus conventional multi-hole sanding and by 60% versus non-vacuum sanding.
The end result is more holes for dust extraction, more abrasive coverage for a better cut and no deformation – for full surface contact utilizing all the cutting power of the premium ceramic grain.

Refer to the end of this section for back-up pads and accessories for Norton Multi-Air Cyclonic Discs.

Lightweight Paper Discs

Hook & Loop
Individual Discs
Non-Vacuum



| | | | | | |
|-----------------------|----------------------------|-----------------------|---------------------------|---------------------------------|--------------------|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| CAP CODE: | DRY ICE A975 NO-FIL | OP A275 NO-FIL | DURITE A475 NO-FIL | GOLD RESERVE A296 NO-FIL | A290 NO-FIL |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide | Silicon Carbide | Aluminum Oxide | Aluminum Oxide |
| PAPER BACKING WEIGHT: | B- & C-Weight | B-Weight | B-Weight | B-Weight | C-Weight |
| FASTENING: | Hook & Loop | Hook & Loop | Hook & Loop | Hook & Loop | Hook & Loop |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded |

| SIZE | GRIT | MIN./STD PKG. | PART # | PART # | PART # | PART # | PART # | |
|------|---------|---------------|--------------|-------------|-------------|--------------|-------------|--|
| 3" | 80 | 50/200 | | 66261131532 | | | | |
| | 100 | 50/200 | | 66261144926 | | | | |
| | 120 | 50/200 | | 66261128688 | | | | |
| | 150 | 50/200 | | 66261140385 | | | | |
| | 180 | 50/200 | | 66261131528 | | | | |
| | 220 | 50/200 | | 66261131527 | | | | |
| | 240 | 50/200 | | 66261131526 | | | | |
| | 320 | 50/200 | | 66261131524 | | | | |
| | 400 | 50/200 | | 66261136995 | | | | |
| | 500 | 50/200 | | 66261131521 | | | | |
| | 600 | 50/200 | | 66261136996 | | | | |
| | 800 | 50/200 | | 66261131519 | | | | |
| | 1000 | 50/200 | | 66261135900 | | | | |
| | 1500 | 50/200 | | 66261147434 | | | | |
| 5" | 60 | 100/400 | | | | | 66261130224 | |
| | 80 | 100/400 | 66261140522‡ | 66261131549 | | 66623377539 | 66261149907 | |
| | 100 | 100/400 | 66261140521‡ | 66261131548 | | | 66261149906 | |
| | 120 | 100/400 | 66261140520‡ | 66261131547 | | 66623377541 | 66261149905 | |
| | 150 | 100/400 | 66261140519‡ | 66261131546 | | 66623377542 | 66261149904 | |
| | 180 | 100/400 | 66261140518‡ | 66261131545 | | 66623377543 | 66261149903 | |
| | 220 | 100/400 | 66261149541‡ | 66261131544 | | 66623305637 | 66261149902 | |
| | 240 | 100/400 | 66261149540‡ | 66261131543 | | 66254457751 | | |
| | 280 | 100/400 | | 66261131542 | | | | |
| | 320 | 100/400 | 66261149538‡ | 66261131541 | | 66623305638 | 66261149900 | |
| | 400 | 100/400 | 66261149537‡ | 66261131539 | 66261052270 | 66623305639 | 66261149899 | |
| | 500 | 100/400 | 66254480233‡ | 66261131538 | | | | |
| | 600 | 100/400 | | 66261131537 | 66254421221 | 66261105390 | | |
| | 800 | 100/400 | 66254480232‡ | 66261131536 | 66261052267 | 66623377544 | | |
| | 1000 | 100/400 | | 66261131535 | 66261052254 | | | |
| | 1200 | 100/400 | | 66261131534 | | | | |
| 1500 | 100/400 | | 66261131533 | | | | | |
| 6" | 80 | 100/400 | 66261140532‡ | 66261131566 | | 63642506236* | 66261149916 | |
| | 100 | 100/400 | 66261140531‡ | 66261131565 | | 63642506235* | 66261149915 | |
| | 120 | 100/400 | 66261140530‡ | 66261131564 | | 63642506234* | 66261149914 | |
| | 150 | 100/400 | 66261140529‡ | 66261131563 | | 63642506233* | 66261149913 | |
| | 180 | 100/400 | 66261140528‡ | 66261131562 | | 63642506232* | 66261149912 | |
| | 220 | 100/400 | 66261149546‡ | 66261131561 | | 63642506231* | 66261149911 | |
| | 240 | 100/400 | | 66261131560 | | 63642506225* | | |
| | 280 | 100/400 | | 66261131559 | | | 66261149910 | |
| | 320 | 100/400 | 66261149543‡ | 66261131558 | | 63642506230* | 66261149909 | |
| | 400 | 100/400 | 66261149542‡ | 66261131556 | | 63642506229* | 66261149908 | |
| | 500 | 100/400 | 63642506202‡ | 66261131555 | | 63642506228* | | |
| | 600 | 100/400 | 63642506203‡ | 66261131554 | | 63642506227* | | |
| | 800 | 100/400 | 63642506204‡ | 66261131553 | | 63642506226* | | |
| | 1000 | 100/400 | 63642506375‡ | 66261131552 | 66261052255 | | | |
| | 1200 | 100/400 | 63642506376‡ | 66261131551 | | | | |
| | 1500 | 100/400 | 63642506377‡ | 66261131550 | | | | |
| | 8" | 120 | 100/400 | | 66261131662 | | | |
| | | 180 | 100/400 | | 66261131661 | | | |

Packaging Standards: Min. / Std. Pkg. ‡ A975 = 50/200 * A296 = 50/250

Refer to the end of this section for back-up pads and accessories.

Lightweight Paper Discs

Hook & Loop
Individual Discs
Vacuum



| | | | | | |
|-----------------------|----------------------------|-----------------------|---------------------------------|--------------------|--------------------|
| TIER: | BEST | BETTER | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| CAP CODE: | DRY ICE A975 NO-FIL | OP A275 NO-FIL | GOLD RESERVE A296 NO-FIL | A290 NO-FIL | A290 NO-FIL |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| PAPER BACKING WEIGHT: | B- & C-Weight | B-Weight | B-weight | C-Weight | C-Weight |
| FASTENING: | Hook & Loop | Hook & Loop | Hook & Loop | Hook & Loop | Hook & Loop |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded |

| SIZE | GRIT | MIN./STD PKG. | PART # | PART # | PART # | PART # | PART # |
|------|------|---------------|--------------|-------------|--------------|--------------|--------------|
| | | | | | | | |
| 5 | 60 | 100/400 | | | | 66261130236‡ | 66261130245‡ |
| | 80 | 100/400 | 66261140517‡ | 66261131583 | | 66261130235‡ | 66261130244‡ |
| | 100 | 100/400 | | 66261131582 | | 66261130234‡ | 66261130243‡ |
| | 120 | 100/400 | 66261140515‡ | 66261131581 | | 66261130233‡ | 66261130242‡ |
| | 150 | 100/400 | | 66261131580 | | 66261130232‡ | 66261130241‡ |
| | 180 | 100/400 | | 66261131579 | | 66261130231‡ | 66261130240‡ |
| | 220 | 100/400 | | 66261131578 | | 66261130230‡ | 66261130239‡ |
| | 240 | 100/400 | | 66261131577 | | | |
| | 320 | 100/400 | | 66261131575 | | 66261130227‡ | 66261130238‡ |
| | 400 | 100/400 | | 66261131573 | | 66261130226‡ | |
| | 600 | 100/400 | | 66261131571 | | | |
| | | | | | | | |
| 6 | 80 | 100/400 | 66261140527‡ | 66261131600 | 66623334786‡ | 66261130255‡ | |
| | 100 | 100/400 | | 66261131599 | 66623334787‡ | | |
| | 120 | 100/400 | | 66261131598 | 66623334788‡ | 66261130253‡ | |
| | 150 | 100/400 | | 66261131597 | 66623334789‡ | | |
| | 180 | 100/400 | | 66261131596 | 66623334790‡ | 66261130251‡ | |
| | 220 | 100/400 | | 66261131595 | 66623334791‡ | 66261130250‡ | |
| | 280 | 100/400 | | 66261131593 | | | |
| | 320 | 100/400 | 66261149553‡ | 66261131592 | 66623334793‡ | | |
| | 400 | 100/400 | | 66261131590 | 66623334794‡ | | |
| | 600 | 100/400 | | 66261131588 | 66623334796‡ | | |
| | 800 | 100/400 | | 66261131587 | 66623334797‡ | | |
| | 1000 | 100/400 | | 66261131586 | | | |
| | 1500 | 100/400 | | 66261131584 | | | |

Packaging Standards: ‡ A975 Vacuum, A296 Vacuum, A290 Vacuum = 50/200

Refer to the end of this section for back-up pads and accessories.

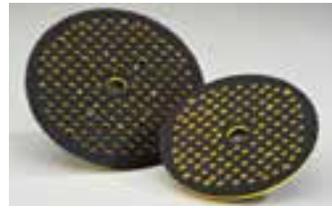
PAPER DISC ACCESSORIES



Multi-Air Foam Interface Pads

- Designed for use with fine grit Multi-Air Cyclonic hook and loop sanding discs to improve both surface finish and cut rate
- Use with Multi-Air hook and loop disc back-up pads
- Align the interface pad with the Multi-Air back up pad then simply attach the disc to the interface pad because the holes do not have to be lined up

| DESCRIPTION | STD. PKG. | PART # |
|--|-----------|-------------|
| Multi-Air Foam Interface Pads with Vacuum Holes | | |
| 5" Diameter x 1/2" Thick Pad | 8 | 63642585864 |
| 6" Diameter x 1/2" Thick Pad | 12 | 07660719359 |



Multi-Air Hook & Loop Back-up Pads with Vacuum Holes

- Innovative design optimized for maximum air flow and powerful dust extraction
- Pads are engineered with a durable urethane foam, heat-resistant plastic, a molded-in 5/16"-24 spindle, and hooked face
- Holes in the disc do not have to be matched up with the holes in the pad, so changeover is fast and easy

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|
| Multi-Air Hook & Loop Back-Up Pads with Vacuum Holes | | | |
| 5" (125mm) with 5/16"-24 Shank, Medium-Density Urethane Pad | 15,000 | 5 | 66623376000 |
| 6" (150mm) with 5/16"-24 Shank, Medium-Density Urethane Pad | 15,000 | 5 | 63642506160 |



Low-Profile Pads for Dual Action / Random Orbital Sanders

- Soft density low-profile pads utilize 1/2" thick foam for fine finish sanding and offer moderate conformability
- Medium low-profile pads have 1/2" thick urethane foam for intermediate and finish sanding
- Available with PSA (pressure sensitive adhesive) or hook and loop faces; both designs are shock resistant and have a fiberglass backing plate with a riveted 5/16"-24 threaded shank for added strength and increased heat resistance
- Available with standard hole patterns for vacuum-assist sanding

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|--|----------|-----------|-------------|
| Low Profile Pads for DA/Random Orbital Sanders | | | |
| 3" Hook & Loop Soft Low-Profile | 12,000 | 10 | 63642506128 |
| 3-1/4" Hook & Loop Buffing Pad | | 5 | 66261085302 |
| 5" PSA Soft Low-Profile | 12,000 | 5 | 63642506126 |
| 5" PSA Medium Low-Profile | 15,000 | 5 | 63642506131 |
| 5" PSA Medium Low-Profile with 5 vacuum holes | 15,000 | 5 | 63642506132 |
| 5" Hook & Loop Soft Low-Profile | 12,000 | 5 | 63642506129 |
| 5" Hook & Loop Medium Low-Profile | 15,000 | 5 | 63642506135 |
| 5" Hook & Loop Medium Low-Profile with 5 vacuum holes | 15,000 | 5* | 63642506136 |
| 6" PSA Soft Low-Profile | 12,000 | 5 | 63642506127 |
| 6" PSA Medium Low-Profile | 15,000 | 5 | 63642506133 |
| 6" Hook & Loop Soft Low-Profile | 12,000 | 5 | 63642506130 |
| 6" Hook & Loop Medium Low-Profile | 15,000 | 5 | 63642506137 |
| 6" Hook & Loop Medium Low-Profile with 6 vacuum holes | 15,000 | 5 | 63642506138 |
| 8" Hook & Loop Medium Low-Profile with 8 vacuum holes, 5 screw | 1,500 | 5 | 63642543712 |
| 8" Hook & Loop Medium Low-Profile with 8 vacuum holes, 6 screw | 1,500 | 5 | 63642543714 |

Packed in individual clamshell



Tapered Pads for Dual Action / Random Orbital Sanders

- Designed with medium density polyurethane foam and a tapered edge for conformability, these pads are firm enough for flat surfaces, yet soft enough for severe curves and contours
- Available with either PSA (vinyl, pressure sensitive adhesive) or hook and loop faces in vacuum or non-vacuum
- The 5" and 6" pads are shock resistant and have a fiberglass backing plate with a riveted 5/16"-24 threaded shank for use on random orbital or dual action sanders
- The 8" pads have a 5/8"-11 threaded female hub

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|
| Tapered Pads for DA/Random Orbital Sanders | | | |
| 5" PSA Medium Tapered | 15,000 | 5 | 63642506139 |
| 5" PSA Medium Tapered with 5 vacuum holes | 15,000 | 5 | 63642506140 |
| 5" Hook & Loop Medium Tapered | 15,000 | 5 | 63642506143 |
| 5" Hook & Loop Medium Tapered with 5 vacuum holes | 15,000 | 5 | 63642506144 |
| 6" PSA Medium Tapered | 15,000 | 5 | 63642506141 |
| 6" PSA Medium Tapered with 6 vacuum holes | 15,000 | 5 | 63642506142 |
| 6" Hook & Loop Medium Tapered | 15,000 | 5 | 63642506145 |
| 6" Hook & Loop Medium Tapered with 6 vacuum holes | 15,000 | 5 | 63642506146 |
| 8" PSA Medium Tapered | 6,000 | 5 | 63642543112 |
| 8" Hook & Loop Medium Tapered | 3,200 | 5 | 63642543704 |

Packed in individual clamshell

PAPER DISC ACCESSORIES



Hook & Loop Foam Interface Pads

- Designed for use with our fine grit hook and loop sanding discs
- Improve both surface finish and cut rate
- Use with hook and loop back-up pads

| DESCRIPTION | STD. PKG. | PART # |
|--|-----------|-------------|
| Foam Hook & Loop Interface Pads | | |
| 3" Diameter, 1/2" Thick Interface | 10 | 63642505457 |
| 6" Diameter, 1/2" Thick Interface | 5 | 63642542089 |
| 5" Diameter, 3/4" Thick Interface | 2 | 63642502161 |
| 6" Diameter, 3/4" Thick Interface | 2 | 63642502162 |



Half Moon Hand Pad

- The unique half moon pad takes a standard 5" hook and loop disc folded in half, which adheres to the hooks on the pad face
- The straight edge of the pad allows the operator to sand corners, contours, narrow crevices and minute imperfections without over-sanding

| DESCRIPTION | STD. PKG. | PART # |
|---------------------------|-----------|-------------|
| Half Moon Hand Pad | | |
| 5" Hook & Loop | 10 | 63642502768 |



Polishing Adapter Pad

- Converts your standard hook and loop pad into a soft polishing pad
- The foam adapter is 3/8" thick and is excellent for fine grits where minimal removal is required
- It is ideal for either flat or contour surfaces

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|------------------------------|----------|-----------|-------------|
| Polishing Adapter Pad | | | |
| 5" Hook & Loop Adapter Pad | 3,786 | 10 | 63642503121 |



Ergonomic Hand Sanders



- The ergonomic palm sander is uniquely designed to be user-friendly, with finger indentations for the operator
- It quickly converts standard 5" and 6" hook and loop discs into hand sanders for finishing flat surfaces

| DESCRIPTION | STD. PKG. | PART # |
|------------------------------|-----------|-------------|
| Ergonomic Hand Sander | | |
| 5" Hook & Loop | 5 | 63642503147 |
| 6" Hook & Loop | 5 | 63642503726 |



Disc Hand Pads



- Hand pads eliminate finger sanding
- The ultra-thin 3/16" thick pad is composed of a single layer of neoprene foam and is designed for maximum flexibility – producing excellent finishes
- The 1" thick pad is composed of two layers, neoprene and polyester foam, for excellent conformability and softness, resulting in fine finishes
- Each pad has an elastic hand strap to hold it firmly in place.
- Available with either PSA (vinyl, pressure sensitive adhesive) faces or hook and loop face

| DESCRIPTION | STD. PKG. | PART # |
|-------------------------------------|-----------|-------------|
| Disc Hand Pads | | |
| 5" x 3/16" Thick Soft Foam PSA | 10 | 63642503111 |
| 5" x 1" Thick Soft Foam PSA | 10 | 63642502842 |
| 5" x 1" Thick Soft Foam Hook & Loop | 10 | 63642503117 |



Panel and Adhesive Cleaner

- Removes adhesives, tar, grease, wax, body sealers, undercoating sprays, and silicone from most surfaces
- Aggressive cleaner is safe to use on most paint applications
- Packaged with squirt dispenser
- Use as directed

| DESCRIPTION | STD. PKG. | PART # |
|-----------------------------------|-----------|-------------|
| Panel and Adhesive Cleaner | | |
| Quart Can | 12 | 07660782780 |

FILM & FOAM FINISHING DISCS



For use on random orbital and rotary sanders. The industry's highest performing film and foam finishing discs are engineered for composite, automotive, and other fine finishing applications. Norton microfinishing film discs produce superior finishes dry without sacrificing cut rate while Norton foam finishing discs are used moist to produce a semi-polished surface to reduce buffing time.

- Applications:** Film discs: final dry finishing of primed and painted surfaces, varnishes, composites, and gel coats before buffing
 Foam finishing discs: final moist finishing of clear coat, varnishes, composites, and gel coats before buffing
 Compounds and buffing pads: removes swirl marks and sand scratches
- Size Range:** 3", 5" and 6"
Grit Range: Film Discs: P80-P1500
 Foam Discs: P1500, P2000, P3000

Machine Used:



NORTON PURE ICE Q175 A/O FINISHING FILM

BEST CHOICE FOR FINAL DRY FINISHING OF PRIMED AND PAINTED SURFACES, VARNISHES, COMPOSITES, AND GEL COATS



FEATURES

- White aluminum oxide grain and patented resin system
- 3 mil polyester backing
- Hook and loop attachment system
- Color-coded backprint by grit size

BENEFITS

- Better life, cut rate, and finish
- Better flexibility and flatness of discs
- Quick, easy mounting and removal
- Easy grit identification

NORTON Q275 NO-FIL A/O FINISHING FILM

GOOD CHOICE FOR DRY SANDING APPLICATIONS, ESPECIALLY UNEVEN, HARD-TO-SAND SURFACES



FEATURES & BENEFITS

- Sharp, P-graded, heat-treated premium aluminum oxide grain ensures faster yet cooler cut for a longer life
- 3-mil polyester film backing delivers unmatched durability and tear strength with exceptional flatness for a flawless surface finish and reduced leveling and rework
- Water-based stearate (No-Fil) coating provides maximum load resistance when sanding dry for extended life without clogging
- Hook and loop attachment system allows quick and easy mounting and clean removal

NORTON ICE Q255 A/O FINISHING FOAM

BEST CHOICE FOR MOIST FINISHING OF CLEAR COATS, VARNISHES, COMPOSITES, AND GEL COATS



FEATURES

- Integrated foam backing
- Open mesh design
- Produces a semi-polished finish
- Hook and loop attachment system
- Color coded abrasive face by grit size

BENEFITS

- Eliminate pigtails and costly re-work
- Conformable to contours
- Equal pressure distribution for quicker sanding
- Uniform scratch pattern
- Quick and easy to buff out
- Quick, easy mounting and removal
- Easy grit identification

FILM & FOAM FINISHING DISCS



| TIER: | BEST | GOOD |
|-----------------|----------------------|----------------------|
| BRAND: | Norton | Norton |
| TRADENAME: | PURE ICE Q175 | Q275 NO-FIL |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |
| BACKING WEIGHT: | 3 mil Polyester Film | 3 mil Polyester Film |
| OTHER: | P-Graded | P-Graded |

| TIER: | BEST |
|-----------------|-----------------|
| BRAND: | Norton |
| TRADENAME: | ICE Q255 |
| ABRASIVE: | Aluminum Oxide |
| BACKING WEIGHT: | Foam |
| OTHER: | P-Graded |

| SIZE | GRIT | MIN./STD. PKG. | COLOR | PART # | PART # | MIN./STD. PKG. | PART # | PART # |
|-------|--------|----------------|--------|-------------|-------------|----------------|-------------|-------------|
| 3 | P800 | 50/200 | Black | 77696088701 | | | | |
| | P1000 | 50/200 | Red | 77696088702 | | | | |
| | P1200 | 50/200 | Green | 77696088703 | | | | |
| | P1500 | 50/200 | Blue | 77696088704 | | 6/24 | Blue | 63642506022 |
| | P3000 | 50/200 | | | | 6/24 | Green | 63642506020 |
| 5 | P80 | 50/200 | | | 66261101614 | | | |
| | P120 | 50/200 | | | 66261101613 | | | |
| | P150 | 50/200 | | | 66261101612 | | | |
| | P180 | 50/200 | | | 66261101610 | | | |
| | P220 | 50/200 | | | 66261101609 | | | |
| | P240 | 50/200 | | | 66261101608 | | | |
| | P320 | 50/200 | | | 66261101607 | | | |
| | P400 | 50/200 | | | 66261101606 | | | |
| | P600 | 50/200 | | | 66261101604 | | | |
| | P800 | 50/200 | | | 66261101603 | | | |
| | P1000 | 50/200 | | | 66261101602 | | | |
| | P1200 | 50/200 | | | 66261101601 | | | |
| | P1500 | 50/200 | | | 66261101600 | | | |
| | 6 | P80 | 50/200 | | | 66261101628 | | |
| P120 | | 50/200 | | | 66261101627 | | | |
| P150 | | 50/200 | | | 66261101626 | | | |
| P180 | | 50/200 | | | 66261101625 | | | |
| P220 | | 50/200 | | | 66261101624 | | | |
| P320 | | 50/200 | | | 66261101622 | | | |
| P800 | | 50/200 | Black | 77696088713 | 66261101618 | | | |
| P1000 | | 50/200 | Red | 77696088714 | 66261101617 | | | |
| P1200 | | 50/200 | Green | 77696088715 | 66261101616 | | | |
| P1500 | | 50/200 | Blue | 77696088716 | 66261101615 | 15/60 | Blue | 63642506015 |
| P2000 | | 50/200 | | | | 15/60 | Magenta | 63642506014 |
| P3000 | 50/200 | | | | 15/60 | Green | 63642506013 | |

Refer to the following page for back-up pads and accessories.





Norton Liquid Ice Extra-Cut Compound

- Water soluble; easy to use and easy to clean up
- Engineered to be used with a selection of 3 pads, depending on the finish required.

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|--|-----------|-----------|-------------|
| Quart – Norton Liquid Ice Extra-Cut Compound | 1 | 4 | 63642597116 |



Norton Liquid Ice Clean-up/Detailer Spray

- The spray detailer easily cleans up excess buffing residue and produces paint protection
- Spray it on and wipe off with a Norton Microfiber cloth ("Non-Abrasive Products" section)

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|---------------------------------------|-----------|-----------|-------------|
| 32 oz. Spray Bottle Clean-up Detailer | 1 | 4 | 63642542082 |



Norton Liquid Ice Ultra-Fine Machine Glaze

- Use on its own for fine scratch removal or as Step 3 in place of Norton Liquid Ice Extra-Cut Compound to eliminate swirl marks and produce a high gloss finish
- Ideal for dark-colored vehicles

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|--|-----------|-----------|-------------|
| Quart – Norton Liquid Ice Ultra-Fine Machine Glaze | 1 | 4 | 63642506092 |



8" Hook & Loop Buffing/Polishing Waffle Pads

- These pads can be used with Norton Liquid Ice Extra-Cut Compound.

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|------------------------------------|-----------|-----------|-------------|
| 8" Orange Waffle Foam pad - Step 1 | 1 | 6 | 63642506379 |
| 8" Blue Waffle Foam Pad - Step 2 | 1 | 6 | 63642506380 |
| 8" White Waffle Foam Pad - Step 3 | 1 | 6 | 63642506381 |



8" and 9" Hook & Loop Buffing/Polishing Pads

- These pads can be used with Norton Liquid Ice Extra-Cut Compound following the step numbers

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|--------------------------------------|-----------|-----------|-------------|
| 8" Super Cut Wool Pad - Step 1 | 1 | 6 | 63642542077 |
| 9" Blue Cutting Foam Pad - Step 2 | 1 | 6 | 63642542078 |
| 9" White Finishing Foam Pad - Step 3 | 1 | 6 | 63642542079 |



3" Hook & Loop Buffing/Polishing Pads

- For small spot repair.

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|--------------------------------------|-----------|-----------|-------------|
| 3" Super Cut Wool Pad - Step 1 | 10 | 40 | 63642543832 |
| 3" Blue Cutting Foam Pad - Step 2 | 10 | 40 | 63642505459 |
| 3" White Finishing Foam Pad - Step 3 | 10 | 40 | 63642505460 |



Low-Profile Back-up Pads for Dual Action / Random Orbital Sanders

- Soft density low-profile pads utilize 1/2" thick foam for fine finish
- Shock-resistant and have a fiberglass backing plate with a riveted 5/16"-24 threaded shank for added strength/increased heat resistance.

| DESCRIPTION | MAX. RPM | STD. CASE | PART # |
|---------------------------------|----------|-----------|-------------|
| 3" Hook & Loop Soft Low-Profile | 12,000 | 10 | 63642506128 |
| 6" Hook & Loop Soft Low-Profile | 12,000 | 5 | 63642506130 |



Black Lambswool Hook & Loop Polishing Pads

- Distributing and applying material evenly and consistently, these dense, durable, lambswool pads are designed to repair clearcoat finishes.

| DESCRIPTION | STD. CASE | PART # |
|-----------------------------|-----------|-------------|
| 3" Pad with Loop – 3/4" nap | 40 | 63642503670 |
| 4" Pad with Loop – 3/4" nap | 250 | 63642503671 |



Hook & Loop Back-up Pads for 8" and 9" Buffing Pads

- Black plastic back-up plate with hook and loop face. Moulded in 5/8"-11 threaded female hub.

| DESCRIPTION | STD. PKG. | STD. CASE | PART # |
|-----------------------------------|-----------|-----------|-------------|
| 8" and 9" Hook & Loop Back-up Pad | 1 | 3 | 63642542080 |

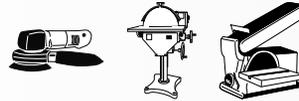
CLOTH PSA DISCS AND ACCESSORIES



Norton PSA (pressure sensitive adhesive) individual cloth discs and disc rolls are used on four different types of machines and the application changes depending on which machine they are used on.

- Applications:** Pneumatic and Electric Dual-Action (DA) and Electric Random Orbital Sanders – for use on contours or flat surfaces for light- to medium-pressure grinding, blending, leveling, and finishing applications
 Stationary Disc Sanders – used in woodworking and metalworking for stock removal, sanding/grinding flat surfaces, dimensioning and finishing
- Size Range:** 5" – 24" diameter
- Grit Range:** 24 – 180
- Abrasive Grain:** Ceramic Alumina, Zirconia Alumina, Aluminum Oxide
- Back-up Pads:** Rubber, with hardness variations for different applications, for portable machines. Steel for stationary disc sanders

Machine Used:



NORTON BLAZE R980P CERAMIC ALUMINA

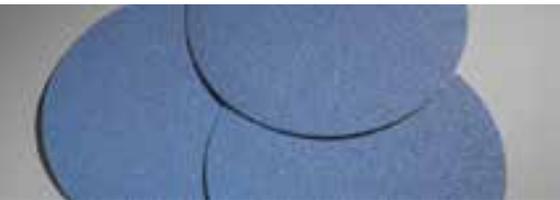
BEST CHOICE FOR ALL HARD-TO-GRIND HIGH ALLOY STEELS

FEATURES

- Norton SG ceramic alumina abrasive
- Durable resin bond
- Self-lubricating supersize treatment
- Strong Y-weight polyester backing

BENEFITS

- Coolest cut; significantly faster cut rate
- Better grain adhesion, edge-fray resistance
- Cool cut on harder-to-grind materials
- Long life and consistent cut



NORTON BLUEFIRE R821P ZIRCONIA ALUMINA

BETTER CHOICE FOR GRINDING AND DEBURRING STAINLESS STEEL

FEATURES

- Self-sharpening, zirconia alumina abrasive
- Heavy Y-weight backing

BENEFITS

- Cooler cut, extended life over aluminum oxide discs
- Durable; reduced edge wear



NORTON METALITE R228 ALUMINUM OXIDE

GOOD CHOICE FOR GENERAL PURPOSE METALWORKING

FEATURES

- Premium aluminum oxide abrasive
- Heavy X-weight backing

BENEFITS

- Long life
- Durable
- Ideal for aggressive stock removal applications
- Resistant to heat

CLOTH PSA DISCS AND ACCESSORIES

Cloth PSA Discs for Dual-Action and Random Orbital Sanders



| | | |
|-------------|--------------------|----------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | BLAZE R980P | METALITE R228 |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide |
| ATTACHMENT: | PSA Discs | PSA Discs |
| OTHER: | Supersize | |

| |
|----------------------|
| GOOD |
| Norton |
| METALITE R228 |
| Aluminum Oxide |
| PSA Discs Roll |

| SIZE (D) | GRIT | MIN./STD. PKG. | PART # | PART # | ROLLS/PKG / DISCS/ROLL | PART # |
|----------|------|----------------|--------------|-------------|------------------------|-------------|
| 5 | 36 | 50/250 | 66254461506* | 66261136589 | | |
| | 40 | 50/250 | 66254461507 | 66261136588 | | |
| | 50 | 50/250 | 66254461508 | 66261136587 | 4/100 | 66261133252 |
| | 60 | 50/250 | 66254461509 | 66261136586 | 4/100 | 66261133253 |
| | 80 | 50/250 | 66254461510 | 66261136585 | 4/100 | 66261133254 |
| | 100 | 50/250 | | 66261136584 | | |
| | 120 | 50/250 | 66254461512 | 66261136583 | | |
| | 150 | 50/250 | | 66261136582 | | |
| | 180 | 50/250 | | 66261136581 | | |
| | 6 | 60 | 50/250 | | 66261136596 | |
| 80 | | 50/250 | | 66261136595 | | |
| 100 | | 50/250 | | 66261136594 | | |
| 120 | | 50/250 | | 66261136593 | | |
| 8 | 180 | 50/250 | | 66261136592 | | |
| | 36 | 50/250 | | 66261136350 | | |
| | 40 | 50/250 | | 66261136351 | | |
| | 50 | 50/250 | | 66261136352 | | |
| | 60 | 50/250 | | 66261136576 | | |
| | 80 | 50/250 | | 66261136354 | | |
| | 120 | 50/250 | | 66261136355 | | |

*Min./Std. Pkg.: Blaze R980 5" 36 grit discs = 50/200

Back-up Pads for Cloth PSA Discs

| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|
| Back-up Pads for Cloth PSA Discs | | | |
| 5" Diameter – Low Profile – Soft | 12,000 | 5 | 63642506126 |
| 5" Diameter – Low Profile – Medium | 12,000 | 5 | 63642506131 |
| 5" Diameter – Tapered – Medium | 12,000 | 5 | 63642506139 |
| 6" Diameter – Low Profile – Soft | 10,000 | 5 | 63642506127 |
| 6" Diameter – Low Profile – Med | 10,000 | 5 | 63642506133 |
| 6" Diameter – Tapered – Medium | 10,000 | 5 | 63642506141 |
| 8" Diameter – Tapered – Medium | 6,000 | 5 | 63642543112 |



CLOTH PSA DISCS AND ACCESSORIES

Large Diameter Cloth PSA Discs

Used on stationary disc machines for dimensioning and finishing metal workpieces and woodworking. Pressure sensitive adhesive offers fast, convenient mounting. Made without center holes for full-face usage.



| TIER: | BEST | BETTER | GOOD |
|-------------|--------------------|-----------------------|----------------------|
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLUEFIRE R821P | METALITE R228 |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Aluminum Oxide |
| ATTACHMENT: | PSA | PSA | PSA |
| OTHER: | Supersize | | |

| SIZE (D) | GRIT | MIN./STD. PKG. | PART # | PART # | PART # |
|----------|------|----------------|-------------|-------------|-------------|
| 10 | 36 | 25/50 | | | 66261136606 |
| | 40 | 25/50 | | 66261138314 | 66261136604 |
| | 50 | 25/50 | | | 66261136607 |
| | 60 | 25/50 | | 66261138316 | 66261136602 |
| | 80 | 25/50 | | 66261138317 | 66261136601 |
| | 100 | 25/50 | | | 66261136600 |
| 12 | 24 | 25/50 | | 66261138318 | |
| | 36 | 25/50 | 66254416171 | 66261138319 | 66261136635 |
| | 40 | 25/50 | 66254416172 | 66261138320 | 66261136630 |
| | 50 | 25/50 | 66254416173 | 66261138321 | 66261136625 |
| | 60 | 25/50 | 66254416174 | 66261138322 | 66261136620 |
| | 80 | 25/50 | 66254416175 | 66261138323 | 66261136615 |
| | 100 | 25/50 | | | 66261136614 |
| | 120 | 25/50 | 66254416176 | | 66261136613 |
| 15 | 36 | 25/50 | | | 66261136666 |
| | 40 | 25/50 | | | 66261136665 |
| | 60 | 25/50 | | | 66261136663 |
| | 80 | 25/50 | | | 66261136662 |
| 16 | 36 | 25/50 | | | 66261136700 |
| | 40 | 25/50 | | | 66261136685 |
| | 50 | 25/50 | | | 66261136684 |
| | 60 | 25/50 | | 66261138334 | 66261136683 |
| | 80 | 25/50 | | | 66261136701 |
| 18 | 36 | 25/50 | | | 66261136720 |
| | 60 | 25/50 | | | 66261136696 |
| | 80 | 25/50 | | | 66261136723 |
| 20 | 36 | 25/50 | 66254416165 | 66261138343 | 66261136710 |
| | 40 | 25/50 | | 66261138344 | 66261136709 |
| | 50 | 25/50 | 66254416167 | | 66261136711 |
| | 60 | 25/50 | 66254416168 | 66261138346 | 66261136712 |
| | 80 | 25/50 | 66254416169 | | 66261136706 |
| | 120 | 25/50 | 66254416170 | | |
| 24 | 36 | 10/10 | | | 66261136718 |
| | 40 | 10/10 | | | 66261136717 |
| | 50 | 10/10 | | | 66261136725 |
| | 60 | 10/10 | | | 66261136726 |
| | 80 | 10/10 | | | 66261136727 |

FLEXIBLE DIAMOND-COATED DISCS



Norton flexible diamond coated discs combine the durability and aggressiveness of diamond, on a flexible backing.

- Applications: Grinding ceramic, glass, composites, carbide and ceramic coatings, fiberglass, and reinforced plastics; removing rust and scale on other materials; producing metallurgical stamps and coupons
- Size Range: PSA (Pressure Sensitive Adhesive) Discs: 2" – 6"
Quick-Change TR (Type III) Discs: 2" and 3"
- Grit Range: 60 – 1500
- Abrasive Types: Diamond
- Backing Color: Color-coded backings for easily distinguished grit size selection
- Machine Used:



NORTON D71S PSA DISCS

BETTER CHOICE FOR GRINDING GLASS, CERAMICS AND COMPOSITES, REMOVING RUST AND SCALE, AND PRODUCING METALLURGICAL STAMPS AND COUPONS



FEATURES

- Diamond
- PSA backing

BENEFITS

- Facilitates fast stock removal
- Quick and easy mounting and removal

| SIZE (D) | COLOR | GRIT | STD. PKG. | TIER: BETTER | |
|--|--------|------|-----------|--------------|--|
| | | | | PART # | |
| Flexible Diamond Coated PSA Discs | | | | | |
| 2" | Green | 60 | 1 | 66260308159 | |
| | Black | 120 | 1 | 66260307722 | |
| | Red | 200 | 1 | 66260307723 | |
| | Yellow | 400 | 1 | 66260308160 | |
| | White | 800 | 1 | 66260307012 | |
| 5" | Green | 60 | 1 | 66260307839 | |
| | Black | 120 | 1 | 66260307838 | |
| | Red | 200 | 1 | 66260307019 | |
| | Yellow | 400 | 1 | 66260307960 | |

| SIZE (D) | COLOR | GRIT | STD. PKG. | TIER: BETTER | |
|--|-------|------|-----------|--------------|--|
| | | | | PART # | |
| Flexible Diamond Coated PSA Discs | | | | | |
| 6" | Green | 60 | 1 | 66260306381 | |
| | Black | 120 | 1 | 66260306382 | |
| | Red | 200 | 1 | 66260306383 | |

See Coated Abrasive Cloth PSA Disc section for back-up pads.

NORTON D7210 QUICK-CHANGE TR (TYPE III) DISCS

BETTER CHOICE FOR IMPROVED CUT RATE AND FINISH ON CERAMICS, GLASS, FIBERGLASS, COMPOSITES, CARBIDE, AND OTHER TOUGH METALS AND COATINGS



FEATURES

- Unique abrasive pattern
- TR (Type III) fastener

BENEFITS

- Increased aggressiveness, durability and lower costs versus standard diamond discs
- Rapid, tool-free disc changes mean maximum grind time
- Discs stay firmly locked to back-up pad when in use

| SIZE (D) | COLOR | GRIT | STD. PKG. | TIER: BETTER | |
|---|--------|------|-----------|--------------|--|
| | | | | PART # | |
| Flexible Diamond Coated Quick-Change TR (Type III) Discs | | | | | |
| 2" | Green | 60 | 12 | 66260311778 | |
| | Black | 120 | 12 | 66260311779 | |
| | Red | 200 | 12 | 66260311780 | |
| | Yellow | 400 | 12 | 66260311781 | |
| | White | 800 | 12 | 66260311782 | |

| SIZE (D) | COLOR | GRIT | STD. PKG. | TIER: BETTER | |
|---|--------|------|-----------|--------------|--|
| | | | | PART # | |
| Flexible Diamond Coated Quick-Change TR (Type III) Discs | | | | | |
| 3" | Green | 60 | 12 | 66260311783 | |
| | Black | 120 | 12 | 66260311784 | |
| | Red | 200 | 12 | 66260311785 | |
| | Yellow | 400 | 12 | 66260311786 | |

See Coated Abrasive Quick-Change Disc section for back-up pads.



Tool-free, twist-on and -off fastening systems make fast work of disc changes to maximize productivity by minimizing downtime.

- Applications:** Fiber and NorKut trimmable hard plastic discs: welding, grinding and blending; heavy metal removal; light deburring and finishing
Cloth discs: light- to medium-pressure grinding; blending, leveling and finishing applications; for use on contours or flat surfaces
- Size Range:** 9/16" – 4" diameter
- Grit Range:** 24 – 320
- Abrasive Grain:** Ceramic Alumina, Zirconia Alumina, Aluminum Oxide, Silicon Carbide
- Backing:** Fiber or cloth
- Cloth Flex:** 3-ply (more aggressive), 2-ply (standard), or 1-ply (more flexible) lamination
- Attachment:** Type TS (II), Type TR (III), and Type TP (I)
- Back-up Pads:** Rubber with hardness variations for different applications
- Machine Used:** 

COATED ABRASIVE QUICK-CHANGE DISC AVAILABILITY



Fiber

- The most heavy-duty discs with resin over resin construction on heavy-duty vulcanized fiber backing
- Premium grain for applications from heavy stock removal to surface blending



NorKut

- Unique polymer backing resists cracking and breakage and can be cut down up to the 1" core
- Use the cores to grind "pinch" welds and other hard-to-reach areas



Cloth 3-Ply

- These heavy-duty, 3-ply polyester laminate construction discs are the most aggressive and durable cloth discs on the market



Cloth 2-Ply

- Our standard 2-ply laminate construction creates an aggressive and durable cloth disc for flat surfaces



Cloth 1-Ply

- The flexible, 1-ply cotton laminate construction offers added conformability on contoured surfaces or any application where added flexibility is needed

QUICK-CHANGE ATTACHMENT SYSTEMS AND CROSS REFERENCE GUIDE

Each system enables quick, safe disc changes, reducing downtime and operating expenses.

Type TS (Type II)

- Features a turn-on/turn-off style fastener
- Fastener is made of metal
- Equivalent to Standard Abrasives SocAtt® locking system



Type TR (Type III)

- Features a roll-on/roll-off style fastener
- Fastener is made of plastic
- Equivalent to 3M™ Roloc™ fastening system



Type TP (Type I)

- Features a snap-on/snap-off style fastener
- Fastener is made of nylon

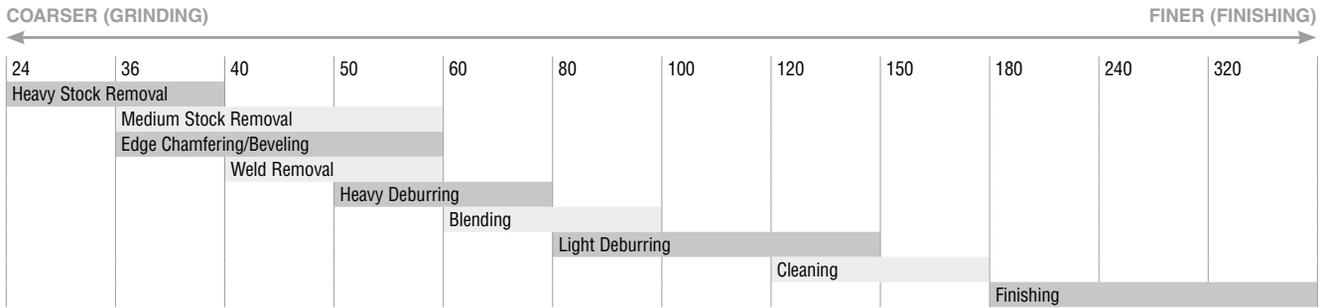


| NORTON | TS | TR | TP |
|-----------|--------------|-------------|--------------|
| MERIT | Type II | Type III | Type I |
| 3M | Roloc TS/TSM | Roloc TR | Roloc TP |
| Standard | TS (SocAtt) | TR (Lockit) | TP (ClickOn) |
| Superior | Type S | Type R | – |
| Arc | Type S | Type R | Type P |
| Pferd | Type CD | Type CDR | – |
| Sait | SAIT-LOK | SAIT-LOK-R | – |
| Camel | Turn On | Roll On | – |
| Klingspor | QMC | QRC | – |
| Garryson | Type S | Type R | – |

MATERIAL/APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|---|---|--|---|
| Stainless Steel / Titanium / Super Alloys | Norton Blaze R980P | Norton BlueFire R884P | Norton R766 |
| Mild Carbon Steel / Welds | Norton Red Heat R983 | Norton BlueFire R884P | Norton R766 |
| Ferrous Metals / Cast Iron | Norton Red Heat R983 | Norton BlueFire R884P | Norton R766 |
| Brass / Bronze / Aluminum | – | Norton BlueFire R884P | Norton R766 |
| Paint / Glue / Adhesive | – | – | Norton R766 |
| Concrete / Stone / Fiberglass | – | – | Merit Silicon Carbide |

APPLICATION/GRIT RECOMMENDATION GUIDE



CROSS REFERENCE GUIDE

| | TOTAL PERFORMANCE | | | | INITIAL PRICE | |
|---------------|-------------------|------------------------|----------------------|--|-------------------------------|---------------------|
| | BEST | | BETTER | GOOD | | |
| Abrasive | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina | Aluminum Oxide | Aluminum Oxide | Silicon Carbide |
| | Full Ratio | Full Ratio | | | | |
| Backing | Fiber | Cloth | Cloth | Cloth | Cloth | Cloth |
| NORTON | Blaze F980 | Blaze R980P | BlueFire R884P | R766 | – | – |
| MERIT | – | – | – | – | Aluminum Oxide | Silicon Carbide |
| 3M | 983C, 988C | 963G, 977F, 785C, 777F | – | – | 361F | 461F |
| Standard | – | Ceramic Pro, Ceramic | Zirconia | A/O Extra, A/O Pro | A/O | Silicon Carbide |
| Superior | – | Ceramic G.A. | Premium Zirc | A/O with Grinding Aid | Premium A/O, Rigid Kut A/O | – |
| Arc | – | – | Zirconia/ Y Standard | A/O/X Plus Coolant | A/O/Y Premium | – |
| Pferd | Ceramic Oxide CO | Ceramic | ZA Z | Aluminum Oxide A-Plus, Aluminum Oxide A-INOX-FORTE | Aluminum Oxide A, A/O A-FORTE | Silicon Carbide SiC |
| Sait | – | – | Z | 3A | 2A-H, 2A | – |
| Camel | – | – | Zirconia AO | – | Aluminum Oxide | – |
| Klingspor | – | Ceramic | Alumina Zirconia | – | Aluminum Oxide | – |
| Garryson | – | Ceramic | – | – | Aluminum Oxide | – |

Power at Your Finger Tips – The World in the Palm of Your Hand

Put the world right in the palm of your hand with our 2" Norton Mini Angle Sander. Small, compact enough to get into those hard-to-reach areas, and powerful enough to finish the job fast and efficiently.



Features and Benefits

- A double-bearing spindle generates superb concentricity, reducing vibrations allowing for longer use and finer finishes
- Finesse your projects by having the ultimate control in both precision and power with the speed regulator
- Get better tool handling along with reducing additional fatigue with the ergonomic and streamlined non-slip grip

| DESCRIPTION | STD. PKG. | PART # |
|---|-----------|-------------|
| Norton Mini Angle Sander | | |
| Norton 2" Mini Angle Sander | 1 | 66261150076 |
| Norton 2" Mini Angle Sander Kit – kit includes: | 1 | 66261150077 |
| • 1 Norton mini angle sander | | |
| • 25 Norton Blaze 2" 36 grit 3-ply heavy-duty TR (Type III) cloth quick-change discs | | |
| • 50 Norton Vortex Rapid Prep 2" Medium grit TR (Type III) non-woven quick-change discs | | |
| • 1 Norton medium density back-up pad | | |

Ceramic Alumina Quick-Change Fiber Discs

NORTON BLAZE F980 CERAMIC ALUMINA FIBER

BEST CHOICE FOR TOUGH APPLICATIONS AND STAINLESS STEEL

FEATURES & BENEFITS

- Norton SG ceramic grain with self-lubricating, supersize treatment provides coolest cut with significantly faster cut rates
- Heaviest fiber backing, greater durability, longest life, and edge-fray resistance



TIER: **BEST**
 BRAND: Norton
 TRADENAME: **BLAZE F980**
 ABRASIVE: Ceramic Alumina
 BACKING: Fiber – Heavy Duty
 OTHER: Supersize
 ATTACHMENT: TR (Type III)



| SIZE (D) | GRIT | STD. PKG. | PART # |
|----------|------|-----------|-------------|
| 2 | 24 | 25 | 77696090139 |
| | 36 | 25 | 66261058704 |
| | 50 | 25 | 66261058705 |
| | 60 | 25 | 66261058706 |
| | 80 | 25 | 66261058707 |
| 3 | 24 | 25 | 77696090140 |
| | 36 | 25 | 66261058708 |
| | 50 | 25 | 66261058709 |
| | 60 | 25 | 66261058711 |
| | 80 | 25 | 66261058712 |

Quick-Change back-up pads shown at the end of this section.



Ceramic Alumina Quick-Change Cloth Discs

NORTON BLAZE R980P CERAMIC ALUMINA CLOTH

BEST CHOICE FOR TOUGH APPLICATIONS, TITANIUM, SUPER ALLOYS, AND STAINLESS STEEL (3-PLY) OR CONTOUR SURFACES (2-PLY)

FEATURES AND BENEFITS

- Next-generation, Norton SG ceramic alumina grain with self-lubricating, supersize treatment provides coolest cut and significantly faster cut rates
- 3-ply heavy-duty laminate discs (Y-weight polyester yellow backing) are more aggressive; for greatest durability, longest life, and edge-fray resistance on tough applications and stainless steel
- 2-ply laminate disc (Y-weight polyester red backing) construction is the standard for an aggressive and durable cloth disc for flat surfaces



NORTON RED HEAT R983 CERAMIC ALUMINA CLOTH

BEST/HIGH PRODUCTIVITY FOR MILD CARBON STEEL, CAST IRON AND FERROUS METALS

FEATURES & BENEFITS

- Our exclusive premium ceramic alumina abrasive blend cuts faster and outlasts aluminum oxide and zirconia abrasives in most applications.
- Safer, more environmentally-stable black abrasive does not contain performance-inhibiting dyes or formaldehydes, eliminating color-transfer issues
- This 1-ply laminate disc (Y-weight polyester red backing) sets the standard for flexibility and conformability
- Advanced self-lubricating grain treatment reduces heat on hard-to-grind materials
- Enhanced grain/bond adhesion requires less pressure for a cooler cut; less operator fatigue



MERIT CERAMIC ALUMINA PLUS CLOTH

BEST/HIGH PRODUCTIVITY FOR HARD-TO-GRIND ALLOYS

FEATURES & BENEFITS

- Quality ceramic alumina abrasive provides long life and value
- The grinding aid produces longer life and cooler cut
- Heavy, Y-weight polyester backing provides excellent durability and grain adhesion



Ceramic Alumina Quick-Change Cloth Discs (continued)



| | | | | | | |
|-------------|-------------------------------|-------------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| TIER: | BEST | BEST | BEST | BEST | BEST | BEST |
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLAZE R980P | BLAZE R980P | BLAZE R980P | RED HEAT R983 | RED HEAT R983 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina |
| BACKING: | Polyester 3-Ply Heavy-Duty | Polyester 3-Ply Heavy-Duty | Polyester 2-Ply Standard | Polyester 2-Ply Standard | Polyester 1-Ply Flexible | Polyester 1-Ply Flexible |
| OTHER: | Supersize | Supersize | Supersize | Supersize | Supersized | Supersized |
| ATTACHMENT: | TS (Type II) | TR (Type III) | TS (Type II) | TR (Type III) | TS (Type II) | TR (Type III) |

| SIZE (D) | GRIT | STD. PKG. | PART # | PART # |
|----------|------|-----------|-------------|-------------|-------------|-------------|--------------|-------------|
| 1-1/2 | 36 | 100 | 66261162307 | 66261162308 | 63642595401 | 63642595465 | 66261132706* | 66261132724 |
| | 50 | 100 | 66261162309 | 66261162310 | 63642595446 | 63642595467 | 66261132707 | 66261132725 |
| | 60 | 100 | 66261162311 | 66261162312 | 63642595447 | 63642595468 | 66261132708 | 66261132726 |
| | 80 | 100 | 66261162313 | 66261162314 | 63642595450 | 63642595469 | 66261132709 | 66261132727 |
| | 120 | 100 | 66261043379 | 66261043380 | 66261043416 | 66261043417 | 66261132710 | 66261132728 |
| 2 | 36 | 25 | 66261162317 | 66261162318 | 63642595452 | 63642595470 | 66261132712 | 66261132730 |
| | 50 | 25 | 66261162319 | 66261162320 | 63642595456 | 63642595472 | 66261132713 | 66261132731 |
| | 60 | 25 | 66261162321 | 66261162322 | 63642595458 | 63642595476 | 66261132714 | 66261132732 |
| | 80 | 25 | 66261162323 | 66261162324 | 63642595459 | 63642595478 | 66261132715 | 66261132733 |
| | 100 | 25 | 66261043382 | 66261043383 | 66261043418 | 66261043419 | | |
| 3 | 120 | 25 | 66261043384 | 66261043386 | 66261043420 | 66261043421 | 66261132716 | 66261132734 |
| | 36 | 25 | 66261162327 | 66261162328 | 63642595460 | 63642595479 | 66261132718 | 66261132736 |
| | 50 | 25 | 66261162329 | 66261162330 | 63642595462 | 63642595480 | 66261132719 | 66261132737 |
| | 60 | 25 | 66261162331 | 66261162332 | 63642595463 | 63642595481 | 66261132720 | 66261132738 |
| | 80 | 25 | 66261162333 | 66261162334 | 63642595464 | 63642595493 | 66261132721 | 66261132739 |
| | 100 | 25 | 66261043389 | 66261043390 | 66261043422 | 66261043423 | | |
| | 120 | 52 | 66261043391 | 66261043392 | 66261043424 | 66261043425 | 66261132722 | 66261132740 |

Quick-Change back-up pads shown at the end of this section.



Ceramic Alumina Quick-Change Cloth Discs (continued)



| | | | |
|-------------|-----------------------------|-----------------------------|-----------------------------|
| TIER: | BEST | BEST | BEST |
| BRAND: | Merit | Merit | Merit |
| TRADENAME: | CERAMIC ALUMINA PLUS | CERAMIC ALUMINA PLUS | CERAMIC ALUMINA PLUS |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina |
| BACKING: | Polyester 2-Ply Standard | Polyester 2-Ply Standard | Polyester 2-Ply Standard |
| OTHER: | Supersized TS (Type II) | Supersize TR (Type III) | Supersized TP (Type I) |
| ATTACHMENT: | | | |

| SIZE (D) | GRIT | STD. PKG. | PART # | PART # | PART # |
|----------|------|-------------|-------------|-------------|-------------|
| 9/16 | 36 | 100 | 08834163315 | | 08834163000 |
| | 40 | 100 | 08834163316 | | 08834163003 |
| | 50 | 100 | 08834163317 | | |
| | 60 | 100 | 08834163318 | | 08834163005 |
| | 80 | 100 | 08834163319 | | 08834163014 |
| | 120 | 100 | 08834163320 | | 08834163017 |
| 3/4 | 36 | 100 | 08834163321 | | 08834163020 |
| | 40 | 100 | | 08834163393 | 08834163021 |
| | 50 | 100 | 08834163324 | 08834163394 | 08834163022 |
| | 60 | 100 | 08834162239 | 08834163395 | 08834163023 |
| | 80 | 100 | 08834163339 | | 08834163024 |
| | 120 | 100 | 08834163362 | 08834163397 | 08834163027 |
| 1 | 36 | 100 | 08834163374 | 08834163398 | 08834163028 |
| | 40 | 100 | 08834163375 | 08834163400 | 08834163030 |
| | 50 | 100 | 08834163376 | 08834163401 | |
| | 60 | 100 | 08834162240 | 08834163402 | 08834163042 |
| | 80 | 100 | 08834163378 | 08834163403 | 08834163043 |
| | 120 | 100 | 08834163379 | 08834163404 | 08834163112 |
| 1-1/2 | 24 | 100 | 08834163421 | 08834163405 | 08834163113 |
| | 36 | 100 | | | 08834163114 |
| | 50 | 100 | 08834163252 | | 08834163115 |
| | 60 | 100 | 08834160463 | 08834163407 | 08834163116 |
| | 80 | 100 | 08834163273 | 08834163408 | 08834163117 |
| | 120 | 100 | 08834168653 | | 08834168650 |
| 2 | 24 | 100 | 08834163118 | 08834160449 | 08834163119 |
| | 36 | 100 | | | 08834163120 |
| | 50 | 100 | 08834163259 | 08834163411 | 08834163121 |
| | 60 | 100 | 08834163551 | 08834163412 | 08834163231 |
| | 80 | 100 | 08834163381 | 08834165615 | 08834163219 |
| | 100 | 100 | | | |
| 3 | 120 | 100 | 08834163382 | 08834168657 | 08834168651 |
| | 24 | 50 | 08834163383 | 08834160458 | 08834163238 |
| | 36 | 50 | | | 08834163245 |
| | 50 | 50 | 08834163385 | 08834163414 | 08834168275 |
| | 60 | 50 | 08834163386 | 08834163415 | 08834163266 |
| | 80 | 50 | 08834163387 | 08834168178 | 08834169701 |
| 4 | 100 | 50 | | | 08834163448 |
| | 120 | 50 | 08834168655 | 08834168658 | 08834168652 |
| | 36 | 50 | 08834162742 | 08834163416 | 08834163280 |
| | 40 | 50 | 08834163388 | 08834163417 | |
| | 50 | 50 | 08834162743 | 08834163418 | |
| | 60 | 50 | 08834163389 | 08834162992 | 08834163301 |
| 80 | 50 | 08834163390 | 08834163419 | | |
| | 120 | 50 | 08834163391 | 08834163420 | 08834163314 |

Merit Ceramic Plus Stock/Non-Stock Status:
 TS: 2" and 3" are stock part numbers; all other sizes are non-stock.
 TR: 1-1/2", 2", and 3" part numbers are stock; all other sizes are non-stock.
 TP: All sizes are non-stock.
 Please call for lead-times.

Quick-Change back-up pads shown at the end of this section.

Zirconia Alumina Specialty Quick-Change Discs

NORTON NORKUT ZIRCONIA ALUMINA POLYMER

BETTER CHOICE FOR HARD-TO-GRIND AREAS WHERE FLEXIBILITY IS NOT REQUIRED



FEATURES AND BENEFITS

- Zirconia alumina grain is resin bonded to a unique polymer backing which resists cracking and breaking and can be trimmed to the 1" core
- Use the cores to grind "pinch" welds and other hard-to-reach areas
- Used with a quick change mandrel: 7/16"-20 threaded for hand-held pneumatic grinders or 1/4" mandrel for automotive drills

| | |
|-------------|------------------|
| TIER: | BETTER |
| BRAND: | Norton |
| TRADENAME: | NORKUT |
| ABRASIVE: | Zirconia Alumina |
| BACKING: | Extra HD Polymer |
| ATTACHMENT: | Threaded Hole |

| SIZE (D) | GRIT | STD. PKG. | PART # |
|-----------------|------|-----------|-------------|
| 3 | 24 | 20 | 63642503656 |
| | 36 | 20 | 63642503657 |
| | 50 | 20 | 63642503658 |
| 7/16-20 Mandrel | - | 5 | 63642503659 |
| 1/4" Mandrel | - | 5 | 63642503660 |

Zirconia Alumina Quick-Change Cloth Discs

NORTON BLUEFIRE R884P ZIRCONIA ALUMINA CLOTH

BETTER CHOICE FOR SOFT METALS, WOOD, STAINLESS STEEL, AND CARBON



FEATURES AND BENEFITS

- Premium, versatile, self-sharpening zirconia alumina plus grain provides aggressive cut and up to 30% longer life than competitive zirconia alumina product
- Strong resin bond improves base adhesion and reduces grain shedding
- Advanced grain coating results in longer life and faster cut rate
- Semi-open coat retards loading on soft metals (aluminum, brass, and bronze) and wood, as well as stainless steel and carbon steel
- Durable, Y-weight, 2-ply polyester backing stands up to demanding applications: high-pressure and hard-to-grind exotic alloys

MERIT ZIRC PLUS CLOTH

BETTER CHOICE FOR STAINLESS STEEL, TITANIUM AND OTHER EXOTIC ALLOYS



FEATURES AND BENEFITS

- Self-sharpening zirconia alumina plus grain makes this a better choice for demanding grinding applications
- Strong resin bond improves base adhesion and reduces grain shedding
- The grinding aid produces longer life and cooler cut
- Heavy, Y-weight polyest backing provides excellent durability and grain adhesion

Zirconia Alumina Quick-Change Cloth Discs (continued)



| | | | | | |
|-------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| TIER: | BETTER | BETTER | BETTER | BETTER | BETTER |
| BRAND: | Norton | Norton | Merit | Merit | Merit |
| TRADENAME: | BLUEFIRE R884P | BLUEFIRE R884P | ZIRC PLUS | ZIRC PLUS | ZIRC PLUS |
| ABRASIVE: | Zirconia Alumina |
| BACKING: | Polyester 2-Ply Standard |
| OTHER: | | | Supersize | Supersize | Supersize |
| ATTACHMENT: | TS (Type II) | TR (Type III) | TS (Type II) | TR (Type III) | TP (Type I) |



| SIZE (D) | GRIT | STD. PKG. | PART # | PART # | PART #* | PART #* | PART #* |
|----------|------|-----------|--------------|--------------|-------------|-------------|-------------|
| 1 | 36 | 100 | | | | 08834167093 | 08834167009 |
| | 40 | 100 | | | 08834167052 | 08834167094 | 08834167010 |
| | 50 | 100 | 66261138609 | | 08834167053 | 08834167095 | 08834167011 |
| | 60 | 100 | 66261138608 | | | 08834167096 | 08834167012 |
| | 80 | 100 | 66261138607 | | | 08834167097 | 08834167013 |
| | 120 | 100 | | | 08834167057 | 08834167099 | 08834167015 |
| 1-1/2 | 36 | 100 | 66261138624 | 66261121041 | 08834167058 | | 08834167016 |
| | 40 | 100 | | | | 08834167101 | |
| | 50 | 100 | 66261138622 | | | 08834167102 | 08834167018 |
| | 60 | 100 | 66261138621 | 66261121043 | 08834167061 | 08834167103 | 08834167019 |
| | 80 | 100 | 66261138620 | 66261121044 | 08834167062 | 08834167104 | |
| | 120 | 100 | | | 08834167064 | 08834167106 | |
| 2 | 24 | 100 | 66261138638* | 66261138672* | | | |
| | 36 | 100 | 66261138637* | 66261138671 | 08834167065 | 08834167107 | 08834167023 |
| | 40 | 100 | | | 08834167066 | 08834167108 | |
| | 50 | 100 | 66261138635* | 66261138670* | 08834165583 | 08834167109 | 08834167025 |
| | 60 | 100 | 66261138634* | 66261121048* | 08834167068 | 08834167110 | 08834167026 |
| | 80 | 100 | 66261138633* | 66261121049* | 08834167069 | 08834167111 | 08834167027 |
| 3 | 24 | 50 | 66261138665* | 66261138675* | | | |
| | 36 | 50 | 66261138664* | 66261138674* | 08834167072 | 08834167114 | 08834167030 |
| | 40 | 50 | | | 08834167073 | | |
| | 50 | 50 | 66261138662* | 66261138673* | 08834167074 | 08834167116 | 08834167032 |
| | 60 | 50 | 66261138661* | 66261121053* | 08834167075 | 08834167117 | 08834167033 |
| | 80 | 50 | 66261138660* | 66261121054* | 08834167076 | 08834167118 | 08834167034 |
| 4 | 120 | 50 | | | 08834167078 | 08834167120 | 08834167036 |
| | 36 | 50 | 66261138683* | | 08834167079 | | |
| | 40 | 50 | | | 08834167080 | | |
| | 50 | 50 | 66261138681* | | 08834167081 | | |
| | 60 | 50 | 66261137343* | | 08834167082 | | 08834167040 |
| | 80 | 50 | 66261138679* | | 08834167083 | | |
| 120 | 50 | | | 08834167085 | | 08834167043 | |

* Standard Package = 25 discs

* Merit Zirc Plus Stock/Non-Stock Status:

TS: 1" 80 grit, 1-1/2", 2" and 3" are stock part nos.; 4" part nos. are non-stock.

TR: 1" 60, 80 and 120 grit, 1-1/2", 2", and 3" part nos. are stock; 1" 36, 40, and 50 grit part nos. are non-stock.

TP: 2" and 3" part nos. are stock; all other sizes are non-stock.

Please call for lead-times.

Quick-Change back-up pads shown at the end of this section.

Quick-Change Disc Test Kit



Merit Quick-Change Test Kit "D"

- Part # 08834165001
- Includes 150 discs, assorted grits, in 1", 2", and 3" diameters and 3" back-up pads
- Primarily aluminum oxide cloth quick-change discs
- Several zirconia alumina and FlexEdge discs are included

Aluminum Oxide Quick-Change Cloth Discs

NORTON R766 ALUMINUM OXIDE CLOTH

GOOD CHOICE FOR DIFFICULT-TO-GRIND MATERIALS THAT REQUIRE AN ECONOMICAL OPTION



VENDIBLE

FEATURES AND BENEFITS

- Premium aluminum oxide blend for aggressive cut and longer life than competitive aluminum oxide discs
- Durable Y-weight, 2-ply polyester backing and coating for longer life and faster cut rate on moderately-demanding applications
- Vendible packs, ideal for vending machines, small jobs, or carrying to a job site

MERIT ALUMINUM OXIDE CLOTH

GOOD CHOICE WHEN INITIAL PRICE IS THE PRIMARY CONSIDERATION



FEATURES AND BENEFITS

- Versatile aluminum oxide blend for aggressive cut and longer life than competitive aluminum oxide discs
- Durable X-weight (finer grits) or Y-weight (coarser grits) 2-ply polyester backing and coating for longer life and faster cut rate on moderately-demanding applications
- Good choice for difficult-to-grind materials (aluminum, brass, bronze, stainless, carbon steel, and titanium) and applications requiring an economical option



| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD | GOOD |
|-------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| BRAND: | Norton | Norton | Norton | Merit | Merit | Merit |
| TRADENAME: | R766 | R766 | R766 | ALUMINUM OXIDE | ALUMINUM OXIDE | ALUMINUM OXIDE |
| ABRASIVE: | Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| BACKING: | Polyester 2-Ply Standard |
| ATTACHMENT: | TS (Type II) | TR (Type III) | TP (Type I) | TS (Type II) | TR (Type III) | TP (Type I) |

| SIZE (D) | GRIT | STD. PKG. | PART # |
|----------|------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| 3/4 | 24 | 100 | | | | 69957399601 | 69957399669 | 69957399737 |
| | 36 | 100 | | | 66623318933 | 69957399602 | 69957399670 | 69957399738 |
| | 40 | 100 | | | | 69957399603 | 69957399671 | 69957399739 |
| | 50 | 100 | | | 66623318935 | 69957399604 | 69957399672 | 69957399740 |
| | 60 | 100 | | | | 69957399605 | 69957399673 | 69957399741 |
| | 80 | 100 | | | 66623318937 | 69957399606 | 69957399674 | 69957399742 |
| | 100 | 100 | | | | 69957399607 | 69957399675 | 69957399743 |
| | 120 | 100 | | | | 69957399608 | 69957399676 | 69957399744 |
| | 150 | 100 | | | | 69957399609 | 69957399677 | 69957399745 |
| | 180 | 100 | | | | 69957399610 | 69957399678 | 69957399746 |
| 1 | 240 | 100 | | | | 69957399611 | 69957399679 | 69957399747 |
| | 320 | 100 | | | | 69957399612 | 69957399680 | 69957399748 |
| | 24 | 100 | | | | 69957399613 | 69957399681 | 69957399749 |
| | 36 | 100 | 66623318957 | | 66623318950 | 69957399614 | 69957399682 | 69957399750 |
| | 40 | 100 | | | 66623318951 | 69957399615 | 69957399683 | 69957399751 |
| | 50 | 100 | 66623318959 | | 66623318952 | 69957399616 | 69957399684 | 69957399752 |
| | 60 | 100 | 66623318960 | | 66623318953 | 69957399617 | 69957399685 | 69957399753 |
| | 80 | 100 | 66623318961 | | 66623318956 | 69957399618 | 69957399686 | 69957399754 |
| | 100 | 100 | 66261132500 | 66261132517 | | 69957399619 | 69957399687 | 69957399755 |
| | 120 | 100 | 66261132501 | 66261132518 | | 69957399620 | 69957399688 | 69957399756 |
| | 150 | 100 | | | | 69957399621 | 69957399689 | 69957399757 |
| | 180 | 100 | | | | 69957399622 | 69957399690 | 69957399758 |
| 240 | 100 | | | | 69957399623 | 69957399691 | 69957399759 | |
| 320 | 100 | | | | 69957399624 | 69957399692 | 69957399760 | |

* Merit Aluminum Oxide Stock/Non-Stock status: All Merit Aluminum Oxide part nos. are stock products.
Continued

Aluminum Oxide Quick-Change Cloth Discs (continued)



| | | | | | | |
|-------------|--------------------------------|---------------------------------|-------------------------------|--------------------------------|---------------------------------|-------------------------------|
| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Merit | Merit | Merit |
| TRADENAME: | R766 | R766 | R766 | ALUMINUM OXIDE | ALUMINUM OXIDE | ALUMINUM OXIDE |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| BACKING: | Polyester | Polyester | Polyester | Polyester | Polyester | Polyester |
| ATTACHMENT: | 2-Ply Standard TS (Type II) | 2-Ply Standard TR (Type III) | 2-Ply Standard TP (Type I) | 2-Ply Standard TS (Type II) | 2-Ply Standard TR (Type III) | 2-Ply Standard TP (Type I) |

| SIZE (D) | GRIT | STD. PKG. | PART # | |
|----------|------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1-1/2 | 24 | 100 | | | | 69957399625 | 69957399693 | 69957399761 | |
| | 36 | 100 | 66623318972 | 66623318977 | 66623318967 | 69957399626 | 69957399694 | 69957399762 | |
| | 40 | 100 | 66623318973 | 66623318978 | 66623318968 | 69957399627 | 69957399695 | 69957399763 | |
| | 50 | 100 | 66623318974 | 66623318979 | 66623318969 | 69957399628 | 69957399696 | 69957399764 | |
| | 60 | 100 | 66623318975 | 66623318980 | 66623318970 | 69957399629 | 69957399697 | 69957399765 | |
| | 80 | 100 | 66623318976 | 66623318981 | 66623318971 | 69957399630 | 69957399698 | 69957399766 | |
| | 100 | 100 | 66261132502 | | | 69957399631 | 69957399699 | 69957399767 | |
| | 120 | 100 | 66261132503 | | | 69957399632 | 69957399700 | 69957399768 | |
| | 150 | 100 | | | | 69957399633 | 69957399701 | 69957399769 | |
| | 180 | 100 | 66261132504 | | | 69957399634 | 69957399702 | 69957399770 | |
| | 240 | 100 | | | | 69957399635 | 69957399703 | 69957399771 | |
| | 320 | 100 | 66261132505 | | | 69957399636 | 69957399704 | 69957399772 | |
| | 2 | 24 | 100 | 66623319011 | 66623319013 | 66623319010 | 69957399637 | 69957399705 | 69957399773 |
| | | 36 | 100 | 66623318999 | 66623319005 | 66623318993 | 69957399638 | 69957399706 | 69957399774 |
| 40 | | 100 | 66623319000 | 66623319006 | 66623318994 | 69957399639 | 69957399707 | 69957399775 | |
| 50 | | 100 | 66623319001 | 66623319007 | 66623318995 | 69957399640 | 69957399708 | 69957399776 | |
| 60 | | 100 | 66623319003 | 66623319008 | 66623318996 | 69957399641 | 69957399709 | 69957399777 | |
| 80 | | 100 | 66623319004 | 66623319009 | 66623318997 | 69957399642 | 69957399710 | 69957399778 | |
| 100 | | 100 | 66261132506 | 66261132519 | | 69957399643 | 69957399711 | 69957399779 | |
| 120 | | 100 | 66261132507 | 66261132520 | | 69957399644 | 69957399712 | 69957399780 | |
| 150 | | 100 | 66261132508 | 66261132521 | | 69957399645 | 69957399713 | 69957399781 | |
| 180 | | 100 | 66261132509 | 66261132522 | | 69957399646 | 69957399714 | 69957399782 | |
| 240 | | 100 | 66261132510 | 66261132523 | | 69957399647 | 69957399715 | 69957399783 | |
| 320 | | 100 | 66261132511 | | | 69957399648 | 69957399716 | 69957399784 | |
| 2 | | 36 | 40 V | 66623341058 | 66623341059 | | | | |
| | | 40 | 40 V | 66623341060 | 66623341061 | | | | |
| | 50 | 40 V | 66623341062 | 66623341063 | | | | | |
| | 60 | 40 V | 66623341064 | 66623341065 | | | | | |
| | 80 | 40 V | 66623341066 | 66623341067 | | | | | |
| | 3 | 24 | 50 | 66623319020 | 66623319026 | 66623319014 | 69957399649 | 69957399717 | 69957399785 |
| 36 | | 50 | 66623319021 | 66623319027 | 66623319015 | 69957399650 | 69957399718 | 69957399786 | |
| 40 | | 50 | 66623319022 | 66623319028 | 66623319016 | 69957399651 | 69957399719 | 69957399787 | |
| 50 | | 50 | 66623319023 | 66623319029 | 66623319017 | 69957399652 | 69957399720 | 69957399788 | |
| 60 | | 50 | 66623319024 | 66623319030 | 66623319018 | 69957399653 | 69957399721 | 69957399789 | |
| 80 | | 50 | 66623319025 | 66623319031 | 66623319019 | 69957399654 | 69957399722 | 69957399790 | |
| 100 | | 50 | 66261132512 | 66261132524 | | 69957399655 | 69957399723 | 69957399791 | |
| 120 | | 50 | 66261132513 | 66261132525 | | 69957399656 | 69957399724 | 69957399792 | |
| 150 | | 50 | 66261132514 | 66261132526 | | 69957399657 | 69957399725 | 69957399793 | |
| 180 | | 50 | 66261132515 | 66261132527 | | 69957399658 | 69957399726 | 69957399794 | |
| 240 | | 50 | 66261132516 | 66261132528 | | 69957399659 | 69957399727 | 69957399795 | |
| 320 | | 50 | | | | 69957399660 | 69957399728 | 69957399796 | |
| 3 | | 36 | 20 V | 66623341072 | 66623341073 | | | | |
| | | 40 | 20 V | 66623341074 | 66623341075 | | | | |
| | 50 | 20 V | 66623341076 | 66623341077 | | | | | |
| | 60 | 20 V | | 66623341079 | | | | | |
| | 80 | 20 V | 66623341080 | 66623341081 | | | | | |
| 4 | 24 | 50 | | 66623329430 | | | | | |
| | 36 | 50 | | 66623319036 | | 69957399661 | 69957399729 | 69957399797 | |
| | 40 | 50 | | | | 69957399662 | 69957399730 | 69957399798 | |
| | 50 | 50 | | | | 69957399663 | 69957399731 | 69957399799 | |
| | 60 | 50 | | | 66623319033 | 69957399664 | 69957399732 | 69957399800 | |
| | 80 | 50 | | | | 69957399665 | 69957399733 | 69957399801 | |
| | 100 | 50 | | | | 69957399666 | 69957399734 | 69957399802 | |
| | 120 | 50 | | | | 69957399667 | 69957399735 | 69957399803 | |
| | 180 | 50 | | | | 69957399668 | 69957399736 | 69957399804 | |

V = Vendible Package. 2" discs: 10 discs per pack / 4 Packs per carton. Order in multiples of 40. For 3" discs: 5 discs per pack / 4 Packs per carton. Order in multiples of 20.

*Merit Aluminum Oxide Stock/Non-Stock status: All Merit Aluminum Oxide part numbers are stock products.

Quick-Change back-up pads shown at the end of this section.

QUICK-CHANGE DISCS & ACCESSORIES

Silicon Carbide Quick-Change Cloth Discs

MERIT SILICON CARBIDE CLOTH

GOOD CHOICE FOR NON-FERROUS MATERIALS

FEATURES AND BENEFITS

- Sharp, silicon carbide abrasive
- X-weight 2-ply backing
- High initial cut and penetration for nonferrous materials



| TIER: | GOOD | GOOD | GOOD |
|-------------|-----------------|-----------------|-----------------|
| BRAND: | Merit | Merit | Merit |
| ABRASIVE: | Silicon Carbide | Silicon Carbide | Silicon Carbide |
| BACKING: | Cotton Standard | Cotton Standard | Cotton Standard |
| ATTACHMENT: | TS (Type II) | TR (Type III) | TP (Type I) |

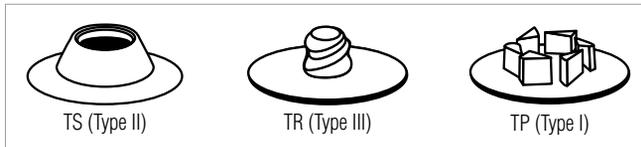


| SIZE (D) | GRIT | STD. PKG. | PART # | PART # | PART # |
|----------|------|-----------|--------------|-------------|-------------|
| 2 | 40 | 100 | 08834165252 | 08834164275 | 08834162166 |
| | 60 | 100 | 08834165254+ | 08834164163 | 08834162168 |
| | 80 | 100 | 08834165255+ | 08834166155 | 08834162169 |
| | 120 | 100 | | 08834164837 | 08834162171 |
| | 180 | 100 | 08834165259 | 08834167313 | 08834162173 |
| 3 | 40 | 50 | 08834165267 | 08834164277 | |
| | 60 | 50 | | 08834164850 | |
| | 80 | 50 | 08834165270 | 08834166159 | 08834162188 |
| | 120 | 50 | 08834165272 | 08834166160 | 08834162190 |
| | 180 | 50 | 08834165274 | 08834168177 | 08834164971 |

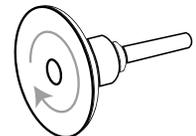
+ Merit Stock/Non-Stock Status: These 2 TS discs are stock items. All other silicon carbide discs are non-stock. Please call for lead-times.



Quick-Change Back-up Pads



- Hard density pads are for aggressive cutting action
- Medium density pads are for all-purpose applications
- Soft density pads are used for contours and fine finishing work



| DIAMETER/RPM | DENSITY | STD. PKG. | NORTON TS (TYPE II) | NORTON TR (TYPE III) | STD. PKG. | MERIT TS (TYPE II) | MERIT TR (TYPE III) | MERIT TP (TYPE I) |
|---|---------|-----------|---------------------|----------------------|-----------|--------------------|---------------------|-------------------|
| Quick-Change Back-up Pads | | | | | | | | |
| 9/16" | | | | | 1 | 66261054014* | | 66261054013* |
| 40,000 Max. RPM | | | | | | | | |
| 3/4" | Medium | | | | 1 | 08834164206 | 08834164038 | 08834164001 |
| 40,000 Max. RPM | | | | | | | | |
| 1" | Medium | 10 | 63642543185 | | 1 | 08834164651 | 08834164037 | 08834164002 |
| 40,000 Max. RPM | | | | | | | | |
| 1-1/2" | Hard | | | | 1 | 08834164622 | | 08834163996 |
| 30,000 Max. RPM | Medium | 10 | 63642543200 | 66261047580 | 1 | 08834164146 | 08834161174 | 08834164003 |
| 2" | Hard | 10 | 63642543205 | | 1 | 08834164624 | 08834164643 | 08834163997 |
| 30,000 Max. RPM | Medium | 10 | 63642543210 | 66261055103 | 1 | 08834164198 | 08834164922 | 08834164004 |
| | Soft | | | | 1 | 08834161625 | 08834164641 | 08834163949 |
| 3" | Hard | 10 | 63642543220 | 63642504900 | 1 | 08834161626 | 08834164036 | 08834163998 |
| 20,000 Max. RPM | Medium | 10 | 63642543225 | 66261055105 | 1 | 08834164113 | 08834164949 | 08834164005 |
| | Soft | | | | 1 | 08834164626 | 08834164644 | 08834163948 |
| 4" | Medium | 10 | 63642543232 | 66261047581 | 1 | 08834164135 | 08834164655 | 08834164006 |
| 15,000 Max. RPM | | | | | | | | |
| Vendible Quick-Change Back-up Pads | | | | | | | | |
| 2" Vendible | Medium | | | | 5 | 66623341082 | 66623341083 | |
| 30,000 Max. RPM | | | | | | | | |
| 3" Vendible | Medium | | | | 5 | | 66623341085 | |
| 20,000 Max. RPM | | | | | | | | |

All Quick-Change back-up pads have a 1/4" solid steel shank. * 9/16" Merit back-up pads are non-stock. Please call for lead-times. Vendible back-up pad Std. Pkg. Qty: 1 pad per pack; 5 packs per carton. Order in multiples of 5.

QUICK-CHANGE DISC ACCESSORIES

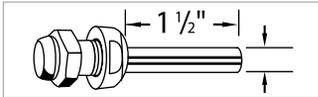
Replacement Medium Density Rubber Pads for Quick-Change TP (Type I) Back-up Pads

| DIAMETER | MODEL # | STD. PKG. | PART # |
|---|---------|-----------|--------------|
| Quick-Change Replacement Rubber Back-up Pads | | | |
| 3/4" | RR75 | 1 | 08834164008* |
| 1" | RR10 | 1 | 08834164009* |
| 2" | RR20 | 1 | 08834164011 |
| 3" | RR30 | 1 | 08834164012 |
| 4" | RR40 | 1 | 08834164013* |

When the rubber pad has worn away, but the steel components of your quick-change back-up are still serviceable, order these replacement rubber pads.

* Non-stock. Please call for lead-times.

Replacement Assemblies and Shanks for Quick-Change Back-up Pad

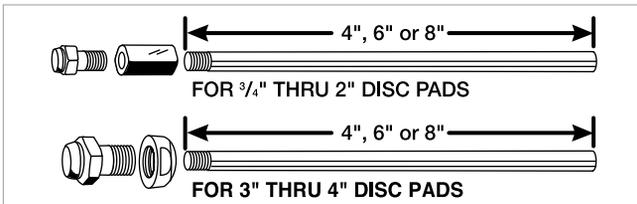


| DESCRIPTION | STD. PKG. | PART # |
|---|-----------|--------------|
| Replacement Mandrels and Nut Assembly | | |
| TP (Type I) Assembly RMN1 for 3/4 - 2 | 1 | 08834164015 |
| TP (Type I) Assembly RMN3 for 3 - 4 | 1 | 08834164016* |
| TS (Type II) & TR (Type III) Replacement 1/4" Shank | 1 | 08834164303 |

Assemblies replace all the steel components of a quick-change back-up pad. This shank replaces the screw-in 1/4" solid steel shank only.

* Non-stock. Please call for lead-times.

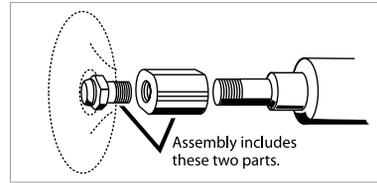
Extension Mandrels and Assembly



| DIAMETER | MODEL # | LENGTH | STD. PKG. | PART # |
|--|---------|--------|-----------|-------------|
| Extension Mandrels and Assembly – TP (Type I) | | | | |
| 3/4 - 2" | EMN-14 | 4" | 1 | 08834164017 |
| 3/4 - 2" | EMN-16 | 6" | 1 | 08834164018 |
| 3/4 - 2" | EMN-18 | 8" | 1 | 08834164019 |
| 3 - 4" | EMN-34 | 4" | 1 | 08834164020 |
| 3 - 4" | EMN-36 | 6" | 1 | 08834164026 |
| 3 - 4" | EMN-38 | 8" | 1 | 08834164021 |

All these extension mandrels and assembly are non-stock. Please call for lead-times.

MNA-1 Pad Adapters

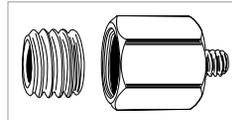


| DISC DIAMETER | MODEL NO. | STD. PKG. | PART # |
|---|-----------------|-----------|-------------|
| MNA-1 Pad Adapters – TP (Type I) | | | |
| 3/4 - 2" | MNA 1/4-20 THD. | 1 | 08834161176 |
| 3/4 - 2" | MNA 3/8-24 | 1 | 08834164055 |
| 3/4 - 2" | MNA 5/8-11 | 1 | 08834163001 |
| 3 - 4" | MNA 1/4-20 | 1 | 08834163002 |
| 3 - 4" | MNA 3/8-24 | 1 | 08834164041 |
| 3 - 4" | MNA 5/8-11 | 1 | 08834164028 |

Convert a TP (Type I) back-up pad 1/4" diameter solid shank to a threaded shank

All pad adapters are non-stock. Please call for lead-times.

MNA-23 Pad Adapters

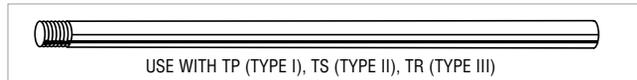


| DISC DIAMETER | MODEL # | STD. PKG. | PART # |
|---|--------------------------------|-----------|-------------|
| MNA-23 Pad Adapters – TS (Type II) and TR (Type III) | | | |
| 3/4 - 4" | MNA-23 3/8-24 and 5/8"-11 THD. | 1 | 08834162764 |

For use on a right angle grinder: convert TS (Type II) and TR (Type III) back-up pad 1/4" diameter solid shanks to threaded shanks. The larger 5/8-11 adapter (for 4-1/2" discs) is used alone to convert to a 5/8-11 thread. The 3/8-24 insert (for 4" discs) is screwed into the 5/8-11 adapter to create a 3/8-24 thread adapter.

All pad adapters are non-stock. Please call for lead-times.

1/4" Diameter Extension Mandrel



| MODEL NO. | LENGTH | STD. PKG. | PART # |
|--|--------|-----------|-------------|
| 1/4" Diameter Extension Mandrel 1/4-20 Thread | | | |
| EM-144 | 4" | 1 | 08834154185 |
| EM-146 | 6" | 1 | 08834154186 |
| EM-148 | 8" | 1 | 08834154187 |



Paper sheets and rolls are engineered for optimum performance when sanding metal, wood, composites and painted surfaces. The sheets are packed in protective packaging to eliminate waste and permit easy, neat storage.

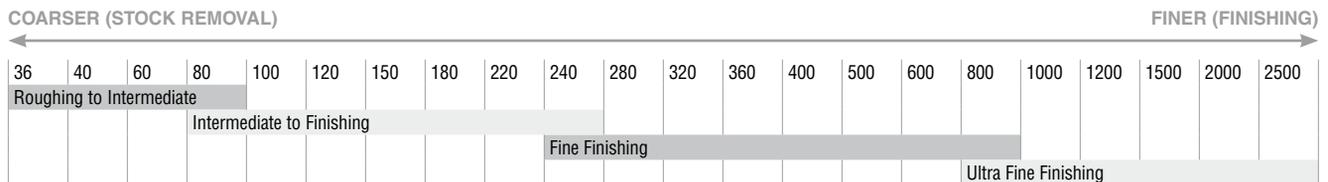
Categories: All purpose, wood sanding, stearated (non-loading), waterproof, and heavyweight
 Applications: Light-duty metal sanding, primer sanding, defect removal from painted surfaces, filler sanding, sanding and finishing of composites and fiberglass, bare wood sanding, sanding between sealer coats
 Size Range: Full Sheets, Cut Sheets, File Strips and Rolls
 Grit Range: 36 – 2500
 Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Aluminum Oxide, Silicon Carbide, and Garnet
 Paper Weights: Heavyweight – E; Lightweight – A and D
 Machine Used:



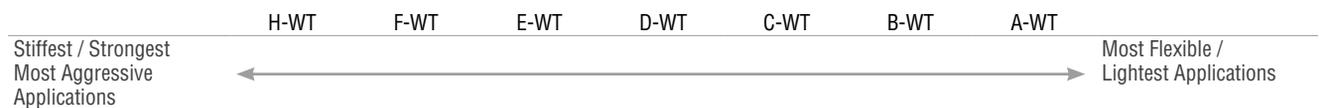
MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity – Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance – Low Initial Price |
|--|--|--|--|
| Unfinished Metal | Original Performance A275 | – | Gold Reserve A296, PB273 |
| Primed / Painted Surfaces / Between Coats | Original Performance A275 | Durite A475 | Gold Reserve A296, PB273 |
| Fiberglass / Composites | Original Performance A275 | Durite A475 | Gold Reserve A296, PB273 |
| Bare Wood | Original Performance A275 | – | Garnet A511, Garnet A513, Garnet A514 |
| Clear Coat Sanding | Black Ice T214, Black Ice T401 | – | TufBak T461 |
| Sealer Sanding | Original Performance A275 | Durite A475 | Gold Reserve A296, PB273 |
| Lacquer Sanding | Black Ice T214, Black Ice T401 | Blue-Bak T414 | TufBak T461 |
| Wet Sanding | Black Ice T214, Black Ice T401 | Blue-Bak T414 | TufBak T461 |
| Paint Stripping | Original Performance A275, ProSand A259PS | Durite A475 | A290 |
| All Purpose Dry Sanding | Original Performance A275, ProSand A259PS | – | A212, A213, A211 |

APPLICATION/GRIT RECOMMENDATION GUIDE



RECOMMENDED BACKING WEIGHT

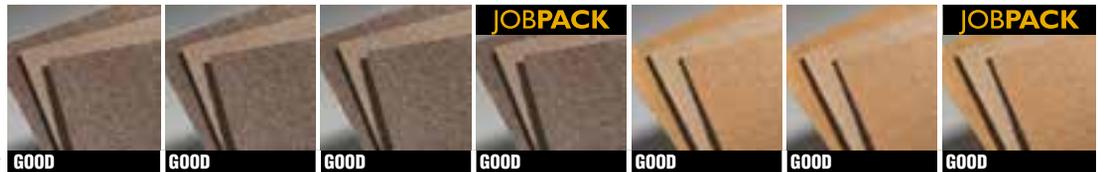


CROSS REFERENCE GUIDE

| NORTON | 3M | Hermes | Klingspor | Mirka | SIA | VSM |
|--------------------------------|---------------------------|---------------|------------|---------------------------|----------------------------------|---------------|
| STEARATED (NON-LOADING) | | | | | | |
| Dry Ice A975 | 734U, 735U, 334U | – | – | – | 5550 siaprime | – |
| OP A275 / A259PS (ProSand) | 216U, 334U | HC133 | PS33 | Royal, Royal Micro | 1950 siaspeed | – |
| Durite A475 | 405N, 414N, 415N/U | PSF-LL, SA168 | PL35 | Carat Flex, FineFlex | 1701 sialac 1748 siarexx fine | CP131A |
| Gold Reserve A296 / PB273 | 236U, Red, NX | HCAB-LL | PS33, PL36 | Bulldog Gold, GoldFlex | 1960 siarexx cut | KP911 |
| WATERPROOF | | | | | | |
| Blue Ice T214 | 213Q | WAFlex28B | PS12 | – | 1913 siawat | – |
| Blue Ice T401 | 401Q | WSFlex16 | PS11, PS14 | Waterproof (A) | – | CP918A |
| Blue-Bak T414 | 413Q | WSFlex16 | PS11, PS14 | Waterproof (A) | – | CP918A |
| TufBak T461 | 438Q, 431Q | WSFlex18C | PS11, PS14 | – | 1727 siawat | CP918C |
| ALL PURPOSE/WOOD | | | | | | |
| A211 | 230U, 240N, 346U | – | – | – | – | KP31C |
| A212 | 210N | HFB | PL31 | – | – | – |
| A213 | 230N | HFB | PL31 | – | – | KP31B |
| Garnet A511 | 110N | – | – | – | 1400 sianor | – |
| Garnet A513 | 130N | GCAB | – | – | – | – |
| Garnet A514 | 140N | GCAB | – | – | – | – |
| HEAVYWEIGHT PAPER | | | | | | |
| BlueFire H875P | 750U, 751U, 740I, 745I | – | – | Royal Coarse Cut | – | KP510E, KP709 |

Aluminum Oxide All-Purpose Sanding and Garnet Wood Sanding 9" x 11" Paper Sheets

9 x 11
Paper Sheets



| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD | GOOD | GOOD |
|-----------------|----------------|----------------|----------------|--------------------------------|---------------|-------------|-------------------------------|
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | A211 | A213 | A212 | MULTISAND A213/A212 | A513 | A511 | WOODSAND A513/A511 |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Garnet | Garnet | Garnet |
| BACKING WEIGHT: | D-Weight | C-Weight | A-Weight | D-, C- & A-Weight | D- & C-Weight | A-Weight | D-, C- & A-Weight |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | | | |

| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--------------|-------|----------------|-------------|-------------|-------------|--------------|-------------|-------------|
| 9 x 11 | 36 | 25/125 | 66261100335 | | | | | |
| | 40 | 25/125 | 66261100330 | | | | | |
| | 50 | 50/250 | 66261100325 | | | | | |
| | 60 | 50/250 | | 66261100320 | | | 66261101560 | |
| | 80 | 50/250 | | 66261100315 | | | 66261101555 | 66261101505 |
| | 100 | 100/500 | | 66261100295 | | 07660700358* | 66261101535 | 66261101500 |
| | 120 | 100/500 | | 66261100290 | | 07660700357* | 66261101530 | 66261101495 |
| | 150 | 100/500 | | 66261100285 | | 07660700356* | 66261101525 | 66261101490 |
| | 180 | 100/500 | | | 66261100245 | 07660700355* | | 66261101489 |
| | 220 | 100/500 | | | 07660700156 | 07660700354* | | 66261101488 |
| | 240 | 100/500 | | | | | | |
| | 280 | 100/500 | | | | | | |
| | Asst• | 100/500 | | | | 07660700365* | | |

* Packaging Standards: Job Packs: 25 sheets per pack / 10 packs per standard package for a total of 250 sheets
 • Assorted contains 6 each of 60, 100, 150 grit and 7 each of 220 grit

PAPER SHEETS AND ROLLS

Stearated (Non-Loading) Aluminum Oxide and Silicon Carbide 9" x 11" Sheets

NORTON OP A275 NO-FIL ALUMINUM OXIDE

THE BEST CHOICE FOR SANDING PAINTED SURFACES, COMPOSITES, PLASTICS OR ANY MATERIAL THAT TENDS TO LOAD



| FEATURES | BENEFITS |
|---|--|
| <ul style="list-style-type: none"> Premium P-graded, heat-treated aluminum oxide abrasive | <ul style="list-style-type: none"> Superior life, fast cut rate, consistent finish |
| <ul style="list-style-type: none"> Unique fiber-reinforced, B-weight latex-saturated backing | <ul style="list-style-type: none"> 50-60% improvement in tear strength Exceptional flexibility, can be folded without cracking |
| <ul style="list-style-type: none"> Water-based stearate, non-pigmented, No-Fil coating | <ul style="list-style-type: none"> Provides maximum load resistance and extended life: no color transfer to work |
| <ul style="list-style-type: none"> Full resin adhesive bond | <ul style="list-style-type: none"> Provides exceptional resistance to abrasive grain shedding especially when folding to sand into corners; long life |

NORTON DURITE A475 NO-FIL SILICON CARBIDE

THE BETTER CHOICE FOR GEL COATS, HARD COMPOSITE SUBSTRATES, ABRASION-RESISTANT COATINGS, AND WOODWORKING APPLICATIONS



| FEATURES | BENEFITS |
|---|--|
| <ul style="list-style-type: none"> P-graded, silicon carbide abrasive | <ul style="list-style-type: none"> Easy penetration of the hardest surfaces |
| <ul style="list-style-type: none"> Water-based stearate, non-pigmented, No-Fil coating | <ul style="list-style-type: none"> Resists loading for longest usable product life, no color transfer to work |
| <ul style="list-style-type: none"> Fiber-reinforced, latex paper backing | <ul style="list-style-type: none"> Provides flexibility and resistance to tearing |

9 x 11 Paper Sheets



| TIER: | BEST | BEST | BETTER | GOOD |
|-----------------|---|------------------------------|---------------------------|----------------------|
| BRAND: | Norton | Norton | Norton | Merit |
| TRADENAME: | ORIGINAL PERFORMANCE A275 NO-FIL | PROSAND A259PS NO-FIL | DURITE A475 NO-FIL | PB273 NO-LOAD |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide | Silicon Carbide | Aluminum Oxide |
| BACKING WEIGHT: | B-Weight | C- & B-Weight | B-Weight | B-Weight |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded |

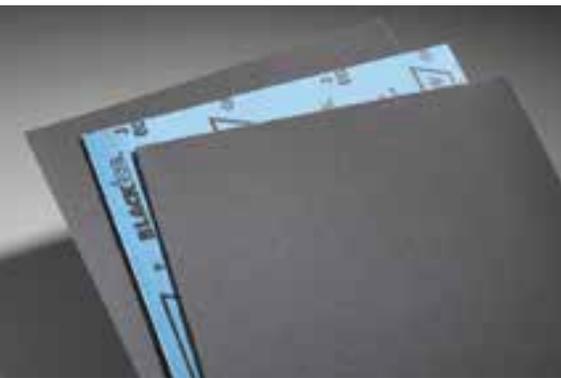
| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # | PART # | PART # |
|--------------|------|----------------|-------------|--------------|-------------|-------------|
| 9 x 11 | 60 | 50/250 | | 07660768175* | | |
| | 80 | 50/250 | 66261131634 | 07660768174* | 66254487393 | 66623311878 |
| | 100 | 100/500 | 66261131633 | 07660768173* | 66254487394 | 66623311877 |
| | 120 | 100/500 | 66261131632 | 07660768172* | 66254487395 | 66623311876 |
| | 150 | 100/500 | 66261131631 | 07660768171* | 66254487396 | 66623311875 |
| | 180 | 100/500 | 66261131630 | 07660768168* | 66254487397 | 66623311874 |
| | 220 | 100/500 | 66261131629 | 07660768167* | 66254487398 | 66623311873 |
| | 240 | 100/500 | 66261131628 | | 66254487399 | 66623311879 |
| | 280 | 100/500 | 66261131627 | | | |
| | 320 | 100/500 | 66261131626 | 07660768166* | 66254487400 | 66623311871 |
| | 400 | 100/500 | 66261131624 | 07660768165* | | 66623311870 |
| | 500 | 100/500 | 66261131623 | | | |
| | 600 | 100/500 | 66261131622 | | | |
| | 800 | 100/500 | 66261131621 | | | |
| | 1000 | 100/500 | 66261131620 | | | |
| | 1200 | 100/500 | 66261131619 | | | |
| | 1500 | 100/500 | 66261131618 | | | |

* Packaging Standards: ProSand A259PS Job Packs: 20 sheets per pack / 10 packs per standard package for a total of 200 sheets

Waterproof Aluminum Oxide and Silicon Carbide 9" x 11" Sheets

NORTON BLACK ICE T214 AND T401 A/O WATERPROOF

BEST CHOICE FOR ALL WET APPLICATIONS



FEATURES

- Black Ice T214: Premium, P-graded, heat-treated aluminum oxide abrasive
- Black Ice T401: Premium, ultra fine (1000 – 2500 JIS graded) silicon carbide abrasive
- Improved resin bond system
- High-strength B-weight high-latex, waterproof paper backing

BENEFITS

- Ultimate cut and life in wet application
- Ultimate finish in wet applications
- Long life in wet applications
- Ultimate flexibility, with wet-curl resistance
- Environmentally stable, resists humidity-caused curling

9 x 11
Paper Sheets



| | | | | |
|-----------------|-----------------------|-----------------------|----------------------|--------------------|
| TIER: | BEST | BEST | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton | Norton |
| TRADENAME: | BLACK ICE T214 | BLACK ICE T401 | BLUE-BAK T414 | TUFBAK T461 |
| ABRASIVE: | Aluminum Oxide | Silicon Carbide | Silicon Carbide | Silicon Carbide |
| BACKING WEIGHT: | B-Weight | B-Weight | B-Weight | C-Weight |
| OTHER: | P-Graded | JIS Graded | ANSI Graded | ANSI Graded |

| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # | PART # | PART # |
|--------------|--------|----------------|-------------|-------------|-------------|-------------|
| 9 x 11 | 60 | 50/250 | | | | 66261101175 |
| | 80 | 50/250 | | | | 66261101170 |
| | 100 | 50/250 | | | | 66261101165 |
| | 120 | 50/250 | | | | 66261101160 |
| | 150 | 50/250 | | | | 66261101155 |
| | 180 | 50/250 | | | | 66261101150 |
| | 220 | 50/250 | 66261139389 | | 66261139367 | |
| | 240 | 50/250 | 66261139388 | | 66261139366 | 66261130331 |
| | 280 | 50/250 | | | 66261139365 | |
| | 320 | 50/250 | 66261139386 | | 66261139364 | 66261130332 |
| | 360 | 50/250 | | | 66261139363 | |
| | 400 | 50/250 | 66261139385 | | 66261139362 | 66261130333 |
| | 500 | 50/250 | 66261139384 | | 66261139361 | |
| | 600 | 50/250 | 66261139383 | | 66261139360 | 66261130334 |
| | 800 | 50/250 | 66261139382 | | | |
| | 1000 | 50/250 | | 66261139381 | | |
| | 1200 | 50/250 | | 66261139380 | | |
| 1500 | 50/250 | | 66261139379 | | | |
| 2000 | 50/250 | | 66261139378 | | | |
| 2500 | 50/250 | | 66261139377 | | | |



Waterproof Sanding Blocks – with “grabbing” power

Dual Density Wet Sanding Block

- No adhesive required: simply wrap a 5-1/2" x 9" (9" x 11" cut in half) sheet around the block
- The dense side is for more aggressive blocking, while the soft side is for color sanding
- Equalizes sanding pressure for fine grit applications



Holey Block

- No adhesive required: simply wrap a 5-1/2" x 9" (9" x 11" cut in half) sheet around the block
- A rugged, semi-rigid, multi-purpose sanding block engineered for flat to medium curved surfaces
- A tactical hole pattern side provides numerous cutting edges to create a 30% faster cut rate
- The plain side provides firmness and a comfortable, easy-to-hold surface

| DESCRIPTION | STD. PKG. | PART # |
|-------------------|-----------|-------------|
| Wet Sanding Block | 12 | 63642503728 |
| Holey Block | 8 | 63642503729 |

File Strips

NORTON BLUEFIRE H875P ZIRCONIA ALUMINA

EXCELLENT FOR SOFT MATERIAL APPLICATIONS

FEATURES

- Patented zirconia abrasive
- Strong E-weight paper, latex impregnated
- Open coat design

BENEFITS

- Extended life over original NorZon products
- Increased durability and chip resistance, flexible
- Reduced loading; ideal for body filler, fiberglass, composite sanding

Paper File Strips
PSA (Pressure Sensitive Adhesive)
and Non-PSA



| | | | | |
|---------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| TIER: | BEST | BEST | BEST | BEST |
| BRAND: | Norton | Norton | Norton | Norton |
| TRADENAME: | OP A275 NO-FIL | OP A275 NO-FIL | OP A275 NO-FIL | OP A275 NO-FIL |
| ABRASIVE: | A/O | A/O | A/O | A/O |
| BACKING WEIGHT: | B-Weight | B-Weight | B-Weight | B-Weight |
| BACKING ATTACHMENT: | Non-PSA | PSA | Hook/Loop | Hook/Loop Vac |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded |

| | | | |
|--|-----------------------|-----------------------|-----------------------|
| | BETTER | BETTER | BETTER |
| | Norton | Norton | Norton |
| | BLUEFIRE H875P | BLUEFIRE H875P | BLUEFIRE H875P |
| | Z/A | Z/A | Z/A |
| | E-Weight | E-Weight | E-Weight |
| | Non-PSA | PSA | Hook/Loop |

| SIZE (W x L) | GRIT | MIN/STD. PKG. | PART # | PART # | PART # | PART # | MIN/STD. PKG. | PART # | PART # | MIN/STD. PKG. | PART # |
|----------------|------|---------------|-------------|-------------|--------|-------------|---------------|-------------|-------------|---------------|-------------|
| 2-3/4 x 16 | 100 | 50/500 | | | | | | | | | |
| | 120 | 50/500 | | | | | | | | | |
| | 180 | 50/500 | | | | | | | | | |
| 2-3/4 x 16-1/2 | 36 | | | | | | | | | | |
| | 40 | | | | | | 50/250 | | 66261123610 | 25/125 | 66261123616 |
| | 80 | 50/500 | | 66261131640 | | 66261131646 | 50/250 | | 66261123609 | 25/125 | 66261123615 |
| | 100 | 50/500 | | 66261131639 | | 66261131645 | 50/250 | | 66261123608 | 25/125 | 66261123614 |
| | 120 | 50/500 | | | | 66261131644 | | | | | |
| | 150 | 50/500 | | 66261131637 | | 66261131643 | | | | | |
| | 180 | 50/500 | | 66261131636 | | 66261131642 | | | | | |
| | 220 | 50/500 | | | | 66261131641 | | | | | |
| 2-3/4 x 17-1/2 | 36 | | | | | | 50/250 | 66261123622 | | | |
| | 40 | | | | | | 50/250 | 66261123621 | | | |
| | 80 | 50/500 | 66261131652 | | | | 50/250 | 66261123620 | | | |
| | 100 | 50/500 | 66261131651 | | | | 50/250 | 66261126512 | | | |
| | 120 | 50/500 | 66261131650 | | | | | | | | |
| | 150 | 50/500 | 66261131649 | | | | | | | | |
| | 180 | 50/500 | 66261131648 | | | | | | | | |
| | 220 | 50/500 | 66261131647 | | | | 50/250 | 66261126511 | | | |



VACUUM HOLE PATTERN FOR 2-3/4 X 16 FILE STRIPS

Sanding Boards



PSA/Non-PSA Sanding Board

- This sanding board has a cushioned surface
- Spring clips mounted at each end securely hold 2-3/4" x 16-1/2" PSA file strips and 2-3/4" x 17-1/2" non-PSA file strips



Hook and Loop and Non-PSA Sanding Board

- Lightweight, rugged design for easy sanding of plastic fillers
- Spring clips mounted at each end securely hold 2-3/4" x 16-1/2" hook and loop file strips and 2-3/4" x 17-1/2" non-PSA file strips
- Air file shoe eliminates the need for clips. The quick-change backing positively locks and unlocks for fast use.



| DESCRIPTION | STD. PKG. | PART # |
|--|-----------|-------------|
| PSA/Non-PSA File Strip Sanding Board | 6 | 63642542724 |
| Hook and Loop/Non-PSA File Strip Sanding Board | 5 | 63642552836 |
| Hook and Loop Air File Shoe | 5 | 63642552835 |

Hand Sanding Cut Sheets

Paper Cut Sheets

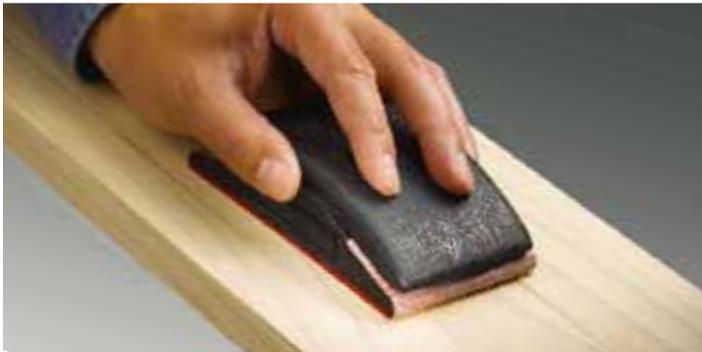


| | | |
|-----------------|--------------------|----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | A290 NO-FIL | A213 |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |
| BACKING WEIGHT: | C-Weight | C-Weight |
| OTHER: | P-Graded | P-Graded |

| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # |
|--------------|------|----------------|-------------|-------------|
| 3-2/3 x 9 | 60 | 100/1000 | | 66261102925 |
| | 80 | 100/1000 | 66261101119 | 66261102920 |
| | 100 | 100/1000 | | 66261102900 |
| | 120 | 100/1000 | | 66261102895 |
| | 180 | 100/1000 | 66261101124 | |
| | 220 | 100/1000 | 66261101123 | |

Rubber Hand Sanding Blocks

- Resilient rubber blocks that conform well to mild contours and flat surfaces



| DESCRIPTION | STD. PKG. | PART # |
|-------------|-----------|-------------|
| 2-3/4 x 5 | 5 | 07660701889 |

PSA Rolls

PSA (Pressure Sensitive Adhesive) Paper Rolls



| | | | | | | | | |
|---------------------|----------------------------|----------------------------|----------------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------------------------------|
| TIER: | BEST | BEST | BEST | BETTER | BETTER | BETTER | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | DRY ICE A975 NO-FIL | DRY ICE A975 NO-FIL | DRY ICE A975 NO-FIL | OP A275 NO-FIL | OP A275 NO-FIL | OP A275 NO-FIL | OP A275 NO-FIL | GOLD RESERVE A296 NO-FIL |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Ceramic Alumina | Aluminum Oxide |
| BACKING WEIGHT: | C-Weight. | C-Weight. | B-Weight. | B-Weight. | B-Weight. | B-Weight. | B-Weight. | B-Weight |
| BACKING ATTACHMENT: | PSA | PSA | PSA | PSA | PSA | PSA | PSA | PSA |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded |
| SIZE: | 2-3/4" x 25 yd | 2-3/4" x 30 yd | 2-3/4" x 45 yd | 2-3/4" x 25 yd | 2-3/4" x 30 yd | 2-3/4" x 45 yd | 4-1/2 x 10 yd | 2-3/4" x 25 yd |

| GRIT | MIN./STD. PKG. | PART # |
|------|----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 80 | 1/5 | 66261149566 | | | 66261131691 | | | 66261131697 |
| 100 | 1/5 | | | | | 66261131690 | | 66261131696 |
| 120 | 1/5 | | 66261149564 | | | 66261131689 | | 66261131695 |
| 150 | 1/5 | | | 66261149563 | | | 66261131688 | 66261131694 |
| 180 | 1/5 | | | 66261149562 | | | 66261131687 | 66261131693 |
| 220 | 1/5 | | | 66261149561 | | | 66261131686 | 66261131692 |
| 240 | 1/5 | | | | | | 66261131685 | |
| 320 | 1/5 | | | 66261149558 | | | 66261131683 | |
| 400 | 1/5 | | | 66261149557 | | | 66261131681 | |
| 500 | | | | | | | | |
| 600 | 1/5 | | | | | | 66261131679 | |

Hook & Loop Rolls

Hook and Loop Paper Rolls



| BEST | | | BEST | | |
|---------------------------------------|----------------|-------------|---|--|--|
| TIER: BEST | | | TIER: BEST | | |
| BRAND: Norton | | | BRAND: Norton | | |
| TRADENAME: DRY ICE A975 NO-FIL | | | TRADENAME: DRY ICE A975 MULTI-AIR CYCLONIC | | |
| ABRASIVE: Ceramic Alumina | | | ABRASIVE: Ceramic Alumina | | |
| BACKING WEIGHT: B-Weight. | | | BACKING WEIGHT: C- & B-Weight | | |
| BACKING ATTACHMENT: Hook & Loop | | | BACKING ATTACHMENT: Hook & Loop | | |
| OTHER: P-Graded | | | OTHER: P-Graded | | |
| SIZE: 2-3/4" x 13 yd | | | SIZE: 2-3/4" x 13 yd | | |
| GRIT | MIN./STD. PKG. | PART # | PART # | | |
| 80 | 1/4 | 63642506261 | 63642506113 | | |
| 120 | 1/4 | 63642506259 | 63642506114 | | |
| 150 | 1/4 | 63642506258 | 63642506117 | | |
| 180 | 1/4 | 63642506257 | 63642506118 | | |
| 220 | 1/4 | 63642506256 | 63642506119 | | |
| 240 | 1/4 | | 63642506120 | | |
| 320 | 1/4 | 63642506255 | 63642506121 | | |
| 400 | 1/4 | 66623329518 | 63642506122 | | |
| 500 | 1/4 | 66623329547 | 63642506123 | | |
| 600 | 1/4 | 66623329548 | 63642506124 | | |

2-3/4" wide hook and loop paper rolls are perforated at 2-3/4" which allows use on all standard lengths of hand blocks and file boards.

Roll Accessories



PSA Roll Dispenser

- Heavy-duty wire dispenser has a vinyl coating to protect the work surface
- Accommodates two 2-3/4" PSA rolls; stackable for multi-grit operations. Attach to wall or mount on cabinet

| DESCRIPTION | STD. PKG. | PART # |
|--------------------|-----------|-------------|
| PSA Roll Dispenser | 1 | 63642542773 |



PSA/Hook & Loop Sanding Blocks

- Ergonomically-shaped flexible foam blocks used with 2-3/4" rolls, fit comfortably in your hand
- Firm block produces a truly flat surface
- The soft block is designed for flat surfaces and contours

| SIZE | DESCRIPTION | STD. PKG. | BACKING ATTACHMENT: | |
|---------------|-------------|-----------|---------------------|-------------|
| | | | PSA | Hook & Loop |
| | | | PART # | PART # |
| 2-3/4 x 5 | Soft | 5 | 63642542090 | 63642542092 |
| 2-3/4 x 5 | Firm | 5 | 63642542091 | 63642542093 |
| 2-3/4 x 7-3/4 | Soft | 5 | | 63642542095 |
| 2-3/4 x 7-3/4 | Firm | 5 | 63642542094 | |

Rotolo Foam Sanding Pads

APPLICATION/GRIT RECOMMENDATION GUIDE

| ← COARSER | | | | | | | | | | | | FINER → | | | | | | | | | | | | | | |
|--------------------|-----|-----|---------------|-----|-----|----------------|-----|-----|------------------|-----|------|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|--|--|--|
| 120 | 150 | 180 | 220 | 240 | 280 | 320 | 400 | 500 | 600 | 800 | 1000 | 120 | 150 | 180 | 220 | 240 | 280 | 320 | 400 | 500 | 600 | 800 | 1000 | | | |
| Cleaning/Repairing | | | Final Sanding | | | Feather Edging | | | Basecoat Sanding | | | Clearcoat Sanding | | | | | | | | | | | | | | |

NO-FIL NORTON OP A275ROTOLO FOAM ROLLS

THE BETTER CHOICE FOR FINE SANDING FLAT AND CURVED SURFACES



FEATURES

- Original Performance A275 (premium P-graded, aluminum oxide grain with No-Fil coating) on Rotolo foam backing
- 4-1/2" wide x 82' long roll perforated every 5-1/2 inches
- Convenient dispensing box

BENEFITS

- Perfect for hand sanding without leaving finger marks
- Provides outstanding finish on wood, metal, composites, primers, sealers, and top coats
- Fast cut and long life without loading
- Compatible with all coatings
- 50% – 60% improvement in tear strength
- Standard 1/4 sheet size for hand or machine sanding
- 178 sheets per roll
- Protects A275 Rotolo foam from damage

TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **OP A275ROTOLO**
 ABRASIVE: Aluminum Oxide
 OTHER: P-Graded

| SIZE (W x L) | GRIT SIZE | ROLLS/STD. PKG. | PART # |
|--------------|-----------|-----------------|-------------|
| 4-1/2" x 82' | 120 | 2 | 63642535316 |
| | 150 | 2 | 63642557584 |
| | 180 | 2 | 63642557599 |
| | 220 | 2 | 63642557600 |
| | 240 | 2 | 63642557602 |
| | 280 | 2 | 63642557604 |
| | 320 | 2 | 63642557606 |
| | 400 | 2 | 63642557608 |
| | 500 | 2 | 63642557611 |
| | 600 | 2 | 63642557612 |
| | 800 | 2 | 63642557613 |
| | 1000 | 2 | 63642557616 |



CLOTH SHEETS AND ROLLS



Engineered for flexibility and fast cutting, cloth sheets and rolls have a longer life than paper. They tear cleanly and straight without shedding and are packed in a protective dispenser to eliminate waste and damage.

Categories: All purpose, fine finishing, and screen-back
 Applications: Scouring and light deburring, scale and rust removal, blending and fine sanding, polishing lathe turnings, rolls and cylinders, and blending machine tool marks
 Size Range: Sheets: 9" x 11"
 Rolls: 1" x 10 yds., 1-1/2" – 2" x 25 yds., 1" – 4" x 50 yds.
 Grit Range: 40 – 600, extra coarse, coarse, medium, fine
 Abrasive Grain: Aluminum Oxide, Silicon Carbide, Emery
 Machine Used:



CROSS REFERENCE GUIDE

| | GOOD | | | |
|---------------|--|--------------------------------------|------------------|-----------------|
| NORTON | Metalite K225 | Norton R243 | Emery K622 | Screen-Bak Q421 |
| 3M | 311T Three-M-lte BG 211K Electrocut | 211K Three-M-lte 311K Three-M-lte | 011k Crystal Bay | 481Q |
| Hermes | RB317LX | RB232J | – | – |
| Klingspor | CS310X | KL361 | KL371 | – |
| Sait | DA-F | EA-F | – | Saitscreen |
| SIA | – | 2947J | C680J | – |
| VSM | KK504X | KK504J, KK504X | – | – |

APPLICATION/STARTING RECOMMENDATION GUIDE

| | | | |
|--------------------------|------------------|-------------|------------------------|
| Durability/Stock Removal | Conformability | Slower Cut | Waterproof |
| Fast Cut | Excellent Finish | Fine Finish | Load Resistant |
| Metalite K225 | Norton R243 | Emery K622 | Screen-Bak Durite Q421 |

NORTON METALITE K225 ALUMINUM OXIDE

GOOD CHOICE FOR GENERAL-PURPOSE METAL AND WOODWORKING APPLICATIONS

FEATURES & BENEFITS

- Superior conformability to flat and complex surfaces, better finishes, and fast cutting action provided by our quality, P-graded aluminum oxide abrasives and smooth, J-wt. flexible cotton backing; 40-60 grits rolls and sheets are supplied in durable, but smooth, flexible X-Weight cotton backing
- The full grit range – P40 - P600 – allows one product family to be used on your scouring to finishing jobs



NORTON R243 ALUMINUM OXIDE

GOOD CHOICE FOR SMALL-VOLUME METAL AND WOODWORKING APPLICATIONS AT A LOW INITIAL PRICE

FEATURES & BENEFITS

- Superior conformability to flat and complex surfaces, better finishes, and fast cutting action provided by our quality, P-graded aluminum oxide abrasives and smooth, J-weight flexible cotton backing
- The full grit range – P40 - P600 – allows one product family to be used on your scouring to finishing jobs
- Our low initial price makes these the products of choice for numerous small volume jobs where you are unable to measure performance



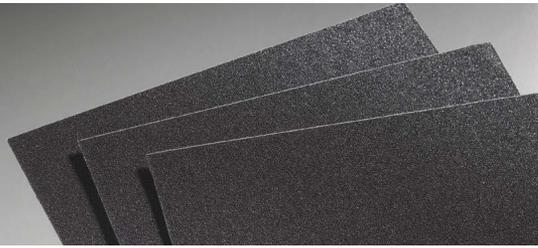
CLOTH SHEETS AND ROLLS

NORTON K622 EMERY

GOOD CHOICE FOR REMOVING RUST, PAINT AND SCALE FROM METAL SURFACES

FEATURES & BENEFITS

- Natural emery abrasive is coated onto a flexible cloth backing for increased durability
- Used for light deburring and cleaning
- Ideal for hand sanding, deburring, polishing and removing cutting tool marks on all metal parts

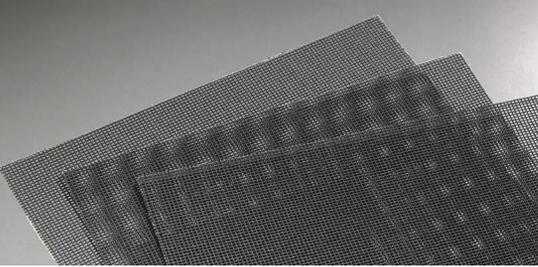


NORTON SCREEN-BAK Q421 SILICON CARBIDE

GOOD CHOICE FOR SANDING SOFTER MATERIALS WHERE LOADING IS A MAJOR PROBLEM SUCH AS PLASTIC, COPPER, BRASS, PLASTER, WOOD, AND DRYWALL

FEATURES & BENEFITS

- Coated on both sides with P-graded silicon carbide for excellent cutting and non-loading properties
- Open weave screen for extreme resistance to loading when removing scale, rust and corrosion
- Open mesh design is waterproof and washable, allowing you to rinse and reuse



Cloth Sheets



| | | | |
|-------------------|----------------------|-------------------|------------------------|
| TIER: | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | METALITE K225 | EMERY K622 | SCREEN-BAK Q421 |
| ABRASIVE: | Aluminum Oxide | Emery | Silicon Carbide |
| BACKING: | J-Weight Cotton | J-Weight Cotton | Mesh |
| OTHER: | P-Graded | | P-Graded/Waterproof |

| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # | MIN./STD. PKG. | PART # |
|--------------|--------------|----------------|--------------|-------------|----------------|-------------|
| 9 x 11 | 40 | 25/125 | 66261058713+ | | | |
| | 50 | 25/125 | 66261101862+ | | | |
| | 60 | 25/125 | 66261101861+ | | | |
| | 80 | 25/125 | 66261126340 | | 25/125 | 66261100960 |
| | 100 | 50/250 | 66261126339 | | 25/125 | 66261100955 |
| | 120 | 50/250 | 66261126338 | | 25/125 | 66261100950 |
| | 150 | 50/250 | 66261126337 | | 25/125 | 66261100945 |
| | 180 | 50/250 | 66261126336 | | 25/125 | 66261100940 |
| | 220 | 50/250 | 66261126335 | | 25/125 | 66261100935 |
| | 240 | 50/250 | 66261126334 | | | |
| | 280 | 50/250 | 66261126333 | | | |
| | 320 | 50/250 | 66261126332 | | 25/125 | 66261100920 |
| | 400 | 50/250 | 66261126331 | | 25/125 | 66261100915 |
| | 500 | 50/250 | | | | |
| | 600 | 50/250 | 66261126330 | | | |
| | Extra Coarse | 25/125 | | | 66261101255 | |
| | Coarse | 25/125 | | | 07660701307 | |
| Medium | 50/250 | | | 07660701309 | | |
| Fine | 50/250 | | | 07660701308 | | |

+ 40 - 60 grit are supplied in durable, but flexible X-weight cotton backing

Cloth Rolls



| | | | | | |
|------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | METALITE K225 |
| ABRASIVE: | Aluminum Oxide |
| BACKING: | J-Weight Cotton |
| SIZE: | 1" x 10 yds | 1" x 50 yds | 1-1/2" x 50 yds | 2" x 50 yds | 4" x 50 yds |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded | P-Graded |

| GRIT | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|------|-----------|-------------|--------------|--------------|--------------|--------------|
| 40 | 1 | | 66261058716+ | 66261058715+ | 66261058714+ | |
| 50 | 1 | | 66261127728+ | 66261127730+ | 66261127732+ | |
| 60 | 1 | | 66261127729+ | 66261127731+ | 66261127733+ | |
| 80 | 1 | 66261134298 | 66261126276 | 66261126288 | 66261126299 | |
| 100 | 1 | 66261134299 | 66261126275 | 66261126287 | 66261126298 | |
| 120 | 1 | 66261134300 | 66261126274 | 66261126286 | 66261126297 | 66261127285* |
| 150 | 1 | 66261134301 | 66261126273 | 66261126285 | 66261126296 | |
| 180 | 1 | 66261134302 | 66261126272 | 66261126284 | 66261126295 | |
| 220 | 1 | | 66261126271 | 66261126283 | 66261126294 | |
| 240 | 1 | 66261134303 | 66261126270 | 66261126282 | 66261126293 | |
| 280 | 1 | | 66261126269 | 66261126281 | 66261126292 | |
| 320 | 1 | 66261134304 | 66261126268 | 66261126280 | 66261126291 | |
| 400 | 1 | | 66261126267 | 66261126279 | 66261126290 | |
| 600 | 1 | | 66261126266 | 66261126278 | 66261126289 | |

+ 40 - 60 grit, are supplied in durable, but flexible X-weight cotton backing

* Packaging Standards: 4" Roll Std. Pkg.: 6 rolls

Cloth Rolls



| | | | | | |
|------------|-----------------|-----------------|-----------------|------------------------|------------------------|
| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | R243 | R243 | R243 | SCREEN-BAK Q421 | SCREEN-BAK Q421 |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide | Silicon Carbide |
| BACKING: | J-Weight Cotton | J-Weight Cotton | J-Weight Cotton | Mesh | Mesh |
| SIZE: | 1" x 50 yds | 1-1/2" x 50 yds | 2" x 50 yds | 1-1/2" x 25 yds | 2" x 25 yds |
| OTHER: | P-Graded | P-Graded | P-Graded | P-Graded Waterproof | P-Graded Waterproof |

| GRIT | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|------|-----------|-------------|-------------|-------------|--------------|--------------|
| 60 | 1 | 66261136178 | 66261136190 | 66261136203 | | |
| 80 | 1 | 66261136179 | 66261136192 | 66261136204 | 66261107275* | |
| 100 | 1 | 66261136180 | 66261136194 | 66261136205 | | |
| 120 | 1 | 66261136181 | 66261136195 | 66261136206 | 66261107270* | 66261149811* |
| 150 | 1 | 66261136182 | 66261136196 | 66261136207 | | |
| 180 | 1 | 66261136186 | 66261136199 | 66261136208 | 66261107265* | |
| 240 | 1 | 66261136187 | 66261136200 | 66261136209 | | |
| 320 | 1 | 66261136188 | 66261136201 | 66261136210 | | |
| 400 | 1 | 66261136189 | 66261136202 | 66261136211 | | |

* Packaging Standards: Screen-Bak Q421 Std. Pkg.: 10 rolls





Flexible, abrasive sanding sponges for a wide variety of curved, contoured or flat surface applications on wood, metal, paint, plastic, ceramics and drywall.

- Applications:** Light stock removal, sanding sealer and wash-coats, touch-up or repair of primer, sanding contours and intricate shapes, and finishing
- Benefits:** Can be used wet or dry
Clog resistant, washable, reusable
Easy to use, can be folded without cracking
Conformable
Generate a consistent surface finish

Machine Used:

WHY CHOOSE ABRASIVE SPONGES VERSUS CONVENTIONAL SHEETS?



Eliminate Clogging

- The combination of flexible foam backing material and abrasive grit adhesion continually releases sanded material
- Any clogging can be washed out

Pressure Control

- Foam backing allows optimum pressure distribution to prevent sanding through surfaces
- Pressure spots are eliminated providing even surface pattern

Adapt to Contours

- Flexible foam allows adaptability to contours, shapes or areas of limited access
- No folding or buckling results in an even pattern without scratching

SURFACE FINISHING CHART – CONTOUR SPONGES VERSUS SHEETS

| ← COARSER | | | | | | | | | | | | | FINER → | | | | | | | | | | | | |
|-----------|------|----------|------|----------------|------|----------------|------|----------------|-------|--------------------|-------|-------|---------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|
| P150 | P180 | P220 | P280 | P320 | P400 | P500 | P600 | P800 | P1000 | P1200 | P1500 | P2000 | P150 | P180 | P220 | P280 | P320 | P400 | P500 | P600 | P800 | P1000 | P1200 | P1500 | P2000 |
| Medium 60 | | Fine 100 | | Extra Fine 150 | | Super Fine 180 | | Ultra Fine 220 | | Micro Fine 280/320 | | | | | | | | | | | | | | | |

SURFACE FINISHING CHART – SPONGE PADS VERSUS SHEETS

| ← COARSER | | | | | | | | | | | | | | FINER → | | | | | | | | | | | | | |
|-----------------|------|-----------|------|-----------------|------|----------------|------|---------------------|------|----------------------|------|-------|-------|---------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|
| P80 | P100 | P120 | P150 | P180 | P220 | P280 | P320 | P400 | P500 | P600 | P800 | P1000 | P1200 | P80 | P100 | P120 | P150 | P180 | P220 | P280 | P320 | P400 | P500 | P600 | P800 | P1000 | P1200 |
| Extra Coarse 36 | | Coarse 60 | | Medium 80 - 120 | | Fine 120 - 150 | | Very Fine 180 - 220 | | Micro Fine 280 - 320 | | | | | | | | | | | | | | | | | |

CROSS REFERENCE GUIDE

| | BETTER | GOOD | GOOD | GOOD | GOOD | GOOD |
|---------------|-------------|---------|----------------|------------------|------------------|----------|
| NORTON | SoftTouch | Contour | Small Area | Profile | Sealer Sanding | Flexible |
| 3M | Softback | Contour | Full Size | High Flexibility | Woodworking | Pro Pads |
| Hermes | Single Side | – | Four Sided | – | Two Sided | – |
| Klingspor | – | – | – | – | Foam Sanding Pad | – |
| SIA | Flat Pad | – | Standard Block | – | Standard Pad | – |



BETTER SoftTouch Contour Sponges – Coated 1 side

- Superior flexibility; for hand-sanding or finishing flat, curved, contoured and hard-to-reach areas on wood, metal, composites, paint and solid surfaces
- Premium foam substrate provides for an extremely smooth and uniform sanded surface

| SIZE (W x L x T) | GRIT | STD. PKG. | PART # |
|----------------------|----------------|-----------|-------------|
| 4-1/2 x 5-1/2 x 3/16 | 60 Medium | 80 | 07660703074 |
| | 100 Fine | 80 | 07660703075 |
| | 180 Super Fine | 80 | 07660703076 |
| | 220 Ultra Fine | 80 | 07660703077 |
| | 280 Micro Fine | 80 | 07660703078 |



GOOD Contour Sponges – Coated 1 side

- Thin, flexible; good for sanding small diameters and contours such as ceramics, spindles, turnings and railings

| SIZE (W x L x T) | GRIT | STD. PKG. | PART # |
|----------------------|----------------|-----------|-------------|
| 4-1/2 x 5-1/2 x 3/16 | 100 Fine | 100 | 07660702257 |
| | 150 Extra Fine | 100 | 07660702256 |
| | 220 Ultra Fine | 100 | 07660702255 |



GOOD Small Area General Purpose Sponges – Coated 4 sides

- Good for a wide variety of materials and sanding applications where moderate flexibility is needed
- Medium to firm density open cell polyurethane foam provides uniform support and moderately aggressive cutting action while generating a smooth surface

| SIZE (W x L x T) | GRIT | STD. PKG. | PART # | BULK PKG. | PART # |
|------------------|----------------|-----------|-------------|-----------|-------------|
| 4 x 2-3/4 x 1 | 36/80 | 24 | 07660749505 | 250 | 07660704735 |
| | Ex. Coarse/Med | | | | |
| | 80/80 | 24 | 07660749507 | 250 | 07660701875 |
| | Med/Med | | | | |
| 4 x 2-3/4 x 1 | 80/120 | 24 | 07660749504 | 250 | 07660702600 |
| | Med/Fine | | | | |
| 4 x 2-3/4 x 1 | 120/120 | 24 | 07660749506 | | |
| | Fine/Fine | | | | |



GOOD Profile Sponges – Coated 3 sides

- Good for corners and flat surfaces on wood, metal, plastic and paint
- Ideal for cabinet sanding of raised profile doors

| SIZE (W x L x T) | GRIT | STD. PKG. | PART # |
|------------------|------------|-----------|-------------|
| 4 x 2-3/4 x 1/2 | 100 Medium | 500 | 63642536313 |



GOOD Sealer Sanding Sponges – Coated 2 sides

- Very flexible; silicon carbide abrasive for sanding primers, sealers and between coats on furniture and cabinets

| SIZE (W x L x T) | GRIT | BULK PKG. | PART # |
|---------------------|-----------------|-----------|-------------|
| 4-3/4 x 3-3/4 x 1/2 | 36 Extra Coarse | 250 | 63642502538 |
| | 60 Coarse | 250 | 63642552870 |
| | 100 Medium | 250 | 63642552869 |
| | 150 Fine | 250 | 63642552868 |



GOOD Flexible Abrasive Sponges – Coated 1 side

- Ideal for final sanding of surfaces, primer sanding, and between coats sanding
- Best initial price point for abrasive sponges

| SIZE (W x L x T) | GRIT | STD. PKG. | PART # | BULK PKG. | PART # |
|------------------|---------------|-----------|-------------|-----------|-------------|
| 3 x 4 x 1/2 | 60 Coarse | 48 | 07660704068 | 108 | 07660701110 |
| | 80 Medium | 48 | 07660704067 | 108 | 07660704070 |
| | 100 Medium | 48 | 07660704066 | 108 | 07660700950 |
| | 150 Fine | 48 | 07660704065 | 108 | 07660700949 |
| | 220 Very Fine | | | 108 | 07660704069 |

FLEXIBLE DIAMOND-COATED HAND PADS



Norton flexible diamond coated hand pads combine the durability and aggressiveness of diamond, with a flexible backing.

Applications: Diamond coated hand pads: shaping, rapid stock removal, touch-up and repair on ceramics, stone, marble, glass, composites and hard materials; polishing of dies and molds
 Quadroflex diamond hand pads: surface conditioning, repairs, and removing flash and burrs on aircraft composites and windmill blades

Size Range: 3-1/2" x 2-1/8"
Grit Range: 60 – 1500
Abrasive Types: Diamond
Machine Used: 

FLEXIBLE DIAMOND-COATED HAND PADS – CONVENTIONAL AND QUADROFLEX CURVED

BETTER CHOICE FOR SHAPING, RAPID STOCK REMOVAL, SURFACE CONDITIONING, TOUCH-UP, REPAIR, AND POLISHING

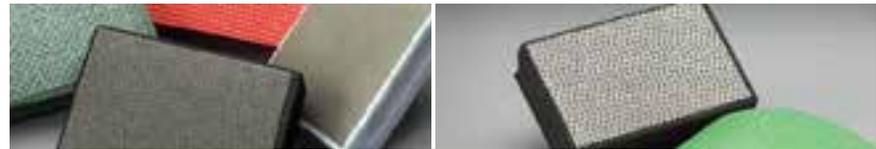


FEATURES

- Lightweight conformable backing
- Color coded by grit size
- Conventional hand pads: precision dot pattern
- Quadroflex curved hand pad

BENEFITS

- Adaptable to a variety of shapes and conditions
- Durable, long life
- Uniform finishes; improved surface quality
- Can be used wet or dry
- No dressing required
- Eases identification
- Aggressive, consistent, fast cut rate, reduces dust and loading
- Ergonomic advantages, overall lower cost



TIER

BETTER
DIAMOND COATED HAND PADS

TRADENAME:
 ABRASIVE:

Diamond

BETTER

QUADROFLEX CURVED DIAMOND COATED HAND PADS

Diamond

| SIZE (L x W) | COLOR | GRIT | STD. PKG. | PART # | PART # |
|---------------|-------------------------|------|-----------|-------------|-------------|
| 3-1/2 x 2-1/8 | Green | 60 | 1 | 66260306360 | 69014121517 |
| | Black | 120 | 1 | 66260306361 | 69014121518 |
| | Red | 200 | 1 | 66260306362 | 69014123529 |
| | Yellow | 400 | 1 | 66260305852 | 69014123530 |
| | White | 800 | 1 | 66260306363 | 69014123531 |
| | Blue | 1500 | 1 | 66260306364 | |
| | Kit (one each of above) | | | 1 | 66260307720 |



Portable file belt sanders have replaced tedious hand filing and sanding. First introduced in pneumatic, they are now also available in electric. Increasingly, tool manufacturers are introducing additional fixtures for additional applications. The belts listed are popular stock sizes, but additional sizes, specifications, backing materials, and edge scallops are available made-to-order.

Applications: Light weld removal and blending, shape and contour sanding, surface preparation prior to coating and plating, removing cutting tool marks from molds and dies, general clean-up and finishing

Size Range: 1/8" to 1" wide, 12" to 30" long

Grit Range: 40 – 120

Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Aluminum Oxide

Machine Used:

CROSS REFERENCE GUIDE

| | BEST | BEST | BETTER | GOOD | GOOD |
|---------------|----------------|----------------|----------------------|-------------------------------|-----------|
| NORTON | Blaze R980P | Norton SG R981 | BlueFire R887P/R823P | Metalite R283 | R766 |
| 3M | 984F, 977F | 963G, 967F | 577F, 777F | 241E | 363F |
| Hermes | CR456 | – | RB486 44 Z | RB317J, RB316EJ RB303 Flex | SB 378 YR |
| Klingspor | CS610YY | – | CS411YX, CS 409Y | CS310XF | CS412 |
| SIA | – | – | – | 933A, 936A | – |
| VSM | SK840X, SK750X | – | KK715X | KK711T, KK511J | KK711 |

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | HEAVY-DUTY | | GENERAL-DUTY |
|--------------------------|--|--|---|
| | BEST Highest Productivity; Lowest Total Cost. | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
| Carbon Steel | Norton Blaze R980P | Norton BlueFire R887P/R823P | Norton R766 |
| Stainless Steel / Alloys | Norton Blaze R980P | Norton BlueFire R887P/R823P | Norton R766 |
| Cast Iron | Norton Blaze R980P | Norton BlueFire R887P/R823P | Norton R766 |
| Brass/Bronze | – | Norton BlueFire R887P/R823P | Norton R766 |
| Aluminum | – | Norton BlueFire R887P/R823P | Norton R766 |

NORTON BLAZE R980P CERAMIC ALUMINA

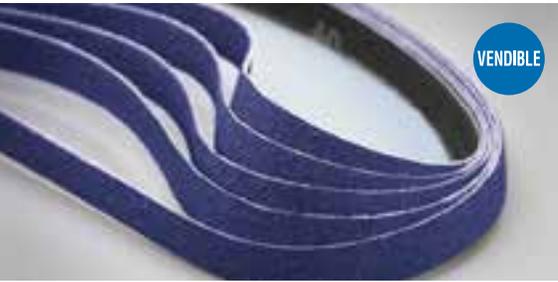
BEST FOR STAINLESS, COBALT, CHROME, INCONEL, TITANIUM, MILD AND CARBON STEEL



| FEATURES | BENEFITS |
|--|--|
| <ul style="list-style-type: none"> Next-generation cooler cutting Norton SG ceramic alumina grain | <ul style="list-style-type: none"> Lasts 50% to 200% longer on mild and carbon steel, stainless, cobalt, chrome, Inconel and titanium Better metal integrity |
| <ul style="list-style-type: none"> Y-weight polyester waterproof cloth backing | <ul style="list-style-type: none"> Edge-fray resistance Excellent body-retention for more consistent grinding throughout belt life |
| <ul style="list-style-type: none"> Improved resin bond system | <ul style="list-style-type: none"> Significantly improved belt life due to exceptional grain adhesion |
| <ul style="list-style-type: none"> Advanced "supersize" grinding lubricant | <ul style="list-style-type: none"> Cooler cutting throughout the life of the belt Improved part finish and integrity |

NORTON BLUEFIRE R887/R823P ZIRCONIA ALUMINA

THE BETTER CHOICE FOR STAINLESS AND CARBON STEEL



VENDIBLE

FEATURES & BENEFITS

- High-performance, self-sharpening zirconia alumina abrasive for industry-leading cut rate and life
- High-performance resin bond provides strong grain adhesion, longer life
- Strong Y-weight polyester backing - R887P for heavy-duty stock removal applications
- Flexible X-weight polyester backing - R823P for moderate- to light-pressure applications

NORTON R766 ALUMINUM OXIDE

GOOD CHOICE FOR DIFFICULT-TO-GRIND MATERIALS (ALUMINUM, BRASS, BRONZE, STAINLESS, CARBON STEEL, TITANIUM, ETC.)



FEATURES & BENEFITS

- Premium aluminum oxide abrasive blend is ideal when purchasing criteria is a good-performing, economically priced, general purpose belt
- Resin bond system provides good edge retention and life versus key competitors
- Y-weight waterproof polyester backing withstands light- to moderately-demanding applications and provides extended life on dry grinding applications



| TIER: | BEST | BEST | BETTER | GOOD | GOOD |
|------------|--------------------|-----------------------|-----------------------------|----------------------|----------------------|
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | NORTON SG R981 | BLUEFIRE R887/R823P+ | R766 | METALITE R283 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina | Aluminum Oxide Blend | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | Y-Weight Polyester | Y- or X-Weight Polyester | Y-Weight Polyester | X-Weight Rayon |
| OTHER: | Supersize | Supersize | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # |
|------------------|------|-----------|-------------|-------------|-------------|-------------|-------------|
| 12" Belts | | | | | | | |
| 1/8 x 12 | 40 | 50 | 66254491518 | | 66254492520 | 66623390000 | 66254491536 |
| | 60 | 50 | 66254405345 | 66254491522 | 66261093029 | 66623390001 | |
| | 80 | 50 | 66261089479 | 66254491523 | 66261093030 | 66623390002 | 66254491537 |
| | 120 | 50 | 66254491519 | 66254491524 | 66254491533 | | 66254491538 |
| 1/4 x 12 | 40 | 50 | 66254491520 | 66254491525 | | 66623390003 | 66254491539 |
| | 60 | 50 | 66261196480 | | 78072758896 | 66623390004 | |
| | 80 | 50 | 66261063617 | 66254491526 | 78072782621 | 66623390005 | 78072766143 |
| | 120 | 50 | 66261063632 | 66254491527 | 78072782622 | | 78072763175 |
| 1/2 x 12 | 40 | 50 | 69957398018 | 66254491528 | 66254492522 | 66623390006 | 78072727557 |
| | 50 | 50 | 66261043759 | 78072718700 | 66254492523 | 66623390007 | 66254491540 |
| | 60 | 50 | 69957398019 | 78072718701 | 78072728745 | 66623390008 | 78072727555 |
| | 60 | 25 V | | | 66623373753 | | |
| | 80 | 50 | 69957398020 | 78072718702 | 78072728744 | 66623390009 | 78072727554 |
| | 80 | 25 V | | | 66623373754 | | |
| | 100 | 50 | 66261081180 | 66254491529 | 66254491534 | | 78072727553 |
| | 120 | 50 | 66261042909 | 78072700518 | 78072728742 | | 78072727552 |
| 120 | 25 V | | | 66623373755 | | | |
| 1 x 12 | 60 | 50 | 66261063641 | | 78072753073 | 66623390010 | 78072773813 |
| 13" Belts | | | | | | | |
| 3/8 x 13 | 60 | 50 | 69957345359 | 78072745459 | 78072740295 | 66623390011 | 78072732112 |
| | 80 | 50 | 69957392150 | 78072774916 | 78072736062 | 66623390012 | 78072771323 |
| 18" Belts | | | | | | | |
| 1/8 x 18 | 40 | 50 | 66254475211 | | 66254492524 | 66623390013 | 66254491541 |
| | 60 | 50 | 66261080010 | | 66254491535 | 66623390014 | |
| | 80 | 50 | 66261089120 | 78072789083 | 78072760595 | 66623390015 | |
| | 120 | 50 | 66254475215 | 78072789084 | 63642595221 | | |

Additional sizes, grits and scalloped edge belts are available MTO (made-to-order). Please contact your local Norton Distributor to check availability. +40 and 50 grit BlueFire belts are furnished in BlueFire R887 (Y-wt Polyester); 60-120 grits are supplied in BlueFire R823P (X-wt. Polyester).

Joints – All belts are PG jointed; a butt joint joined with flexible tape for contour grinding.

V = Vendible package. Ideal for vending machines and small jobs. 5 belts per pack / 5 packs per carton. Order in multiples of 25.

continued



| | | | | | |
|------------|--------------------|-----------------------|-----------------------------|--------------------|----------------------|
| TIER: | BEST | BEST | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | NORTON SG R981 | BLUEFIRE R887/R823P+ | R766 | METALITE R283 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina | Premium A/O Blend | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | Y-Weight Polyester | Y- or X-Weight Polyester | Y-Weight Polyester | X-Weight Rayon |
| OTHER: | Supersize | Supersize | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # |
|------------------------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 18" Belts (continued) | | | | | | | |
| 1/4 x 18 | 40 | 50 | 66261027923 | 66261198953 | 66254492525 | 66623390016 | 66254491543 |
| | 60 | 50 | 69957347249 | 78072774684 | 78072743583 | 66623390017 | 78072771000 |
| | 60 | 25 V | | | 66623373747 | | |
| | 80 | 50 | 69957346155 | 78072703284 | 78072753075 | 66623390018 | 78072773921 |
| | 80 | 25 V | | | 66623373748 | | |
| 1/2 x 18 | 120 | 50 | 66261085071 | 78072785655 | 78072773764 | | |
| | 40 | 50 | 69957398021 | 78072766018 | 66254444193 | 66623390019 | 78072727561 |
| | 60 | 50 | 69957398022 | 78072718704 | 78072728569 | 66623390020 | 78072727560 |
| | 60 | 25 V | | | 66623373756 | | |
| | 80 | 50 | 69957398023 | 78072718705 | 78072728568 | 66623390021 | 78072727559 |
| 3/4 x 18 | 80 | 25 V | | | 66623373757 | | |
| | 120 | 50 | 66261041384 | 78072718706 | 78072728567 | | 78072727558 |
| | 120 | 25 V | | | 66623373758 | | |
| | 40 | 50 | 69957398027 | 78072762476 | 66254492526 | 66623390022 | 78072781797 |
| | 60 | 50 | 69957398028 | 78072745691 | 78072709590 | 66623390023 | 78072739966 |
| 20-1/2" Belts | 60 | 25 V | | | 66623373762 | | |
| | 80 | 50 | 69957398029 | 78072756309 | 78072758953 | 66623390024 | 78072732289 |
| | 80 | 25 V | | | 66623373763 | | |
| | 120 | 25 V | | | 66623373764 | | |
| | 3/4 x 20-1/2 | 40 | 50 | 69957398030 | 78072714398 | 66254457869 | 66623390025 |
| 24" Belts | 50 | 50 | 69957344982 | 78072718714 | 66254492527 | 66623390026 | 66254491544 |
| | 60 | 50 | 69957398031 | 78072718715 | 78072728560 | 66623390027 | 78072727571 |
| | 60 | 25 V | | | 66623373765 | | |
| | 80 | 50 | 69957398032 | 78072718716 | 78072728559 | 66623390028 | 78072727570 |
| | 80 | 25 V | | | 66623373766 | | |
| 100 | 50 | 66261055516 | 78072771151 | 66261038911 | | 78072727569 | |
| 120 | 50 | 66261044755 | 78072727380 | 78072728557 | | 78072727575 | |
| 1/4 x 24 | 40 | 50 | 66261198631 | 78072747823 | 66254473499 | 66623390029 | 66254401929 |
| 1/2 x 24 | 60 | 50 | 69957345451 | 78072756534 | 78072728552 | 66623390030 | 78072727548 |
| | 60 | 25 V | | | 66623373750 | | |
| | 80 | 50 | 63642596940 | 78072718340 | 78072767713 | | |
| | 120 | 50 | 66261080367 | 78072770718 | 78072728550 | | |
| | 40 | 50 | 69957398024 | 78072760092 | 66254492528 | 66623390032 | 78072727568 |
| 1 x 24 | 50 | 50 | 66261043757 | 78072718707 | 66254452237 | 66623346910 | 78072727567 |
| | 60 | 50 | 69957398025 | 78072718708 | 78072728564 | 66623390033 | 78072727566 |
| | 60 | 25 V | | | 66623373759 | | |
| | 80 | 50 | 69957398026 | 78072718709 | 78072728566 | 66623390034 | 78072727565 |
| | 80 | 25 V | | | 66623373760 | | |
| 100 | 50 | 66261042203 | 78072745021 | 78072753076 | | 66254491545 | |
| 120 | 50 | 66261042565 | 78072718710 | 78072728565 | | 78072727564 | |
| 30" Belts | 40 | 50 | 69957350019 | 66254491531 | 66254492529 | 66623390035 | 66254491546 |
| | 50 | 50 | 69957344889 | 78072710374 | 66254492530 | 66623390036 | 66254491547 |
| | 60 | 50 | 69957353375 | 78072737318 | 78072798720 | 66623390037 | 66254491548 |
| | 80 | 50 | 69957345419 | 78072772209 | 78072776498 | 6662334206 | 66261085068 |
| | 120 | 50 | 66261085067 | 66254491532 | 78072730029 | | 66261085069 |
| 1 x 30 | 40 | 50 | 66261053470 | | 66254478257 | 66623390038 | 66261189958 |
| 30" Belts | 60 | 50 | 69957345985 | | 78072728583 | 66623390039 | 66254491549 |
| | 80 | 50 | 69957346105 | 78072764439 | 78072728582 | 66623390040 | 78072727579 |
| | 120 | 50 | 66261193676 | 78072781197 | 78072766992 | | 78072727577 |

Additional sizes, grits and scalloped edge belts are available MTO (made-to-order). Please contact your local Norton Distributor to check availability.
 +40 and 50 grit BlueFire belts are furnished in BlueFire R887 (Y-wt Polyester); 60-120 grits are supplied in BlueFire R823P (X-wt. Polyester).
 Joints – All belts are PG jointed; a butt joint joined with flexible tape for contour grinding.
 V = Vendible package. Ideal for vending machines and small jobs. 5 belts per pack / 5 packs per carton. Order in multiples of 25.



Portable belts are ideal for all your metal and woodworking applications. Choose 36 – 50 grits for rough/heavy-duty applications, 60 – 100 for intermediate, and 100 – 220 for finishing/polishing applications.

The belts listed are popular stock sizes, but additional sizes, specifications, and backing materials, are available made-to-order

Applications: Grinding and finishing all metals, blending welds, sanding and finishing wood, glass seaming, and polishing
 Size Range: 3" to 4" wide, 15-1/2" to 24" long
 Grit Range: 36 – 220
 Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Aluminum Oxide
 Machine used:



CROSS REFERENCE GUIDE

| | BEST | BETTER | GOOD |
|---------------|------------------|------------------|--------------------------|
| NORTON | Norton SG R981 | ProSand BlueFire | Metalite R215/R255 |
| 3M | 977F, 967F, 963G | 777F, 577F | 241D, 340D |
| Hermes | RB346MX | RB484Z | RB316XOP |
| Klingspor | CS610YY | CS411Y | CS311YX, CS310X, LS309XH |
| Sait | – | ZH | AOX, IAX |
| SIA | – | – | 2903XO, 2905X, 2920X |
| VSM | SK855X | ZK713X | KK511X, KK711X, KK504X |

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | HEAVY-DUTY ← | | GENERAL-DUTY → |
|--------------------------------|---|--|---|
| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
| Wood | – | Norton ProSand BlueFire | Norton Metalite R215/R255 |
| Stainless Steel / Carbon Steel | Norton SG R981 | Norton ProSand BlueFire | |
| Brass / Bronze / Aluminum | – | Norton ProSand BlueFire | Norton Metalite R215/R255 |

NORTON SG R981 CERAMIC ALUMINA

EXCEPTIONAL PERFORMANCE, ESPECIALLY ON HARD-TO-GRIND ALLOYS



| FEATURES | BENEFITS |
|---|---|
| • Norton SG ceramic abrasive | • Exceptional life and value, especially on hard-to-grind alloys |
| • Grinding-aid enhanced | • Longer life, cooler cut |
| • Strong Y-weight polyester, waterproof cloth backing | • Improved grain adhesion, reduced edge-fray, and better body retention result in longer life and product consistency |

NORTON PROSAND BLUEFIRE ZIRCONIA ALUMINA

THE BETTER CHOICE FOR STAINLESS STEEL AND WOOD



| FEATURES | BENEFITS |
|--|--|
| • Premium, self-sharpening zirconia alumina | • Aggressive abrasive, rapid cut rate, long life |
| • Reversible butt splice | • Use in either direction for longer life |
| • Open-coat design, strong Y-weight cotton backing | • Reduced loading, extended life |
| • Packaged in convenient job packs | • Ideal for small jobs, carrying cleanly to job sites, and mounting on showroom displays |

Portable Belts for Belt Sanders



| | | |
|----------------|-------------------------|-----------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | PROSAND BLUEFIRE | ALUMINUM OXIDE |
| ABRASIVE: | Zirconia Alumina | Aluminum Oxide |
| BACKING: | Y-Weight Cotton | X-Weight Cotton |
| JOINT: | Plyweld | Plyweld |
| GRAIN COATING: | Open Coat | Open Coat |
| OTHER: | | |

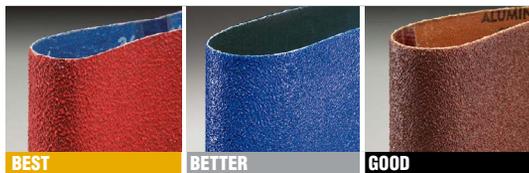


| | |
|----------------|----------------------|
| TIER: | GOOD |
| BRAND: | Norton |
| TRADENAME: | METALITE R255 |
| ABRASIVE: | Aluminum Oxide |
| BACKING: | X-Weight Cotton |
| JOINT: | Plyweld |
| GRAIN COATING: | Open Coat |
| OTHER: | UPC Bar Coded |

| SIZE (W x L) | GRIT | MIN./STD. PKG. | PART # | PART # | STD. PKG. | PART # |
|--------------|------|----------------|-------------|-------------|-----------|-------------|
| 3 x 18 | 36 | | | | 5 | 78072780447 |
| | 50 | 5/25* | 07660749259 | 07660700964 | 10 | 78072727994 |
| | 80 | 5/25* | 07660749258 | 07660700968 | 10 | 78072727993 |
| | 120 | 5/25* | 07660749256 | 07660700969 | 10 | 78072727992 |
| | 36 | 5/25* | 07660749266 | 07660701741 | | |
| 3 x 21 | 40 | | | | 10 | 78072727927 |
| | 50 | 5/25* | 07660749265 | 07660701740 | 10 | 78072727926 |
| | 60 | | | | 10 | 78072727925 |
| | 80 | 5/25* | 07660749264 | 07660702064 | 10 | 78072727924 |
| | 100 | 5/25* | 07660749263 | | 10 | 78072727923 |
| | 120 | 5/25* | 07660749262 | 07660702062 | 10 | 78072727922 |
| | 220 | 5/25* | | 07660705287 | | |
| | 36 | 5/25* | 07660749272 | 07660701743 | 5 | 78072781847 |
| | 40 | | | | 10 | 78072727937 |
| 3 x 24 | 50 | 5/25* | 07660749271 | 07660701742 | 10 | 78072727936 |
| | 60 | | | | 10 | 78072727935 |
| | 80 | 5/25* | | 07660702067 | 10 | 78072727934 |
| | 100 | 5/25* | 07660749269 | 07660702066 | 10 | 78072727933 |
| | 120 | 5/25* | 07660749268 | 07660702065 | 10 | 78072727932 |
| | 36 | 5/25* | 07660749278 | 07660701745 | 5 | 78072780438 |
| | 40 | | | | 10 | 78072727947 |
| | 50 | 5/25* | 07660749277 | 07660701744 | 10 | 78072727946 |
| 4 x 24 | 60 | | | | 10 | 78072727945 |
| | 80 | 5/25* | 07660749276 | 07660702069 | 10 | 78072727944 |
| | 100 | 5/25* | 07660749275 | | 10 | 78072727943 |
| | 120 | 5/25* | 07660749274 | 07660702068 | 10 | 78072727942 |
| | 180 | 5/25* | | 07660705285 | | |

*Job Pack packing standards: 5 belts/Job Pack; 5 Job Packs per carton. Order by number of packs, in multiples of 5 packs.

Portable Belts for Pneumatic In-Line Drum Sanders



| | | | |
|----------------|-----------------------|-----------------------|----------------------|
| TIER: | BEST | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | SG R981 | BLUEFIRE R823P | METALITE R215 |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | X-Weight Polyester | X-Weight Cotton |
| JOINT: | Plyweld | Plyweld | Plyweld |
| GRAIN COATING: | Closed Coat/Supersize | Closed Coat | Open Coat |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | PART # | PART # |
|----------------|------|-----------|-------------|-------------|-------------|
| 3-1/2 x 15-1/2 | 36 | 10 | 78072700783 | | 78072721997 |
| | 60 | 10 | 78072718750 | | 78072722000 |
| | 80 | 10 | 78072718751 | 78072753074 | 78072721995 |
| | 120 | 10 | 78072718753 | | |



A broad selection of sizes and grits for most dimensioning, intermediate grinding and polishing applications.

The belts listed are popular stock sizes, but additional sizes, specifications, and backing materials, are available made-to-order.

Applications: Benchstand and Backstand Belts: grinding and deburring of all metals, heavy stock removal, blending, dimensioning and shaping, polishing.

Centerless, Conveyor and Platen Belts: intermediate grinding stainless and carbon, moderate-pressure applications, dimensioning and finishing.

Size Range: 1" to 10" wide, 36" to 132" long

Grit Range: 24 – 320

Abrasive Grain: Ceramic Alumina, Zirconia Alumina, Aluminum Oxide

Machine Used:



CROSS REFERENCE GUIDE

| | BEST | BEST | BETTER | BETTER | BETTER | BETTER | GOOD |
|---------------|---|-------------------------------------|-----------------------------|----------------|---|---|---|
| NORTON | Blaze R980P | Norton SG R981 | BlueFire R887P | BlueFire R821P | BlueFire R823P | BlueFire R884P | Metalite R228 |
| 3M | 987F1, 977F, 777F, 967F, 963G, 963H, 984F | 987F1, 977F, 777F, 967F, 963G, 963H | 577F, 567G, 777F 977F | 561D | 561F Y, 551E XE 741A, 741E, 761D | 561D, 561F, 563F 741A, 741E, 761D 761F | 240DZ OPK, 270DZ OPK, 241D, 248D, 251D, 341I Imperial, 351D |
| Hermes | CR456 | CR456 | RB486X, RB486Y – RB426-23MX | | RB486 X, RB346-23MX RB426-23MX, RB484TY RB486XF | RB484TY, RB486Y, RB346-23MX, RB426-23MX RB480-21MX, CB440Y, RB486XY | RB3160P RB317LX RB346MX |
| Klingspor | CS612YY, CS610YY | CS612YY, CS610YY | CS409Y | CS411Y | CS411X | CS411Y | CS311X, CS310, CS410 |
| SIA | – | – | – | – | – | 2800, 2803, 2929 | 2903XO, 2905X, 2920X |
| VSM | SK840X, SK750X | SK840X, SK750X | KK815Y, ZK744X | – | KK715X | KK716Y, ZK713X | KK511X, KK711 |

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| | BEST Highest Productivity. Lowest Total Cost. | BETTER Excellent Blend of Performance & Price. | GOOD Consistent Performance. Low Initial Price. |
|----------------------------|---|--|---|
| Aluminum | – | Norton BlueFire R884P/R823P | Norton R766 |
| Cast Iron | Norton Blaze R980P | Norton BlueFire R823P | Norton R766 |
| Brass / Bronze | – | Norton BlueFire R884P/R823P | Norton R766 |
| Die Castings | Norton Blaze R980P | Norton BlueFire R823P | Norton R766 |
| Carbon Steel | Norton Blaze R980P | Norton BlueFire R823P | Norton R766 |
| Glass / Ceramics | Norton Blaze R980P | Norton BlueFire R821P | Norton R766 |
| Stainless Steel and Alloys | Norton Blaze R980P | Norton BlueFire R823P/R887P | Norton R766 |
| Wood | – | Norton BlueFire R831/R884P | Norton R766 |

GRIT SELECTION RECOMMENDATION GUIDE

| STOCK REMOVAL | INTERMEDIATE | FINISHING |
|---------------|---------------|----------------|
| 24 – 50 grit | 60 – 100 grit | 120 – 320 grit |



NORTON BLAZE R980P CERAMIC ALUMINA

BEST FOR MILD AND CARBON STEEL, STAINLESS, COBALT, CHROME, INCONEL, TITANIUM

FEATURES & BENEFITS

- Cooler cutting Norton SG ceramic abrasive grain lasts 50% to 200% longer on mild and carbon steel, stainless, cobalt, chrome, Inconel and titanium versus aluminum oxide belts
- Cuts 20% faster than the current generation of grinding belts
- Longer belt life, better metal integrity, greater productivity; lowest total grinding costs
- Y-weight polyester waterproof cloth backing provides edge-fray resistance, and offers excellent body retention during use for more consistent grinding throughout belt life
- Durable resin bond system
- Advanced "supersize" grinding lubricant
- Significantly improved belt life due to better grain adhesion
- Cooler cutting during the life of the belt
- Improved part finish and integrity



NORTON SG R981 CERAMIC ALUMINA

EXCEPTIONAL PERFORMANCE, ESPECIALLY ON HARD-TO-GRIND ALLOYS

FEATURES & BENEFITS

- Norton SG ceramic abrasive provides exceptional life and value, especially on hard-to-grind alloys
- Grinding-aid enhanced for longer life, cooler cut
- Strong Y-weight polyester, waterproof cloth backing for improved grain adhesion, reduced edge-fray and better body retention, resulting in longer life and product consistency



NORTON BLUEFIRE R884P/R823P ZIRCONIA ALUMINA

BETTER CHOICE FOR HEAVIEST-PRESSURE APPLICATIONS

FEATURES & BENEFITS

- Premium self-sharpening zirconia alumina abrasive provides aggressive, rapid cut rate
- R884P – Durable Y-weight polyester, waterproof cloth backing has excellent grain adhesion, reduced edge-fray and better body retention, resulting in longer life and product consistency
- R823P – Strong X-weight waterproof polyester backing is more flexible than R884P and available in finer grit sizes
- R821P Smooth-running Y-weight cotton backing provides extended durability and even wear on coarser grit stock removal applications



NORTON R766 ALUMINUM OXIDE

GOOD CHOICE FOR DIFFICULT-TO-GRIND MATERIALS (ALUMINUM, BRASS, BRONZE, STAINLESS, CARBON STEEL, TITANIUM, ETC.)

FEATURES & BENEFITS

- Premium aluminum oxide abrasive blend is ideal when purchasing criteria is a good-performing, economically-priced, general-purpose belt
- Durable resin bond system provides good edge retention and life versus key competitors
- Y-weight waterproof polyester backing withstands light- to moderately-demanding applications and provides extended life on dry grinding applications

TECH TIP

Troubleshooting Guide

| Problem | Correction |
|----------|--|
| Loading | Decrease infeed pressure or belt speed |
| Shedding | Reduce applied pressure |
| | Use a less aggressive contact wheel |
| | Dress contact wheel if worn or damaged |
| | Use entire surface of belt |

| Problem | Correction |
|---------------|---|
| Belt breakage | Reduce belt tension |
| | Use less aggressive contact wheel |
| | Check tracking mechanism for belts tracking erratically |

1" to 6" wide, 36" to 72" long



| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
|------------|--------------------|-----------------------|-----------------------|----------------------|----------------------|
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLUEFIRE R821P | BLUEFIRE R823P | R766 | METALITE R228 |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide Blend | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | Y-Weight Cotton | X-Weight Polyester | Y-Weight Polyester | X-Weight Cotton |
| OTHER: | Supersize | | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | |
|--------------|------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 x 42 | 36 | 50 | 66254476825 | | | | 78072791710 | |
| | 40 | 50 | 69957345887 | 78072726905 | | 66623390041 | 78072720910 | |
| | 50 | 50 | 66254476826 | 78072726904 | | 66623390042 | 78072720905 | |
| | 60 | 50 | 69957345486 | 78072726903 | 78072728596 | 66623334502 | 78072720900 | |
| | 80 | 50 | 66261041539 | 78072726902 | 78072728594 | 66623390043 | 78072720895 | |
| | 100 | 50 | 66261043462 | | 78072728592 | | 78072720890 | |
| | 120 | 50 | 66261038660 | | 78072728590 | | 78072720885 | |
| | 150 | 50 | | | 78072728588 | | 78072720880 | |
| | 180 | 50 | | | 78072728586 | | 78072720875 | |
| | 220 | 50 | | | 78072700001 | | 78072720871 | |
| | 240 | 50 | | | | | 78072720870 | |
| | 320 | 50 | | | | | 78072720865 | |
| | 1-1/2 x 60 | 36 | 10 | 69957345578 | | | | 78072721060 |
| | | 40 | 10 | 63642595003 | | | | |
| 50 | | 10 | 69957345664 | | | 66623390044 | 78072787807 | |
| 60 | | 10 | 69957345631 | | | 66623390045 | | |
| 80 | | 10 | 69957345579 | | | 66623390046 | | |
| 100 | | 10 | | | 78072765077 | | 69957351736 | |
| 120 | | 10 | 66261056493 | | 78072726984 | | | |
| 180 | | 10 | | | 78072758464 | | | |
| 220 | 10 | | | 78072708871 | | | | |
| 2 x 48 | 24 | 10 | | | | | 78072726130 | |
| | 36 | 10 | 63642592057 | 78072727103 | | 66623390047 | 78072721255 | |
| | 40 | 10 | 69957345193 | 78072727102 | | 66623390048 | 78072721250 | |
| | 50 | 10 | 69957346716 | 78072727101 | | 66623390049 | 78072721245 | |
| | 60 | 10 | 69957344423 | 78072727100 | 78072728621 | 66623390050 | 78072721240 | |
| | 80 | 10 | 69957345100 | 78072727099 | 78072728619 | 66623390051 | 78072721235 | |
| | 100 | 10 | 66261052522 | | 78072728617 | | 78072721230 | |
| | 120 | 10 | 66261052520 | | 78072728615 | | 78072721225 | |
| | 150 | 10 | | | 78072728613 | | 78072723246 | |
| | 180 | 10 | | | 78072728611 | | 78072721223 | |
| | 220 | 10 | | | 78072728609 | | 78072763677 | |
| | | | | | | | 78072746387 | |
| | 2 x 60 | 24 | 10 | | | | | 66261054787 |
| | | 36 | 10 | 69957345196 | | | 66623390052 | 78072701170 |
| 40 | | 10 | 69957394425 | 78072727124 | | 66623390053 | 78072721300 | |
| 50 | | 10 | 69957346149 | | | 66623390054 | 78072762537 | |
| 60 | | 10 | 69957344901 | 78072727122 | | 66623390055 | 78072721290 | |
| 80 | | 10 | 63642592574 | 78072727121 | | 66623390056 | 78072721285 | |
| 100 | | 10 | 66261052222 | | 66261082976 | | 78072721280 | |
| 120 | | 10 | 66261042738 | | 78072761958 | | | |
| 150 | | 10 | | | | | 78072744018 | |
| 180 | | 10 | | | 78072702695 | | 78072720441 | |
| 220 | | 10 | | | 78072706282 | | 78072744020 | |
| 240 | | 10 | | | | | 78072761862 | |
| 320 | | 10 | | | | | 78072702825 | |
| 2 x 72 | | 24 | 10 | 66254433969 | | | | |
| | 36 | 10 | 69957345460 | 78072727147 | | 66623390057 | 78072721335 | |
| | 40 | 10 | 69957346729 | 78072727146 | | 66623390058 | 78072721332 | |
| | 50 | 10 | 69957344966 | 78072727145 | | | 78072784894 | |
| | 60 | 10 | 69957345157 | 78072727144 | 78072728645 | 66623390060 | 78072721325 | |
| | 80 | 10 | 69957344961 | 78072727142 | 78072728643 | 66623334237 | 78072721320 | |
| | 100 | 10 | 66261041897 | | 66261025537 | | 78072723235 | |
| | 120 | 10 | 66261044095 | | 78072728639 | | 78072721318 | |
| | 150 | 10 | | | 78072761770 | | 78072761973 | |
| | 180 | 10 | | | 78072763853 | | 78072718488 | |
| | 220 | 10 | | | 78072728633 | | 78072765601 | |
| | 320 | 10 | | | | | 78072721308 | |

Continued

1" to 6" wide, 36" to 72" long (continued)



| TIER: | BEST | BETTER | BETTER | BETTER | GOOD | GOOD |
|------------|--------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | BLUEFIRE R821P | BLUEFIRE R823P | BLUEFIRE R884P | R766 | METALITE R228 |
| ABRASIVE: | Ceramic Alumina | Zirconia Alumina | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide Blend | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | Y-Weight Cotton | X-Weight Polyester | Y-Weight Polyester | Y-Weight Polyester | X-Weight Cotton |
| OTHER: | Supersize | | | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--------------|------|-----------|-------------|--------------|--------------|-------------|-------------|-------------|
| 2-1/2 x 48 | 36 | 10 | | | | | 66623390061 | 78072721540 |
| | 40 | 10 | | | | | 66623390062 | |
| | 50 | 10 | | 78072727213 | | | 66623390063 | 78072721530 |
| | 60 | 10 | | | | | 66623390064 | 78072721525 |
| | 80 | 10 | | | | | 66623390065 | 78072721520 |
| 2-1/2 x 60 | 24 | 10 | | | | 78072737759 | | 78072708296 |
| | 36 | 10 | 69957344963 | 78072727235 | | | 66623390066 | 78072721610 |
| | 40 | 10 | 69957346523 | 78072727234 | | | 66623390067 | 78072721605 |
| | 50 | 10 | 69957345300 | 78072727233 | | | 66623390068 | 78072721600 |
| | 60 | 10 | 69957345002 | 78072727232 | 78072728692 | 78072721383 | 66623390069 | 78072721595 |
| | 80 | 10 | 69957346095 | 78072727231 | 78072728690 | | 66623390070 | 78072721590 |
| | 100 | 10 | 66261041380 | | 78072768991 | | | 78072721585 |
| | 120 | 10 | | | 78072728686 | | | 78072721580 |
| | 180 | 10 | | | 78072728682 | | | 78072721570 |
| | 220 | 10 | | | 78072778217 | | | 78072721565 |
| 4 x 36 | 36 | 10 | | | | | 66623390071 | 78072722110 |
| | 40 | 10 | | | | | | 78072722105 |
| | 50 | 10 | | 78072727475 | | | 66623390073 | 78072722100 |
| | 60 | 10 | | | 78072728827 | | 66623390074 | 78072722095 |
| | 80 | 10 | | 78072727473 | 78072728825 | | 66623390075 | 78072722090 |
| | 100 | 10 | | | 78072728823 | | | 78072722085 |
| | 120 | 10 | | | 78072728821 | | | 78072722080 |
| | 150 | 10 | | | | | | 78072722079 |
| | 180 | 10 | | | | | | 78072722075 |
| | 240 | 10 | | | | | | 78072722926 |
| 4 x 54 | 36 | 10 | | | | | 66623390076 | 78072722185 |
| | 40 | 10 | 63642594113 | | | | 66623390077 | 78072722180 |
| | 50 | 10 | 66254469595 | | | | 66623390078 | 78072722175 |
| | 60 | 10 | 66261063419 | 78072727518 | 78072725116 | | 66623390079 | 78072722170 |
| | 80 | 10 | 69957345139 | | 78072728296 | | 66623390080 | 78072722165 |
| | 100 | 10 | | | | | | 78072722160 |
| | 120 | 10 | 66261088705 | | 78072728847 | | | 78072722155 |
| | 150 | 10 | | | | | | 78072728381 |
| | 220 | 10 | | | | | | 78072762536 |
| | | | | | | | | 78072772342 |
| 4 x 60 | 24 | 10 | 66254461488 | | | | | 78072772342 |
| | 36 | 10 | 69957345298 | | | 78072737955 | | 78072705189 |
| | 40 | 10 | 69957391732 | | | | | 78072744693 |
| | 50 | 10 | 69957346715 | | | | | 78072761630 |
| | 60 | 10 | 63642594485 | | 78072774790 | | | 78072762861 |
| | 80 | 10 | 69957345099 | | 78072765086 | | | 78072784685 |
| | 100 | 10 | | | | | | 78072763161 |
| | 120 | 10 | 66254416188 | | 78072766229 | | | 78072787840 |
| | 150 | 10 | | | | | | 78072704878 |
| | 180 | 10 | | | 78072709820 | | | 78072728393 |
| 220 | 10 | | | 78072702594 | | | 78072790168 | |
| 4 x 72 | 36 | 10 | | | | 78072725984 | | |
| 6 x 48 | 36 | 10 | 69957345143 | 78072727698 | | | 66623390081 | 78072722590 |
| | 40 | 10 | | 78072727697 | | | 66623390082 | |
| | 50 | 10 | | 78072727696 | | | 66623390083 | 78072722580 |
| | 60 | 10 | 69957344422 | 78072727695* | 78072728937* | | 66623390084 | |
| | 80 | 10 | | 78072727694* | 78072728935* | | 66623390085 | 78072722570 |
| | 100 | 10 | | | 78072728933* | | | 78072722565 |
| | 120 | 10 | | | 78072728931* | | | 78072722560 |
| | 150 | 10 | | | 78072770042 | | | 78072722555 |
| | 180 | 10 | | | | | | 78072722550 |
| | 220 | 10 | | | | | | 78072722546 |
| | 240 | 10 | | | | | | 78072722545 |
| | 320 | 10 | | | | | | 78072722543 |

* Std. Pkg. = 20 Belts
CONTINUED

1" to 6" wide, 36" to 72" long (continued)



| | | | | | |
|-------------------------------|-----------------------|-----------------------|-----------------------|----------------------|----------------------|
| TIER: BEST | BETTER | BETTER | BETTER | GOOD | GOOD |
| BRAND: Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: BLAZE R980P | BLUEFIRE R821P | BLUEFIRE R823P | BLUEFIRE R884P | R766 | METALITE R228 |
| ABRASIVE: Ceramic Alumina | Zirconia Alumina | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide Blend | Aluminum Oxide |
| BACKING: Y-Weight Polyester | Y-Weight Cotton | X-Weight Polyester | Y-Weight Polyester | Y-Weight Polyester | X-Weight Cotton |
| OTHER: Supersize | | | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--------------|------|-----------|-------------|--------------|-------------|-------------|-------------|--------------|
| 6 x 54 | 60 | 10 | | | | 78072746982 | | |
| 6 x 60 | 36 | 10 | | | | | 66623343751 | 78072722680 |
| | 40 | 10 | | 78072727762 | | | 66623390086 | 78072722679 |
| | 60 | 10 | 69957345149 | 78072728957* | | | 66623390087 | 78072722665* |
| | 80 | 10 | | | 78072728955 | | 66623390088 | 78072722660* |
| | 100 | 10 | 66254477452 | | | | | |
| 120 | 10 | | | | | | 78072763882 | |

* Std. Pkg. = 20 Belts

Belt Cleaning Stick



- This solid, rubber cleaning stick is designed to remove wood and other non-metallic materials that build up on belt surface during use.
- Apply it to the face of the belt, while running, to remove unwanted materials and prolong the overall life of the belt up to 10 times.

| DESCRIPTION | STD. PKG. | PART # |
|-------------------|-----------|-------------|
| 1-3/8 x 1-3/8 x 6 | 10 | 07660701717 |

TIP

A light-bodied grease applied to a benchstand belt surface will reduce loading and greatly enhance the belt life and performance when grinding soft, malleable nonferrous materials such as aluminum, brass, bronze and copper.



FastTrack Belt Service



For non-stock belts, FastTrack Service offers all the benefits of an ISO 9001 quality manufacturer and the advantages of a coated abrasives express belt service. As the industry's leading producer of abrasive material and backings, our FastTrack service offers an extensive range of Norton made-to-order belts including Norton Blaze ceramic alumina, BlueFire zirconia alumina, and versatile aluminum oxide and silicon carbide belts.

Manufacturing Lead-times:

- Narrow belts: (1/2" – 12" wide) two days
- Wide belts (14" – 52" wide) three days

Size Availability:

- Maximum width: 52"
- 1/2" and greater widths; 25" and greater lengths

Please see the FastTrack Service Made-to-Order Belts section of this catalog for complete details.

2" to 10" wide, over 70" long



| | | | | | | |
|------------|--------------------|--------------------|-----------------------|-----------------------|----------------------|----------------------|
| TIER: | BEST | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | BLAZE R980P | SG R981 | BLUEFIRE R884P | BLUEFIRE R823P | R766 | METALITE R228 |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide Blend | Aluminum Oxide |
| BACKING: | Y-Weight Polyester | Y-Weight Polyester | Y-Weight Polyester | X-Weight Polyester | Y-Weight Polyester | X-Weight Cotton |
| OTHER: | Supersize | Supersize | | | | |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|--------------|------|-----------|-------------|-------------|----------------|-------------|-------------|--------------|
| 2 x 132 | 36 | 10 | | 78072753086 | 78072750016 | | 66623347337 | |
| | 40 | 10 | | | 78072750015 | | 66623390089 | |
| | 50 | 10 | | 78072740771 | 78072750013 | | 66623390090 | |
| | 60 | 10 | | | 78072750011 | | 66623390091 | 78072721445 |
| | 80 | 10 | | 78072701958 | 78072750008 | | 66623390092 | 78072721440 |
| | 120 | 10 | | | | 78072728662 | | |
| 3 x 79 | 50 | 10 | 66261090276 | | | | | |
| | 60 | 10 | | | 78072748280 | | | |
| 3 x 90 | 36 | 10 | 69957346319 | | | | | 78072785831 |
| 3 x 132 | 24 | 10 | | | 78072750140 | | | |
| | 36 | 10 | 69957344710 | 78072753087 | 78072750138 RR | | 66623390093 | 78072721900 |
| | 36 | 10 | | | 78072750139 L | | | |
| | 40 | 10 | 69957344964 | 78072701614 | | | | |
| | 50 | 10 | 69957344763 | 78072703709 | 78072750135 | | | 78072721890 |
| | 60 | 10 | 69957344958 | | | 78072728794 | 66623390096 | 78072721885 |
| | 80 | 10 | 69957344764 | | | 78072728792 | 66623390097 | 78072721880 |
| | 100 | 10 | | | | 78072728790 | | |
| | 120 | 10 | | | | 78072728789 | | 78072721870 |
| | 150 | 10 | | | | | | 78072721865 |
| 4 x 79 | 36 | 10 | | 66261022622 | | | | 78072721860 |
| | 40 | 10 | | | 78072774955 | | | |
| | 80 | 10 | | | 78072731327 | | | |
| | | | | | 78072768679 | | | |
| 4 x 100 | 36 | 10 | | | | | | |
| 4 x 132 | 24 | 10 | | | 78072750289 | | | |
| | 36 | 10 | 69957343852 | 78072739662 | 78072750287 | | 66623326093 | |
| | 40 | 10 | | | | | 66623390098 | |
| | 60 | 10 | | | 78072750281 | | 66623335394 | |
| | 80 | 10 | | | 78072750279 | | 66623343488 | 78072722385 |
| | 120 | 10 | | | | | | 78072722375 |
| 6 x 78-3/4 | 40 | 10 | | | 78072725150 | | | |
| 6 x 79 | 36 | 10 | | | 78072738105 | | | |
| | 40 | 10 | | | | | | |
| | 80 | 10 | | | 78072779322 | | | |
| 8 x 107 | 36 | 10 | | | | | 66623390099 | 78072722795 |
| | 50 | 10 | | | | | 66623390100 | 78072749887 |
| | 60 | 10 | | | | | 66623347341 | 78072722780* |
| | 80 | 10 | | | | | 66623329182 | 78072722775* |
| | 100 | 10 | | | | | | |
| 10 x 70-1/2 | 36 | 10 | | | | | 66623347342 | 78072722840 |
| | 40 | 10 | | | | | 66623347343 | 78072722835 |
| | 50 | 10 | | | | | 66623347344 | 78072722830 |
| | 60 | 10 | | | | | 66623347345 | 78072722825 |
| | 80 | 10 | | | | | 66623347346 | 78072722820 |



A small selection of stock products in popular sizes are available for wide belt woodworking and metalworking applications.

Applications: Metalworking wide belts are used for plate dimensioning, slag grinding, machining, deburring, and other general metalworking applications. They are usually cloth and are closed coat.

Cloth woodworking wide belts are used for rough stock removal and dimensioning
Paper woodworking belts are used to upgrade the finish on furniture and other wood components.

Size Range: Stock: 25" – 52" wide, 48" to 103" long

Grit Range: Stock: 36 – 220

Abrasive Grain: Zirconia Alumina, Aluminum Oxide

Availability: Due to the wide varieties of machines and applications, the majority of wide belts are non-stock. Our FastTrack belt service is available on the majority of products with 3-day lead-time on orders up to two cases quantity.

METALWORKING CLOTH BELT RECOMMENDATION GUIDE/CROSS REFERENCE

| | | TOTAL PERFORMANCE ← | | | | | → INITIAL PRICE | | |
|---------------|--------------------|---|-----------------|--|-----------------|-----------------|--|-----------------|--------------|
| | | BEST Highest Productivity Lowest Total Cost | | BETTER Excellent Blend of Performance & Price | | | GOOD Consistent Performance; Low Initial Price | | |
| | | H-wt. Polyester | Y-wt. Polyester | H-wt. Polyester | Y-wt. Polyester | X-wt. Polyester | Y-wt. Polyester | X-wt. Polyester | X-wt. Cotton |
| NORTON | Blaze | Blaze | | BlueFire | BlueFire | BlueFire | Metalite | Metalite | Metalite |
| | R940P | R980P | | R840P | R887P/R884P | R823P | R247 | R249 | R228 |
| MERIT | | SY965 | | SY695 | SX695 | | SY395 | SX395 | KX375 |
| 3M | 963G,H | 977F, 967F | | 577F, 777F | | | 361F | 353F | 241D, 341D |
| Ekamant | | | | UZA0X | UZA0X | | UA0X | UA0X | MKX, RKX |
| Hermes | CB441Z | CR456 | | SB488Y OP | RB484TY | RB486 | RB376TY | RB376TY | RB346MX |
| Klingspor | | CS610YY | | CS414YY | CS411Y | CS411Y | CS412Y | CS412Y | CS310X |
| SIA | | C888 DP | | 2800, 2803 | | | 2982 | | 2920, 2912 |
| VSM | SK770X, SK847Y, | SK840X | | KK717Y | KK716Y | KK715X | KK711Y | KK711X | KK511X |

WOODWORKING CLOTH BELT RECOMMENDATION GUIDE/CROSS REFERENCE

| | | TOTAL PERFORMANCE ← | | | | → INITIAL PRICE | | |
|---------------|-----------|--|-------------|--|--------------------|--|-------------|-------------|
| | | BEST Highest Productivity; Lowest Total Cost | | BETTER Excellent Blend of Performance & Price | | GOOD Consistent Performance; Low Initial Price | | |
| | | Y-wt. Cotton | F-wt. Paper | Y-wt. Cotton | Y-wt. Cotton | X-wt. Cotton | F-wt. Paper | F-wt. Paper |
| | | Dust-Less | Dust-Less | | Dust-Less | | Dust-Less | Dust-Less |
| NORTON | Norton SG | Norton SG | | Bluefire | Metalite | Metalite | | |
| | R963 | H975 | | R831 | R216 | R215 | H295 | H275 |
| MERIT | | | | KY685 | | KX395 | P55F | P55FOP |
| 3M | 970DZ | 961UZ | | 777F | 240D, 248D, 370DZ | 240DZ, 340D | 260UZ | 241 |
| Ekamant | | | | | | PKX, RKX | | PKFO, APKFO |
| Hermes | | CB115 | | RB484TY, RB346MX | RB316YOP, RB372YOP | RB316XOP | BW112 | BW114 |
| Klingspor | | | | CS414Y, SMT624 | CS412, CS311Y | CS3110C | PS26 | PS20 |
| SIA | 2829 | 1919 | | 2803, 2820, 2829 | 2918, 2920, 2928 | 2928, 2920 | 1919FO | 1939 |
| VSM | | | | KK716X | KK711Y, KK524Y | KK504X | KK508E | KP709 |

NORTON BLUEFIRE R884P/R831/R823P Z/A CLOTH

BETTER CHOICE FOR ALL METAL AND WOOD APPLICATIONS DUE TO THE CUT RATE AND LIFE OF THE PROPRIETARY NORTON BLUEFIRE GRAIN



FEATURES

- Newest generation, patented self-sharpening zirconia alumina abrasive
- R884P – Durable Y-weight polyester, waterproof cloth backing
- R823P – Strong X-weight polyester, waterproof cloth backing
- R831 – Y-weight cotton cloth backing

BENEFITS

- Aggressive cut and 30% longer life than competitive zirconia alumina
- Long life on high-pressure, dry or wet, heavy-duty metal applications
- Moderate flexibility, dry or wet, fine grit applications
- Durable open coat cotton belt designed for excellent stock removal on wood with minimal loading

NORTON METALITE R215 ALUMINUM OXIDE CLOTH

GOOD CHOICE FOR ABRASIVE PLANING AND DIMENSIONING OF GLUED-UP STOCK AND BANDED PARTICLEBOARD



FEATURES

- Strong X-weight cotton backing
- Open coat design

BENEFITS

- Aggressive cutting, resistant to heat
- Resists loading
- Value product for wood and soft metals

TECH TIP

36" wide belts can be used on machines that normally use 37" wide belts.



FastTrack Belt Service



For non-stock belts, FastTrack Service offers all the benefits of an ISO 9001 quality manufacturer and the advantages of a coated abrasives express belt service. As the industry's leading producer of abrasive material and backings, our FastTrack service offers an extensive range of Norton made-to-order belts including Norton Blaze ceramic alumina, BlueFire zirconia alumina, and versatile aluminum oxide and silicon carbide belts.

Manufacturing Lead-times:

- Narrow belts: (1/2" – 12" wide) two days
- Wide belts (14" – 52" wide) three days

Size Availability:

- Maximum width: 52"
- 1/2" and greater widths; 25" and greater lengths

Please see the FastTrack Service Made-to-Order Belts section of this catalog for complete details.



| | | | | |
|-------------|--------------------------|--------------------------|-----------------------|-----------------------|
| TIER: | BETTER | BETTER | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton | Norton |
| TRADENAME:: | BLUEFIRE R884P | BLUEFIRE R823P | BLUEFIRE R831 | METALITE R215 |
| ABRASIVE: | Zirconia Alumina | Zirconia Alumina | Zirconia Alumina | Aluminum Oxide |
| BACKING: | Y-Weight Polyester Cloth | X-Weight Polyester Cloth | Y-Weight Cotton Cloth | X-Weight Cotton Cloth |
| JOINT/FLEX: | Plyweld, RR | Plyweld, RR | Plyweld, RR | Plyweld, RR |

| SIZE (W x L) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # |
|--------------|------|-----------|-------------|-------------|-------------|-------------|
| 25 x 48 | 80 | 3 | | 69957344781 | | |
| 25 x 60 | 80 | 3 | | 69957328117 | | |
| | 120 | 5 | | 69957328115 | | |
| 25 x 75 | 120 | 5 | | 69957344791 | | |
| 36 x 75 | 36 | 2 | 69957350934 | | | |
| | 60 | 3 | 69957350931 | | | |
| | 120 | 5 | | 69957329014 | | |
| 37 x 60 | 180 | 5 | | 69957344869 | | |
| | 50 | 3 | 69957306219 | | | |
| | 80 | 3 | | 69957329019 | | 69957325709 |
| | 100 | 5 | | 69957328103 | | 69957325708 |
| 37 x 75 | 120 | 5 | | 69957329018 | | 69957325707 |
| | 150 | 5 | | 69957328102 | | 69957302955 |
| | 180 | 5 | | 69957328101 | | |
| | 220 | 5 | | 69957328100 | | |
| | 36 | 2 | 69957350959 | | | |
| | 50 | 3 | 69957305107 | | | |
| 37 x 75 | 80 | 3 | 69957350955 | | | 69957325957 |
| | 100 | 5 | | | | 69957323880 |
| | 120 | 5 | | 69957307358 | | 69957325760 |
| | 150 | 5 | | | | 69957305737 |
| | 180 | 5 | | 69957306734 | | |
| 50 x 103 | 80 | 3 | | | 69957328383 | |
| 52 x 75 | 120 | 5 | | 69957313510 | | |



FASTTRACK SERVICE MADE-TO-ORDER BELTS



For many non-stock belts, our FastTrack belt service offers all the benefits of an ISO 9001 quality manufacturer and the advantages of a coated abrasives express belt service. As the industry leader of abrasive belts, our FastTrack belt service has an extensive range of Norton made-to-order belts including Norton Blaze ceramic alumina, BlueFire zirconia alumina, versatile aluminum oxide, and silicon carbide belts.

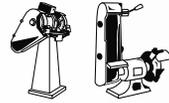
Manufacturing Lead-times:

- Narrow belts (1/2" – 12" wide): two days
- Wide belts (14" – 52" wide): three days

Size Availability:

- Maximum width: 52"
- 1/2" and greater widths; 25" and greater lengths

Please see the FastTrack belt service chart below and product listing on the next page for complete details.



FASTTRACK AVAILABILITY AND LEAD-TIME INFORMATION

| WIDTH | GRIT SIZE | MINIMUM ORDER QUANTITY | CASE QUANTITY | MAXIMUM ORDER QUANTITY (EQUALS 2 CASES) | CONVERSION LEAD-TIMES |
|----------------------|--------------|------------------------|---------------|---|-----------------------|
| Narrow Belts | | | | | |
| 1/2" through 1" | All | 50 | 200 | 400 | 2 |
| Over 1" through 5" | All | 10 | 50 | 100 | 2 |
| Over 5" through 9" | All | 10 | 20 | 40 | 2 |
| Over 9" through 14" | All | 10 | 10 | 20 | 2 |
| Wide Belts | | | | | |
| Over 14" through 20" | All | 5 | 10 | 20 | 3 |
| Over 20" through 52" | 36 & coarser | 2 | 2 | 4 | 3 |
| Over 20" through 52" | 40-80 | 3 | 3 | 6 | 3 |
| Over 20" through 52" | 100 & finer | 5 | 5 | 10 | 3 |

HOW TO PLACE A FASTTRACK BELT ORDER

- Check the FastTrack belt availability
- Include a full description of belt: quantity, size, Norton CAP code, and grit size
- Send order electronically, fax, or phone to customer service
- When ordering a belt that does not have an existing part number, please call Customer Service to expedite part number creation



FASTTRACK SERVICE MADE-TO-ORDER BELTS

BELT SPECIFICATIONS AND AVAILABILITY

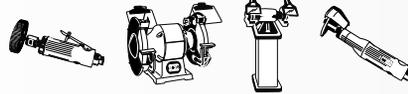
| TIER | PRODUCT CAP CODE | SHAPE AVAILABILITY | GRIT SIZE | ABRASIVE GRAIN | BACKING | APPLICATIONS | |
|---------------------|------------------|---------------------|------------------------------|----------------------------------|---------------------------------|---|--|
| Metalworking | | | | | | | |
| Norton | | | | | | | |
| Best | R980P | Narrow, Wide | 24-120 | Norton Blaze Ceramic Alumina | Y-wt. Polyester | Latest-generation Norton SG grain, supersized and designed for high-performance grinding on stainless and other alloys | |
| Best | R984 | Narrow, Wide | 36-120 | Norton SG Ceramic Alumina | Y-wt. Polyester | Norton SG grain for medium-pressure grinding and finishing heat-sensitive alloys | |
| NEW | Best | R983 | Narrow | P36-P120 | Norton Red Heat Ceramic Alumina | Y-wt. Plus | P-graded ceramic alumina abrasive with lubricating supersize coat; engineered for maximum productivity on mild carbon steel, ferrous metal, and cast iron applications |
| Better | R884P | Narrow, Wide | 24, 36-80 | Norton BlueFire Zirconia Alumina | Y-wt. Polyester | High-performance zirconia alumina grain designed for medium- to high-pressure grinding | |
| Better | R887D | Narrow, Wide | 24, 36-120 | Norton BlueFire Zirconia Alumina | Y-wt. Polyester | High-performance zirconia alumina grain, supersized and designed for medium- to high-pressure grinding of heat-sensitive alloys | |
| Better | R823P | Narrow, Wide | 60-220 | Norton BlueFire Zirconia Alumina | X-wt. Polyester | High-performance zirconia alumina grain on lighter backing designed for light to medium grinding | |
| Good | R766 | Narrow | P24-80 | Aluminum Oxide Blend | Y-wt. Polyester | Premium aluminum oxide blend product designed for a variety of applications including soft metals to hard-to-grind stainless and carbon steel | |
| Good | R766X | Narrow, Wide | P60-P400 | Aluminum Oxide Blend | X-wt. Polyester | Quality, P-graded aluminum oxide and broad grit range for stock removal to finer finishing | |
| Good | MX240 | Narrow, Wide | P60-P150 | Aluminum Oxide | X-wt. Poly/Cotton | P-graded, heat-treated aluminum oxide X-weight cloth with strong, but flexible, cotton/polyester backing making it an ideal multi-purpose product | |
| Good | R245 | Narrow | P80-P240, P320, P400 | Aluminum Oxide | J-wt. Polyester | Aluminum oxide on flexible, lightweight polyester backing for moderate- to light- pressure applications on mild steel | |
| Good | KF376 | Narrow | P80-P320, P400, P600 | Aluminum Oxide | J-wt. Cotton | P-graded, heat-treated aluminum oxide with ceramic coating on a very flexible backing for use wherever flexibility and conformability are needed | |
| Good | R445 | Narrow | 60-220 | Silicon Carbide | X-wt. Polyester | Sharp, silicon carbide grain on medium polyester backing for grinding very hard materials – glass, stone, solid surface | |
| Good | U243 | Narrow, Wide to 24" | X80, X65, X45, X30, X22, X16 | NORaX Aluminum Oxide | J-wt. Cotton | High-performance, multi-layered NORaX grain on very flexible backing for dry polishing applications | |

| TIER | PRODUCT CAP CODE | SHAPE AVAILABILITY | GRIT SIZE | ABRASIVE GRAIN | BACKING | APPLICATIONS |
|--------------------|------------------|--------------------|--------------------|----------------------------------|-----------------|---|
| Woodworking | | | | | | |
| Norton | | | | | | |
| Best | R963 | Narrow, Wide | 24-60, P80 100-150 | Norton SG Ceramic Alumina | Y-wt. Polyester | Norton SG ceramic alumina grain with anti-static coating for forest product applications (MDF, particleboard, plywood) |
| Best | R955 | Narrow | P36-P120 | Norton Red Heat Ceramic Alumina | Y-wt. Cotton | 100% ceramic alumina abrasive with Y-weight cloth backing for dimensioning, intermediate sanding of wood |
| Better | R831 | Narrow, Wide | 24, 36-120 | Norton BlueFire Zirconia Alumina | Y-wt. Cotton | Norton BlueFire open-coat product recommended for dry low-pressure applications or where loading is a problem |
| Good | R215 | Narrow, Wide | 50-180 | Aluminum Oxide | X-wt. Cotton | Initial starting specification for woodworking applications where loading is a problem, and initial cost a primary concern |
| Good | R490 | Narrow, Wide | P36-P150 | Silicon Carbide | Y-wt. Polyester | Anti-static product for forest product applications (MDF, particle board, plywood) where loading is an issue |
| Good | R422 | Narrow | 50-120 | Silicon Carbide | X-wt. Cotton | Initial starting specification for woodworking applications where loading is not an issue |
| Best | H975 | Narrow, Wide | 60-220 | Norton Red Heat Ceramic Alumina | F-wt. Paper | Ceramic alumina grain, antistatic coating, and open coat; the best choice for applications where loading is a problem (soft woods, etc.) |
| Better | H831 | Narrow, Wide | 24,36-120 | Norton BlueFire Zirconia Alumina | F-wt. Paper | Durable zirconia alumina grain, antistatic coating, and open coat; the better choice for applications where loading is a problem (soft woods, etc.) |
| Good | H275B | Narrow, Wide | P60-P220 | Aluminum Oxide | F-wt. Paper | Quality aluminum oxide grain, antistatic coating, and open coat make these an economical choice for all heavy-weight paper belt jobs |
| Better | H475 | Narrow, Wide | P120-P400 | Norton Onyx Silicon Carbide | F-wt. Paper | Sharp silicon carbide and antistatic coating create finer finishes on hard materials and veneers where finish is critical |

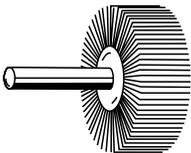


Flap wheels are an ideal choice for a wide variety of blending, deburring and finishing applications common in the metal fabrication, welding and polishing industries. Flap wheels are conformable to intricate shapes and contours. Designed to deliver a consistent finish with a uniform rate of cut, flap wheels wear away, continually exposing fresh abrasives.

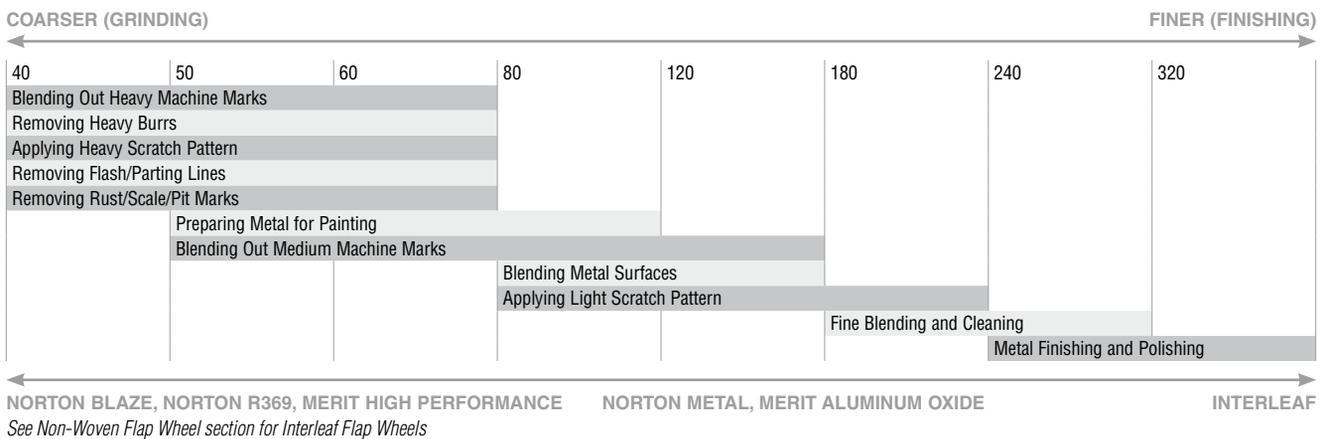
- Applications: Used for a wide range of metal fabrication and welding applications including stock removal, blending, deburring, cleaning, finishing, and polishing
- Size Range: Flap wheels with mounted steel shanks: 3/8" - 3" diameter
Flap wheels with mounted 1/4"-20 thread: 1" - 3" diameter
Flap wheels with arbor holes: 3" - 16" diameter
- Grit Range: 40 - 320
- Abrasive Grain: Ceramic Alumina, Aluminum Oxide Blend, Aluminum Oxide
- Machine Used:



SHAPE RECOMMENDATION GUIDE

| Shape | Description/Application |
|---|---|
|  | Flap Wheels with Mounted Steel Shanks Wheels are designed with a 1/8" or 1/4" steel shank as an integral part of each wheel. These shanks run through the wheel creating better balance, a reduction of chatter, and reduced operator fatigue. They also permit quick changes on air tools when using other abrasive products. |
|  | Flap Wheels with Mounted 1/4-20 Thread Wheels are designed with a 1/4"-20 thread and flange as an integral part of the wheel. These threads facilitate the quickest changes on air tools using flap wheels exclusively, as there are no special tools needed to change the flap wheel. Also allow extended reach with accessory mandrels. |
|  | Flap Wheels with Arbor Holes For use on larger portable and fixed-base tools where the wheel must fit on an existing arbor. |

APPLICATION/GRIT RECOMMENDATION GUIDE



NORTON BLAZE R920 CERAMIC ALUMINA

BEST CHOICE FOR HARD-TO-GRIND MATERIALS, INCLUDING SUPERALLOYS (COBALT, INCONEL, AND TITANIUM) AND STAINLESS STEEL

FEATURES & BENEFITS

- See significantly faster, coolest, burn-free grinding on the toughest jobs from our next-generation of sharp, ceramic abrasive grains and advanced grinding aid lubricant



NEW

NORTON R369 ALUMINUM OXIDE

BETTER CHOICE FOR STAINLESS AND CARBON STEEL, AND ALUMINUM, BRASS AND BRONZE

FEATURES & BENEFITS

- Cut cooler and smoother, with our versatile, P-graded premium aluminum oxide blend, durable resin bond system, and heavy cotton backing



NEW

MERIT HIGH PERFORMANCE ALUMINUM OXIDE BLEND

BETTER CHOICE FOR MORE DURABLE FLAP WHEEL APPLICATIONS WHERE AGGRESSIVE CUT AND SUPERIOR LIFE ARE REQUIRED

FEATURES

- Long-lasting aluminum oxide abrasive grain blend
- Heavy cotton backing

BENEFITS

- Aggressive cut and 2 to 3 times longer life
- Extended durability for added life and reduced edge wear



NORTON METAL R207 ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS A KEY PURCHASING CRITERIA

FEATURES & BENEFITS

- Our solid-performance aluminum oxide grain makes these flap wheels a good starting specification with consistent performance for small jobs or anywhere performance need not be measured



NEW

MERIT ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS THE MAIN CONSIDERATION

FEATURES

- Quality aluminum oxide abrasive
- Engineered, low-cost cotton backing
- Low initial price point

BENEFITS

- Good cut rate and life
- Longer life and wear resistance
- Best starting specification for end-user unable to measure total performance





Micro-Mini Flap Wheels with 1/8" Mounted Steel Shanks

- The smallest flap wheels, ranging from 3/8" to 1-3/16" diameter, mounted on a 1/8" diameter steel shank
- Provide fast polishing and light deburring of internal workpieces with holes or grooves as small as 1/2"



| | | |
|------------|------------------------------|-----------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | R369 | ALUMINUM OXIDE |
| ABRASIVE: | Premium Aluminum Oxide Blend | Aluminum Oxide |
| OTHER: | P-graded | |



| | | |
|------------|------------------------------|-----------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | R369 | ALUMINUM OXIDE |
| ABRASIVE: | Premium Aluminum Oxide Blend | Aluminum Oxide |
| OTHER: | P-graded | |

| SIZE (D x W x SK.) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # |
|--------------------|------|----------|-----------|-------------|-------------|
| 3/8 x 3/8 x 1/8 | 60 | 40,000 | 10 | 66623399223 | 08834137470 |
| | 80 | 40,000 | 10 | 66623399224 | 08834137471 |
| | 120 | 40,000 | 10 | 66623399225 | 08834137472 |
| | 180 | 40,000 | 10 | | 08834137473 |
| | 240 | 40,000 | 10 | | 08834137474 |
| 5/8 x 5/8 x 1/8 | 60 | 37,000 | 10 | 66623399228 | 08834137475 |
| | 80 | 37,000 | 10 | 66623399229 | 08834137480 |
| | 120 | 37,000 | 10 | 66623399230 | 08834137481 |
| | 180 | 37,000 | 10 | 66623399231 | 08834137482 |
| | 240 | 37,000 | 10 | | 08834137483 |
| 5/8 x 3/4 x 1/8 | 60 | 37,000 | 10 | | 08834137484 |
| | 80 | 37,000 | 10 | 66623399232 | 08834137485 |
| | 120 | 37,000 | 10 | | 08834137486 |
| | 180 | 37,000 | 10 | | 08834137487 |
| | 240 | 37,000 | 10 | | 08834137488 |
| 3/4 x 3/16 x 1/8 | 60 | 35,000 | 10 | | 08834137489 |
| | 80 | 35,000 | 10 | | 08834137490 |
| | 120 | 35,000 | 10 | | 08834137491 |
| | 180 | 35,000 | 10 | | 08834137492 |
| | 240 | 35,000 | 10 | | 08834137493 |
| 3/4 x 3/8 x 1/8 | 60 | 35,000 | 10 | 66623399234 | 08834137494 |
| | 80 | 35,000 | 10 | 66623399235 | 08834137495 |
| | 120 | 35,000 | 10 | 66623399236 | 08834137496 |
| | 180 | 35,000 | 10 | | 08834137497 |
| | 240 | 35,000 | 10 | | 08834137498 |
| 3/4 x 1/2 x 1/8 | 60 | 35,000 | 10 | | 08834137499 |
| | 80 | 35,000 | 10 | | 08834137500 |
| | 120 | 35,000 | 10 | | 08834137501 |
| | 180 | 35,000 | 10 | | 08834137502 |
| | 240 | 35,000 | 10 | | 08834137503 |

| SIZE (D x W x SK.) | GRIT | MAX. RPM | STD. PKG. | PART # |
|---------------------|------|----------|-----------|-------------|
| 3/4 x 5/8 x 1/8 | 60 | 35,000 | 10 | 08834137580 |
| | 80 | 35,000 | 10 | 08834137581 |
| | 120 | 35,000 | 10 | 08834137582 |
| | 180 | 35,000 | 10 | 08834137583 |
| | 240 | 35,000 | 10 | 08834137584 |
| 3/4 x 3/4 x 1/8 | 60 | 35,000 | 10 | 08834137585 |
| | 80 | 35,000 | 10 | 66623399240 |
| | 120 | 35,000 | 10 | 66623399241 |
| | 180 | 35,000 | 10 | 66623399242 |
| | 240 | 35,000 | 10 | 08834137590 |
| 1-3/16 x 1/8 x 1/8 | 60 | 35,000 | 10 | 08834137591 |
| | 80 | 30,000 | 10 | 08834137592 |
| | 120 | 35,000 | 10 | 08834137593 |
| | 180 | 35,000 | 10 | 08834137594 |
| | 240 | 35,000 | 10 | 08834137595 |
| 1-3/16 x 3/16 x 1/8 | 60 | 30,000 | 10 | 08834137491 |
| | 80 | 30,000 | 10 | 08834137492 |
| | 120 | 35,000 | 10 | 08834137493 |
| | 180 | 35,000 | 10 | 08834137494 |
| | 240 | 35,000 | 10 | 08834137508 |
| 1-3/16 x 3/8 x 1/8 | 60 | 30,000 | 10 | 08834137509 |
| | 80 | 30,000 | 10 | 08834137510 |
| | 120 | 35,000 | 10 | 08834137511 |
| | 180 | 35,000 | 10 | 08834137512 |
| | 240 | 35,000 | 10 | 08834137513 |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.



Micro-Mini Test Kit "MMC"

- Part # 08834131493
- Includes five wheels, 3/8" to 1-3/16" diameter in various grits, mounted on a 1/8" diameter hardened steel shank
- The "MMC" kit is ideal for fast polishing and light deburring of internal holes or grooves as small as 1/2"



Mini Flap Wheels with 1/4" Mounted Steel Shanks

- Small flap wheels, ranging from 1" to 3" diameter, mounted on a 1/4" diameter steel shank
- Very durable, long-lasting mini flap wheels for demanding, heavy stock removal applications



| | | | | | |
|------------|-------------------|------------------------------|-------------------------|-------------------|-----------------------|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Merit | Norton | Merit |
| TRADENAME: | BLAZE R920 | R369 | HIGH PERFORMANCE | METAL R207 | ALUMINUM OXIDE |
| ABRASIVE: | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide |
| OTHER: | P-Graded | P-Graded | | P-Graded | |

| SIZE (D x W x SK.) | GRIT | MAX. RPM | STD. PKG. | PART # |
|---------------------|------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| 3/4 x 5/8 x 1/4 | 60 | 35,000 | 10 | | 66623399237 | | | |
| | 80 | 35,000 | 10 | | 66623399238 | | | |
| | 120 | 35,000 | 10 | | 66623399239 | | | |
| 3/4 x 3/4 x 1/4 | 60 | 35,000 | 10 | | 66623399243 | | | |
| | 80 | 35,000 | 10 | | 66623399244 | | | |
| | 120 | 35,000 | 10 | | 66623399245 | | | |
| 1 x 1/2 x 1/4 | 80 | 30,000 | 10 | | | | | 08834149801 |
| | 120 | 30,000 | 10 | | | | | 08834149802 |
| | 180 | 30,000 | 10 | | | | | |
| 1 x 5/8 x 1/4 | 40 | 30,000 | 10 | | | 08834137105 | | |
| | 60 | 30,000 | 10 | | 66623399074 | 08834137100 | 63642502576 | |
| | 80 | 30,000 | 10 | | 66623399075 | 08834137101 | 63642502577 | |
| | 120 | 30,000 | 10 | | 66623399076 | 08834137102 | 63642502578 | |
| | 240 | 30,000 | 10 | | | 08834131536 | | |
| 1 x 1 x 1/4 | 40 | 30,000 | 10 | | 66623399077 | 08834137104 | | |
| | 50 | 30,000 | 10 | | | 08834137104 | | 08834149803 |
| | 60 | 30,000 | 10 | 66261151170 | 69957394176 | 08834137310 | 63642502580 | 08834149804 |
| | 80 | 30,000 | 10 | 66261151171 | 69957394181 | 08834137311 | 63642502581 | 08834149805 |
| | 120 | 30,000 | 10 | 66261151172 | 69957394182 | 08834137312 | 63642502582 | 08834149806 |
| | 180 | 30,000 | 10 | | 66623399078 | 08834137313 | | 08834149807 |
| | 240 | 30,000 | 10 | | 66623399079 | 08834137114 | | |
| 1-3/8 x 5/8 x 1/4 | 320 | 30,000 | 10 | | 66623399080 | 08834137315 | | |
| | 60 | 30,000 | 10 | | 66623399247 | 08834137320 | 63642502584 | |
| | 80 | 30,000 | 10 | | 66623399248 | 08834137321 | 63642502585 | |
| | 120 | 30,000 | 10 | | | 08834137322 | | |
| | 180 | 30,000 | 10 | | | 08834137323 | | |
| 1-1/2 x 1/2 x 1/4 | 240 | 30,000 | 10 | | | 08834137324 | | |
| | 60 | 25,000 | 10 | | | | | 08834149810 |
| | 80 | 25,000 | 10 | | | | | 08834149811 |
| 1-1/2 x 1 x 1/4 | 40 | 25,000 | 10 | | 66623399087 | 08834135140 | | |
| | 60 | 25,000 | 10 | | 66623399088 | 08834137340 | 63642502592 | 08834149816 |
| | 80 | 25,000 | 10 | | 66623399089 | 08834137141 | 63642502593 | 08834149817 |
| | 120 | 25,000 | 10 | | 66623399090 | 08834137142 | 63642502594 | 08834149818 |
| | 180 | 25,000 | 10 | | 66623399249 | 08834137343 | | |
| | 240 | 25,000 | 10 | | 66623399250 | 08834132101 | | |
| 1-1/2 x 1-1/2 x 1/4 | 40 | 25,000 | 10 | | 66623399251 | 08834130642 | | |
| | 60 | 25,000 | 10 | | 66623399252 | 08834130643 | | |
| | 80 | 25,000 | 10 | | 66623399253 | 08834130644 | | |
| | 120 | 25,000 | 10 | | 66623399254 | 08834130641 | | |
| | 180 | 25,000 | 10 | | | 08834130695 | | |
| 2 x 1/2 x 1/4 | 60 | 25,000 | 10 | | 66623399255 | | 63642502596 | 08834149821 |
| | 80 | 25,000 | 10 | | 66623399256 | | | 08834149822 |
| | 120 | 25,000 | 10 | | 66623399257 | | | 08834149823 |
| | 180 | 25,000 | 10 | | 66623399258 | | | |
| 2 x 3/4 x 1/4 | 40 | 25,000 | 10 | | | 08834137158 | | |
| | 60 | 25,000 | 10 | | | 08834137160 | | |
| | 80 | 25,000 | 10 | | | 08834137161 | | |
| | 120 | 25,000 | 10 | | | 08834137162 | | |
| | 180 | 25,000 | 10 | | | 08834137163 | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.
Continued

Mini Flap Wheels with 1/4" Mounted Steel Shanks (continued)



| | | | | |
|------------------------------|------------------------------|-------------------------|-------------------|-----------------------|
| TIER: BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: Norton | Norton | Merit | Norton | Merit |
| TRADENAME: BLAZE R920 | R369 | HIGH PERFORMANCE | METAL R207 | ALUMINUM OXIDE |
| ABRASIVE: Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide |
| OTHER: P-Graded | P-Graded | | P-Graded | |

| SIZE (D x W x SK.) | GRIT | MAX. RPM | STD. PKG. | PART # |
|---------------------|------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| 2 x 1 x 1/4 | 40 | 25,000 | 10 | | 66623399094 | 08834137377 | | 08834149824 |
| | 50 | 25,000 | 10 | | | 08834137169 | | |
| | 60 | 25,000 | 10 | 66261151173 | 69957394183 | 08834137370 | 63642502600 | 08834149825 |
| | 80 | 25,000 | 10 | 66261151174 | 69957394184 | 08834137371 | 63642502601 | 08834149826 |
| | 120 | 25,000 | 10 | 66261151175 | 69957394185 | 08834137372 | 63642502602 | 08834149827 |
| | 180 | 25,000 | 10 | | 66623399095 | 08834137373 | | 08834149828 |
| 2 x 1-1/2 x 1/4 | 40 | 25,000 | 10 | | 66623399096 | 08834137374 | | |
| | 60 | 25,000 | 10 | | 66623399097 | 08834137375 | | |
| | 80 | 25,000 | 10 | | | 08834137183 | | |
| | 120 | 25,000 | 10 | | 66623399098 | 08834137380 | | |
| | 180 | 25,000 | 10 | | 66623399099 | 08834137381 | | |
| | | | | | 66623399100 | 08834137382 | | |
| 2-1/2 x 1/2 x 1/4 | 60 | 20,000 | 10 | | 66623399259 | | | |
| | 80 | 20,000 | 10 | | 66623399260 | | | |
| 2-1/2 x 1 x 1/4 | 40 | 20,000 | 10 | | | 08834137408 | | |
| | 60 | 20,000 | 10 | | 66623399262 | 08834137410 | 63642502608 | |
| | 80 | 20,000 | 10 | | 66623399263 | 08834137411 | 63642502609 | |
| | 120 | 20,000 | 10 | | 66623399264 | 08834137412 | 63642502610 | |
| | 180 | 20,000 | 10 | | | 08834137413 | | |
| | 240 | 20,000 | 10 | | | 08834137633 | | |
| 2-1/2 x 1-1/2 x 1/4 | 320 | 20,000 | 10 | | | 08834137415 | | |
| | 60 | 20,000 | 10 | | | 08834137420 | | |
| | 80 | 20,000 | 10 | | | 08834137421 | | |
| | 120 | 20,000 | 10 | | | 08834137422 | | |
| 3 x 1/2 x 1/4 | 60 | 20,000 | 10 | | 66623399265 | | 63642502612 | 08834149834 |
| | 80 | 20,000 | 10 | | 66623399266 | | 63642502613 | 08834149835 |
| | 120 | 20,000 | 10 | | 66623399268 | | 63642502614 | |
| 3 x 3/4 x 1/4 | 60 | 20,000 | 10 | | | 08834137440 | | |
| | 80 | 20,000 | 10 | | | 08834137441 | | |
| 3 x 1 x 1/4 | 40 | 20,000 | 10 | | 66623399104 | 08834137456 | | 08834149836 |
| | 60 | 20,000 | 10 | 66261151176 | 69957394186 | 08834137450 | 63642502620 | 08834149837 |
| | 80 | 20,000 | 10 | 66261151177 | 69957394187 | 08834137451 | 63642502621 | 08834149838 |
| | 120 | 20,000 | 10 | 66261151178 | 69957394188 | 08834137252 | 63642502622 | 08834149839 |
| | 180 | 20,000 | 10 | | 66623399105 | 08834137253 | | 08834149840 |
| | 240 | 20,000 | 10 | | 66623399106 | 08834135339 | | |
| 3 x 2 x 1/4 | 320 | 20,000 | 10 | | 66623399107 | 08834135341 | | |
| | 40 | 12,000 | 10 | | | 08834137460 | | |
| | 60 | 12,000 | 10 | | 66623399108 | 08834137260 | | |
| | 80 | 12,000 | 10 | | 66623399109 | 08834137261 | | |
| | 120 | 12,000 | 10 | | 66623399110 | 08834137262 | | |
| | 180 | 12,000 | 10 | | | 08834137263 | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.



Merit Mini 1/4" Steel Shank Test Kit "CMM"

- Part # 08834138004
- Includes ten wheels, 1" to 3" diameter in various grits mounted on a 1/4" diameter hardened steel shank



Mini Flap Wheels with 1/4"-20 Thread

- Mini flap wheels ranging from 1" to 3" diameter, mounted on a 14-20 thread that allows you to quickly spin the wheels on and off with no tools
- Designed for polishing and finishing intricate surfaces; cost-effective replacement for brushes, rubber points, and felt bobs



| | | | |
|-------------------|------------------------------|-------------------------|-------------------|
| TIER: | BETTER | BETTER | GOOD |
| BRAND: | Norton | Merit | Norton |
| TRADENAME: | R369 | HIGH PERFORMANCE | METAL R207 |
| ABRASIVE: | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide |
| OTHER: | P-Graded | | P-Graded |

| SIZE (D x W x THD.) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # |
|----------------------|------|----------|-----------|-------------|-------------|-------------|
| 1 x 5/8 x 1/4-20 | 60 | 30,000 | 10 | 66623399111 | 08834131001 | 63642502624 |
| | 80 | 30,000 | 10 | 66623399112 | 08834131002 | 63642502625 |
| | 120 | 30,000 | 10 | 66623399113 | 08834131003 | 63642502626 |
| 1 x 1 x 1/4-20 | 40 | 30,000 | 10 | | 08834131027 | |
| | 60 | 30,000 | 10 | 69957394189 | 08834131008 | 63642502628 |
| | 80 | 30,000 | 10 | 69957394190 | 08834131009 | 63642502629 |
| | 120 | 30,000 | 10 | 69957394191 | 08834131010 | 63642502630 |
| | 180 | 30,000 | 10 | 66623399269 | 08834131011 | |
| | 240 | 30,000 | 10 | | 08834131012 | |
| 1-3/8 x 5/8 x 1/4-20 | 60 | 30,000 | 10 | | 08834132001 | 63642502632 |
| | 80 | 30,000 | 10 | 66623399271 | 08834132002 | 63642502633 |
| | 120 | 30,000 | 10 | | 08834132003 | 63642502634 |
| 1-1/2 x 1 x 1/4-20 | 80 | 25,000 | 10 | 66623399274 | | |
| | 120 | 25,000 | 10 | 66623399275 | | |
| 1-5/8 x 1 x 1/4-20 | 40 | 25,000 | 10 | | 08834132051 | |
| | 60 | 25,000 | 10 | | 08834132015 | 63642502638 |
| | 80 | 25,000 | 10 | | 08834132016 | 63642502639 |
| | 120 | 25,000 | 10 | | 08834132017 | 63642502640 |
| | 180 | 25,000 | 10 | | 08834132018 | |
| | 320 | 25,000 | 10 | | 08834132020 | |
| 2 x 1/2 x 1/4-20 | 60 | 25,000 | 10 | 66623399276 | | 63642502642 |
| | 80 | 25,000 | 10 | 66623399277 | | 63642502643 |
| | 120 | 25,000 | 10 | | | 63642502644 |
| 2 x 3/4 x 1/4-20 | 60 | 25,000 | 10 | | 08834133008 | |
| | 80 | 25,000 | 10 | | 08834133009 | |
| | 120 | 25,000 | 10 | | 08834133010 | |
| | 180 | 25,000 | 10 | | 08834133011 | |
| | 240 | 25,000 | 10 | | 08834133018 | |
| 2 x 1 x 1/4-20 | 40 | 25,000 | 10 | | 08834133044 | |
| | 60 | 25,000 | 10 | 69957394192 | 08834133015 | 63642502646 |
| | 80 | 25,000 | 10 | 69957394193 | 08834133016 | 63642502647 |
| | 120 | 25,000 | 10 | 69957394194 | 08834133017 | 63642502648 |
| | 180 | 25,000 | 10 | | 08834133018 | |
| | 240 | 25,000 | 10 | | 08834133019 | |
| | 320 | 25,000 | 10 | | 08834133020 | |
| 2 x 1-1/2 x 1/4-20 | 60 | 25,000 | 10 | | 08834135201 | |
| | 80 | 25,000 | 10 | | 08834135202 | |
| | 120 | 25,000 | 10 | | 08834135203 | |
| | 180 | 25,000 | 10 | | 08834135204 | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.

For adapters for flap wheels with 1/4"-20 thread, see the end of this section

Continued

Mini Flap Wheels with 1/4"-20 Thread (continued)



| | | | |
|-------------------|------------------------------|-------------------------|-------------------|
| TIER: | BETTER | BETTER | GOOD |
| BRAND: | Norton | Merit | Norton |
| TRADENAME: | R369 | HIGH PERFORMANCE | METAL R207 |
| ABRASIVE: | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide |
| OTHER: | P-Graded | | P-Graded |

| SIZE (D x W x THD.) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # |
|---------------------|------|----------|-----------|-------------|-------------|-------------|
| 2-1/2 x 1 x 1/4-20 | 40 | 20,000 | 10 | | 08834134061 | |
| | 60 | 20,000 | 10 | | 08834134022 | 63642502654 |
| | 80 | 20,000 | 10 | | 08834134023 | |
| | 120 | 20,000 | 10 | | 08834134024 | 63642502656 |
| | 180 | 20,000 | 10 | | 08834134025 | |
| 3 x 1/2 x 1/4-20 | 80 | 20,000 | 10 | | | 63642502659 |
| | 120 | 20,000 | 10 | | | 63642502660 |
| 3 x 3/4 x 1/4-20 | 80 | 20,000 | 10 | | 08834135009 | |
| | 120 | 20,000 | 10 | | 08834135010 | |
| 3 x 1 x 1/4-20 | 40 | 20,000 | 10 | | 08834135230 | |
| | 60 | 20,000 | 10 | 69957394195 | 08834135015 | 63642502664 |
| | 80 | 20,000 | 10 | 69957394196 | 08834135016 | 63642502665 |
| | 120 | 20,000 | 10 | 69957394197 | 08834135017 | 63642502666 |
| | 180 | 20,000 | 10 | 66623399281 | 08834135018 | |
| | 240 | 20,000 | 10 | | 08834135019 | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status. For adapters for flap wheels with 1/4"-20 thread, see the end of this section

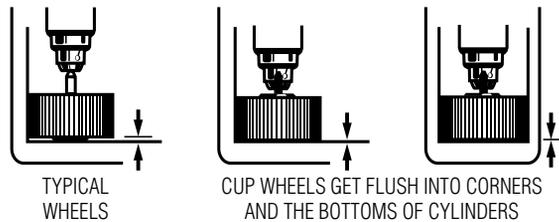


Cup-Type Mini Flap Wheels with 1/4" Mounted Steel Shanks

- Primarily used for bottom or side-wall type sanding where conventional tools do not reach
- Cup-type mini flap wheels will not mar your workpiece while reaching flush into areas where other wheels cannot reach

| | |
|------------------|----------------|
| TIER: | GOOD |
| BRAND: | Merit |
| ABRASIVE: | Aluminum Oxide |

| D x W x SK. | MAX. RPM | GRIT | STD. PKG. | PART # |
|---------------------|----------|------|-----------|-------------|
| 2-1/2 x 1-1/2 x 1/4 | 20,000 | 60 | 10 | 08834144463 |





3" – 8" Flap Wheels with Arbor Holes

- Flap wheels ranging from 3" to 8" diameter with arbor holes
- Heavy cotton backing and premium abrasive grains combine to provide superior life with aggressive cut on a wide range of polishing and finishing applications



| | | |
|------------|-------------------------|-------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Merit | Norton |
| TRADENAME: | HIGH PERFORMANCE | METAL R207 |
| ABRASIVE: | Aluminum Oxide Blend | Aluminum Oxide |
| OTHER: | | P-Graded |

| SIZE (D x W x H) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # |
|---------------------|------|----------|-----------|-------------|-------------|
| 3 x 2 x 3/8 | 60 | 12,000 | 10 | 08834135050 | |
| | 80 | 12,000 | 10 | 08834135051 | |
| | 120 | 12,000 | 10 | 08834135052 | |
| 3-1/2 x 1 x 5/8 | 40 | 12,000 | 10 | 08834122001 | |
| | 50 | 12,000 | 10 | 08834122002 | |
| | 60 | 12,000 | 10 | 08834122003 | 63642502668 |
| | 80 | 12,000 | 10 | 08834122004 | 63642502669 |
| | 120 | 12,000 | 10 | 08834122006 | |
| | 180 | 12,000 | 10 | 08834122007 | |
| | 240 | 12,000 | 10 | 08834122008 | |
| | 320 | 12,000 | 10 | 08834122009 | |
| 3-1/2 x 1-1/2 x 5/8 | 40 | 12,000 | 10 | 08834122011 | |
| | 50 | 12,000 | 10 | 08834122012 | |
| | 60 | 12,000 | 10 | 08834122013 | |
| | 80 | 12,000 | 10 | 08834122014 | |
| | 120 | 12,000 | 10 | 08834122016 | |
| | 150 | 12,000 | 10 | 08834122017 | |
| | 180 | 12,000 | 10 | 08834122018 | |
| 3-1/2 x 2 x 5/8 | 320 | 12,000 | 10 | 08834122020 | |
| | 40 | 12,000 | 10 | 08834122022 | |
| | 60 | 12,000 | 10 | 08834122024 | |
| | 80 | 12,000 | 10 | 08834122025 | |
| | 120 | 12,000 | 10 | 08834122027 | |
| 4 x 1 x 5/8 | 180 | 12,000 | 10 | 08834122028 | |
| | 40 | 12,000 | 10 | 08834122032 | |
| | 50 | 12,000 | 10 | 08834122033 | |
| | 60 | 12,000 | 10 | 08834122034 | 63642502673 |
| | 80 | 12,000 | 10 | 08834122035 | 63642502674 |
| 4 x 1-1/2 x 5/8 | 120 | 12,000 | 10 | 08834122037 | 63642502675 |
| | 180 | 12,000 | 10 | 08834122038 | |
| | 240 | 12,000 | 10 | 08834122039 | |
| | 320 | 12,000 | 10 | 08834122040 | |
| | 40 | 12,000 | 10 | 08834122042 | |
| | 50 | 12,000 | 10 | 08834122043 | |
| | 60 | 12,000 | 10 | 08834122044 | |
| 4 x 2 x 5/8 | 80 | 12,000 | 10 | 08834122045 | |
| | 120 | 12,000 | 10 | 08834122047 | |
| | 240 | 12,000 | 10 | 08834122050 | |
| | 40 | 12,000 | 10 | 08834122053 | |
| | 50 | 12,000 | 10 | 08834122054 | |
| | 60 | 12,000 | 10 | 08834122055 | 63642502677 |
| | 80 | 12,000 | 10 | 08834122056 | |
| | 120 | 12,000 | 10 | 08834122058 | |
| | 180 | 12,000 | 10 | 08834122059 | |
| | 240 | 12,000 | 10 | 08834122060 | |
| | 320 | 12,000 | 10 | 08834122061 | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.

For flap wheel with arbor hole adapters and bushings, see the end of this section. A set of reducing bushing will be included for 1" center hole wheels at no charge when purchased with flap wheels and specified on the order.

Continued

3" – 8" Flap Wheels with Arbor Holes (continued)



| | | | | | |
|------------|-------------------|------------------------------|-------------------------|-------------------|-----------------------|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Merit | Norton | Merit |
| TRADENAME: | BLAZE R920 | R369 | HIGH PERFORMANCE | METAL R207 | ALUMINUM OXIDE |
| ABRASIVE: | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide |
| OTHER: | P-Graded | P-Graded | | P-Graded | |

| SIZE (D x W x H) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # |
|------------------|------|----------|-----------|-------------|-------------|-------------|-------------------|-------------|
| 5 x 1 x 5/8 | 40 | 6,200 | 10 | | 66623399282 | | | |
| | 60 | 6,200 | 10 | | 66623399283 | | | |
| | 80 | 6,200 | 10 | | 66623399284 | | 63642502678 5/PKG | |
| | 120 | 6,200 | 10 | | 66623399285 | | | |
| 5 x 1-1/2 x 5/8 | 40 | 12,000 | 10 | | | 08834122063 | | |
| | 50 | 12,000 | 10 | | | 08834122064 | | |
| | 60 | 12,000 | 10 | | | 08834122065 | | |
| | 80 | 12,000 | 10 | | | 08834122066 | | |
| | 120 | 12,000 | 10 | | | 08834122068 | | |
| | 180 | 12,000 | 10 | | | 08834122070 | | |
| | 240 | 12,000 | 10 | | | 08834122071 | | |
| | 320 | 12,000 | 10 | | | 08834122072 | | |
| 6 x 1/2 x 1 | 40 | 6,000 | 10 | | | 08834123001 | | |
| | 60 | 6,000 | 10 | | | 08834123003 | | |
| | 120 | 6,000 | 10 | | | 08834123005 | | |
| | 150 | 6,000 | 10 | | | 08834122198 | | |
| | 180 | 6,000 | 10 | | | 08834123006 | | |
| | 240 | 6,000 | 10 | | | 08834123007 | | |
| 6 x 1 x 1 | 320 | 6,000 | 10 | | | 08834122137 | | |
| | 40 | 6,000 | 5 | | | 08834123009 | | 08834120167 |
| | 50 | 6,000 | 5 | | | 08834123010 | | 08834120168 |
| | 60 | 6,000 | 5 | 66261146104 | 69957394198 | 08834123011 | 63642502680 | 08834120169 |
| | 80 | 6,000 | 5 | 66261146105 | 69957394199 | 08834123012 | 63642502681 | 08834120170 |
| | 100 | 6,000 | 5 | | | | | 08834120171 |
| | 120 | 6,000 | 5 | 66261146106 | 69957394200 | 08834123014 | 63642502682 | 08834120172 |
| | 150 | 6,000 | 5 | | | 08834123015 | | |
| | 180 | 6,000 | 5 | | | 08834123016 | | 08834120174 |
| | 240 | 6,000 | 5 | | | 08834123017 | | 08834120176 |
| 6 x 1-1/2 x 1 | 320 | 6,000 | 5 | | | 08834123018 | | 08834120177 |
| | 40 | 6,000 | 5 | | 66623399286 | 08834123020 | | |
| | 50 | 6,000 | 5 | | | 08834123021 | | |
| | 60 | 6,000 | 5 | | 66623399287 | 08834123022 | 63642502686 | |
| | 80 | 6,000 | 5 | | 66623399288 | 08834123023 | 63642502687 | |
| | 120 | 6,000 | 5 | | 66623399289 | 08834123025 | | |
| | 150 | 6,000 | 5 | | | 08834123026 | | |
| | 180 | 6,000 | 5 | | | 08834123027 | | |
| 6 x 2 x 1 | 240 | 6,000 | 5 | | | 08834123028 | | |
| | 320 | 6,000 | 5 | | | 08834123029 | | |
| | 40 | 6,000 | 5 | | 66623399290 | 08834123031 | | 08834120189 |
| | 50 | 6,000 | 5 | | | 08834123032 | | |
| | 60 | 6,000 | 5 | | 66623399291 | 08834123033 | 63642502691 | 08834120191 |
| | 80 | 6,000 | 5 | | 66623399292 | 08834123034 | 63642502692 | 08834120192 |
| | 100 | 6,000 | 5 | | | | | 08834120198 |
| | 120 | 6,000 | 5 | | 66623399293 | 08834123036 | 63642502694 | 08834120194 |
| | 180 | 6,000 | 5 | | 66623399294 | 08834123038 | | 08834120197 |
| | 240 | 6,000 | 5 | | | 08834123039 | | 08834120199 |
| 6 x 3 x 1 | 320 | 6,000 | 5 | | | 08834123040 | | 08834120493 |
| | 50 | 6,000 | 3 | | | 08834123054 | | |
| | 60 | 6,000 | 3 | | | 08834123055 | | |
| | 80 | 6,000 | 3 | | | 08834123056 | 63642502696 5/PKG | |
| | 120 | 6,000 | 3 | | | 08834123058 | | |
| | 150 | 6,000 | 3 | | | 08834122544 | | |
| | 180 | 6,000 | 3 | | | 08834123060 | | |
| | 240 | 6,000 | 3 | | | 08834123061 | | |
| | 320 | 6,000 | 3 | | | 08834122329 | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.
For flap wheel with arbor hole adapters and bushings, see the end of this section.
A set of reducing bushing will be included for 1" center hole wheels at no charge when purchased with flap wheels and specified on the order.
Continued

3" – 8" Flap Wheels with Arbor Holes (continued)

| | | NEW | | NEW | | NEW | | NEW | |
|------------------|------|-------------------|------------------------------|-------------------------|-------------------|-----------------------|-------------|--------|--|
| | | BEST | BETTER | BETTER | GOOD | GOOD | | | |
| | | BLAZE R920 | R369 | HIGH PERFORMANCE | METAL R207 | ALUMINUM OXIDE | | | |
| | | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide | | | |
| | | P-Graded | P-Graded | | P-Graded | | | | |
| SIZE (D x W x H) | GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # | PART # | |
| 8 x 1 x 1 | 40 | 4,500 | 3 | | | 08834123070 | | | |
| | 50 | 4,500 | 3 | | | 08834123071 | | | |
| | 60 | 4,500 | 3 | | 66623399295 | 08834123072 | | | |
| | 80 | 4,500 | 3 | | 66623399296 | 08834123073 | 63642502698 | | |
| | 120 | 4,500 | 3 | | 66623399297 | 08834123075 | | | |
| | 180 | 4,500 | 3 | | | 08834123077 | | | |
| | 240 | 4,500 | 3 | | | 08834123078 | | | |
| 8 x 2 x 1 | 40 | 4,500 | 3 | | | 08834123092 | | | |
| | 50 | 4,500 | 3 | | | 08834123093 | | | |
| | 60 | 4,500 | 3 | | | 08834123094 | 63642502700 | | |
| | 80 | 4,500 | 3 | | | 08834123095 | 63642502701 | | |
| | 120 | 4,500 | 3 | | | 08834123097 | | | |
| | 180 | 4,500 | 3 | | | 08834123099 | | | |
| | 240 | 4,500 | 3 | | | 08834123100 | | | |
| | 320 | 4,500 | 3 | | | 08834123101 | | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.
For flap wheel with arbor hole adapters and bushings, see the end of this section.
A set of reducing bushing will be included for 1" center hole wheels at no charge when purchased with flap wheels and specified on the order.



MERIT

Flap Wheel Test Kits

Merit Mini 1/4"-20 Thread Test Kit "CQ"

- Part # 08834138001
- Includes ten, 1" to 3" diameter, 1/4"-20 thread mini flap wheels
- Each kit includes a 1/4"-20 QC-4 quick-change adapter

Merit Mini 1/4" Steel Shank Test Kit "CMM"

- Part # 08834138004
- Includes ten wheels, 1" to 3" diameter in various grits
- The flap wheels are mounted on a 1/4" diameter hardened steel shank

Merit Micro Mini 1/8" Steel Shank Test Kit "MMC"

- Part # 08834131493
- Includes 5 wheels, 3/8" to 1-3/16" in diameter
- The flap wheels are mounted on a 1/8" diameter hardened steel shank
- Ideal for fast polishing and light deburring of holes or grooves



10" – 16" Large Flap Wheels with Arbor Holes

Wide range of applications:

- For polishing/grinding jobs in production work as well as clean-up and maintenance jobs
- Work on metals, plastic, rubber and wood

Easy to operate:

- No adjustments, dressing, or preparation required before or during operation

Fewer rejected parts:

- More forgiving than other abrasive products
- Reduce the possibility of flattening, gouging and surface deformation

TIER: **BETTER**
BRAND: **Merit**
TRADENAME: **HIGH PERFORMANCE**
ABRASIVE: Aluminum Oxide Blend

| SIZE (D x W x H) | GRIT | MAX. RPM | STD. PKG. | PART # |
|--------------------|------|----------|-----------|-------------|
| 10 x 1 x 1-3/4 | 40 | 4,000 | 4 | 08834122223 |
| | 80 | 4,000 | 4 | 08834124003 |
| | 120 | 4,000 | 4 | 08834124005 |
| | 150 | 4,000 | 4 | 08834124006 |
| | 180 | 4,000 | 4 | 08834124007 |
| | 240 | 4,000 | 4 | 08834122889 |
| 10 x 1-1/2 x 1-3/4 | 320 | 4,000 | 4 | 08834124009 |
| | 60 | 4,000 | 4 | 08834124022 |
| 10 x 1-1/2 x 1-3/4 | 80 | 4,000 | 4 | 08834124023 |
| | 120 | 4,000 | 4 | 08834124025 |
| | 180 | 4,000 | 4 | 08834124027 |
| 10 x 2 x 1-3/4 | 60 | 4,000 | 2 | 08834124042 |
| | 80 | 4,000 | 2 | 08834124043 |
| | 120 | 4,000 | 2 | 08834124045 |
| | 180 | 4,000 | 2 | 08834124047 |
| 10 x 3 x 1-3/4 | 60 | 4,000 | 2 | 08834124077 |
| | 80 | 4,000 | 2 | 08834122316 |
| | 120 | 4,000 | 2 | 08834122131 |
| | 180 | 4,000 | 2 | 08834122132 |
| 12 x 1 x 1-3/4 | 60 | 3,000 | 4 | 08834124085 |
| | 80 | 3,000 | 4 | 08834122349 |
| | 120 | 3,000 | 4 | 08834122311 |
| | 180 | 3,000 | 4 | 08834122315 |
| 12 x 2 x 1-3/4 | 40 | 3,000 | 2 | 08834122248 |
| | 50 | 3,000 | 2 | 08834122249 |
| | 60 | 3,000 | 2 | 08834122250 |
| | 120 | 3,000 | 2 | 08834122269 |
| | 150 | 3,000 | 2 | 08834122270 |
| | 180 | 3,000 | 2 | 08834122271 |
| | 240 | 3,000 | 2 | 08834122273 |
| | 320 | 3,000 | 2 | 08834122275 |
| 12 x 4 x 1-3/4 | 50 | 2,400 | 1 | 08834120013 |
| | 80 | 2,400 | 1 | 08834120015 |
| | 120 | 2,400 | 1 | 08834120016 |
| | 180 | 2,400 | 1 | 08834120017 |
| | 240 | 2,400 | 1 | 08834120019 |
| 14 x 1 x 1-3/4 | 60 | 2,400 | 1 | 08834120020 |
| | 120 | 2,400 | 1 | 08834120022 |
| 14 x 1-1/2 x 1-3/4 | 60 | 2,400 | 1 | 08834120024 |
| | 80 | 2,400 | 1 | 08834120025 |
| | 120 | 2,400 | 1 | 08834120026 |
| | 180 | 2,400 | 1 | 08834120027 |

TIER: **BETTER**
BRAND: **Merit**
TRADENAME: **HIGH PERFORMANCE**
ABRASIVE: Aluminum Oxide Blend

| SIZE (D x W x H) | GRIT | MAX. RPM | STD. PKG. | PART # |
|------------------|------|----------|-----------|-------------|
| 14 x 2 x 1-3/4 | 60 | 2,400 | 1 | 08834120028 |
| | 80 | 2,400 | 1 | 08834123215 |
| | 120 | 2,400 | 1 | 08834122907 |
| | 240 | 2,400 | 1 | 08834120032 |
| 14 x 3 x 1-3/4 | 60 | 2,400 | 1 | 08834120033 |
| | 80 | 2,400 | 1 | 08834120034 |
| | 120 | 2,400 | 1 | 08834120035 |
| 14 x 3 x 1-3/4 | 240 | 2,400 | 1 | 08834120036 |
| | 60 | 2,000 | 1 | 08834120037 |
| | 80 | 2,000 | 1 | 08834122829 |
| 14 x 4 x 1-3/4 | 120 | 2,000 | 1 | 08834122502 |
| | 240 | 2,000 | 1 | 08834120041 |
| | 60 | 2,400 | 1 | 08834120042 |
| 16 x 1 x 1-3/4 | 80 | 2,400 | 1 | 08834120043 |
| | 120 | 2,400 | 1 | 08834120044 |
| | 180 | 2,400 | 1 | 08834120045 |
| 16 x 1 x 1-3/4 | 240 | 2,400 | 1 | 08834120046 |
| | 60 | 2,400 | 1 | 08834120047 |
| | 80 | 2,400 | 1 | 08834120049 |
| 16 x 2 x 1-3/4 | 120 | 2,400 | 1 | 08834120050 |
| | 180 | 2,400 | 1 | 08834120051 |
| | 240 | 2,400 | 1 | 08834120052 |
| | 60 | 2,400 | 1 | 08834120053 |
| 16 x 3 x 1-3/4 | 80 | 2,400 | 1 | 08834120054 |
| | 120 | 2,400 | 1 | 08834120055 |
| | 180 | 2,400 | 1 | 08834120056 |
| | 240 | 2,400 | 1 | 08834120057 |
| 16 x 4 x 1-3/4 | 60 | 2,000 | 1 | 08834120058 |
| | 120 | 2,000 | 1 | 08834120060 |
| | 240 | 2,000 | 1 | 08834122435 |
| 16 x 6 x 1-3/4 | 80 | 2,000 | 1 | 08834120068 |
| | 120 | 2,000 | 1 | 08834120069 |
| | 180 | 2,000 | 1 | 08834120070 |
| | 240 | 2,000 | 1 | 08834120071 |

MERIT STOCK/NON-STOCK STATUS: Some Merit part numbers are non-stock. Ask your Norton/Merit representative for stock/MTO status.

For flap wheel with arbor hole adapters and bushings, see the end of this section.



Adapter and Bushings for Flap Wheels with Arbor Holes

| WHEEL DIAMETER | ADAPTERS | PART # |
|-----------------------------------|---------------|--------------|
| Shank Adapters | | |
| 3-1/2 | 1/4 Shank | 08834125001 |
| 3-1/2 | 3/8 Shank | 08834125007* |
| 4-8 | 1/4 Shank | 08834125003 |
| Threaded Mounting Adapters | | |
| 4-8 | 5/8-11 Thread | 08834125027 |
| Reducing Bushings | | |
| 6-8 | 1 to 3/8 | 08834125016* |
| | 1 to 1/2 | 08834125017 |
| | 1 to 5/8 | 08834125018* |
| | 1 to 3/4 | 08834125019* |
| | 1 to 7/8 | 08834125020* |
| 10-16 | 1 to 5/8 | 08834122069* |

Standard packages = 1 adapter, 1 pair of bushings

* Non-stock. Please call for lead-times.

For additional aluminum reducing bushings see non-woven convolute wheel section



08834125001



08834125007



08834125003



08834125027



08834125016

Adapters for 1/4"-20 Thread Mini and Arbor Hole Flap Wheels

| MODEL # | DESCRIPTION | PART # |
|-----------------|-----------------------------------|--------------|
| Adapters | | |
| ADAPT C | Fits 3 x 2 x 3/8 arbor flap wheel | 08834137009* |
| MA-100 | Fits A.H. Mini Wheel | 08834137007* |
| QC-8 | 1/8 x 5/8 | 08834137002* |
| QC-4 | 1/4 SK. Dia. x 5/8 SK. L. | 08834137001 |
| QC-44 | 1/4 x 4 | 08834137003 |
| QC-46 | 1/4 x 6 | 08834137004 |
| QC-48 | 1/4 x 8 | 08834137005 |
| QC-T | 1/4-20 Thread | 08834137012 |
| QC-T | 3/8-24 Thread | 08834137010 |

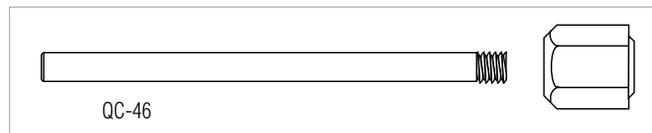
Standard package = 1 adapter

Other thread sizes available for quotation

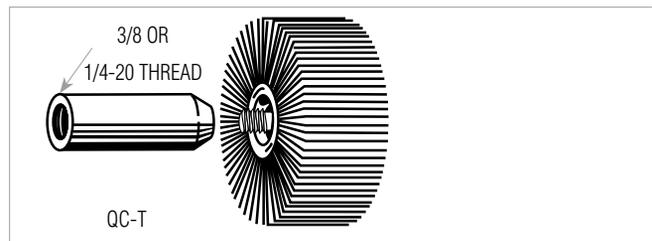
* Non-stock. Please call for lead-times.



QC-4



QC-46



QC-T



Sand-O-Flex Wheels

With their firm cushioning brushes, Sand-O-Flex's abrasive strips are forced into, around and over corners, hollow and fluted surfaces, and small openings. Pressure is distributed evenly over the surface to prevent loss of detail and the flattening of rounded areas; for sanding metals, woods, plastics, rubber and ceramic.

Sand-O-Flex wheels eliminate the need to hand-sand and are designed to fit most standard equipment. They load quickly and easily by turning the index knob as needed, allowing you to change grit size in minutes. Sand-O-Flex refills are available both scored (for finer, less aggressive work) and unscored. And, with the use of Merit adapters, Sand-O-Flex wheels will fit most electric bench grinders.

Sand-O-Flex Wheel – Model 350-RP

- Diameter: 6-1/2" overall, 4" diameter high-impact plastic body
- 1" wide abrasive strips backed by 8 cushioning brushes
- 1/4" diameter steel shank
- Weight: 9-1/2 oz.
- Maximum operating speed: 2,400 RPM
- Special adapter required for bench grinder use
- Some assembly required

TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **SAND-O-FLEX**
 ABRASIVE: Aluminum Oxide

| MODEL # | GRIT | STD. PKG. | PART # |
|--|------|-----------|-------------|
| Sand-O-Flex Wheel | | | |
| 350-RP | | 1 | 08834111051 |
| <i>Comes assembled with 80 grit A/O resin bond scored refill and brushes</i> | | | |
| Sand-O-Flex Accessories | | | |
| Bench Grinder Adapter 350-RP 1/4 shank to 1/2 shank | | 1 | 08834111055 |
| Replacement Brushes for 350-RP; 8 per set | | 1 set | 08834113003 |
| Resin Bond Refills | | | |
| 350-RP SCORED | | | |
| | 60 | 10 | 08834111052 |
| | 80 | 10 | 08834111053 |
| | 100 | 10 | 08834112114 |
| | 120 | 10 | 08834111054 |
| | 180 | 10 | 08834111057 |
| Glue Bond Refills | | | |
| 350-RP SCORED | | | |
| | 80 | 10 | 08834112054 |
| | 100 | 10 | 08834112055 |
| | 120 | 10 | 08834112056 |
| | 180 | 10 | 08834112058 |
| 350-RP UNSCORED | | | |
| | 80 | 10 | 08834112044 |
| | 180 | 10 | 08834112048 |





Best product for blending and polishing contours when smooth running is a primary concern. Used for finishing hard-to-reach areas, removing parting lines, imperfections, and burrs on all surfaces.

- Benefits:** Spiral construction avoids shadow marks and provides smooth, chatter-free cutting action. Achieves close tolerances when finishing curved, contoured, and hard-to-reach areas. Fast cutting and removes toughest metal. Bands are easily removed and replaced
- Grit Range:** 24 - 320
- Abrasive Grain:** Ceramic Alumina, Aluminum Oxide
- Backing:** X-weight cotton
- Other:** Use with rubber expanding drum
- Machine Used:**

APPLICATION/GRIT RECOMMENDATION GUIDE

| COARSER (GRINDING) | | | | | FINER (FINISHING) | | | | |
|----------------------------------|----|----|-----------------------------------|----|--------------------------------|-----|----------------------------|-------------------------------|-----|
| 24 | 36 | 40 | 50 | 60 | 80 | 120 | 180 | 240 | 320 |
| Heavy Stock Removal | | | | | | | | | |
| Blending Out Heavy Machine Marks | | | | | | | | | |
| Removing Heavy Burrs | | | | | | | | | |
| Applying Heavy Scratch Pattern | | | | | | | | | |
| Removing Flash/Parting Lines | | | | | | | | | |
| Removing Rust/Scale/Pit Marks | | | | | | | | | |
| | | | Preparing Metal for Painting | | | | | | |
| | | | Blending Out Medium Machine Marks | | | | | | |
| | | | | | Blending Metal Surfaces | | | | |
| | | | | | Applying Light Scratch Pattern | | | | |
| | | | | | | | Fine Blending and Cleaning | | |
| | | | | | | | | Metal Finishing and Polishing | |

NORTON BLAZE R920 CERAMIC ALUMINA

BEST CHOICE FOR HARD-TO-GRIND MATERIALS INCLUDING SUPER ALLOYS (COBALT, INCONEL, AND TITANIUM) AND STAINLESS STEEL

FEATURES & BENEFITS

- See significantly faster, cooler, burn-free grinding from our next-generation of sharp, ceramic abrasive grains
- Advanced, full resin bond system designed to promote exceptional grain retention for additional product life
- Flexible, yet strong X-weight heavy cotton backing provides durability and even wear while eliminating aggressiveness for smooth, chatter-free cutting action, and longer life for less change-overs
- Advanced grinding aid promotes cooler cutting, longer life

NORTON R326 PREMIUM ALUMINUM OXIDE BLEND

BETTER CHOICE FOR STAINLESS STEEL, CARBON STEEL, AND ALUMINUM

FEATURES & BENEFITS

- Versatile, premium aluminum oxide abrasive blend provides up to 3 times the life and cut rate of competitive aluminum oxide bands
- Flexible, yet strong X-weight heavy cotton backing provides durability and even wear while eliminating aggressiveness for smooth, chatter-free cutting action, and longer life for less change-overs
- Advanced, full resin bond system designed to promote exceptional grain retention for additional product life
- Advanced grinding aid lubricant for cooler, smoother cutting

NORTON METAL R265 ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS A KEY PURCHASING CRITERIA

FEATURES & BENEFITS

- Solid-performance aluminum oxide grain for a good starting specification with consistent performance
- Advanced, full resin bond system designed to promote exceptional grain retention for additional product life
- Flexible, yet strong X-weight heavy cotton backing provides durability and even wear



MERIT ALUMINUM OXIDE

GOOD STARTING SPECIFICATION FOR ALL TYPES OF METAL

FEATURES & BENEFITS

- Tough and durable quality aluminum oxide abrasive
- Flexible, yet strong X-weight cotton backing construction for extended durability and even wear
- Durable resin bond system provides longer life



TIER: **BEST**

BRAND: Norton

TRADENAME: **BLAZE R920**

ABRASIVE: Ceramic Alumina

OTHER: Supersize

TIER: **BETTER**

BRAND: Norton

TRADENAME: **R326**

ABRASIVE: Premium A/O Blend

OTHER: Supersize

TIER: **GOOD**

BRAND: Norton

TRADENAME: **METAL R265**

ABRASIVE: Aluminum Oxide

TIER: **GOOD**

TRADENAME: **EXPANDING RUBBER DRUM**

| SIZE (D x W) | GRIT | STD. PKG. | PART # | PART # | PART # | PART # |
|---------------|------|-----------|-------------|-------------|-------------|-----------------|
| 1/2 x 1 | 40 | 100 | 66261146012 | 66261146036 | 66261146078 | 08834196906 |
| | 60 | 100 | 66261146013 | 66261146037 | 66261146079 | 1/4" shank |
| | 80 | 100 | 66261146014 | 66261146038 | 66261146080 | 15,000 MAX. RPM |
| | 120 | 100 | 66261146015 | 66261146044 | 66261146081 | |
| 3/4 x 1 | 40 | 100 | 66261146016 | 66261146048 | 66261146082 | 08834196911 |
| | 60 | 100 | 66261146017 | 66261146049 | 66261146083 | 1/4" shank |
| | 80 | 100 | 66261146018 | 66261146050 | 66261146084 | 17,000 MAX. RPM |
| | 120 | 100 | 66261146019 | 66261146051 | 66261146085 | |
| 1 x 1 | 40 | 100 | 66261146020 | 66261146052 | 66261146086 | 08834196916 |
| | 60 | 100 | 66261146021 | 66261146053 | 66261146087 | 1/4" shank |
| | 80 | 100 | 66261146022 | 66261146054 | 66261146088 | 18,000 MAX. RPM |
| | 120 | 100 | 66261146023 | 66261146055 | 66261146089 | |
| 1-1/2 x 1-1/2 | 40 | 100 | 66261146024 | 66261146057 | 66261146090 | 08834196922 |
| | 60 | 100 | 66261146025 | 66261146058 | 66261146093 | 1/4" shank |
| | 80 | 100 | 66261146026 | 66261146059 | 66261146094 | 10,000 MAX. RPM |
| | 120 | 100 | 66261146027 | 66261146060 | 66261146095 | |
| 2 x 2 | 40 | 100 | 66261146028 | 66261146061 | 66261146096 | 08834196928 |
| | 60 | 100 | 66261146029 | 66261146062 | 66261146097 | 1/4" shank |
| | 80 | 100 | 66261146030 | 66261146063 | 66261146098 | 6,000 MAX. RPM |
| | 120 | 100 | 66261146031 | 66261146064 | 66261146099 | |
| 3 x 3 | 40 | 50 | 66261146032 | 66261146065 | 66261146100 | 08834196931 |
| | 60 | 50 | 66261146033 | 66261146073 | 66261146101 | 3/8" shank |
| | 80 | 50 | 66261146034 | 66261146074 | 66261146102 | 3,000 MAX. RPM |
| | 120 | 50 | 66261146035 | 66261146076 | 66261146103 | |

TIER: **GOOD**

BRAND: Merit

ABRASIVE: Aluminum Oxide

| GRIT | 1/4 x 1/2 | 1/4 x 1 | 3/8 x 1/2 | 3/8 x 1 | 1/2 x 1/2 | 1/2 x 1 | 1/2 x 1-1/2 | 1/2 x 2 |
|-------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 24 | - | - | - | - | - | 08834196712 | - | - |
| 36 | - | - | - | 08834197674 | 08834196619 | 08834196591 | 08834196237 | 08834196758 |
| 40 | 08834196614 | - | - | - | 08834196234 | 08834196174 | - | 08834196825 |
| 50 | 08834196292 | 08834196785 | 08834196386 | - | 08834196228 | 08834196214 | 08834197111 | 08834196548 |
| 60 | 08834196342 | - | 08834196829 | 08834196999 | 08834196068 | 08834196212 | 08834196053 | 08834196549 |
| 80 | 08834196269 | 08834196733 | 08834196512 | 08834196645 | 08834196179 | 08834196215 | 08834196646 | 08834196669 |
| 100 | 08834196511 | 08834196734 | 08834196513 | - | 08834196189 | 08834196534 | 08834196540 | 08834196735 |
| 120 | 08834196217 | 08834197004 | 08834196747 | 08834196218 | 08834196069 | 08834196210 | 08834196324 | 08834196736 |
| 150 | - | - | - | - | - | 08834196772 | - | - |
| 180 | 08834196490 | - | 08834196504 | - | 08834196209 | 08834196713 | - | - |
| 240 | - | - | 08834196481 | - | 08834196564 | 08834196814 | - | - |
| 320 | 08834196865 | - | 08834196830 | - | 08834196505 | 08834196487 | - | - |
| PKG. QTY. STOCK | 100/box |
| MOQ NON-STOCK | 400 | 400 | 300 | 300 | 300 | 300 | 300 | 200 |
| Expanding Rubber Drums | | | | | | | | |
| | 1/8 Shank | NA | 1/8 Shank | 1/8 Shank | 1/4 Shank | 1/4 Shank | 1/4 Shank | 1/4 Shank |
| | 30,000 RPM | | 30,000 RPM | 18,000 RPM | 30,000 RPM | 15,000 RPM | 12,000 RPM | 10,000 RPM |
| | 08834196030 | | 08834196944 | 08834196011 | 08834196904 | 08834196906 | 08834196907 | 08834196908 |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

TIER: **GOOD**
BRAND: Merit
ABRASIVE: Aluminum Oxide

| GRIT | 3/4 x 1/2 | 3/4 x 3/4 | 3/4 x 1 | 3/4 x 1-1/2 | 3/4 x 2 | 1 x 1/2 | 1 x 1 | 1 x 1-1/2 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 24 | - | - | 08834196776 | 08834196596 | - | - | 08834196563 | 08834196708 |
| 36 | 08834196769 | 08834196609 | 08834196261 | 08834196238 | 08834196953 | 08834196058 | 08834196072 | 08834196525 |
| 40 | - | 08834196236 | 08834196517 | 08834196227 | 08834196826 | - | 08834196073 | 08834196546 |
| 50 | 08834196608 | 08834196183 | 08834196515 | 08834196500 | 08834196757 | - | 08834196184 | 08834196078 |
| 60 | 08834196578 | 08834196168 | 08834196070 | 08834196554 | 08834196745 | 08834196580 | 08834196075 | 08834196060 |
| 80 | 08834196255 | 08834196161 | 08834196071 | 08834196249 | 08834196756 | 08834196647 | 08834196074 | 08834196162 |
| 100 | - | 08834196230 | 08834196502 | 08834196501 | 08834196766 | - | 08834196167 | 08834196257 |
| 120 | 08834196579 | 08834196226 | 08834196219 | 08834196057 | 08834196746 | 08834197592 | 08834196177 | 08834196677 |
| 150 | - | 08834196231 | - | - | 08834197283 | - | - | 08834197639 |
| 180 | 08834197116 | - | 08834196565 | 08834196851 | - | - | 08834196059 | 08834196790 |
| 240 | 08834196603 | 08834196859 | 08834196668 | - | 66254410751 | - | 08834196178 | 08834196526 |
| 320 | 08834196806 | - | 08834196624 | - | - | - | 08834196789 | 08834197700 |
| PKG. QTY. STOCK | 100/box |
| MOQ NON-STOCK | 300 | 300 | 300 | 300 | 200 | 200 | 300 | 200 |

Expanding Rubber Drums



| | | | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1/4 Shank |
| 27,000 RPM | 24,000 RPM | 17,000 RPM | 10,000 RPM | 10,000 RPM | 20,000 RPM | 18,000 RPM | 10,000 RPM | 10,000 RPM |
| 08834196909 | 08834196910 | 08834196911 | 08834196912 | 08834196913 | 08834196914 | 08834196916 | 08834196917 | 08834196918 |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

TIER: **GOOD**
BRAND: Merit
ABRASIVE: Aluminum Oxide

| GRIT | 1 x 2 | 1 x 3 | 1-1/2 x 1 | 1-1/2 x 1-1/2 | 1-1/2 x 2 | 1-1/2 x 3 | 2 x 1 | 2 x 1-1/2 |
|-----------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|-------------|
| 24 | 08834196709 | - | - | 08834196220 | 08834196539 | - | - | 08834196700 |
| 36 | 08834196267 | 08834196665 | 08834196222 | 08834196164 | 08834196657 | 08834197063 | 08834196233 | 08834196509 |
| 40 | 08834196689 | - | - | 08834196171 | 08834196598 | - | 08834196109 | 08834196514 |
| 50 | 08834196588 | 08834197688 | 08834196185 | 08834196176 | 08834196252 | - | 08834196186 | 08834196527 |
| 60 | 08834196506 | 08834196676 | 08834196503 | 08834196091 | 08834196067 | 08834196703 | 08834196232 | 08834196978 |
| 80 | 08834196268 | 08834196195 | 08834196254 | 08834196165 | 08834196533 | 08834196809 | 08834196166 | 08834196259 |
| 100 | 08834196750 | - | - | 08834196182 | 08834196543 | 08834196522 | 08834196508 | 08834196521 |
| 120 | 08834196507 | 08834196197 | 08834196707 | 08834196066 | 08834196079 | 08834196343 | 08834196595 | 08834196586 |
| 150 | 08834197664 | - | - | 08834197750 | 08834197376 | - | - | - |
| 180 | 08834196987 | - | - | 08834196535 | - | 08834197869 | 08834196661 | 08834196536 |
| 240 | - | - | 08834196491 | 08834196260 | 08834197709 | - | 08834197983 | - |
| 320 | - | - | 08834196063 | 08834197647 | - | - | - | - |
| PKG. QTY. STOCK | 100/box | 100/box | 100/box | 100/box | 100/box | 100/box | 100/box | 100/box |
| MOQ NON-STOCK | 200 | 100 | 300 | 200 | 200 | 100 | 200 | 200 |

Expanding Rubber Drums



| | | | | | | | |
|-------------|----|-------------|-------------|-------------|----|-------------|-------------|
| 1/4 Shank | NA | 1/4 Shank | 1/4 Shank | 1/4 Shank | NA | 1/4 Shank | 1/4 Shank |
| 8,000 RPM | | 12,000 RPM | 10,000 RPM | 8,000 RPM | | 11,000 RPM | 8,000 RPM |
| 08834196918 | | 08834196921 | 08834196922 | 08834196923 | | 08834196926 | 08834196927 |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

TIER: **GOOD**
BRAND: Merit
ABRASIVE: Aluminum Oxide

| GRIT | 2 x 2 | 2 x 3 | 2-1/4 x 3 | 3 x 1 | 3 x 1-1/2 | 3 x 2 | 3 x 3 |
|-----------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 24 | 08834196516 | - | - | 08834196795 | - | - | 08834196256 |
| 36 | 08834196110 | - | 08834197140 | 08834196717 | - | - | 08834196262 |
| 40 | 08834196172 | - | - | 08834196755 | - | 08834196090 | 08834196555 |
| 50 | 08834196187 | 08834196152 | 08834196620 | - | - | 08834196264 | 08834196253 |
| 60 | 08834196173 | 08834196175 | - | 08834196150 | - | 08834196530 | 08834196188 |
| 80 | 08834196181 | 08834196198 | 08834196270 | 08834196524 | 08834196633 | 08834196265 | 08834196159 |
| 100 | 08834196193 | - | - | - | - | - | 08834196250 |
| 120 | 08834196585 | - | 08834196729 | 08834196089 | - | 08834196531 | 08834196572 |
| 150 | 08834196629 | - | 08834195857 | - | - | - | 08834196452 |
| 180 | 08834196306 | - | - | - | - | - | 08834196131 |
| 240 | 08834196375 | - | - | - | - | - | - |
| 320 | - | - | - | - | - | - | 08834197968 |
| PKG. QTY. STOCK | 100/box |
| MOQ NON-STOCK | 200 | 100 | 100 | 200 | 200 | 100 | 100 |

Expanding Rubber Drums



| | | | | | | |
|-------------|----|----|-------------|----|-------------|-------------|
| 1/4 Shank | NA | NA | 3/8 Shank | NA | 3/8 Shank | 3/8 Shank |
| 6,000 RPM | | | 3,000 RPM | | 3,000 RPM | 3,000 RPM |
| 08834196928 | | | 08834196929 | | 08834196930 | 08834196931 |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.



Cartridge rolls are strips of abrasive cloth rolled and glued to form a solid shape that is designed to break down during use and reveal the next layer of abrasive. Valuable abrasive tool for reaching into corners, where larger diameter tools cannot work

- Applications:** Used on inside surfaces and inside corners where other abrasive shapes cannot reach. Typically these are used on high-speed air grinders and are always mounted on a mandrel. Ideal for flash removal, polishing or removing machine tool marks, and edge breaking.
- Stock Shapes:** Cartridge rolls, half-glued
- Grit Range:** 36 - 320
- Abrasive Grain:** Ceramic Alumina, Aluminum Oxide, Silicon Carbide
- Backing:** X-weight cotton
- Construction:** All cartridge roll part numbers shown are resin bond, half-glued. Quarter and full glue are also available for quotation as made-to-order products.
- Maximum RPM:** 1/8" to 1/2" – 23,000
5/8" to 1" – 18,000
1" to 1-1/2" – 15,000
- Machine Used:**

APPLICATION/GRIT RECOMMENDATION GUIDE

| ← COARSER (GRINDING) | | | | FINER (FINISHING) → | | | | |
|----------------------------------|----|-----------------------------------|--------------------------------|---------------------|----------------------------|-----|-------------------------------|-----|
| 36 | 40 | 50 | 60 | 80 | 120 | 180 | 240 | 320 |
| Blending Out Heavy Machine Marks | | | | | | | | |
| Removing Heavy Burrs | | | | | | | | |
| Applying Heavy Scratch Pattern | | | | | | | | |
| Removing Flash/Parting Lines | | | | | | | | |
| Removing Rust/Scale/Pit Marks | | | | | | | | |
| | | Preparing Metal for Painting | | | | | | |
| | | Blending Out Medium Machine Marks | | | | | | |
| | | | Blending Metal Surfaces | | | | | |
| | | | Applying Light Scratch Pattern | | | | | |
| | | | | | Fine Blending and Cleaning | | | |
| | | | | | | | Metal Finishing and Polishing | |

NORTON BLAZE R920 CERAMIC ALUMINA

BEST CHOICE FOR HARD-TO-GRIND MATERIALS INCLUDING SUPER ALLOYS (COBALT, INCONEL, AND TITANIUM) AND STAINLESS STEEL



NEW

FEATURES & BENEFITS

- Next-generation ceramic alumina abrasive grain provides greatest productivity with significantly faster cut rates
- Resists wear, resulting in 50% – 300% longer life
- Advanced grinding aid promotes cooler cutting, longer life
- Improved resin bond system for exceptional grain retention and longer life
- Strong X-weight cotton backing provides durability and even wear

MERIT CERAMIC PLUS

BETTER CHOICE FOR STAINLESS STEEL AND OTHER HARD-TO-GRIND MATERIALS



FEATURES & BENEFITS

- Sharp ceramic alumina abrasive blend delivers cooler cut
- Durable X-weight cotton backing ensures even wear
- Grinding aid promotes cooler cut on stainless steel

NORTON R326 PREMIUM ALUMINUM OXIDE BLEND

BETTER CHOICE FOR STAINLESS AND CARBO STEEL, AND ALUMINUM

NEW



FEATURES & BENEFITS

- Cut cooler and smoother, with up to 3X the life and cut rate over competitive aluminum oxide cartridge rolls, with our versatile, premium aluminum oxide blend and advanced grinding aid lubricant

MERIT ALUMINUM OXIDE PLUS

GOOD STARTING SPECIFICATION FOR FLASH REMOVAL, POLISHING, OR REMOVING MACHINE TOOL MARKS AND EDGE BREAKING ON ALL TYPES OF METAL



FEATURES & BENEFITS

- Premium aluminum oxide abrasive and grinding aid lubricant control aggressiveness while cool cutting
- Advanced, full resin bond system ensures edge adhesion and long life

NORTON METAL R265 ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS A KEY PURCHASING CRITERIA

NEW



FEATURES & BENEFITS

- Our solid-performance aluminum oxide grain makes these cartridge rolls a good starting specification with consistent performance for small jobs or anywhere performance need not be measured

MERIT ALUMINUM OXIDE

GOOD STARTING SPECIFICATION FOR FLASH REMOVAL, POLISHING, OR REMOVING MACHINE TOOL MARKS AND EDGE BREAKING ON ALL TYPES OF METAL



FEATURES

- Quality aluminum oxide abrasive
- Strong X-weight cotton backing construction
- Durable resin bond system

BENEFITS

- Tough and durable
- For extended durability and even wear
- Provides longer life

MERIT SILICON CARBIDE

GOOD CHOICE FOR TOUGH, DIFFICULT-TO-GRIND MATERIALS, AS WELL AS SOFT, LOADING MATERIALS



FEATURES

- Sharp silicon carbide abrasive
- Durable resin bond system

BENEFITS

- Provides high initial cut on non-ferrous and soft-loading materials such as titanium, masonry, composites, plastic, and rubber
- Exceptional grain retention and longer life



| | | | | | |
|------------|-------------------|-----------------------|-------------------|-----------------|------------------------|
| TIER: | BEST | BETTER | BETTER | GOOD | GOOD |
| BRAND: | Norton | Merit | Norton | Merit | Merit |
| TRADENAME: | BLAZE R920 | CERAMIC PLUS | R326 | A/O PLUS | SILICON CARBIDE |
| ABRASIVE: | Ceramic Alumina | Ceramic Alumina Blend | Premium A/O Blend | Aluminum Oxide | Silicon Carbide |
| OTHER: | Supersize | Supersize | Supersize | Supersize | Supersize |

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|--------------------------------------|------|-----------|-------------|-------------|-------------|-------------|-------------|
| 1/4 x 1 x 1/8 Use M-9 Mandrel | 60 | 100 | | | 66261132201 | | |
| 1/4 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | 66261194384 | 66261040477 | | | 08834183274 |
| | 80 | 100 | 66261194394 | 69957300001 | 66261132202 | | 08834182359 |
| | 120 | 100 | 66261194397 | | 66261132203 | 77696089003 | 08834189131 |
| 3/8 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | 66261194392 | 66261041270 | 66261132204 | | |
| | 80 | 100 | 66261194395 | 08834187134 | 66261132205 | 77696089005 | 08834180710 |
| | 120 | 100 | 66261194398 | | 66261132206 | | 66261042229 |
| 1/2 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | 66261194393 | 08834184221 | 66261132207 | 77696089007 | 08834189233 |
| | 80 | 100 | 66261194396 | 66261012798 | 66261132208 | 77696089008 | 08834180712 |
| | 120 | 100 | 66261194399 | | 66261132209 | | 66261086969 |



| | | |
|------------|-------------------|----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | METAL R265 | A/O |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|------------------------|------|-----------|-------------|
| 3/16 x 3/4 x 3/32 | 80 | 100 | 08834180005 |
| 3/16 x 1 x 3/32 | 60 | 100 | 08834180023 |
| Use M-2E Mandrel | 80 | 100 | 08834180024 |
| | 100 | 100 | 08834180025 |
| | 120 | 100 | 08834180026 |
| | 150 | 100 | 08834180027 |
| | 180 | 100 | 08834180028 |
| | 240 | 100 | 08834180030 |
| | 320 | 100 | 08834180032 |
| 1/4 x 3/4 x 1/8 | 60 | 100 | 08834180042 |
| Use M-3 or M-7 Mandrel | 80 | 100 | 08834180043 |
| 1/4 x 1 x 1/8 | 50 | 100 | 08834180060 |
| Use M-4 or M-8 Mandrel | 60 | 100 | 66261132175 |
| | 80 | 100 | 66261132178 |
| | 100 | 100 | 08834180063 |
| | 120 | 100 | 66261132179 |
| | 150 | 100 | 08834180065 |
| | 180 | 100 | 08834180066 |
| | 240 | 100 | 08834180068 |
| | 320 | 100 | 08834180070 |
| 1/4 x 1-1/2 x 1/8 | 50 | 100 | 08834180079 |
| Use M-9 Mandrel | 60 | 100 | 66261132182 |
| | 80 | 100 | 66261132183 |
| | 100 | 100 | 08834180082 |
| | 120 | 100 | 66261132184 |
| | 150 | 100 | 08834180084 |
| | 180 | 100 | 08834180085 |
| | 320 | 100 | 08834180089 |
| 1/4 x 2 x 1/8 | 80 | 100 | 08834180100 |
| Use M-10 Mandrel | 100 | 100 | 08834180101 |
| | 120 | 100 | 08834180102 |
| 5/16 x 1 x 1/8 | 60 | 100 | 08834180137 |
| Use M-4 or M-8 Mandrel | 80 | 100 | 08834180138 |
| | 120 | 100 | 08834180140 |



| | | |
|------------|-------------------|----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | METAL R265 | A/O |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|--------------------|------|-----------|-------------|
| 5/16 x 1-1/2 x 1/8 | 60 | 100 | 08834180156 |
| Use M-9 Mandrel | 80 | 100 | 08834180157 |
| 3/8 x 3/4 x 1/8 | 120 | 100 | 08834180197 |
| Use M-7 Mandrel | | | |
| 3/8 x 1 x 1/8 | 60 | 100 | 66261132185 |
| Use M-8 Mandrel | 80 | 100 | 66261132186 |
| | 100 | 100 | 08834180215 |
| | 120 | 100 | 66261132187 |
| | 150 | 100 | 08834180216 |
| | 180 | 100 | 08834180217 |
| | 240 | 100 | 08834180218 |
| | 36 | 100 | 08834180220 |
| 3/8 x 1-1/2 x 1/8 | 40 | 100 | 08834180228 |
| Use M-9 Mandrel | 50 | 100 | 08834180229 |
| | 60 | 100 | 08834180230 |
| | 80 | 100 | 66261132188 |
| | 100 | 100 | 66261132189 |
| | 120 | 100 | 08834180231 |
| | 150 | 100 | 08834180232 |
| | 180 | 100 | 08834180233 |
| | 240 | 100 | 08834180234 |
| | 320 | 100 | 08834180236 |
| | 60 | 100 | 08834180238 |
| | 80 | 100 | 08834180240 |
| | 100 | 100 | 08834180242 |
| | 120 | 100 | 08834180244 |
| | 150 | 100 | 08834180246 |
| | 180 | 100 | 08834180248 |
| | 240 | 100 | 08834180250 |
| | 36 | 100 | 08834180251 |
| | 40 | 100 | 08834180252 |
| | 50 | 100 | 08834180253 |
| | 60 | 100 | 08834180254 |
| | 80 | 100 | 08834180255 |
| 1/2 x 3/4 x 1/8 | 80 | 100 | 08834180270 |
| Use M-7 Mandrel | | | |
| 1/2 x 1 x 1/8 | 50 | 100 | 08834180287 |
| Use M-8 Mandrel | 60 | 100 | 66261132191 |
| | 80 | 100 | 66261132192 |
| | 100 | 100 | 08834180289 |
| | 120 | 100 | 08834180290 |
| | 150 | 100 | 66261132193 |
| | 180 | 100 | 08834180291 |
| | 240 | 100 | 08834180292 |
| | | | 08834180293 |
| | | | 08834180295 |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

Continued



| | | |
|------------|-------------------|----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | METAL R265 | A/O |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # | |
|--|------------------------------------|-----------|-------------------------|-------------|
| 1/2 x 1-1/2 x 1/8 Use M-9 Mandrel | 36 | 100 | 08834180304 | |
| | 40 | 100 | 08834180305 | |
| | 50 | 100 | 08834180306 | |
| | 60 | 100 | 66261132194 08834180307 | |
| | 80 | 100 | 66261132195 08834180308 | |
| | 100 | 100 | 08834180309 | |
| | 120 | 100 | 66261132197 08834180310 | |
| | 150 | 100 | 08834180311 | |
| | 180 | 100 | 08834180312 | |
| 1/2 x 2 x 1/8 Use M-10 Mandrel | 60 | 100 | 08834180326 | |
| | 80 | 100 | 08834180327 | |
| | 100 | 100 | 08834180328 | |
| | 120 | 100 | 08834180329 | |
| | 240 | 100 | 08834180333 | |
| | 320 | 100 | 08834180335 | |
| | 1/2 x 2 x 3/16 Use M-17 Mandrel | 60 | 100 | 08834180350 |
| | | 80 | 100 | 08834180653 |
| | | 120 | 100 | 08834180338 |
| 1/2 x 2 x 1/4 Use M-22 Mandrel | 40 | 100 | 08834183168 | |
| | 80 | 100 | 08834180351 | |
| 5/8 x 1 x 3/16 Use M-15 Mandrel | 80 | 100 | 08834180364 | |
| | | | | |
| 5/8 x 1-1/2 x 1/8 Use M-9 Mandrel | 36 | 100 | 08834180395 | |
| | 40 | 100 | 08834180392 | |
| | 50 | 100 | 08834180393 | |
| | 60 | 100 | 08834180275 | |
| | 80 | 100 | 08834180789 | |
| | 120 | 100 | 08834180394 | |
| 5/8 x 1-1/2 x 3/16 Use M-16 Mandrel | 60 | 100 | 08834180382 | |
| | 80 | 100 | 08834180383 | |
| 5/8 x 2 x 1/8 Use M-10 Mandrel | 60 | 100 | 08834182505 | |
| | 80 | 100 | 08834181080 | |
| 5/8 x 2 x 3/16 Use M-10 Mandrel | 50 | 100 | 08834180400 | |
| | 60 | 100 | 08834180401 | |
| | 80 | 100 | 08834180402 | |
| | 100 | 100 | 08834180403 | |
| 3/4 x 1 x 1/8 Use M-8 Mandrel | 80 | 100 | 08834180469 | |
| | 120 | 100 | 08834181543 | |

Continued



| | | |
|------------|-------------------|----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Merit |
| TRADENAME: | METAL R265 | A/O |
| ABRASIVE: | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|---|------|-----------|-------------------------|
| 3/4 x 1 x 3/16 Use M-15 Mandrel | 40 | 100 | 08834180456 |
| | 80 | 100 | 08834180459 |
| | 120 | 100 | 08834180461 |
| 3/4 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | 66261132198 08834180490 |
| | 80 | 100 | 66261132199 08834180527 |
| | 120 | 100 | 66261132200 08834180487 |
| 3/4 x 1-1/2 x 3/16 Use M-16 Mandrel | 36 | 100 | 08834180474 |
| | 50 | 100 | 08834180476 |
| | 60 | 100 | 08834180477 |
| | 80 | 100 | 08834180478 |
| | 120 | 100 | 08834180480 |
| | 180 | 100 | 08834180482 |
| 3/4 x 1-1/2 x 1/4 100/box 400/case Use M-21 Mandrel | 36 | 100 | 08834180907 |
| | 60 | 100 | 08834180489 |
| | 80 | 100 | 08834180358 |
| | 120 | 100 | 08834180488 |
| 3/4 x 2 x 1/8 Use M-10 Mandrel | 150 | 100 | 08834182807 |
| | 60 | 100 | 08834180791 |
| | | | |
| 3/4 x 2 x 3/16 Use M-17 Mandrel | 40 | 100 | 08834180494 |
| | 60 | 100 | 08834180496 |
| | 80 | 100 | 08834180497 |
| | 100 | 100 | 08834180498 |
| 3/4 x 2 x 1/4 Use M-22 Mandrel | 120 | 100 | 08834180499 |
| | 60 | 100 | 08834180506 |
| | 80 | 100 | 08834181297 |
| | 100 | 100 | 08834180509 |
| 1 x 1-1/2 x 1/8 Use M-9 Mandrel | 120 | 100 | 08834180507 |
| | 80 | 100 | 08834180584 |
| | | | |
| 1 x 1-1/2 x 1/4 Use M-21 Mandrel | 36 | 100 | 08834181195 |
| | 60 | 100 | 08834180587 |
| | 80 | 100 | 08834180583 |
| 1 x 2 x 3/16 Use M-17 Mandrel | 60 | 100 | 08834180591 |
| | 80 | 100 | 08834180592 |
| 1 x 2 x 1/4 Use M-22 Mandrel | 60 | 100 | 08834180603 |
| | 80 | 100 | 08834180606 |

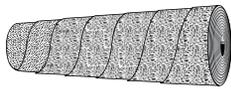
MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

Refer to the back of this section for mandrels.



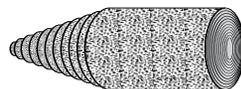
Spiral rolls are strips of abrasive cloth rolled and glued to form a solid shape that is designed to break down during use and reveal the next layer of abrasive.

- Applications:** Used on inside surfaces and inside corners where other abrasive shapes cannot reach. Typically these are used on high-speed air grinders and are always mounted on a mandrel. Ideal for flash removal, polishing, or removing machine tool marks, and edge breaking.
- Shapes:** Full taper (all stock part numbers), half taper, and sidewall taper
- Grit Range:** 36 - 240
- Abrasive Grain:** Ceramic Alumina, Aluminum Oxide, Silicon Carbide
- Backing:** X-weight cotton
- Construction:** All spiral roll part numbers shown are full tapered, resin bond, half glued. Half-tapered and sidewall-tapered are available for quotation as made-to-order products. Quarter and full glue are also available for quotation as made-to-order products.
- Maximum RPM:** 1/8" to 1/2" – 23,000
5/8" to 1" – 18,000
1" to 1-1/2" – 15,000
- Machine Used:** 



Full Taper

- Especially useful for grinding/polishing of channels, fillets and radii, and deburring small holes
- Full taper used when the area to be finished is hard to reach with a full cartridge roll
- The tapered roll conforms to smaller areas
- Fits into irregular concaves, contours, channels



Half Taper

- Used when the area to be finished is not narrow but a beginning point on the roll is needed
- The portion of the roll that is not tapered is then used to finish off the sides



Sidewall Taper

- The portion of the roll that is tapered guides the roll down to the area to be finished
- The sidewall then finishes off the sides

APPLICATION/GRIT RECOMMENDATION GUIDE

| COARSER (GRINDING) ← | | | | | → FINER (FINISHING) | | | | |
|----------------------------------|----|-----------------------------------|----|--------------------------------|---------------------|----------------------------|-------------------------------|-----|--|
| 36 | 40 | 50 | 60 | 80 | 120 | 180 | 240 | 320 | |
| Blending Out Heavy Machine Marks | | | | | | | | | |
| Removing Heavy Burrs | | | | | | | | | |
| Applying Heavy Scratch Pattern | | | | | | | | | |
| Removing Flash/Parting Lines | | | | | | | | | |
| Removing Rust/Scale/Pit Marks | | | | | | | | | |
| | | Preparing Metal for Painting | | | | | | | |
| | | Blending Out Medium Machine Marks | | | | | | | |
| | | | | Blending Metal Surfaces | | | | | |
| | | | | Applying Light Scratch Pattern | | | | | |
| | | | | | | Fine Blending and Cleaning | | | |
| | | | | | | | Metal Finishing and Polishing | | |

NORTON BLAZE R920 CERAMIC ALUMINA

BEST CHOICE FOR HARD-TO-GRIND MATERIALS INCLUDING SUPER ALLOYS (COBALT, INCONEL, AND TITANIUM) AND STAINLESS STEEL



NEW

FEATURES

- Next-generation ceramic alumina abrasive grain
- Advanced grinding aid
- Improved resin bond system
- Strong X-weight cotton backing

BENEFITS

- Greatest productivity with significantly faster cut rates
- Resists wear, resulting in 50% – 300% longer life
- Cooler cutting, longer life
- Exceptional grain retention and longer life
- Durability and even wear

NORTON R326 PREMIUM ALUMINUM OXIDE BLEND

BETTER CHOICE FOR STAINLESS AND CARBO STEEL, AND ALUMINUM

NEW



FEATURES & BENEFITS

- Cut cooler and smoother, with up to 3X the life and cut rate over competitive aluminum oxide spiral rolls, with our versatile, premium aluminum oxide blend and advanced grinding aid lubricant

MERIT ALUMINUM OXIDE PLUS

GOOD CHOICE FOR COOLER GRINDING/POLISHING OF CHANNELS, FILLETS AND RADII, AND DEBURRING SMALL HOLES

FEATURES

- Premium aluminum oxide abrasive and grinding aid lubricant
- Strong X-weight cotton backing construction
- Advanced, full resin bond system

BENEFITS

- Runs cooler and more efficiently; ideal for grinding exotic alloys
- For extended durability and even wear
- Provides exceptional grain retention and longer life

NORTON METAL R265 ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS A KEY PURCHASING CRITERIA

NEW



FEATURES & BENEFITS

- Our solid-performance aluminum oxide grain makes these spiral rolls a good starting specification with consistent performance for small jobs or anywhere performance need not be measured

MERIT ALUMINUM OXIDE

GOOD CHOICE FOR COOLER GRINDING/POLISHING OF CHANNELS, FILLETS AND RADII, AND DEBURRING SMALL HOLES AT A LOW INITIAL PRICE

FEATURES

- Quality aluminum oxide abrasive
- Strong X-weight cotton backing construction
- Durable resin bond system

BENEFITS

- For the buyer whose major purchasing criterion is low initial price
- Durability and even wear
- Exceptional grain adhesion and longer life

MERIT SILICON CARBIDE

GOOD CHOICE FOR TOUGH, DIFFICULT-TO-GRIND MATERIALS, AS WELL AS SOFT, LOADING MATERIALS

FEATURES

- Sharp silicon carbide abrasive
- Durable resin bond system

BENEFITS

- Provides high initial cut on non-ferrous and soft-loading materials such as titanium, masonry, composites, plastic, and rubber
- Exceptional grain retention and longer life



| | | | | | | |
|------------|-------------------|------------------------------|-----------------|-------------------|-----------------------|------------------------|
| TIER: | BEST | BETTER | GOOD | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Merit | Norton | Merit | Merit |
| TRADENAME: | BLAZE R920 | R326 | A/O PLUS | METAL R265 | ALUMINUM OXIDE | SILICON CARBIDE |
| ABRASIVE: | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Silicon Carbide |
| OTHER: | Supersize | Supersize | Supersize | | | |

| SIZE (D x L x H) | GRIT | STD. PKG. | | | | PART # | | |
|--|------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|
| 3/8 x 1 x 1/8 Use M-8 Mandrel | 60 | 100 | | | 66261132211 | 08834181714 | | |
| | 80 | 100 | | | 66261132212 | 08834181715 | | |
| | 120 | 100 | | | 66261132213 | 08834181717 | | |
| | 180 | 100 | | | | 08834181719 | | |
| 3/8 x 1-1/2 x 1/8 Use M-9 Mandrel | 50 | 100 | | | | 08834181723 | | |
| | 60 | 100 | 66261194481 | 66261132224 | 77696089010 | 66261132214 | 08834181724 | 08834189901 |
| | 80 | 100 | 66261194490 | 66261132225 | 77696089011 | 66261132215 | 08834181708 | 08834189904 |
| | 120 | 100 | 66261194491 | 66261132226 | 77696089012 | 66261132217 | 08834181727 | 66261046936 |
| | 180 | 100 | | | | | 08834181709 | |
| 1/2 x 1 x 1/8 Use M-8 Mandrel | 60 | 100 | | | 66261132218 | 08834181734 | | |
| | 80 | 100 | | | 66261132219 | 08834181735 | | |
| | 120 | 100 | | | 66261132220 | 08834181737 | | |
| | 180 | 100 | | | | 08834181739 | | |
| 1/2 x 1-1/2 x 1/8 Use M-9 Mandrel | 36 | 100 | | | | 08834181230 | | |
| | 50 | 100 | | | | 08834181743 | | |
| | 60 | 100 | 66261194484 | 66261132227 | 77696089013 | 66261132221 | 08834181744 | 66261185977 |
| | 80 | 100 | 66261194492 | 66261132228 | 77696089014 | 66261132222 | 08834181745 | 08834183460 |
| | 100 | 100 | | | | | 08834181746 | |
| | 120 | 100 | 66261194495 | 66261132229 | 77696089015 | 66261132223 | 08834181747 | 08834183448 |
| 1/2 x 2 x 1/8 Use M-10 Mandrel | 180 | 100 | | | | 08834181749 | | |
| | 240 | 100 | | | | 08834181750 | | |
| | 60 | 100 | | | | 08834181754 | | |
| | 80 | 100 | | | | 08834181755 | | |
| 5/8 x 1-1/2 x 1/8 Use M-9 Mandrel | 120 | 100 | | | | 08834181757 | | |
| | 100 | 100 | | | | 08834181776 | | |
| | 240 | 100 | | | | 08834181777 | | |
| 5/8 x 1-1/2 x 3/16 Use M-16 Mandrel | 80 | 100 | | | | 08834183313 | | |
| | | | | | | 08834181444 | | |
| 3/4 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | | | | 08834181286 | | |
| | 80 | 100 | | | | 08834180886 | | |
| 3/4 x 1-1/2 x 3/16 Use M-16 Mandrel | 60 | 100 | | | | 08834181808 | | |
| | 80 | 100 | | | | 08834181809 | | |
| | 120 | 100 | | | | 08834181811 | | |
| 3/4 x 2 x 3/16 Use M-17 Mandrel | 60 | 100 | | | | 08834181820 | | |
| | | | | | | | | |
| 1 x 1-1/2 x 1/8 Use M-9 Mandrel | 60 | 100 | | | | 08834181240 | | |
| | | | | | | | | |
| 1 x 2 x 3/16 Use M-17 Mandrel | 36 | 100 | | | | 08834181875 | | |
| | 60 | 100 | | | | 08834181878 | | |
| | 80 | 100 | | | | 08834181879 | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

Refer to the back of this section for mandrels.



Tapered cone points are strips of abrasive cloth rolled and glued to form a solid shape that is designed to break down during use and reveal the next layer of abrasive. Tapered cone points are similar to cartridge rolls but their shape lends greater accessibility to many difficult-to-reach work areas. They are used for deburring holes and in close tolerance work areas.

- Applications: Used on inside surfaces and inside corners where other abrasive shapes cannot reach. Typically these are used on high-speed air grinders and are always mounted on a mandrel. Ideal for flash removal, polishing, or removing machine tool marks, and edge breaking.
- Grit Range: 50 - 320
- Abrasive Grain: Aluminum Oxide
- Backing: X-weight cotton
- Construction: Popular sizes and mandrels are listed, with additional sizes available upon request as made-to-order products
- Maximum RPM: Ceramic alumina, ceramic alumina blend, aluminum oxide plus, and silicon carbide cone points are available upon request as made-to-order products
 1/8" to 1/2" - 23,000
 5/8" to 1" - 18,000
 1" to 1-1/2" - 15,000
- Machine Used:

APPLICATION/GRIT RECOMMENDATION GUIDE

| COARSER (GRINDING) | | | | | FINER (FINISHING) | | | |
|----------------------------------|----|-----------------------------------|----|--------------------------------|-------------------|----------------------------|-------------------------------|-----|
| 36 | 40 | 50 | 60 | 80 | 120 | 180 | 240 | 320 |
| Blending Out Heavy Machine Marks | | | | | | | | |
| Removing Heavy Burrs | | | | | | | | |
| Applying Heavy Scratch Pattern | | | | | | | | |
| Removing Flash/Parting Lines | | | | | | | | |
| Removing Rust/Scale/Pit Marks | | | | | | | | |
| | | Preparing Metal for Painting | | | | | | |
| | | Blending Out Medium Machine Marks | | | | | | |
| | | | | Blending Metal Surfaces | | | | |
| | | | | Applying Light Scratch Pattern | | | | |
| | | | | | | Fine Blending and Cleaning | | |
| | | | | | | | Metal Finishing and Polishing | |

MERIT ALUMINUM OXIDE TAPERED CONE POINTS

GOOD STARTING SPECIFICATION FOR FLASH REMOVAL, POLISHING, OR REMOVING MACHINE TOOL MARKS AND EDGE BREAKING ON ALL TYPES OF METAL IN DIFFICULT-TO-REACH WORK AREAS



| FEATURES | BENEFITS |
|---|---|
| • Quality aluminum oxide abrasive | • Tough and durable |
| • Strong X-weight cotton backing construction | • For extended durability and even wear |
| • Durable resin bond system | • Provides longer life |

TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **ALUMINUM OXIDE**
 ABRASIVE: Aluminum Oxide

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|--|------|-------------|-------------|
| 3/16 x 1 x 2-1/2" Use K-110 Mandrel | 50 | 500 | 08834186892 |
| | 60 | 500 | 08834186893 |
| | 80 | 500 | 08834180918 |
| | 100 | 500 | 08834182197 |
| | 120 | 500 | 08834182199 |
| | 150 | 500 | 08834182200 |
| | 180 | 500 | 08834186894 |
| | 240 | 500 | 08834186895 |
| 320 | 500 | 08834182855 | |

TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **ALUMINUM OXIDE**
 ABRASIVE: Aluminum Oxide

| SIZE (D x L x H) | GRIT | STD. PKG. | PART # |
|---------------------------------------|------|-----------|-------------|
| 5/16 x 1-1/2 x 5" Use B-20 Mandrel | 80 | 500 | 08834180873 |
| | 100 | 500 | 08834182043 |
| | 120 | 500 | 08834182717 |
| | 150 | 500 | 08834186890 |
| | 180 | 500 | 08834182535 |
| | 240 | 500 | 08834182044 |
| | 320 | 500 | 08834182537 |

Refer to next page for mandrels.

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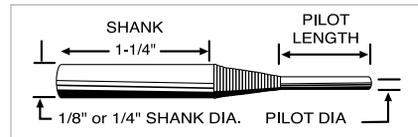
Cartridge and Spiral Roll Mandrels

| MODEL # | PILOT DIA. | PILOT LENGTH | SHANK DIA. | SHANK LENGTH | OVERALL LENGTH | PART # |
|---|------------|--------------|------------|--------------|----------------|-------------|
| Cartridge and Spiral Roll Mandrels | | | | | | |
| M-2E | 3/32 | 3/4 | 1/4 | 1 | 3 | 08834183799 |
| M-2 | 3/32 | 1 | 1/8 | 1 | 3 | 08834181202 |
| M-3 | 1/8 | 1/2 | 1/8 | 1 | 2-1/2 | 08834181203 |
| M-4 | 1/8 | 3/4 | 1/8 | 1 | 2-1/2 | 08834181204 |
| M-5 | 1/8 | 1 | 1/8 | 1 | 2-3/4 | 08834181205 |
| M-6 | 1/8 | 1-1/2 | 1/8 | 1 | 2-1/2 | 08834181206 |
| M-7 | 1/8 | 1/2 | 1/4 | 1-1/4 | 2-1/4 | 08834181207 |
| M-8 | 1/8 | 3/4 | 1/4 | 1-1/4 | 2-1/2 | 08834181208 |
| M-9 | 1/8 | 1 | 1/4 | 1-1/4 | 2-3/4 | 08834181209 |
| M-10 | 1/8 | 1-1/2 | 1/4 | 1-1/4 | 3-1/4 | 08834181210 |
| M-11 | 1/8 | 2 | 1/4 | 1-1/4 | 4 | 08834181211 |
| M-12 | 3/16 | 1/2 | 1/8 | 1-1/4 | 2-1/4 | 08834181212 |
| M-13 | 3/16 | 3/4 | 1/8 | 1-1/4 | 2-1/2 | 08834181213 |
| M-14 | 3/16 | 1/2 | 1/4 | 1-1/4 | 2-1/2 | 08834181214 |
| M-15 | 3/16 | 3/4 | 1/4 | 1-1/4 | 2-3/4 | 08834181215 |
| M-16 | 3/16 | 1 | 1/4 | 1-1/4 | 3 | 08834181216 |
| M-17 | 3/16 | 1-1/2 | 1/4 | 1-1/4 | 3-1/2 | 08834181217 |
| M-18 | 3/16 | 2 | 1/4 | 1-1/4 | 4 | 08834181218 |
| M-19 | 1/4 | 1/2 | 1/4 | 1-1/4 | 2-1/2 | 08834181219 |
| M-20 | 1/4 | 3/4 | 1/4 | 1-1/4 | 2-3/4 | 08834181220 |
| M-21 | 1/4 | 1 | 1/4 | 1-1/4 | 3 | 08834181221 |
| M-22 | 1/4 | 1-1/2 | 1/4 | 1-1/4 | 3-1/2 | 08834181222 |
| M-23 | 1/4 | 2 | 1/4 | 1-1/4 | 4 | 08834181223 |
| M-24 | 5/16 | 3/4 | 1/4 | 1-1/4 | 2-3/4 | 08834181224 |
| M-25 | 5/16 | 1 | 1/4 | 1-1/4 | 3 | 08834181225 |
| M-26 | 5/16 | 1-1/2 | 1/4 | 1-1/4 | 3-1/2 | 08834181226 |
| M-27 | 5/16 | 2 | 1/4 | 1-1/4 | 4 | 08834181227 |

Standard Package = 1

Recommended Pilot Length for Mandrels

| | |
|-------------------|-----------------|
| 3/4 Roll Length | Use 1/2 Pilot |
| 1 Roll Length | Use 3/4 Pilot |
| 1-1/2 Roll Length | Use 1 Pilot |
| 2 Roll Length | Use 1-1/2 Pilot |



Extra Shank Length Mandrels

| MODEL # | SHANK LENGTH | OVERALL LENGTH | PART NO. |
|-------------------------------------|--------------|----------------|-------------|
| Extras Shank Length Mandrels | | | |
| M-8-4 | 4 | 5-1/4 | 08834180116 |
| M-8-6 | 6 | 7-1/4 | 08834180122 |
| M-9-2.5 | 2-1/2 | 4 | 08834180096 |
| M-9-3 | 3 | 4-1/2 | 08834180129 |
| M-9-4 | 4 | 5-1/2 | 08834180074 |
| M-9-6 | 6 | 7-1/2 | 08834180131 |
| M-9-8 | 8 | 9-1/2 | |
| M-10-4 | 1-3/4 | 4 | 08834180092 |
| M-10-6 | 3-3/4 | 6 | 08834180145 |

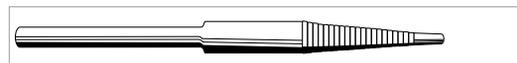
All Extra Shank Length mandrels are 1/4" diameter

Standard Package = 1

Tapered Cone Point Mandrels

| DESCRIPTION | SHANK | PART # |
|----------------------------|-------|-------------|
| Cone Point Mandrels | | |
| A-10 | 1/4 | 08834181300 |
| B-20 | 1/4 | 08834181301 |
| C-30 | 1/4 | 08834181302 |
| D-40 | 1/4 | 08834181303 |
| E-50 | 1/4 | 08834181304 |
| F-60 | 1/4 | 08834181305 |
| G-70 | 1/4 | 08834181306 |
| H-80 | 1/4 | 08834181307 |
| I-90 | 1/4 | 08834181308 |
| K-110 | 1/8 | 08834181310 |

Standard Package = 1



COATED SPECIALTIES – TEST KITS



These test kits feature the most popular range and sizes of our coated specialty products in convenient kit formats. Ideal for small job shops, or for travelling to a job site. Our cartridge roll kits are great when you need a small quantity, but a wide range of grits and sizes



Merit Ceramic Alumina Cartridge Roll Test Kit

- Part # 66261066726
- Kit includes a variety of our Merit ceramic alumina cartridge rolls, spiral rolls and mandrels in popular sizes and grits.



Merit Aluminum Oxide Cartridge Roll Test Kit “CR”

- Part # 08834181061
- Includes over 120 pieces of our most popular sizes, grits and shapes with their appropriate mandrels.



Merit General Purpose Test Kit “GP”

- Part # 08834169025
- Includes samples of various Merit abrasive specialties. One of these kits could be worth the cost of the entire kit by solving your problems in deburring, polishing and grinding.



Merit Porting Test Kit “APK-MO”

- Part # 08834169032
- The samples in this kit highlight Merit specialties for general metal and wood working polishing and finishing applications.

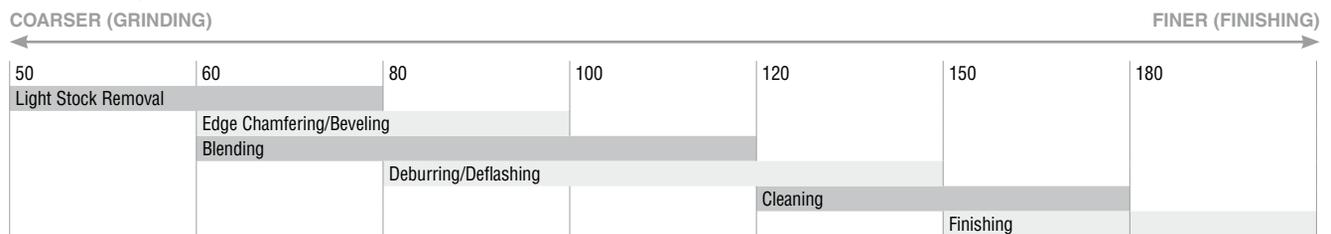
SQUARE & CROSS PADS, OVERLAP SLOTTED DISCS



Square pads, cross pads and overlap slotted discs are all used on high-speed pneumatic tools for deburring, blending, cleaning, and polishing applications. All of these abrasive specialties are designed for applications in small, tight, hard-to-access locations on parts that are being finished.

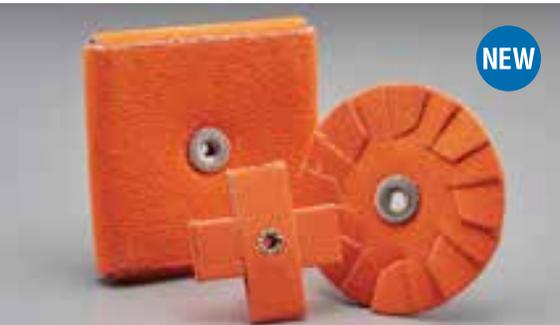
| | |
|-----------------|---|
| Benefits: | Variety of shapes and sizes to fit application and part geometry Shapes provide flexibility for the application, while eliminating aggressiveness of the sanding action Cross pads allow visibility of the surface while sanding, to ensure correct amount of material is removed |
| Grit Range: | 50 – 180 |
| Abrasive Grain: | Ceramic Alumina, Aluminum Oxide |
| Backing: | X-weight cotton |
| Construction: | Standard quick-change eyelet for easy mounting and removal on quick-change mandrel minimizes downtime; Mandrel use increases range and versatility |
| Maximum RPM: | 1" Diameter – 25,000 3" Diameter – 12,000 to 14,000 1-1/2" to 2" Diameter – 18,000 to 23,000 4" Diameter – 8,000 to 12,000 2-1/2" Diameter – 14,000 to 18,000 5" to 6" Diameter – 5,500 to 7,500 |
| Machine Used: |  |

APPLICATION/GRIT RECOMMENDATION GUIDE



NORTON BLAZE R920 CERAMIC ALUMINA

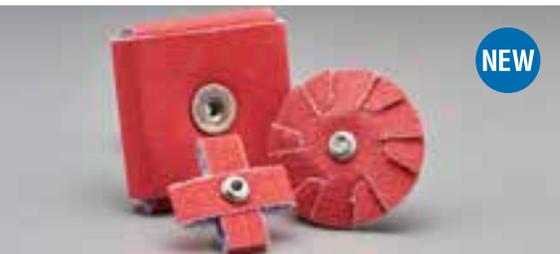
BEST CHOICE FOR HARD-TO-GROUND MATERIALS INCLUDING SUPER ALLOYS (COBALT, INCONEL, AND TITANIUM) AND STAINLESS STEEL



| FEATURES | BENEFITS |
|--|---|
| <ul style="list-style-type: none"> Next-generation ceramic alumina abrasive grain | <ul style="list-style-type: none"> Significantly faster cut rates versus any other abrasive Resists wear, resulting in 50%-300% longer life Greatest productivity; lowest total cost |
| <ul style="list-style-type: none"> Advanced grinding aid | <ul style="list-style-type: none"> Cooler cutting, longer life |
| <ul style="list-style-type: none"> Improved resin bond system | <ul style="list-style-type: none"> Improved grain retention and longer life |

NORTON R326 PREMIUM ALUMINUM OXIDE BLEND

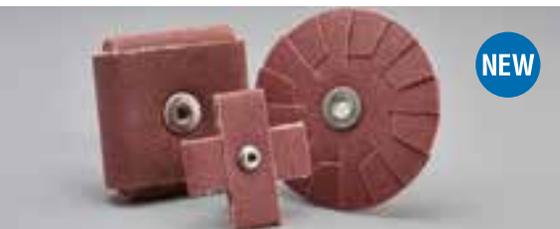
BETTER CHOICE FOR STAINLESS AND CARBO STEEL, AND ALUMINUM



| FEATURES & BENEFITS |
|--|
| <ul style="list-style-type: none"> Cut cooler and smoother, with up to 3X the life and cut rate over competitive aluminum oxide specialties, with our versatile, premium aluminum oxide blend and advanced grinding aid lubricant |

NORTON METAL R265 ALUMINUM OXIDE

GOOD CHOICE WHEN INITIAL PRICE IS A KEY PURCHASING CRITERIA



| FEATURES & BENEFITS |
|--|
| <ul style="list-style-type: none"> Our solid-performance aluminum oxide grain makes these specialties a good starting specification with consistent performance for small jobs or anywhere performance need not be measured |

SQUARE & CROSS PADS, OVERLAP SLOTTED DISCS MERIT ALUMINUM OXIDE

GOOD FOR MOST ID DEBURRING AND POLISHING APPLICATIONS

FEATURES

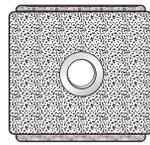
- Quality aluminum oxide abrasive grain
- Resin bond system

BENEFITS

- Versatile; ideal for deburring, chamfering, and polishing most radii, holes, recesses, and cylinder walls
- Good grain retention and life



Square Pads



Square Pads

- Corners wear down consistently exposing fresh abrasive; the pad becomes round for less aggressive stock removal
- Grind almost as fast as hard wheels, but are much smoother and easier to control
- For quick blending of channels, fillets, corners, or spotting flat surfaces

Refer to the back of this section for mandrels.



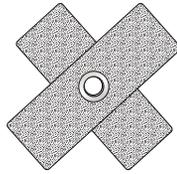
| | BEST | | BETTER | | GOOD | | GOOD | |
|---------------------|-------------------|------|------------------------------|-------------|-------------------|-------------|-----------------------|--|
| TIER: | Norton | | Norton | | Norton | | Merit | |
| BRAND: | BLAZE R920 | | R326 | | METAL R265 | | ALUMINUM OXIDE | |
| TRADENAME: | Ceramic Alumina | | Premium Aluminum Oxide Blend | | Aluminum Oxide | | Aluminum Oxide | |
| ABRASIVE: | Supersize | | Supersize | | | | | |
| OTHER: | | | | | | | | |
| SIZE (L x W x T) | EYELET | GRIT | STD. PKG. | PART # | PART # | PART # | PART # | |
| 1 x 1 x 6 ply | 8-32 | 80 | 100 | | | | 08834184826 | |
| 1 x 1 x 8 ply | 8-32 | 60 | 100 | | | | | |
| | | 80 | 100 | | | | 08834184124 | |
| | | 120 | 100 | | | | | |
| 1 x 1 x 1/4 | 8-32 | 60 | 100 | | | 66261132258 | | |
| | | 80 | 100 | | | 66261132259 | | |
| | | 120 | 100 | | | 66261132262 | | |
| 1-1/2 x 1-1/2 x 1/2 | 1/4-20 | 60 | 100 | | | | 08834184463 | |
| | | 80 | 100 | | | | 08834184125 | |
| 2 x 2 x 1/2 | 1/4-20 | 60 | 100 | 66261194520 | 66261132273 | 66261132263 | 08834184334 | |
| | | 80 | 100 | 66261194552 | 66261132279 | 66261132264 | 08834184397 | |
| | | 120 | 100 | 66261194554 | 66261132281 | 66261132265 | | |
| 2 x 2 x 3/4 | 1/4-20 | 50 | 100 | | | | | |
| | | 80 | 100 | | | | 08834184394 | |
| 3 x 3 x 1/4 | 1/4-20 | 60 | 100 | 66261194531 | 66261132282 | 66261132266 | | |
| | | 80 | 100 | 66261194555 | 66261132283 | 66261132268 | | |
| | | 120 | 100 | 66261194556 | 66261132284 | 66261132269 | | |
| 3 x 3 x 1/2 | 1/4-20 | 50 | 100 | | | | 08834182152 | |
| | | 60 | 100 | 66261194528 | 66261132285 | 66261132270 | 08834182057 | |
| | | 80 | 100 | 66261194557 | 66261132286 | 66261132271 | 08834184336 | |
| | | 120 | 100 | 66261194558 | 66261132287 | 66261132272 | | |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status. Ceramic Alumina and Alumina Oxide Plus square pads are also available upon request as made-to-order products.

SQUARE & CROSS PADS, OVERLAP SLOTTED DISCS



Cross Pads



Cross Pads

- The shape of cross pads enables you to see through to the contact area, and provides greater flexibility than square pads to conform to variable internal diameters
- Used for close-tolerance polishing of small radii and channels, deburring, and finishing of bell-mouth configurations
- All pads are furnished with standard quick-change eyelet, as listed
- Plain hole sizes must be specified and are available for quotation as made-to-order products



| | | | | |
|-------------------|-------------------|------------------------------|-------------------|-----------------------|
| TIER: | BEST | BETTER | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Merit |
| TRADENAME: | BLAZE R920 | R326 | METAL R265 | ALUMINUM OXIDE |
| ABRASIVE: | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide |
| OTHER: | Supersize | Supersize | | |

| SIZE (L x W x T) | PLY | EYELET | GRIT | STD. PKG. | PART # | PART # | PART # | PART # |
|---------------------|-----|--------|------|-----------|-------------|-------------|-------------|-------------|
| 3/4 x 3/4 x 3/8 | 8 | 3-48 | 80 | 100 | | | | 08834185578 |
| 1 x 1 x 3/8 | 8 | 3-48 | 60 | 100 | | | 66261132230 | 08834184943 |
| | | | 80 | 100 | | | 66261132231 | 08834185519 |
| | | | 100 | 100 | | | | 08834184195 |
| | | | 120 | 100 | | | 66261132232 | 08834185164 |
| 1-1/2 x 1-1/2 x 1/2 | 8 | 8-32 | 60 | 100 | 66261194496 | 66261132245 | 66261132233 | 08834184258 |
| | | | 80 | 100 | 66261194508 | 66261132246 | 66261132234 | 08834184465 |
| | | | 100 | 100 | | | | 08834182196 |
| | | | 120 | 100 | 66261194511 | 66261132247 | 66261132235 | 08834182148 |
| 2 x 2 x 1/2 | 8 | 8-32 | 60 | 100 | | | 66261132236 | 08834182156 |
| | | | 80 | 100 | | | 66261132237 | 08834182157 |
| | | | 120 | 100 | | | 66261132238 | 08834182132 |
| | | | 60 | 100 | 66261194502 | 66261132249 | 66261132239 | 08834184128 |
| 2 x 2 x 3/4 | 8 | 8-32 | 80 | 100 | 66261194513 | 66261132252 | 66261132240 | 08834184194 |
| | | | 120 | 100 | 66261194516 | 66261132253 | 66261132241 | |
| | | | 80 | 100 | | | | 08834184402 |
| 2-1/4 x 2-1/4 x 1/2 | 8 | 8-32 | 80 | 100 | | | | 08834184206 |
| 2-1/2 x 2-1/2 x 3/4 | 8 | 8-32 | 80 | 100 | | | | 08834182135 |
| 3 x 3 x 1 | 8 | 1/4-20 | 60 | 100 | 66261194504 | 66261132255 | 66261132242 | 08834184119 |
| | | | 80 | 100 | 66261194549 | 66261132256 | 66261132243 | 08834184119 |
| | | | 120 | 100 | 66261194551 | 66261132257 | 66261132244 | 08834184116 |
| 3 x 3 x 1 | 10 | 1/4-20 | 80 | 100 | | | | 08834182140 |
| 3 x 3 x 1-1/2 | 10 | 1/4-20 | 80 | 100 | | | | 08834182184 |
| 4 x 4 x 1 | 8 | 1/4-20 | 60 | 100 | | | | 08834184142 |
| | | | 80 | 100 | | | | 08834184135 |
| | | | 120 | 100 | | | | 08834184377 |
| 4 x 4 x 1-1/2 | 8 | 1/4-20 | 80 | 100 | | | | 08834184129 |

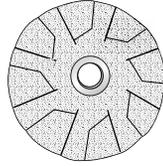
MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

Ceramic Alumina and Alumina Oxide Plus cross pads are also available upon request as made-to-order products.

Refer to the back of this section for mandrels.

SQUARE & CROSS PADS, OVERLAP SLOTTED DISCS

Overlap Slotted Discs



Overlap Slotted Discs

- Used for deburring and polishing radii, holes and cylinder walls
- Our "2 to a set" configuration cuts on the inward motion only
- The "4 to a set" configuration, assembled back to back, cuts on both the inward and outward motions
- All discs are furnished with standard quick-change eyelet
- Plain hole sizes must be specified and are available for quotation as made-to-order products



| TIER: | BEST | BETTER | GOOD | GOOD | GOOD |
|------------|----------------------|------------------------------|-------------------|-----------------------|------------------------|
| BRAND: | Norton | Norton | Norton | Merit | Merit |
| TRADENAME: | BLAZE | R326 | METAL R265 | ALUMINUM OXIDE | SILICON CARBIDE |
| ABRASIVE: | Ceramic Alumina | Premium Aluminum Oxide Blend | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| OTHER: | Supersize, 2 Per Set | Supersize, 2 Per Set | 2 Per Set | 2 Per Set | 4 Per Set |

| DIA. | EYELET | GRIT | STD. PKG. | PART # | | | PART # | PART # |
|-------|--------|------|-----------|-------------|-------------|-------------|-------------|-------------|
| 1 | 8-32 | 60 | 100 | | | | 08834184346 | |
| | | 80 | 100 | | | | 08834184019 | 08834184085 |
| | | 100 | 100 | | | | 08834184224 | |
| | | 120 | 100 | | | | 08834184151 | 08834184236 |
| 1-1/4 | 8-32 | 60 | 100 | | | | 08834184270 | |
| | | 80 | 100 | | | | 08834184065 | |
| | | 100 | 100 | | | | 08834184291 | |
| | | 120 | 100 | | | | 08834184084 | |
| 1-1/2 | 8-32 | 60 | 100 | 66261195051 | 66261132297 | 66261132288 | 08834184066 | |
| | | 80 | 100 | 66261195368 | 66261132298 | 66261132289 | 08834184079 | |
| | | 100 | 100 | | | | 08834184279 | 08834184023 |
| | | 120 | 100 | 66261195367 | 66261132299 | 66261132290 | 08834186035 | |
| 1-3/4 | 8-32 | 60 | 100 | | | | 08834184655 | |
| | | 80 | 100 | | | | 08834184042 | |
| 2 | 8-32 | 60 | 100 | 66261195054 | 66261132300 | 66261132291 | | |
| | | 80 | 100 | 66261195055 | 66261132301 | 66261132292 | 08834184076 | |
| | | 100 | 100 | | | | 08834184145 | |
| | | 120 | 100 | 66261195056 | 66261132302 | 66261132293 | 08834184055 | |
| 2-1/2 | 8-32 | 60 | 100 | | | | 08834184444 | |
| | | 80 | 100 | | | | 08834184041 | |
| | | 100 | 100 | | | | 08834184077 | |
| | | 120 | 100 | | | | 08834184082 | |
| 3 | 1/4-20 | 60 | 100 | 66261195057 | 66261132303 | 66261132294 | 08834184041 | |
| | | 80 | 100 | 66261195058 | 66261132304 | 66261132295 | 08834184077 | |
| | | 100 | 100 | | | | 08834184082 | |
| | | 120 | 100 | 66261195059 | 66261132305 | 66261132296 | 08834184344 | |
| 4 | 1/4-20 | 60 | 100 | | | | 08834184000 | |
| | | 120 | 100 | | | | 08834185155 | |
| 4-1/2 | 1/4-20 | 100 | 100 | | | | 08834184431 | |

MERIT STOCK/NON-STOCK STATUS: Some Merit specialty part numbers are non-stock. Contact your Norton/Merit representative for stock/MTO status.

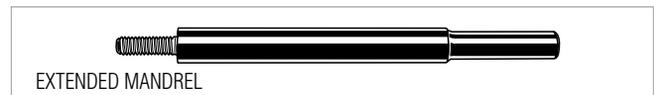
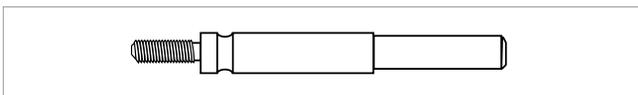
All overlap slotted discs are available (made-to-order) reinforced with a fiber washer

Ceramic Alumina and Alumina Oxide Plus overlap slotted discs are also available upon request as made-to-order products.

Quick-Change Mandrels for Overlap Slotted Discs, Square and Cross Pads

| CROSS PAD SIZE DIA. | SQUARE PAD SIZE DIA. | OAL | MODEL NO. | THD. SIZE | PART # |
|------------------------|---|-------|-----------|-----------|-------------|
| 1/4, 3/8, and 1/2 wide | | 2-1/2 | MM48-4 | 3-48 | 08834183162 |
| 3/4, 1 wide | Up thru 1-1/2 sq. x 1/2 thick 2 sq. x 1/4 or 3/8 thick | 3 | MM32-4 | 8-32 | 08834183163 |
| | | 4 | MM-32-4-4 | 8-32 | 08834121680 |
| | | 6 | MM-32-4-6 | 8-32 | 08834121681 |
| | | 3 | MM20-4 | 1/4-20 | 08834183164 |

*All pads 2-1/2 x 1-1/2 and larger 2 sq. x 1/4 or 1/2 thick and larger
For overlap slotted discs, choose a mandrel with the same thread size as the disc*





Flaps of abrasive cloth are stacked, inserted into a holder, and then attached to a mandrel. The flaps are designed to break down during use and reveal the next layer of abrasive.

To create an interleaf bore polisher, cloth flaps are mixed with non-woven flaps.

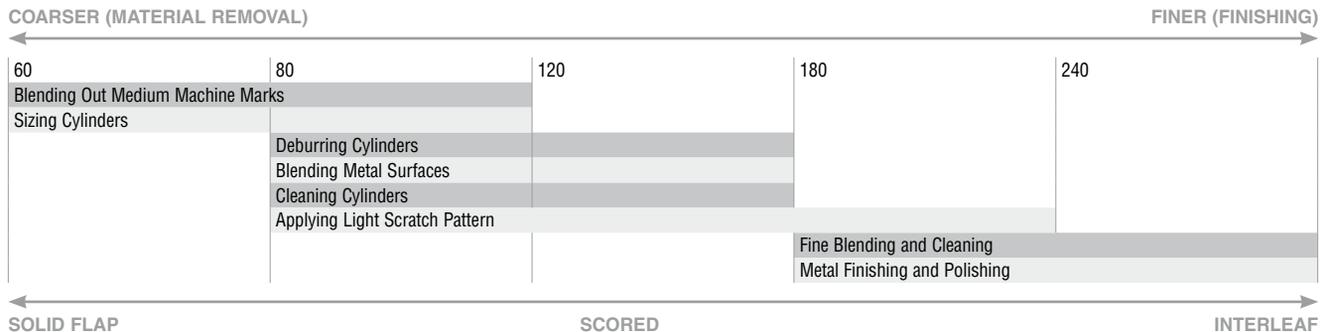
Applications: For deburring, sizing, cleaning and polishing the interior diameters of cylinders, tubes and hydraulic fittings. Flaps adjust automatically to inside diameter, polishing the entire surface area with each pass.
Bore polishers are self-centering, so they apply equal pressure to full wall of inside diameter. Spring action design gives faster inside diameter cleaning, deburring and polishing to cylinders, deep bores and tubes.
Interleafed bore polishers are designed to polish and finish in one easy application. The abrasive flaps cut, while the non-woven flaps apply a fine finish.

Grit Range: 60 - 240
Abrasive Grain: Aluminum Oxide
Machine Used:

APPLICATION-TO-PRODUCT SHAPE RECOMMENDATION GUIDE

| Shape | | Application |
|-------|--|---|
| | Bore Polisher Solid Flaps B-3 Series | <ul style="list-style-type: none"> For 5/8" to 1" interior diameter bores 3 abrasive packs 1-1/2" wide, bonded to hub Use with QC-5 mandrel Part # 08834154182 |
| | Bore Polisher Solid Flaps B-4 Series | <ul style="list-style-type: none"> For 1" to 4" interior diameter bores 4 abrasive packs 1-1/2" wide, bonded to hub Use with BPM-4 mandrel Part # 08834154183 |
| | Bore Polisher Solid Flaps B-8 Series | <ul style="list-style-type: none"> For 2" to 5-7/8" interior diameter bores 8 abrasive packs 1-1/2" wide, bonded to hub Use with BPM-8 mandrel Part # 08834154184 |
| | Bore Polisher Scored Flaps | Available upon request as made-to-order products. |
| | Bore Polisher Interleaf | Cloth flaps are mixed with non-woven flaps. Merit interleaf bore polishers do double duty. Designed to polish and finish in one easy application, they are the ideal choice when close tolerances must be maintained, while giving an interior a polished finish. |

APPLICATION/GRIT RECOMMENDATION GUIDE



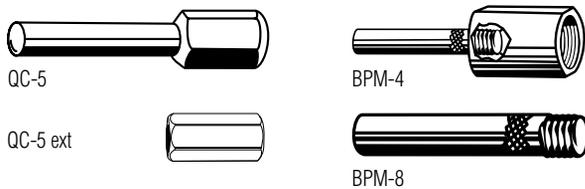
Merit Aluminum Oxide Bore Polishers

TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **ALUMINUM OXIDE**
 ABRASIVE: Aluminum Oxide
 BACKING: X-Weight Cotton/Poly

| DESCRIPTION | GRIT | MAX. RPM | STD. PKG. | PART # |
|---|------|----------|-----------|--------------|
| Bore Polishers – Solid Flap B-3 and B-4 Series | | | | |
| B-305 | 60 | 25,000 | 10 | 08834154190 |
| Fits ID 5/8 to 1 | 80 | 25,000 | 10 | 08834154191 |
| | 120 | 25,000 | 10 | 08834154193 |
| | 180 | 25,000 | 10 | 08834154195 |
| | 240 | 25,000 | 10 | 08834154197 |
| B-405 | 60 | 22,000 | 10 | 08834154091 |
| Fits ID 1 to 1-1/2 | 80 | 22,000 | 10 | 08834154092 |
| | 120 | 22,000 | 10 | 08834154093 |
| | 180 | 22,000 | 10 | 08834154094 |
| B-410 | 60 | 20,000 | 10 | 08834154100 |
| Fits ID 1-1/2 to 2 | 80 | 20,000 | 10 | 08834154101 |
| | 120 | 20,000 | 10 | 08834154102 |
| | 180 | 20,000 | 10 | 08834154103 |
| | 240 | 20,000 | 10 | 08834154104 |
| B-415 | 60 | 16,000 | 10 | 08834154109 |
| Fits ID 2-1/8 to 2-1/2 | 80 | 16,000 | 10 | 08834154110 |
| | 120 | 16,000 | 10 | 08834154111 |
| | 180 | 16,000 | 10 | 08834154112 |
| | 240 | 16,000 | 10 | 08834154113* |
| B-420 | 60 | 15,000 | 10 | 08834154118 |
| Fits ID 2-1/2 to 3 | 80 | 15,000 | 10 | 08834154119 |
| | 120 | 15,000 | 10 | 08834154120 |
| | 180 | 15,000 | 10 | 08834154121 |
| | 240 | 15,000 | 10 | 08834154122 |
| B-425 | 60 | 10,000 | 10 | 08834154127 |
| Fits ID 3-1/8 to 4 | 80 | 10,000 | 10 | 08834154128 |
| | 120 | 10,000 | 10 | 08834154129 |
| | 180 | 10,000 | 10 | 08834154130 |
| | 240 | 10,000 | 10 | 08834154131* |

* Non-stock. All other bore polishers, mandrels, and kit are stock products.

Mandrels for Bore Polishers



| DESCRIPTION | MODEL NO. | THREAD | STD. PKG. | PART # |
|----------------|-----------|---------|-----------|-------------|
| For B-3 Series | QC-5 | 5/16-18 | 1 | 08834154182 |
| For B-4 Series | BPM-4 | 1/2-20 | 1 | 08834154183 |
| For B-8 Series | BPM-8 | 1/4-20 | 1 | 08834154184 |

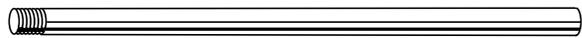
TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **ALUMINUM OXIDE**
 ABRASIVE: Aluminum Oxide
 BACKING: X-Weight Cotton/Poly

| DESCRIPTION | GRIT | MAX. RPM | STD. PKG. | PART # |
|---|------|----------|-----------|--------------|
| Bore Polishers – Solid Flap B-8 Series | | | | |
| B-810 | 60 | 16,000 | 10 | 08834154136 |
| Fits ID 2 to 2-1/2 | 80 | 16,000 | 10 | 08834154137 |
| | 120 | 16,000 | 10 | 08834154138 |
| | 180 | 16,000 | 10 | 08834154139* |
| | 240 | 16,000 | 10 | 08834154140* |
| B-815 | 60 | 15,000 | 10 | 08834154145 |
| Fits ID 2-5/8 to 3 | 80 | 15,000 | 10 | 08834154146 |
| | 120 | 15,000 | 10 | 08834154147 |
| | 180 | 15,000 | 10 | 08834154148* |
| | 240 | 15,000 | 10 | 08834154149* |
| B-820 | 60 | 10,000 | 10 | 08834154154 |
| Fits ID 3-1/8 to 4 | 80 | 10,000 | 10 | 08834154155 |
| | 120 | 10,000 | 10 | 08834154156 |
| | 180 | 10,000 | 10 | 08834154157 |
| | 240 | 10,000 | 10 | 08834154158* |
| B-825 | 60 | 8,000 | 10 | 08834154163 |
| Fits ID 4-1/4 to 5-1/4 | 80 | 8,000 | 10 | 08834154164 |
| | 120 | 8,000 | 10 | 08834154165 |
| | 180 | 8,000 | 10 | 08834154166 |
| | 240 | 8,000 | 10 | 08834154167 |
| B-830 | 60 | 8,000 | 10 | 08834154172 |
| Fits ID 5-1/4 to 5-7/8 | 80 | 8,000 | 10 | 08834154173 |
| | 120 | 8,000 | 10 | 08834154174 |
| | 180 | 8,000 | 10 | 08834154175 |
| | 240 | 8,000 | 10 | 08834154176 |

Bore Polishers – Scored Flaps
 Available on request as made-to-order products

| Bore Polishers – Interleaf | | | | |
|-----------------------------------|-----|--------|----|-------------|
| B-405 Interleaf | 80 | 22,000 | 10 | 08834150271 |
| Fits ID 1 to 1-1/2 | 180 | 22,000 | 10 | 08834150273 |

Extension Mandrels for Bore Polishers



| DIAMETER x LENGTH | MODEL NO. | THREAD | STD. PKG. | PART # |
|-------------------|-----------|--------|-----------|-------------|
| 1/4 x 4 | EM-144 | 1/4-20 | 1 | 08834154185 |
| 1/4 x 6 | EM-146 | 1/4-20 | 1 | 08834154186 |
| 1/4 x 8 | EM-148 | 1/4-20 | 1 | 08834154187 |

To extend a B-4 series bore polisher, attach the adapter piece of the BPM-4 mandrel to the bore polisher, then attach the desired length extension mandrel above to the BPM-4 adapter piece. To extend a B-8 series bore polisher, attach the desired length extension mandrel above directly to the bore polisher.

Test Kit

Merit Bore Polisher Test Kit "BP"

- Part # 08834154181
- Contains ten bore polishers and two mini 1/4"-20 thread flap wheels in assorted sizes and grits for finishing 1" to 5" interior diameters, and mandrel for 1/4" chuck.

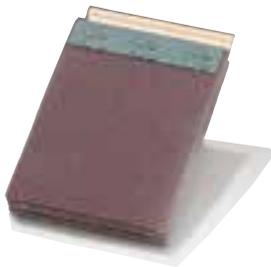




FlexDrum abrasive segments sweep away flaws. Their extreme longevity and perfect balance make them well-suited for automatic as well as offhand use. Hubs and abrasive segments can be combined to fit your job perfectly.

| | |
|-----------------|--|
| Applications | Blending out parting lines on castings, smoothing out pre-ground welded areas, removing burrs and work flaws, graining stainless, brush-finishing and satin-finishing aluminum, removing rust, deflashing molded plastic and rubber parts, and preparing surfaces for painting or plating. |
| Size Range: | Diameter of loaded FlexDrum: 8" – 18" Width of FlexDrum: 1-1/2" – 12" Custom die-cut segments as well as extra wide segments, in widths up to 144" are also available as made-to-order products. |
| Grit Range: | 50 – 240 |
| Bond: | Resin or glue |
| Backing: | Heavyweight cotton |
| Abrasive Grain: | Premium Aluminum Oxide |

SHAPE/APPLICATION RECOMMENDATION GUIDE



Plain Segment

- For flat or mildly contoured surfaces



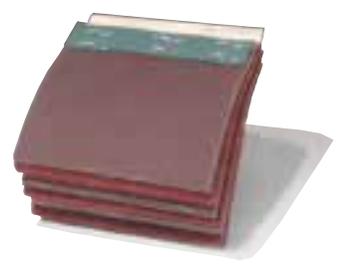
1/4 Scored (SC) Segment

- Great for complex parts
- Provides a fine finish



1/2 Slash (SL) Segment

- Great for mild and moderate contours



Interleaf Segment

- Plain cloth segments are mixed with non-woven segments. Merit interleaf FlexDrums do double duty. Designed to polish and finish in one easy application,
- Available upon request as made-to-order product

LOADING FLEX DRUM HUBS



FlexDrum hub end plate removes for easy loading of abrasive segments.



Custom profiled segments eliminate break-in resulting in maximum productivity. Contact your sales representative for more information.

Plain Segments – for flat or mildly curved surfaces

| TIER: GOOD | | | | | | | | | |
|--|--------------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| BRAND: Merit Merit Merit Merit Merit Merit Merit | | | | | | | | | |
| ABRASIVE: A/O A/O A/O A/O A/O A/O A/O | | | | | | | | | |
| GRIT: 50 60 80 100 120 180 240 | | | | | | | | | |
| WIDTH | TRIM LENGTH* | STD. PKG. | PART # |
| 1-1/2 | 2-3/4 | 12 | 08834155002 | 08834155003 | 08834155004 | | 08834155006 | 08834155008 | 08834155010 |
| 2 | 2-3/4 | 12 | 08834155013 | 08834155014 | 08834155015 | 08834155016 | | 08834155019 | |
| 2 | 4 | 20 | 08834155312 | 08834155313 | 08834155314 | 08834155315 | 08834155316 | 08834155318 | |
| 2 | 5 | 20 | | 08834155568 | 08834155569 | | 08834155571 | 08834155573 | 08834155575 |
| 3 | 2-3/4 | 12 | 08834155025 | 08834155026 | 08834155027 | 08834155028 | 08834155029 | 08834155031 | |
| 3 | 4 | 20 | 08834155324 | 08834155325 | 08834155326 | | 08834155328 | 08834155330 | |
| 3 | 5 | 20 | | 08834155579 | | | 08834155582 | 08834155584 | |
| 4 | 2-3/4 | 12 | 08834155036 | 08834155037 | 08834155038 | 08834155039 | 08834155040 | 08834155042 | 08834155044 |
| 4 | 4 | 20 | 08834155336 | 08834155337 | 08834155338 | | 08834155340 | 08834155342 | 08834155344 |
| 4 | 5 | 20 | | 08834155590 | | | 08834155593 | 08834150390 | 08834155953 |

All FlexDrum segments are available as non-stock. Contact your Norton/Merit representative for current lead-times.

1/4 Scored Segments – for complex parts and providing a fine finish

| TIER: GOOD | | | | | | | | | | |
|--|------------|-------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| BRAND: Merit Merit Merit Merit Merit Merit Merit | | | | | | | | | | |
| ABRASIVE: A/O A/O A/O A/O A/O A/O A/O | | | | | | | | | | |
| GRIT: 50 60 80 100 120 180 240 | | | | | | | | | | |
| WIDTH | TRIM LTH.* | SCORE | STD. PKG. | PART # | |
| 1-1/2 | 2-3/4 | 1/4 | 12 | 08834155082 | 08834155083 | 08834155084 | 08834155085 | 08834155086 | 08834155088 | 08834155090 |
| 2 | 2-3/4 | 1/4 | 12 | 08834155094 | 08834155095 | 08834155096 | 08834155097 | 08834155098 | 08834155100 | 08834155102 |
| 3 | 2-3/4 | 1/4 | 12 | 08834155106 | 08834155107 | 08834155108 | 08834155109 | 08834155110 | 08834155112 | |
| 4 | 2-3/4 | 1/4 | 12 | 08834155117 | 08834155118 | 08834155119 | 08834155120 | 08834155121 | 08834155123 | |

All FlexDrum segments are available as non-stock. Contact your Norton/Merit representative for current lead-times.

1/2 Slashed Segments – for mild and moderate contours

| TIER: GOOD | | | | | | | | | | |
|--|------------|-------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| BRAND: Merit Merit Merit Merit Merit Merit Merit | | | | | | | | | | |
| ABRASIVE: A/O A/O A/O A/O A/O A/O A/O | | | | | | | | | | |
| GRIT: 50 60 80 100 120 180 240 | | | | | | | | | | |
| WIDTH | TRIM LTH.* | SLASH | STD. PKG. | PART # | |
| 2 | 4 | 1/2 | 20 | | 08834155420 | 08834155421 | 08834155422 | 08834155423 | 08834155425 | 08834155427 |
| 2 | 5 | 1/2 | 20 | | | 08834155637 | | 08834155639 | | |
| 3 | 4 | 1/2 | 20 | 08834155430 | 08834155431 | 08834155432 | 08834155433 | 08834155434 | 08834155436 | 08834155438 |
| 3 | 5 | 1/2 | 20 | | | 08834155648 | | | | |
| 4 | 4 | 1/2 | 20 | 08834155443 | 08834155444 | 08834155445 | 08834155446 | 08834155447 | 08834155449 | 08834155451 |
| 4 | 5 | 1/2 | 20 | | 08834155658 | 08834155659 | | 08834155661 | 08834150383 | |

All FlexDrum segments are available as non-stock. Contact your Norton/Merit representative for current lead-times.

*Trim Length is the actual usable length of segment when loaded



TECH TIP

FlexDrums can be used for polishing large IDs. Just load half the segments with a wheel diameter 1/2" to 1" larger than the ID of your workpiece.

Hub Units

- FlexDrum hubs are perfectly balanced, last indefinitely and are available in widths from 1-1/2" to 12"
- Extra wide widths are available up to 144" as made-to-order products

| MODEL NO. | D x W | ARBOR HOLE/THREAD | SEGMENTS PER HUB | PART # |
|---------------------------|---------------|-------------------|------------------|-------------|
| FlexDrum Hub Units | | | | |
| 81.5-B | 2-3/8 x 1-1/2 | 1 AH | 12 | 08834140065 |
| 82-B | 2-3/8 x 2 | 1 AH | 12 | 08834141049 |
| | | 5/8-11 THD | 12 | 08834140048 |
| 83-B | 2-3/8 x 3 | 1 AH | 12 | 08834141018 |
| | | 5/8-11 THD | 12 | 08834140034 |
| 84-B | 2-3/8 x 4 | 1 AH | 12 | 08834140066 |
| | | 5/8-11 THD | 12 | 08834140049 |
| 122-B | 4 x 2 | 1-1/4 AH | 20 | 08834140050 |
| 123-B | 4 x 3 | 1-1/4 AH | 20 | 08834140051 |
| 124-B | 4 x 4 | 1-1/4 AH | 20 | 08834140061 |
| 142-B | 6 x 2 | 1-1/4 AH | 30 | 08834140062 |
| 143-B | 6 x 3 | 1-1/4 AH | 30 | 69957399208 |
| 144-B | 6 x 4 | 1-1/4 AH | 30 | 08834141060 |
| 840-B2 | 8 x 2 | 1-1/4 AH | 40 | 63642592550 |
| 840-B4 | 8 x 4 | 1-1/4 AH | 40 | 63642592548 |

All FlexDrum hub units are available as non-stock. Contact your Norton/Merit representative for current lead-times.



**2-3/8" DIAMETER HUB
WITH 1" ARBOR HOLE**

8" WHEEL WHEN LOADED



**2-3/8" DIAMETER HUB ALSO
AVAILABLE WITH 5/8"-11 ARBOR**

8" WHEEL WHEN LOADED



4" DIAMETER HUB

12" WHEEL WHEN LOADED



8" DIAMETER HUB

16" OR 18" WHEEL WHEN LOADED



6" DIAMETER HUB

14" OR 16" WHEEL WHEN LOADED

FlexDrum Reference Charts

FlexDrums can be mounted on any type of arbor.

Weights

| DIAMETER | WEIGHT |
|--------------------------------------|-----------------------------|
| Weight of Hubs* | |
| 4" Diameter Hub | 1.5 lbs./inch of width |
| 6" Diameter Hub | 2 lbs./inch of width |
| 8" Diameter Hub | 2.5 lbs./inch of width |
| Weight of Hubs with Segments* | |
| 4" Diameter Hub | 3.4 - 4 lbs./inch of width |
| 6" Diameter Hub | 5 - 5.5 lbs./inch of width |
| 8" Diameter Hub | 6.75 - 7 lbs./inch of width |

*Approximate values. Actual weight will depend on abrasive type and overall width of hub.

FlexDrum Maximum RPM

| WHEEL DIAMETER | MAXIMUM RPM |
|----------------|-------------|
| 8 | 4,500 |
| 12 | 3,000 |
| 14 | 2,500 |
| 16 | 2,200 |
| 18 | 2,000 |

Recommended H.P. Required

| HUB | H.P. |
|-----------------|------------------------|
| 4" Diameter Hub | 1/2 H.P./inch of width |
| 6" Diameter Hub | 3/4 H.P./inch of width |
| 8" Diameter Hub | 1 H.P./inch of width |

Recommended Surface Feet per Minute for using FlexDrum Wheels on Various Materials

| MATERIAL | SFPM |
|--------------------------|-------|
| Mild Steel | 5,000 |
| Stainless Steel | 6,500 |
| Alloy Steel | 5,000 |
| Titanium | 3,500 |
| Hard Aluminum | 5,500 |
| Nonferrous | 5,000 |
| Rubber | 4,500 |
| Hardwood (edge breaking) | 4,000 |
| Softwood | 3,500 |
| Thermoplastic | 3,000 |



MERIT

FlexDrum Hub Specification Chart

| MODEL NO. | 82-B | 121-B | 141-B | 840-B |
|----------------------------|-----------------|--------------|------------|------------|
| Diameter of Finished Wheel | 8 | 12 | 14 or 16 | 16 or 18 |
| Diameter of Hub Alone | 2-3/8 | 4 | 6 | 8 |
| Arbor Hole | 1 or 5/8-11 thd | 3/4 to 1-3/4 | 1 to 3-1/2 | 1-1/4 to 5 |
| Segments Per Hub | 12 | 20 | 30 | 40 |

How to Determine Diameter of Finished FlexDrums

| HUB DIAMETER | TRIM LENGTH (X2) | FINISHED WHEEL |
|--------------|------------------|----------------|
| 2-3/8 | 2-3/4 | 8 |
| 4 | 4 | 12 |
| 4 | 5 | 14 |
| 6 | 4 | 14 |
| 6 | 5 | 16 |
| 8 | 4 | 16 |
| 8 | 5 | 18 |

TECH TIP

For surface feet per minute, use the following calculation: SFPM=.262 x DIA (in inches) x RPM.

Coated Abrasives

A coated abrasive product is made up of three basic raw materials: an abrasive mineral, the backing onto which the abrasive is applied, and an adhesive bond.

Abrasive Types

Emery (6)

Emery is a dark gray, round-shaped grain which tends to polish rather than abrade a work surface.

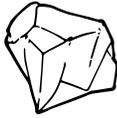
- For polishing and cleaning metal only



Garnet (5)

Garnet is reddish brown in color. This natural abrasive is medium hard and relatively sharp, but not as durable as synthetic abrasives.

- For use on wood only
- Particularly good for soft woods such as pine
- Produces an excellent finish



Silicon Carbide (4)

Silicon carbide is the hardest and sharpest of the manufactured abrasives. Because of its extreme sharpness, this bluish-black abrasive grain permits fast stock removal and cool cut.

- Cast iron
- Non-ferrous metals, i.e. brass, aluminum and bronze
- Non-metallics, i.e. glass, rubber, plastic and stone
- Final finish on wood and stainless steel
- Abrasive planing particleboard



Light Brown Aluminum Oxide (2)

Light brown aluminum oxide is a tough, yet sharp synthetic abrasive characterized by cool cut, long life and the ability to break down under pressure, producing new cutting edges.

- Production wood sanding
- Non-ferrous metal finishing



Brown Aluminum Oxide (2, 7)

Brown aluminum oxide is a tough, durable, synthetic abrasive characterized by the long life and wear resistance of its cutting edges. It offers enormous penetrating strength, even at high speeds.

- Ferrous metals
- Aluminum
- Hardwood



Heat-treated Aluminum Oxide (2)

Heat-treated aluminum oxide is a tough but cool cutting abrasive which gives both long life and freeness of cut on a wide range of materials.

- Ferrous metals
- Wood sanding



Zirconia Alumina (8)

Zirconia alumina is an ultra-tough, synthetic abrasive which provides a free, cool cut for high stock removal applications. It is tougher and sharper than aluminum oxide. It has a micro-crystalline structure which allows for controlled breakdown and self-sharpening.

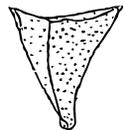
- Heavy-duty snagging and grinding of all ferrous and non-ferrous metals
- Abrasive planing of wood, plywood and particleboard
- Grinding fiberglass, rubber and plastics



Ceramic Alumina (9)

The sub-micron structure of ceramic alumina allows each grain to continually expose sharp cutting points, resulting in a cooler cutting action and an extended life.

- All ferrous/non-ferrous metals, carbon steel and exotic alloys



Backing Types

Backings are the base for the abrasive minerals and, combined with the adhesive bond, support and anchor the abrasive mineral. The backings used in the manufacture of coated abrasives are:

Paper

Due to the fine surface of paper, a consistent finish is produced. Paper weights include *A, B, C, D, E* and *F* weights with *A* being the lightest and most flexible and *F* being the heaviest and least flexible. *A, B, C* and *D* weight papers are used for hand sanding and light mechanical operations in the form of sheets, PSA (pressure sensitive adhesive) and hook and loop discs and sheet rolls. *E* and *F* weight papers are primarily used for more aggressive mechanical operations in the form of belts and discs.

Cloth

Cloth backings used for coated abrasives are identified by weight. Cloth backings are filled or "finished" with a variety of materials (glues or resins) to create various backing characteristics, most notably flexibility. Several cloth types are used: cotton, polyester, polyester/nylon and polyester/cotton blends, and rayon.

There are three basic weights of cloth: J-weight or "jeans" is the lightest and most flexible. X-weight or "drills" is a heavier cloth that ranges in flexibility, strength and durability and is used on the broadest range of applications. Y-weight is a heavyweight drills cloth used on heavy-duty, high stock removal operations.

Fiber

Vulcanized fiber (cotton fibers which are chemically treated and then pressed under temperature and pressure to form a very durable backing) is used exclusively as the backing for resin fiber discs.

Film

Polyester film backing comes in 3 mil. and 5 mil. thicknesses, which have high strength and surface smoothness. They are used primarily in disc and roll applications requiring consistent surface finish.

Foam

Primarily used as backing for sponges, finer grit finishing discs, and buffing and polishing pads for cleaning and moist finishing applications.

Bond Types

An adhesive bond system is required to secure the abrasive mineral to the backing. All coated abrasive products are made with a two stage bonding process, the *make coat* and the *size coat*.

The *make coat* is the first layer of bond applied to the backing. The make coat provides the adhesive base between the abrasive mineral and the backing.

The *size coat* is the second coat, which is applied over the abrasive mineral and make coat to anchor the abrasive mineral and provide the desired physical strength of the finished product.

Glue, urea resin, and phenolic resin are the three basic bonding agents most commonly used. There are many size coat and make coat combinations, such as *glue over glue, urea over glue, and resin over resin*. *Glue over glue* is the most flexible bond while *resin over resin* bond is moisture-resistant, harder, less flexible, heat-resistant and has superior grain retention.

Coating Types

There are two types of abrasive coatings used in the manufacturing of coated abrasives: *open coat* and *closed coat*.

Open Coat

With an open coat, 50% to 75% of the surface is covered by abrasive grain. There are evenly spaced voids between the particles of grain, helping reduce the effect of loading caused by wood dust or metal particles.



OPEN COAT
(1/3 LESS GRAIN THAN CLOSED)

Closed Coat

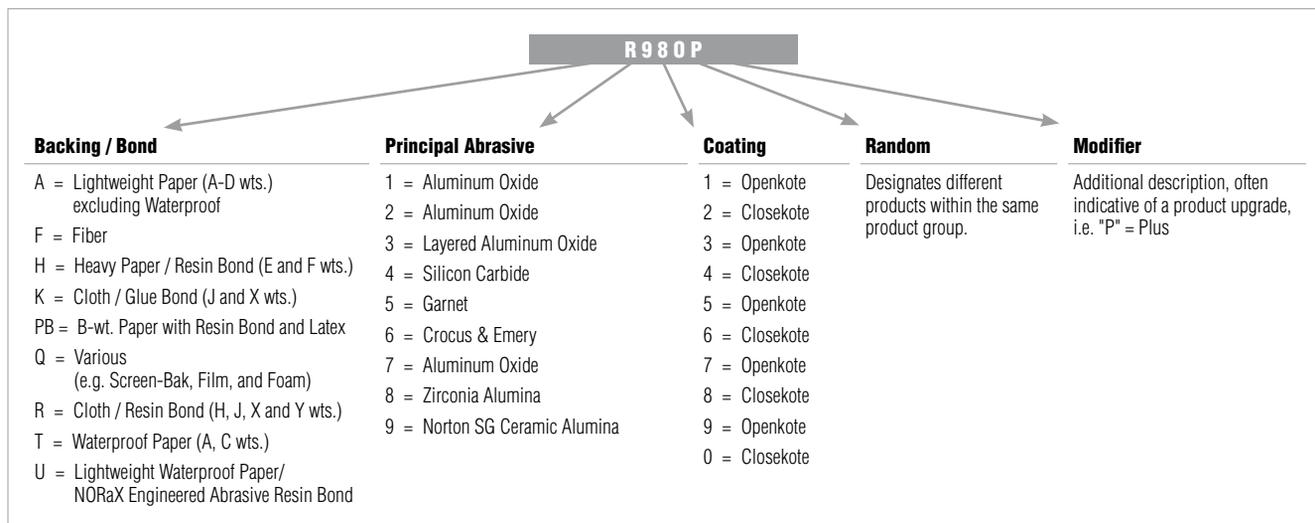
With a closed coat, the entire surface is covered with abrasive grain, with no voids between the particles. This is the most typical coating, permitting the greatest degree of stock removal and longest product life.



CLOSED COAT

How to Read a Coated Abrasive Specification

The Norton coated abrasive marking system includes both a generic and a technical marking, which identifies the actual components which make up the product. The markings identify the tradename, abrasive type, bond, backing, and any special features. An example would be: Norton Blaze R980P.



Coated Abrasive Grit Comparison Chart

| AVERAGE PARTICLE SIZE IN MICRONS | GRADING SYSTEMS (OTHER THAN EMERY) | | | EMERY PRODUCTS |
|----------------------------------|------------------------------------|-------|------|----------------|
| | ANSI | FEPA | JIS | |
| 5.0 | - | - | - | - |
| 6.0 | - | - | 3000 | - |
| 6.5 | 1200 | - | 2500 | 4/0 |
| 8.4 | - | P2500 | - | - |
| 8.5 | - | - | 2000 | - |
| 9.2 | 1000 | - | - | 3/0 |
| 10.3 | - | P2000 | - | - |
| 10.5 | - | - | 1500 | - |
| 12.2 | 800 | - | 1200 | - |
| 12.6 | - | P1500 | - | - |
| 15.0 | - | - | - | - |
| 15.3 | - | P1200 | 1000 | - |
| 16.0 | 600 | - | - | 2/0 |
| 18.3 | - | P1000 | 800 | - |
| 19.7 | 500 | - | - | 0 |
| 20.0 | - | - | - | - |
| 21.8 | - | P800 | - | - |
| 23.6 | 400 | - | 600 | - |
| 25.0 | - | - | - | - |
| 25.75 | - | P600 | - | - |
| 28.8 | 360 | - | 500 | - |
| 30.0 | - | P500 | - | - |
| 35.0 | - | P400 | 400 | - |
| 36.0 | 320 | - | - | - |
| 40.0 | - | - | 360 | - |
| 40.5 | - | P360 | - | - |
| 44.0 | 280 | - | - | 1 |
| 45.0 | - | - | - | - |
| 46.2 | - | P320 | 320 | - |
| 50.0 | - | - | - | - |
| 52.5 | - | P280 | 280 | - |
| 53.5 | 240 | - | - | - |
| 55.0 | - | - | - | - |
| 58.5 | - | P240 | - | - |
| 60.0 | - | - | 240 | - |
| 64.0 | - | - | - | 2 |
| 65.0 | - | P220 | 220 | - |
| 66.0 | 220 | - | - | - |
| 78.0 | 180 | P180 | 180 | - |
| 79.0 | - | - | - | 3 |
| 93.0 | 150 | - | 150 | - |
| 95.0 | - | - | - | FINE |
| 97.0 | - | P150 | - | - |
| 116.0 | 120 | - | 120 | - |
| 127.0 | - | P120 | 100 | - |
| 136.0 | - | - | - | MEDIUM |
| 141.0 | 100 | - | - | - |
| 156.0 | - | P100 | - | - |
| 189.0 | - | - | - | COARSE |
| 192.0 | 80 | - | 80 | - |
| 197.0 | - | P80 | - | - |
| 260.0 | - | P60 | - | - |
| 268.0 | 60 | - | 60 | - |
| 326.0 | - | P50 | 50 | - |
| 341.0 | - | - | - | EX. COARSE |
| 351.0 | 50 | - | - | - |
| 412.0 | - | P40 | 40 | - |
| 428.0 | 40 | - | - | - |
| 524.0 | - | P36 | - | - |
| 535.0 | 36 | - | 36 | - |
| 622.0 | - | P30 | - | - |
| 638.0 | 30 | - | 30 | - |
| 715.0 | 24 | - | - | - |
| 740.0 | - | P24 | 24 | - |
| 905.0 | 20 | - | - | - |
| 984.0 | - | P20 | 20 | - |
| 1320.0 | 16 | - | 16 | - |
| 1324.0 | - | P16 | - | - |
| 1764.0 | - | P12 | - | - |
| 1842.0 | 12 | - | - | - |

Coated Abrasive Storage

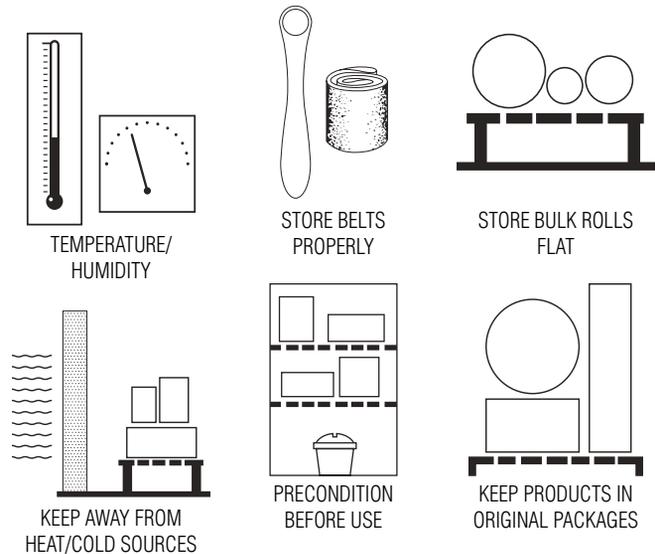
Stored under proper conditions, coated abrasives will retain their efficiency and usefulness over long periods. Improper or inadequate storage can introduce problems of weakened bond, curl, brittleness, and breakage.

Temperature and humidity are the two most important climatic factors influencing coated abrasive performance. Backings and adhesives are sensitive to climatic changes and will gain or lose moisture according to the relative humidity of their surroundings.

Excessive humidity may cause a softening of some types of adhesive bonds so that the product quickly fills and clogs, or loses its grain during use. Excessive dryness may cause brittleness, reduced flexibility, and distortion of product shapes.

As moisture in the coated abrasive product increases or decreases, dimensional changes can occur. When the backing changes more than the adhesive bond, it causes cupping. High and low humidity can cause concave and convex cupping respectively.

The newer synthetic-backed belts are not affected by moisture. Broad temperature swings will not permanently harm these products either, but cold temperatures will cause a "cold set" condition. Consequently, these products should be allowed to come to room temperature before use.



Storage Facilities

The ideal storage (stock) room for coated abrasives would be one in which all the walls are inside partitions, rather than the outside walls of the building.

- Constant levels of humidity and temperature should be maintained. Stockroom temperature should be 60-degrees to 80-degrees F and relative humidity between 35 and 50%.
- Cartons should be kept away from damp or cold walls and floors, where they might absorb moisture.
- Store coated abrasives away from heat sources – steam heated radiators, steam pipes, hot air inlets, heat ducts, or rooms near furnaces or ovens.
- Keep products in original packages. These packages facilitate handling and can be stacked in the most practical and convenient manner.
- Bulk rolls should not be allowed to stand on edge after they have been unpacked. Store flat on shelves or pallets.
- Narrow belts which have been removed from the carton should be rolled up and stored on edge on a clean shelf. Belts may be draped over a large cylinder, such as a gallon can, brake drum, or flanged hanger of the type used for a garden hose. Never hang a belt from a nail – the backing will crease and the abrasive belt might crack. Wide belts should be hung over a tube of at least 4" diameter. Center the belt joint over the tube and add a light weight (such as old packaging tubes) to the bottom loop of the belt to aid in removing set. Condition for 24 hours prior to use.
- For maximum product efficiency, precondition coated abrasive products in a chamber of controlled temperature and humidity before use.

we've surfaced
faster solutions
**THAT WORK HARD
AND PAY BETTER**

For stripping, deburring, blending, finishing, or polishing surfaces and coatings, Norton Bear-Tex non-woven innovations reduce steps and improve surface finish.



**CLEAN
BOND**[®]
TECHNOLOGY

Our patented Clean Bond Technology eliminates smearing.



Strip Away Old Ideas

Quick and easy rough cleaning and stripping of scale and heavy stock on a variety of materials while maintaining its non-loading feature.



Prep for the Future

For cleaning and conditioning: gain higher material removal, longer life and consistent, smear-free finishes - even on high nickel content alloys.



Blending In is Easy

Polishing and blending with Norton Rapid Blend unified discs and wheels leave a smear-free finish in fewer steps.



Eliminate the Guesswork

Get the perfect combination of life, cut, and smear-free finish, with our color-coded (by application and abrasive type) GP convolute wheels.

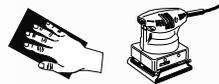


HAND PADS, ROLLS AND SPONGES



Surface finishing hand pads and rolls are made of a non-woven nylon web impregnated with abrasive grain and resin bond.

- Applications:** Light- to heavy-duty cleaning, deburring, blending, polishing, and finishing of metal, wood, composite, plastics, stone, solid surface and painted surfaces.
- Abrasive Grain:** Aluminum Oxide, Silicon Carbide
- Grit Range:** Medium (M), Fine (F), Very Fine (VF), Ultra Fine (UF), Micro Fine (MF), Non-Abrasive (-)
- Hand Pad Features:**
- Flexible; conform to work surface
 - Gentle action easily removes flashing or burrs without affecting dimension of workpiece
 - Non-loading; constant supply of new cutting edges
 - Non-rusting; no workpiece contamination
- Sponge Pad Features:**
- Resilient construction; long life, increased productivity; solvent resistant; waterproof
 - Non-woven material is laminated to a long-lasting sponge for the convenience of 2 pads in one
- Roll Features:**
- Superior replacement for steel wool
 - Economical alternative to cut pads
 - Can be cut to specific sizes
- Machine Used:**



APPLICATION/GRIT RECOMMENDATION GUIDE

| | ← MORE AGGRESSIVE, ROUGHER FINISH | | | | | → LESS AGGRESSIVE, FINER FINISH | | | | | |
|-------------------------------|--|--|---|--|---|--|---|--|--|---|---|
| PRODUCT #: | #740 | #746 | #644 | #747 | #796 | #635 | #748 | Thin-Flex VF | Thin-Flex UF | Thin-Flex BP | #456 |
| COLOR: | Dark Tan | Gray | Maroon | Maroon | Green | Gray | Gray | Maroon | Gray | Gold | White |
| DESCRIPTION: | Heavy Duty | Blending | GP - Fine | GP Plus - Very Fine | Scouring | Clean & Finish | Final Shine | Cleaning | Cleaning | Blend Prep | Cleaning |
| ABRASIVE: | AO | SC | AO | AO | AO | SC | SC | AO | SC | AO | Non-Abrasive |
| GRIT SIZE: | Medium 100 - 150 | Medium 100 - 150 | Fine 180 - 220 | Very Fine 240 - 360 | Very Fine 240 - 360 | Ultra Fine 400 - 600 | Micro Fine 800 - 1200 | Very Fine 240 - 360 | Ultra Fine 400 - 600 | Micro-Fine 800 - 1200 | Non-Abrasive - - - |
| STEEL WOOL EQUIVALENT: | 4 Extra Coarse | 3 Coarse | 2 Medium Coarse | 1 Medium | 0 Fine | 00 Very Fine | 00 Very Fine | 00 Very Fine | 000 Extra Fine | 000 Extra Fine | 0000 Super Fine |
| APPLICATIONS: | <ul style="list-style-type: none"> • Smear-free Clean Bond technology • 2X life • Most durable and aggressive cutting pad • Heavy-duty removal <ul style="list-style-type: none"> » rust » oxidation • Deburring | <ul style="list-style-type: none"> • Blending and deburring <ul style="list-style-type: none"> » welds » aluminum » stainless | <ul style="list-style-type: none"> • Cleaning and deburring <ul style="list-style-type: none"> » machinery » metal parts » plastic » solid surface » stone | <ul style="list-style-type: none"> • Light cleaning, deburring and finishing <ul style="list-style-type: none"> » machinery » metal parts » plastic » solid surface » stone | <ul style="list-style-type: none"> • Removing stains, marks, rust, corrosion or oxidation from stainless equipment • Light cleaning of metal surfaces | <ul style="list-style-type: none"> • Light cleaning and finishing of most surfaces <ul style="list-style-type: none"> » steel, aluminum » denibbing plastic » scuffing acrylics | <ul style="list-style-type: none"> • Final finishing <ul style="list-style-type: none"> » final rub on wood » final blend on metal » final finish on plastics and acrylics | <ul style="list-style-type: none"> • Maximum flexibility for consistent finishes • Cleaning blending, finishing, and deburring in woodwork, metalwork, MRO, and synthetic applications | <ul style="list-style-type: none"> • Maximum flexibility for consistent finishes • Cleaning blending, finishing, and deburring in woodwork, metalwork, MRO, and synthetic applications | <ul style="list-style-type: none"> • Fine cleaning • Fine polishing (most surfaces) • Top coat finishing (water-based and solvent) | <ul style="list-style-type: none"> • Scratch-free cleaning <ul style="list-style-type: none"> » metal » fiberglass » stone » solid surface » ceramic • Wood <ul style="list-style-type: none"> » high-lighting » rubbing |

CROSS REFERENCE GUIDE

| | ← COARSER | | | → FINER | | | | | | |
|---------------|------------|-----------|-------|----------------------------------|------------|-------|---------|---------------------|-------------------|----------------|
| NORTON | #740 | #746 | #644 | #747/847 | #796 | #635 | #748 | Thin-Flex VF | Thin Flex UF | #456 |
| 3M | 7440 | 7446 | 64659 | 7447/8447 Production Hand Pad | 96 | 64660 | 7448 | Multi-Flex Maroon | Multi-Flex Gray | 7445 |
| Camel | Tan | - | - | Maroon | Green | - | Gray | - | - | White |
| Mirka | - | - | - | Maroon/Red VF | - | - | - | Mirlon Total Maroon | Mirlon Total Gray | - |
| Sait | Brown | - | - | Maroon | Green | - | Gray | - | - | - |
| SIA | 6912 Brown | 6712 Grey | - | 6912 Maroon | 6312 Green | - | - | - | - | - |
| Standard | HD-Tan AO | - | - | GP-Maroon VF | Green-AO | HP-VF | UF Gray | - | - | Cleaning White |

HAND PADS, ROLLS AND SPONGES

| SIZE (W x L) | COLOR | DESCRIPTION | ABRASIVE | GRIT SIZE | STD. PKG. | PART # | TIER: | | |
|--------------------------------|--------------|---|----------|-----------|---------------|-------------|-------------|--------|-------------|
| | | | | | | | BEST | BETTER | GOOD |
| | | | | | BRAND: Norton | | | Norton | Norton |
| Hand Pads | | | | | | | | | |
| 4-1/2 x 9 | Maroon | Thin Flex Cleaning Pad | A/O | VF | 25 | 66623398062 | | | |
| | Grey | Thin Flex Cleaning Pad | S/C | UF | 25 | 66623398063 | | | |
| | Gold | Thin Flex Blend Prep | A/O | MF | 25 | 66261113519 | | | |
| 6 x 9 | Dark Tan | 740 Heavy-Duty Pad | A/O | Med | 40 | | | | 66261074000 |
| | Gray | 746 Blending Pad | S/C | Med | 40 | | | | 66261074600 |
| | Maroon | 777 General Purpose Very Fine Pad | A/O | VF | 60 | | | | 66261077700 |
| | Maroon | 747 General Purpose Plus Pad | A/O | VF | 60 | | 66261074700 | | |
| | Maroon | 847 General Purpose Plus Perforated Pad | A/O | VF | 60 | | 66261084700 | | |
| | Green | 796 Scouring Pad | A/O | VF | 60 | | | | 66261079600 |
| | Lt. Green | 696 Food Pro Pad | A/O | VF | 60 | | | | 66261069600 |
| | Gray | 851 General Cleaning Pad | S/C | VF | 40 | | | | 66261085100 |
| | Gray | 635 Clean & Finish Pad | S/C | UF | 60 | | | | 66261063500 |
| | Gray | 748 Final Shine Pad | S/C | MF | 60 | | | | 66261074800 |
| | White | 456 Cleaning Pad | None | - | 60 | | | | 66261045600 |
| Hand Pad Holder | | | | | | | | | |
| 3-1/4 x 5-1/2 | N/A | Hand Pad Holder | | | | 10 | | | 66261047583 |
| Rolls | | | | | | | | | |
| 4" x 30 Ft. | Maroon | High Strength Roll | A/O | M | 3 | | 66261006358 | | |
| | Dark Tan | 740 Heavy-Duty Roll IMPROVED! | A/O | M | 3 | | | | 66261010081 |
| | Maroon | 644 General Purpose Fine Roll | A/O | F | 4 | | | | 66261058364 |
| | Maroon | 777 General Purpose Very Fine Roll | A/O | VF | 4 | | 66261006373 | | 66261058361 |
| | Maroon | 747 General Purpose Plus Roll | A/O | VF | 4 | | 66261051701 | | |
| | Gray | 851 General Cleaning Roll | S/C | VF | 4 | | | | 66261058360 |
| | Gray | 635 Clean & Finish Roll | S/C | UF | 5 | | | | 66261058357 |
| 6" x 30 Ft. | Maroon | High Strength Roll | A/O | M | 2 | | 66261005182 | | |
| | Maroon | 747 General Purpose Plus Roll | A/O | VF | 3 | | 66261016430 | | |
| | Maroon | 777 General Purpose Very Fine Roll | A/O | VF | 3 | | 66261004281 | | 66261058376 |
| | Gray | 851 General Cleaning Roll | S/C | VF | 3 | | | | 66261058377 |
| 2" x 15 Ft. Handy Roll Pack | Assorted | 1 each A/O Fine, A/O VF, SC MF | - | - | 1 | | | | 66261008108 |
| Scouring Pads/Sponges | | | | | | | | | |
| 3-1/4 x 6-1/4 x 3/4 | Green/Yellow | 893 Scour-N-Sponge Pad | A/O | VF | 40 | | | | 66261059403 |
| 3-1/4 x 6-1/4 x 3/4 | White/Yellow | 875 Clean-N-Sponge Pad | None | - | 40 | | | | 66261059402 |

BEAR-TEX®



THIN and FLEXIBLE: Perfect for Tight Spots

Norton Bear-Tex Thin-Flex High-Performance Hand Pads

- Achieve performance benefits of a Coarse and Fine grain product in one hand pad: fast cut and definitively better finish than competing pads.
- Extremely thin and conformable; ideal for deburring, cleaning, blending, and finishing contoured surfaces and tight spaces
- Special coated web design for superior and constant cutting action without added effort from user
- Versatile; ideal for woodworking, metalworking, maintenance operations, and synthetics fabrication



When maximum conformability is needed, tough, Norton nylon brushes' flexible nylon filaments embedded with abrasive grain provide exceptional finishing and polishing and eliminate the need for costly and inconsistent hand deburring applications.

Norton nylon brushes are precision-engineered with the highest quality abrasive grains for those markets with the strictest requirements – for easy integration into today's automated machinery, CNC machining centers, transfer lines, robotic cells, and other highly-specialized machinery, as well as hand tools.

| | |
|-----------------------|--|
| Applications: | Deburring, cleaning, finishing, and polishing |
| Brush Configurations: | Radial wheel brushes, narrow face wheel brushes, disc brushes, end brushes, and twisted brushes |
| Markets: | Aerospace/aircraft, automotive, construction/utility products, medical, metal finishing, woodworking |
| Abrasive Grain: | Ceramic Alumina, Silicon Carbide |

WHY CHOOSE NYLON ABRASIVE BRUSHES?

- Abrasive grain cutting points are increased as the grain is exposed and cut equally when pressure is applied to the side or tip of the filament
- Uniform distribution of grain throughout the filaments allows cutting and finishing performance levels to remain consistent throughout the life of the brush – making Norton abrasive brushes ideal for automated applications
- Heat- and stress-resistant filaments prolong brush life and allow for superior conformability to irregular surface shapes
- The grain impregnated filaments act as a flexible file to deburr and radius edge profiles with precision, without gouging or affecting the overall geometry of a part
- The filaments bend at various angles to fit contours, creating a less prominent, more uniform surface finish in comparison to wire wheels or coated abrasive products
- Brush conformability allows usage on variety of complex part shapes without the need for ultra-precise programming and fixturing that is required with other deburring and finishing tools

NORTON BLAZE CERAMIC ALUMINA

BEST CHOICE ENGINEERED SPECIFICALLY FOR JOBS REQUIRING CONTROLLABLE SURFACE REFINEMENT AND UNIFORM FINISHING

FEATURES AND BENEFITS

- Norton Blaze sharp, penetrating ceramic alumina nylon brushes are engineered specifically for jobs requiring controllable surface refinement and uniform finishing; the fastest, longest lasting, consistent performers – brush after brush



NORTON SILICON CARBIDE

GOOD CHOICE FOR USE WHERE MAXIMUM CONFORMABILITY IS NEEDED

FEATURES & BENEFITS

- Feature tough, flexible nylon filaments embedded with abrasive grain to provide finishing and polishing where maximum conformability is needed
- Fast cutting silicon carbide abrasive grain



| | | |
|------------|-----------------|-----------------|
| TIER: | GOOD | GOOD |
| BRAND: | Norton | Norton |
| ABRASIVE: | Silicon Carbide | Silicon Carbide |
| GRIT SIZE: | 80 | 120 |

| SIZE (D x T x H) | MAX. RPM | STD. PKG. | PART # | PART # |
|--|----------|-----------|-------------|-------------|
| Stock Abrasive Brush | | | | |
| 7 x 1 x 7/8 | 6,000 | 5 | 66261058830 | 66261058834 |
| <i>Use with air-cooled rubber back-up pad and retainer nut</i> | | | | |
| Abrasive Brush Back-up Pads | | | | |
| 7" Medium | 8,600 | 5 | 63642543422 | |



BACK-UP PAD

Currently, all Norton Blaze ceramic alumina nylon abrasive brushes are custom-made to your exact requirements. The Norton Blaze Nylon Brushes Brochure #8571 provides technical information and product availability. Your Norton representative would be pleased to review availability, quotations, and lead-times with you.

RIGHT ANGLE GRINDER DISCS



Non-woven depressed center discs have three components: strong synthetic fiber mesh and quality abrasives, bonded together by a smear-resistant adhesive. Rapid Strip discs have an open web construction that enables aggressive cutting action while maintaining a cool, non-loading surface. Rapid Blend discs have a unitized construction with varying weave – from open to tighter – for deburring and finishing. Rapid Prep discs have a more open weave that excels in surface preparation and cleaning. Each product provides excellent cutting action while improving surface finish.

Applications: Medium-to-light material removal, deburring, blending, cleaning, finishing, and polishing
 Size Range: 4-1/2" - 7"
 Grit Range: X-Coarse, Coarse, Medium, Fine, Very Fine
 Abrasive Grain: Ceramic Alumina, Silicon Carbide, Engineered Aluminum Oxide, Aluminum Oxide
 Machine Used:



MATERIAL/APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE – FOR ALL DISCS USED ON RIGHT ANGLE GRINDERS

| | BEST Highest Productivity; Lowest Total Cost | BETTER Excellent Blend of Performance & Price | GOOD Consistent Performance; Low Initial Price |
|--|---|--|---|
| Removing scale and coarse welding marks | Blaze Rapid Strip Ceramic X/Grse | – | Rapid Strip S/C X-Coarse |
| Removing coatings, epoxy/glue, paint and other clogging material | | | |
| Removing rust, oxidation, corrosion and residue | | | |
| Removing parting lines and seams on fiberglass parts | | | |
| Removing paint/graffiti from concrete/stone | | | |
| Removing weld marks and weld splatter | – | Vortex Rapid Blend A/O Coarse | Rapid Blend A/O Coarse |
| Stainless steel deburring and cleaning | | | |
| Removing small flashings and parting lines | | | |
| Surface preparation before coatings/plating | – | Vortex Rapid Prep A/O Medium | Rapid Prep A/O Medium |
| Light cleaning | | | |
| Cleaning and prepping welds | – | Vortex Rapid Prep A/O Fine | Rapid Prep A/O Fine |
| Removing blemishes after welding stainless | | | |
| Blending and finishing all metal parts | – | Vortex Rapid Blend A/O Very Fine | Rapid Blend S/C Very Fine |
| Creating decorative finishes on stainless steel | | | |
| Final finishing and polishing | | | |
| Final finishing/polishing where high conformability is needed | – | – | Rapid Prep A/O Very Fine |

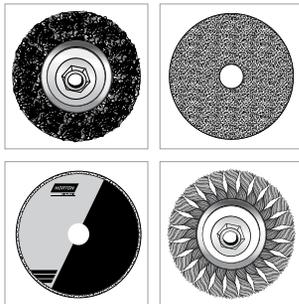
APPLICATION/PRODUCT RECOMMENDATION GUIDE – FOR ALL DISCS USED ON RIGHT ANGLE GRINDERS

| | ← MOST AGGRESSIVE / LEAST CONFORMABLE | | LEAST AGGRESSIVE / MOST CONFORMABLE → | | |
|------------------------|---------------------------------------|---|---------------------------------------|----------------------|----------------------|
| Depressed Center | Blaze Rapid Strip | Vortex Rapid Blend A/O Med. Rapid Blend A/O Coarse | Rapid Blend A/O Medium | Rapid Blend S/C Fine | Rapid Prep Very Fine |
| Discs With Back-Up Pad | | Rapid Prep A/O Coarse | Rapid Prep A/O Medium | Rapid Prep A/O Fine | |
| Scale Removal | Best Choice | | | | |
| Stock Removal | Best Choice | Second Choice | | | |
| Heavy Deburring | Second Choice | Best Choice | | | |
| Light Deburring | | Best Choice | Second Choice | | |
| Light Finishing | | Second Choice | Best Choice | | |
| Blending | | | Best Choice | Second Choice | |
| Finishing | | | Second Choice | Best Choice | |
| Polishing | | | | Best Choice | Second Choice |

CROSS REFERENCE GUIDE – FOR ALL DISCS USED ON RIGHT ANGLE GRINDERS

| | STRIPPING (EXTRA COARSE) | | SURFACE FINISHING (COARSE – MEDIUM – FINE) | | | SURFACE PREP (VERY FINE) |
|---------------|--------------------------|--------------------|--|--------------|-------------------|------------------------------|
| | BEST | GOOD | BETTER | GOOD | BETTER | GOOD |
| NORTON | Blaze Rapid Strip | Rapid Strip | Vortex Rapid Blend | Rapid Blend | Vortex Rapid Prep | Rapid Prep |
| 3M | – | Clean & Strip | – | – | – | SL Surface Conditioning |
| Bibielle | – | SDR Strip-It/Red | – | BUR Unitized | – | – |
| Camel | – | EZ Strip Black/Red | – | – | – | – |
| Flexovit | – | Clean & Strip | – | – | – | – |
| Hermes | – | Webrax | – | – | – | – |
| Pearl | – | S/C Stripping | – | – | – | Surface Preparation |
| Pferd | – | Policlean | – | Poliflex PUR | – | – |
| Sait | – | Sait-Strip | – | Unitized | – | – |
| Standard | – | Cleaning | – | Unitized | – | FE, GP, RC |
| Superior | – | Stripping | – | XL Unitized | – | FD, GD, CC |
| Walter | – | FX Cleaning | – | – | – | Blendex Surface Conditioning |

WHY CHOOSE NON-WOVEN DEPRESSED CENTER DISCS?



Non-Woven Right Angle Discs vs. Fiber Discs, Wire Wheels, and Depressed Center Wheels

- Deburring, blending and finishing done with one product to reduce the number of steps
- To provide a controlled, sustained finish
- To prevent undercutting and gouging
- To provide a cooler grinding action to lessen the chance of warping or discoloration
- When loading is an issue with fiberglass, adhesives and soft metals
- For stripping coatings and paint off of hard materials like concrete, cement and stone
- Less vibration and quieter for high operator acceptance
- To provide an alternative to wire brushes



Blaze Your Way to Greatest Productivity

Norton Blaze Rapid Strip Type 27 Depressed Center Discs

Strip/blend cast iron, steels, aluminum, fiberglass and composites

- Open structure; will not load on sticky coatings, adhesives, and soft metals (e.g. aluminum), or snag and shed like a cloth or fiber disc might
- Norton Blaze ceramic alumina grain provides 2X cut rate and life over silicon carbide
- Will not shed on heavily rust-encrusted pieces
- Extremely versatile; use one disc; stiff enough to stand abuse, but soft enough to prevent gouging and rework
- Use on edge for blending weld root forms
- Apply some pressure to strip or remove coatings; lighter pressure finishes like a surface finishing disc
- Fewer safety, ergonomic, and environmental issues due to fewer change-outs, less downtime, and less production waste/landfill scrap



DEPRESSED CENTER DISCS

NORTON BLAZE RAPID STRIP CERAMIC ALUMINA

BEST CHOICE FOR QUICK AND EASY ROUGH CLEANING AND STRIPPING OF ALL MATERIALS



FEATURES

- Norton Blaze ceramic alumina grain
- Advanced resin bond
- Uniform coating process
- Open structure

BENEFITS

- 2X cut rate, 2X life over silicon carbide products
- Does not shed on rust-encrusted pieces, and prevents gouging and rework
- Does not snag when used for deburring
- Abrasive coating covers the entire disc providing a consistent cut rate
- Sticky coating, adhesives and soft metals will not clog the disc

| | | |
|----------------------|--------------------------|--------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | BLAZE RAPID STRIP | RAPID STRIP |
| ABRASIVE: | Ceramic Alumina | Silicon Carbide |
| GRIT SIZE: | 36-50 | 36-50 |
| GRADE: | X-Coarse | X-Coarse |
| TYPE/BACKING: | Type 27/Fiberglass | Type 27/Fiberglass |

| SIZE (D x H) | MAX. RPM | STD. PKG. | PART # | PART # |
|----------------|----------|-----------|-------------|-------------|
| 4-1/2 x 5/8-11 | 12,000 | 10 | 66254498101 | 66261009585 |
| 4-1/2 x 7/8 | 12,000 | 10 | 66623303783 | 66261009649 |
| 5 x 5/8-11 | 11,000 | 10 | 66623303915 | |
| 5 x 7/8 | 11,000 | 10 | 66623303916 | |
| 7 x 5/8-11 | 8,000 | 10 | 66623303919 | 66261009650 |
| 7 x 7/8 | 8,000 | 10 | 66623303920 | 66261009586 |

NORTON VORTEX RAPID BLEND ALUMINUM OXIDE

BETTER CHOICE WITH REVOLUTIONARY TECHNOLOGY FOR HEAVY DEBURRING AND FINISHING



FEATURES

- Proprietary high-performance, engineered aluminum oxide aggregate grain
- Superior bond technology
- Controlled porosity

BENEFITS

- Aggressive, fast stock removal cut rate while providing a fine finish
- Twice the wheel life over conventional unified wheels, with minimal shedding
- Consistent performance with no smearing
- Cooler and improved cut rate



| | | | | | |
|-----------------------|---------------------------|--------------------|--------------------|--------------------|----------------------|
| TIER: | BETTER | GOOD | GOOD | GOOD | GOOD |
| BRAND: | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | VORTEX RAPID BLEND | RAPID BLEND | RAPID BLEND | RAPID BLEND | RAPID BLEND |
| ABRASIVE: | Engineered A/O | Aluminum Oxide | Aluminum Oxide | Silicon Carbide | Aluminum Oxide |
| GRIT SIZE: | 100-120 | 150-180 | 220-280 | 320-400 | 150-180 |
| SPECIFICATION: | Medium | NEX-2AM | NEX-2AF | NEX-2SF | High Strength Medium |
| TYPE/BACKING: | Type 27/Fiberglass | Type 27/Fiberglass | Type 27/Fiberglass | Type 27/Fiberglass | Type 27/Fiberglass |

| SIZE (D x H) | MAX. RPM | STD. PKG. | PART # |
|----------------|----------|-----------|-------------|-------------|-------------|-------------|-------------|
| 4-1/2 x 5/8-11 | 12,000 | 10 | 66254429243 | 66261023947 | 66261023946 | 66261023943 | 66261023949 |
| 4-1/2 x 7/8 | 12,000 | 10 | 66254429268 | 66261020548 | 66261020547 | 66261020546 | 66261020549 |

STANDARD BACK-UP PAD DISCS

NORTON VORTEX RAPID PREP ALUMINUM OXIDE DISCS

BETTER CHOICE FOR FINISHING AND BLENDING APPLICATIONS



FEATURES

- Proprietary, engineered Vortex aluminum oxide abrasive grain, new coating method, and smear-free Clean-Bond technology

BENEFITS

- Most consistent cutting and finishing surface conditioning products on the market
- Combine maximum cutting speed with the finish of fine grits
- Reduce process times by 50+% by eliminating 2 to 5 grit sequences to 1 step in your technical blending operations
- More resistant to edge wear; up 4X life vs. competitive products
- Friable grain structure keeps Ra specs throughout disc life and reduces scrap and rework

7/8" Center Hole

| | | |
|------------|---------------------------|-------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | VORTEX RAPID PREP | RAPID PREP |
| ABRASIVE: | Engineered Aluminum Oxide | Aluminum Oxide |

| SIZE (DIAMETER) | STD. PKG. | PART # | PART # |
|---------------------|-----------|-------------|-------------|
| Extra Coarse | | | |
| 4-1/2 | 25 | 66623334973 | 66623326070 |
| 5 | 25 | 66623334975 | 66261090645 |
| 6 | 25 | 66623341359 | |
| 7 | 25 | 66623341360 | 66623326085 |
| Coarse | | | |
| 4-1/2 | 25 | 66623334944 | 66254473868 |
| 5 | 25 | 66623334946 | 66261008293 |
| 6 | 25 | 66623341361 | 66623325136 |
| 7 | 25 | 66623341362 | 66623325138 |
| Medium | | | |
| 4-1/2 | 25 | 66623333612 | 66623325915 |
| 5 | 25 | 66623334963 | 66261017124 |
| 6 | 25 | 66623341363 | 66623325918 |
| 7 | 25 | 66623341364 | 66623325919 |
| Fine | | | |
| 4-1/2 | 25 | 66623333608 | 66623325153 |
| 5 | 25 | 66623334954 | 66254469132 |
| 6 | 25 | 66623341365 | 66623325159 |
| 7 | 25 | 66623341366 | 66623325897 |
| Very Fine | | | |
| 4-1/2 | 25 | 66623333616 | 66623325938 |
| 5 | 25 | 66623333618 | 66623325943 |
| 6 | 25 | 66623341367 | 66623325958 |
| 7 | 25 | 66623341368 | 66623325959 |



| DESCRIPTION | MAX. RPM | STD. PKG. | PART NO. |
|-------------------------------------|----------|-----------|-------------|
| Rapid Prep Disc Back-up Pads | | | |
| 4-1/2" Medium | 11,000 | 5 | 63642502122 |
| 5" Medium | 10,000 | 5 | 63642543421 |
| 7" Medium | 8,600 | 5 | 63642543422 |

All Rapid Prep 7/8" center hole discs are non-stock. Ask your Norton representative for current lead-times.

Norton Rapid Prep Surface Conditioning Products

The Perfect Abrasive, Coating, and Bond Built into Every Disc and Belt

- Available in premium Vortex aluminum oxide aggregate grain and Norton aluminum oxide grain; ideal for many aerospace, metal and stainless steel fabrication, and MRO applications
- Our proprietary coating method extends life and delivers consistent finishes by creating a thick layer of grain throughout the product. Grain does not sit on top of fibers as other competitive products can.
- Our new Clean Bond resin system guarantees smear-free finishes, even on high nickel content alloys; will not load on aluminum and soft metals, as competitive products can



RAPID PREP AVOS SPEED-LOK ALUMINUM OXIDE

GOOD CHOICE FOR LIGHT DEBURRING, CLEANING AND FINISHING



| FEATURES | BENEFITS |
|---|---|
| <ul style="list-style-type: none"> Patented hole design | <ul style="list-style-type: none"> Allows interrupted cut, reducing heat up to 30% over standard surface preparation discs Cool cutting results in longer disc life Provides complete vision into the grinding zone Operators can grind more accurately with less re-work |
| <ul style="list-style-type: none"> Scooped holes | <ul style="list-style-type: none"> Create air flow to pull loose abrasive and swarf away from work surface grinding zone – resulting in extended disc life |
| <ul style="list-style-type: none"> 15 degree angle back-up pad | <ul style="list-style-type: none"> Grinding at 5°-15° angle allows greater utilization of disc surface Eliminates gouging of workpiece |

AVOS Speed-Lok

| | | TIER: BETTER | GOOD |
|---------------------|-----------|-------------------------------------|-----------------|
| | | BRAND: Norton | Norton |
| | | TRADENAME: VORTEX RAPID PREP AVOS | RAPID PREP AVOS |
| | | ABRASIVE: Engineered Aluminum Oxide | Aluminum Oxide |
| SIZE (DIAMETER) | STD. PKG. | PART # | PART # |
| Extra Coarse | | | |
| 5 | 10 | 66623374801 | |
| Coarse | | | |
| 4-1/2 | 10 | | 66261010447 |
| 5 | 10 | | 66623374818 |
| 7 | 10 | | |
| Medium | | | |
| 4-1/2 | 10 | 66623374806 | 66261010448 |
| 5 | 10 | | 66623374819 |
| Very Fine | | | |
| 4-1/2 | 10 | | 66623374823 |
| 5 | 10 | | 66623374824 |
| 7 | 10 | 66623374814 | |



| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|
| AVOS Speed-Lok Back-up Pads – Triangular | | | |
| 4-1/2 x 5/8-11 | 13,000 | 5 | 63642502985 |
| 5 x 3/8-24 Pistol Grip* | 20,000 | 5 | 63642503029 |
| 5 x 5/8-11 Thicker | 13,000 | 5 | 63642502517 |
| 5 x 5/8-11 | 13,000 | 5 | 63642503663 |
| 5 x 7/16-20 Pistol Grip* | 20,000 | 5 | 63642503030 |
| AVOS Speed-Lok Back-up Pads – Round | | | |
| 7 x 5/8-11 Hard | 8,600 | 5 | 63642504873 |

* Use on air pneumatic and high-speed pistol grip sanders.

Speed Change 5/8"-11

| | | TIER: BETTER | GOOD |
|---------------------|-----------|-------------------------------------|----------------|
| | | BRAND: Norton | Norton |
| | | TRADENAME: VORTEX RAPID PREP | RAPID PREP |
| | | ABRASIVE: Engineered Aluminum Oxide | Aluminum Oxide |
| SIZE (DIAMETER) | STD. PKG. | PART # | PART # |
| Extra Coarse | | | |
| 4-1/2 | 25 | 66623373667 | 66623373690 |
| 5 | 25 | 66623373669 | |
| 7 | 25 | 66623373670 | 66623373692 |
| Coarse | | | |
| 4-1/2 | 25 | 66623373671 | 66623373693 |
| 5 | 25 | 66623373674 | 66254498516 |
| 7 | 25 | 66623373675 | 66261192908 |
| Medium | | | |
| 4-1/2 | 25 | 66623373678 | 66623308157 |
| 5 | 25 | 66623373679 | 66623373694 |
| 7 | 25 | 66623373680 | 66261192913 |
| Fine | | | |
| 4-1/2 | 25 | 66623373681 | |
| 5 | 25 | 66623373682 | 66623373695 |
| 7 | 25 | 66623373684 | |
| Very Fine | | | |
| 4-1/2 | 25 | 66623373685 | |
| 5 | 25 | 66623373686 | 66623373699 |
| 7 | 25 | 66623373687 | 66623373700 |



| DESCRIPTION | MAX. RPM | STD. PKG. | PART # |
|---|----------|-----------|-------------|
| Smooth-Face Back-up Pads for 5/8-11 Speed-Change Discs | | | |
| 4-1/2" Medium | 20,000 | 5 | 66254492277 |
| 5" Medium | 12,000 | 5 | 63642543235 |
| 7" Hard | 8,600 | 5 | 63642543240 |
| 7" Medium | 8,600 | 5 | 63642543245 |
| 7" Soft | 8,600 | 5 | 63642543250 |
| 9" Medium | 7,000 | 5 | 63642543270 |

Non-Woven Hook and Loop Discs

NORTON VORTEX RAPID PREP

BETTER CHOICE FOR FINISHING AND BLENDING APPLICATIONS



FEATURES

- Proprietary engineered Vortex aluminum oxide abrasive grain and coating method
- Clean Bond resin system, aerospace-tailored
- Strong hook and loop backing

BENEFITS

- Most consistent cutting and finishing of surface conditioning products on the market
- Combine maximum cutting speed with the finish of finer grits
- Reduce process times by 50+% by combining multiple grit sequences to 1 step in a blending operation
- More resistant to edge wear; up 4X life vs. competitive products
- Friable grain structure keeps Ra specs throughout disc life and reduces scrap and rework
- Smear-free, even on high nickel content alloys
- Will not load on aluminum and soft metals, as competitive products can
- Will not fly off rotary sanders
- Discs sit flatter on back-up pads, resulting in a more consistent finish on DA applications

| | | |
|------------|---------------------------|-------------------|
| TIER: | BETTER | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | VORTEX RAPID PREP | RAPID PREP |
| ABRASIVE: | Engineered Aluminum Oxide | Aluminum Oxide |

| SIZE (DIAMETER) | STD. PKG. | PART # | PART # |
|---------------------|-----------|-------------|--------------|
| Extra Coarse | | | |
| 1-1/2 | 50 | 66623325061 | 66623340098 |
| 2 | 50 | 66623334970 | 66261017900 |
| 3 | 25 | 66623333620 | 66623326059 |
| 4 | 25 | 66623334971 | 66261017382 |
| 4-1/2 | 25 | 66623334972 | 66261017906 |
| 5 | 25 | 66623334974 | 66261017215 |
| 6 | 25 | 66623333621 | 66623326077 |
| 7 | 25 | 66623334976 | 66261192846 |
| 8 | 25 | 66623334977 | |
| Coarse | | | |
| 1-1/2 | 50 | 66623325057 | 66623340099 |
| 2 | 50 | 66623334882 | 66261004431* |
| 3 | 25 | 66623334883 | 66261055015 |
| 4 | 25 | 66623334884 | 66261055018 |
| 4-1/2 | 25 | 66623334943 | 66261017806 |
| 5 | 25 | 66623334945 | 66261004435 |
| 6 | 25 | 66623334949 | 66261006910 |
| 7 | 25 | 66623334951 | 66261055027 |
| 8 | 25 | 66623334953 | 66261006913 |
| Medium | | | |
| 1-1/2 | 50 | 66623325059 | 66623338571 |
| 2 | 50 | 66623334958 | 66261004441 |
| 3 | 25 | 66623334956 | 66261004442 |
| 4 | 25 | 66623334959 | 66261055019 |
| 4-1/2 | 25 | 66623334961 | 66261004444 |
| 5 | 25 | 66623334962 | 66261055022 |
| 6 | 25 | 66623334964 | 66261006911 |
| 7 | 25 | 66623334965 | 66261017813 |
| 8 | 25 | 66623334966 | 66261017815 |
| Fine | | | |
| 1-1/2 | 50 | 66623325058 | 66623340101 |
| 2 | 50 | 66623333604 | 66623325141 |
| 3 | 25 | 66623333605 | 66623325143 |
| 4 | 25 | 66623333606 | 66623325145 |
| 4-1/2 | 25 | 66623333607 | 66623325147 |
| 5 | 25 | 66623333609 | 66623325154 |
| 6 | 25 | 66623333610 | 66623325160 |
| 7 | 25 | 66623334955 | 66261199465 |
| 8 | 25 | 66623333611 | 66623325907 |

* Standard Package = 80
Continued

Non-Woven Hook and Loop Discs *continued*

| | | TIER: BETTER | GOOD |
|------------------|-----------|-------------------------------------|-------------------|
| | | BRAND: Norton | Norton |
| | | TRADENAME: VORTEX RAPID PREP | RAPID PREP |
| | | ABRASIVE: Engineered Aluminum Oxide | Aluminum Oxide |
| SIZE (DIAMETER) | STD. PKG. | PART # | PART # |
| Very Fine | | | |
| 1-1/2 | 50 | 66623325060 | 66623340100 |
| 2 | 50 | 66623333613 | 66623325926 |
| 3 | 25 | 66623333614 | 66623325934 |
| 4 | 25 | 66623334967 | 66261055020 |
| 4-1/2 | 25 | 66623333615 | 66623325936 |
| 5 | 25 | 66623333617 | 66623325941 |
| 6 | 25 | 66623334968 | 66261055026 |
| 7 | 25 | 66623334969 | 66261019990 |
| 8 | 25 | 66623333619 | 66623325972 |

Back-Up Pads for Hook And Loop Discs

| | | | | TIER: GOOD | GOOD |
|---|----------------------|----------|---------------|-------------------|-------------|
| | | | | BRAND: Norton | Merit |
| PAD DIAMETER | SPINDLE OR HOLE SIZE | MAX. RPM | 3M EQUIVALENT | STD. PKG. | PART # |
| Back-Up Pads for Hook And Loop Discs | | | | | |
| 2 | 1/4 Steel Shank | 23,000 | 922 | 5 | 66261059352 |
| 3 | 1/4 Steel Shank | 20,000 | 923 | 5 | 66261059354 |
| 4 | 1/4 Steel Shank | 18,000 | 924 | 5 | 66261059356 |
| | 5/8-11 | 13,000 | 914 | 5 | 66261059304 |
| | M10 x 1.250 | 13,000 | | 5 | 66261059305 |
| 4-1/2 | 5/8-11 | 10,000 | 9145 | 5 | 66261006948 |
| 5 | 5/16-24 Male | 10,000 | 905 | 5 | 66261059360 |
| | 3/8-24 Male | 10,000 | 905 | 5 | 66261059308 |
| | 5/8-11 | 10,000 | 915 | 5 | 66261059310 |
| 6 | 5/8-11 | 8,000 | 916 | 5 | 66261059312 |
| 7 | 5/8-11 | 6,000 | 917 | 5 | 66261059368 |
| 8 | 5/8-11 | 4,500 | 918 | 5 | 66261059372 |

* = 1 per Pkg, ** = 2 Per Std Pkg.





Norton and Merit non-woven quick-change discs are a combination of strong synthetic mesh and quality abrasives, bonded together by a smear-resistant adhesive. The open construction of the non-woven material enables aggressive cutting action and improved surface finish while maintaining its non-loading feature.

- Applications: Medium-light stock removal, beveling, deburring/deflashing, rust removal, blending, cleaning and finishing, polishing, and decorative finishing
- Size Range: 3/4" – 4" diameter
- Grit Range: X-Coarse, Coarse, Medium, Fine, Very Fine, Super Fine
- Abrasive Grain: Ceramic Alumina, Engineered Aluminum Oxide, Aluminum Oxide, Silicon Carbide
- Attachment: Quick-Change Type TR (Type III), Type TS (Type II), and Type TP (Type I)
- Back-up Pads: Rubber with hardness variations for different applications
- Machine Used:



QUICK-CHANGE ATTACHMENT SYSTEMS AND CROSS REFERENCE GUIDE

Each system enables quick, tool-free, safe disc changes, reducing downtime and operating expenses.

Type TS (Type II)

- Features a turn-on/turn-off style fastener
- Fastener is made of metal
- Equivalent to Standard Abrasives SocAtt® locking system



Type TR (Type III)

- Features a roll-on/roll-off style fastener
- Fastener is made of plastic
- Equivalent to 3M™ Roloc™ fastening system



Type TP (Type I)

- Features a snap-on/snap-off style fastener
- Fastener is made of nylon



| NORTON | TS | TR | TP |
|-----------|--------------|-------------|--------------|
| 3M | Roloc TS/TSM | Roloc TR | Roloc TP |
| Standard | TS (SocAtt) | TR (Lockit) | TP (ClickOn) |
| Superior | Type S | Type R | – |
| Arc | Type S | Type R | Type P |
| Pferd | Type CD | Type CDR | – |
| Sait | SAIT-LOK | SAIT-LOK-R | – |
| Camel | Turn On | Roll On | – |
| Klingspor | QMC | QRC | – |
| Garryson | Type S | Type R | – |

APPLICATION/GRIT RECOMMENDATION GUIDE

MOST AGGRESSIVE

LEAST AGGRESSIVE

| | Rapid Strip | Vortex Rapid Blend | Vortex Rapid Prep | Rapid Prep | HS Buffing, Buffing |
|-----------------|---------------|----------------------|-------------------|---------------|---------------------|
| NORTON | | Deburring & Blending | | | |
| MERIT | | | | | |
| Scale Removal | Best Choice | | | | |
| Stock Removal | Best Choice | Second Choice | | | |
| Heavy Deburring | Second Choice | Best Choice | | | |
| Light Deburring | | Best Choice | Second Choice | | |
| Light Finishing | | | Best Choice | Second Choice | |
| Blending | | | Best Choice | Second Choice | |
| Cleaning | | | Second Choice | Best Choice | |
| Finishing | | | | Best Choice | Second Choice |

CROSS REFERENCE GUIDE

| | STRIPPING | | HEAVY/LIGHT DEBURRING | | LIGHT DEBURRING/BLENDING/CLEANING/FINISHING | | |
|---------------|-------------------|---------------------------------|-----------------------|----------------------------|---|---------------------------------|------------------------------------|
| | BEST | GOOD | BETTER | GOOD | BETTER | GOOD | GOOD |
| NORTON | Blaze Rapid Strip | Rapid Strip | Vortex Rapid Blend | Rapid Blend | Vortex Rapid Prep | Rapid Prep | |
| MERIT | | | | Deburring & Blending | | | HS Buffing, Buffing |
| 3M | - | Clean & Strip Clean Strip XT | - | EXL Unitized | - | Surf Cond, SL, SE | - |
| Standard | - | Cleaning Disc | - | 500-900 Series Unitized | - | FE, GP, RC | Buff & Blend - HS, Buff & Blend |
| Fiberal/SIA | - | | - | | - | Meteor, Type B & C | - |
| Superior | - | Type R | - | XL Unitized | - | FD, GD, CC | HS, HD A/O |
| Arc | - | Arcstrip | - | | - | Surface Cond | Blend & Finish |
| Pferd | - | Policlean | - | | - | Finishing Disc - Hard & Soft | - |
| Sait | - | SAIT-Strip | - | | - | HD, GP | Sand-Light Blending |
| Camel | - | EZ Strip - Black | - | | - | | |
| Klingspor | - | Strip-It Black | - | | - | | |
| Garryson | - | | - | | - | Surface Cond | |
| Bibielle | - | | - | BUR Unitized | - | DCR | |

ABRASIVE/GRIT/DENSITY KEY

| ABRASIVE | SILICON CARBIDE | | | ALUMINUM OXIDE | | CERAMIC ALUMINA |
|-----------|---|-----------|-------------|---|--------------|-----------------|
| | SHARPER, FINER/BRIGHTER SCRATCH PATTERN | | | | | |
| GRIT SIZE | XC (24-36) | C (50-80) | M (100-150) | F (180-220) | VF (240-360) | SF (400-600) |
| | FASTER, AGGRESSIVE CUT, ROUGHER FINISH | | | REDUCED CUT RATE, FINER FINISH | | |
| DENSITY | 2 | | | 9 | | |
| | SOFT, OPEN, CONFORMABLE, LESS BURNING/LOADING | | | HARDER, MORE DURABLE, FASTER CUTTING, BETTER FINISH | | |

Quick-Change Rapid Strip Discs

NORTON BLAZE RAPID STRIP CERAMIC ALUMINA AND NORTON RAPID STRIP SILICON CARBIDE

BEST CHOICE IDEAL FOR REMOVING COATINGS ON A VARIETY OF SUBSTRATES, SUCH AS WOOD, METAL AND PLASTICS



FEATURES

- Manufactured with extruded nylon fibers, flexible resin technology, and extra-coarse abrasive grains
- Rapid Strip Blaze

BENEFITS

- Provide a unique combination of aggressive performance, long life, improved finish
- Outperform traditional coated abrasive products, leaving a thoroughly cleaned surface, ensuring excellent adhesion in subsequent processes such as coating, painting and soldering
- Great alternative to wire brushes
- Will not load on sticky coatings, adhesives, and soft metals, or snag and shed like a fiber disc
- 2X faster cutting than competitive discs; lasts 2X (plus) as long
- Stiff enough to stand abuse; soft enough to prevent gouging and rework. Apply some pressure to strip/remove coatings; lighter pressure finishes like a surface finishing disc

TIER: **BEST**
 BRAND: Norton
 TRADENAME: **BLAZE RAPID STRIP**
 ABRASIVE: Ceramic Alumina
 GRADE: XC
 ATTACHMENT: TR (Type III)



GOOD
 Norton
RAPID STRIP
 Silicon Carbide
 XC
 TR (Type III)



GOOD
 Norton
RAPID STRIP
 Silicon Carbide
 XC
 TS (Type II)



| SIZE (DIAMETER) | MAX. RPM | STD. PKG. | PART # | STD. PKG. | PART # | STD. PKG. | PART # |
|-----------------|----------|-----------|-------------|-----------|-------------|-----------|-------------|
| 2 x 1/2 | 15,500 | 25 | 66623303912 | 10 | 66261013402 | | |
| 3 x 1/2 | 12,000 | 25 | 66261096557 | 10 | 66261013403 | 25 | 66623333374 |
| 4 x 1/2 TR+ | 8,000 | 5 | 66623303921 | 5 | 66261016580 | | |

Refer to the end of this section for a list of quick-change back-up pads.

Deburring & Blending Unified Discs

NORTON BLAZE RAPID BLEND CERAMIC ALUMINA

REVOLUTIONARY TECHNOLOGY FOR HEAVY DEBURRING AND FINISHING

FEATURES & BENEFITS

- Norton Blaze SG ceramic alumina grain provides quickest cut rate and up to 8X longer life than competitive aluminum oxide discs
- Special resin chemistry resists shedding when used on sharp edges, making it ideal for deburring; no smearing
- New construction: abrasive is distributed throughout the entire disc (top, bottom and side) so all three faces can be used – versus competitive discs' one bottom layer of abrasive
- 3 - 8 times the life of competitive surface blending discs with fewer safety, ergonomic, and environmental issues due to fewer change-outs, less downtime, and less production waste/landfill scrap



NORTON VORTEX RAPID BLEND ALUMINUM OXIDE

REVOLUTIONARY TECHNOLOGY FOR HEAVY DEBURRING AND FINISHING

FEATURES & BENEFITS

- Proprietary engineered Vortex aluminum oxide aggregate grain performs the medium to fine grit steps of traditional discs in an easy one-step operation
- Special resin chemistry resists shedding when used on sharp edges, making it ideal for deburring; no smearing
- New construction: abrasive is distributed throughout the entire disc (top, bottom and side) so all three faces can be used – versus competitive discs' one bottom layer of abrasive
- 3 - 8 times the life of competitive surface blending discs with fewer safety, ergonomic, and environmental issues due to fewer change-outs, less downtime, and less production waste/landfill scrap



NORTON RAPID BLEND ALUMINUM OXIDE

GOOD CHOICE FOR LIGHT DEBURRING, BLENDING, AND CLEANING

FEATURES & BENEFITS

- Open mesh construction is waterproof, washable, conformable, and non-loading: designed for surface generation where stock removal is not required
- New construction: abrasive is distributed throughout the entire disc (top, bottom and side) so all three faces can be used – versus competitive discs' one bottom layer of abrasive
- 3 - 8 times the life of competitive surface blending discs with fewer safety, ergonomic, and environmental issues due to fewer change-outs, less downtime, and less production waste/landfill scrap
- No smearing



| | | |
|-------------|--------------------------|---------------------------|
| TIER: | BEST | BETTER |
| BRAND: | Norton | Norton |
| TRADENAME: | BLAZE RAPID BLEND | VORTEX RAPID BLEND |
| ABRASIVE: | Ceramic Alumina | Engineered Aluminum Oxide |
| ATTACHMENT: | TS (Type II) | TS (Type II) |



| SIZE (D x T) | ABRASIVE | GRIT | DENSITY | MAX. RPM | STD. PKG. | PART # | PART # |
|--------------|-----------------|------|---------|----------|-----------|-------------|-------------|
| 1 x 1/4 | Ceramic Alumina | XC | 1 | 35,100 | 100 | 66623313920 | |
| 1-1/2 x 1/4 | Ceramic Alumina | XC | 1 | 35,100 | 80 | 66623313922 | |
| 2 x 1/4 | Ceramic Alumina | XC | 1 | 12,100 | 25 | 66623313925 | |
| | Aluminum Oxide | M | 1 | 12,100 | 25 | | 66254497070 |
| 3 x 1/4 | Ceramic Alumina | XC | 1 | 12,100 | 25 | 66623313931 | |
| | Aluminum Oxide | M | 1 | 12,100 | 25 | | 66254497069 |

Refer to the end of this section for a list of quick-change back-up pads.

Deburring & Blending Unified Discs *continued*



| TIER: | BEST | BETTER | GOOD | GOOD |
|-------------|--------------------------|---------------------------|--------------------|---------------------|
| BRAND: | Norton | Norton | Norton | Merit |
| TRADENAME: | BLAZE RAPID BLEND | VORTEX RAPID BLEND | RAPID BLEND | DEBURR/BLEND |
| ABRASIVE: | Ceramic Alunima | Engineered Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| ATTACHMENT: | TR (Type III) | TR (Type III) | TR (Type III) | TR (Type III) |

| SIZE (D x T) | ABR. | GRIT | DENSITY | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|--------------|---------|------|---------|----------|-----------|-------------|-------------|--------------|--------------|
| 1 x 1/4 | C/A | XC | 1 | 35,100 | 100 | 66623313919 | | | |
| 1-1/2 x 1/4 | C/A | XC | 1 | 35,100 | 80 | 66623313921 | | | |
| 2 x 1/8 | A/O | M | 4-6 | 22,000 | 60 | | 66254425632 | | |
| | A/O | M | 7-9 | 22,000 | 60 | | 66254433509 | | |
| 2 x 3/16 | A/O | M | 2-3 | 22,000 | 60 | | 66254428236 | | |
| 2 x 1/4 | C/A | XC | 1 | 35,100 | 25 | 66623313923 | | | |
| | A/O | C | 7-9 | 22,000 | 60 | | | 66261014921 | 66261054187 |
| | A/O | M | 1 | 12,100 | 25 | | 66254497067 | | |
| | A/O | M | 2-3 | 22,000 | 60 | | 66254428237 | 66261014897 | 66261054183 |
| | A/O | M | 4-6 | 22,000 | 60 | | 66254413660 | 66261014911 | 66261054185 |
| | A/O | M | 7-9 | 22,000 | 60 | | 66254433510 | 66261014935 | 66261054186 |
| | S/C | F | 2 | 22,000 | 60 | | | 66261014889 | |
| | S/C | F | 3 | 22,000 | 60 | | | 66261017306 | |
| | S/C | F | 2-3 | 22,000 | 60 | | | | 66261054182 |
| | S/C | F | 4-6 | 22,000 | 60 | | | | 66261054184 |
| | 3 x 1/8 | A/O | C | 7-9 | 15,000 | 40 | | | |
| A/O | | M | 2-3 | 15,000 | 40 | | | | |
| A/O | | M | 4-6 | 15,000 | 40 | | 66261093556 | | |
| A/O | | M | 7-9 | 15,000 | 40 | | 66261090909 | | |
| A/O | | F | 2-3 | 15,000 | 40 | | | | |
| A/O | | F | 4 | 15,000 | 40 | | | | |
| 3 x 3/16 | A/O | F | 6 | 15,000 | 40 | | | | |
| 3 x 1/4 | A/O | M | 7-9 | 15,000 | 40 | | 66254428239 | | |
| | C/A | XC | 1 | 12,100 | 25 | 66623313930 | | | |
| | A/O | C | 7-9 | 15,000 | 40 | | | 66261014922 | 66261054198* |
| | A/O | M | 1 | 12,100 | 25 | | 66254497068 | | |
| | A/O | M | 2-3 | 15,000 | 40 | | 66254428238 | 66261014898 | 66261054193* |
| | A/O | M | 4-6 | 15,000 | 40 | | 66254413661 | 66261014912 | 66261054196* |
| | A/O | M | 7-9 | 15,000 | 40 | | 66254406395 | 66261014936 | 66261054197* |
| | A/O | F | 2-3 | 15,000 | 40 | | | | 66261054192* |
| | A/O | F | 4-6 | 15,000 | 40 | | | 66261015419 | 66261054194* |
| | S/C | F | 2 | 15,000 | 40 | | | 66261014890 | |
| | S/C | F | 3 | 15,000 | 40 | | | 66261016005 | |
| S/C | F | 4-6 | 15,000 | 40 | | | | 66261054195* | |

* Std. Pkg. = 20 discs

For additional unified wheels – with arbor holes – see the non woven unified wheel section. Refer to the end of this section for a list of quick-change back-up pads.

Surface Preparation Discs



NORTON VORTEX RAPID PREP ALUMINUM OXIDE

BETTER CHOICE FOR FINISHING AND BLENDING APPLICATIONS

FEATURES & BENEFITS

- Proprietary engineered Vortex aluminum oxide abrasive grain and coating method combine maximum cutting speed with the consistent finish of finer grits to reduce process times by 50+% by combining multiple grit sequences to 1 step
- More resistant to edge wear; up 4X life versus competitive products; friable grain structure keeps Ra specs throughout disc life, reducing scrap/rework; extended form holding; lowest total cost of consumable tooling per workpiece
- Clean Bond resin system, aerospace-tailored, remains smear-free, even on high nickel content alloys; will not load on aluminum and soft metals, as competitive products can



NORTON RAPID PREP ALUMINUM OXIDE

GOOD CHOICE FOR FINISHING AND BLENDING APPLICATIONS

FEATURES & BENEFITS

- Clean Bond resin system, aerospace-tailored, remains smear-free, even on high nickel content alloys; will not load on aluminum and soft metals, as competitive products may
- Proprietary coating method; thick layer of grain throughout the product extends life; grain does not sit on top of fibers as other competitive products can

| TIER: | BETTER | GOOD | BETTER | GOOD | BETTER | GOOD |
|-------------|--------------------------|-------------------|--------------------------|-------------------|--------------------------|-------------------|
| BRAND: | Norton | Norton | Norton | Norton | Norton | Norton |
| TRADENAME: | VORTEX RAPID PREP | RAPID PREP | VORTEX RAPID PREP | RAPID PREP | VORTEX RAPID PREP | RAPID PREP |
| ABRASIVE: | Engineered A/O | Aluminum Oxide | Engineered A/O | Aluminum Oxide | Engineered A/O | Aluminum Oxide |
| ATTACHMENT: | TR (Type III) | TR (Type III) | TS (Type II) | TS (Type II) | TP (Type I) | TP (Type I) |
| | | | | | | |

| SIZE (DIAM.) | STD. PKG. | PART # | PART # | PART # | PART # | PART # | PART # |
|---------------------|-----------|--------------|--------------|-------------|-------------|--------------|--------------|
| Extra Coarse | | | | | | | |
| 3/4 | 50 | 66623325001 | 66623340002 | 66623335324 | 66261022401 | 66623325000• | 66623340000 |
| 1 | 50 | 66623325004• | 66623340007• | 66623325003 | 66623340006 | 66623325002 | 66623340004 |
| 1-1/2 | 50 | 66623325007 | 66623340011 | 66623325006 | 66623340010 | 66623325005 | 66623340008 |
| 2 | 50 | 66623335326 | 66261016373 | 66623335325 | 66261017819 | 66623325008 | 66623340012 |
| 3 | 25 | 66623335327 | 66261016994 | 66623325010 | 66261017818 | 66623325009 | 66623340015 |
| 4 | 25 | 66623335329 | 66261016374 | 66623335328 | 66623310706 | 66623325011 | 66623340018 |
| Coarse | | | | | | | |
| 3/4 | 50 | 66623325013 | 66623340021 | 66623335410 | 66261095015 | 66623325012• | 66623340020• |
| 1 | 50 | 66623325015 | 66623340023 | 66623335537 | 66261024310 | 66623325014 | 66623340022 |
| 1-1/2 | 50 | 66623335411 | 66261047579 | 66623325017 | 66623340026 | 66623325016 | 66623340024• |
| 2 | 50 | 66623335414 | 66261004437 | 66623335413 | 66261009183 | 66623335412• | 66254498593 |
| 3 | 25 | 66623335417 | 66261009194 | 66623335416 | 66261009186 | 66623335415 | 66254498596 |
| 4 | 25 | 66623335419 | 66261008822 | 66623335418 | 66261055349 | 66623325018 | 66623340030 |
| Medium | | | | | | | |
| 3/4 | 50 | 66623325020 | 66623340032 | 66623335420 | 66254428059 | 66623325019 | 66623340031• |
| 1 | 50 | 66623335422 | 66254482331 | 66623335421 | 66254482327 | 66623325021 | 66623340033 |
| 1-1/2 | 50 | 66623335424 | 66254482332 | 66623335423 | 66254482328 | 66623325022 | 66623340034• |
| 2 | 50 | 66623335427 | 66261009190* | 66623335426 | 66261009182 | 66623335425• | 66254498520 |
| 3 | 25 | 66623335430 | 66261017522 | 66623335429 | 66261009185 | 66623335428 | 66254498595 |
| 4 | 25 | 66623335432 | 66261008821 | 66623335431 | 66261055350 | 66623325023 | 66623340039 |
| Fine | | | | | | | |
| 3/4 | 50 | 66623325026 | 66623340058 | 66623325025 | 66623340056 | 66623325024• | 66623340054• |
| 1 | 50 | 66623325029 | 66623340064 | 66623325028 | 66623340062 | 66623325027• | 66623340060• |
| 1-1/2 | 50 | 66623325032 | 66623340070 | 66623325031 | 66623340068 | 66623325030• | 66623340066• |
| 2 | 50 | 66623325035 | 66623340077 | 66623325034 | 66623340074 | 66623325033 | 66623340072 |
| 3 | 25 | 66623325038 | 66623340085 | 66623325037 | 66623340082 | 66623325036 | 66623340080 |
| 4 | 25 | 66623325041 | 66623340092 | 66623325040 | 66623340090 | 66623325039 | 66623340088• |
| Very Fine | | | | | | | |
| 3/4 | 50 | 66623325044 | 66623340044 | 66623325043 | 66623340042 | 66623325042 | 66623340041• |
| 1 | 50 | 66623325047 | 66254482339 | 66623325046 | 66254482335 | 66623325045• | 66623340045 |
| 1-1/2 | 50 | 66623325050 | 66254482340 | 66623325049 | 66254482336 | 66623325048• | 66623340046• |
| 2 | 50 | 66623335433 | 66261009189* | 66623325052 | 66254482337 | 66623325051• | 66254498594 |
| 3 | 25 | 66623335437 | 66261009192 | 66623335436 | 66261009184 | 66623325053• | 66254498597 |
| 4 | 25 | 66623325056 | 66623340053 | 66623325055 | 66623340052 | 66623325054 | 66623340051 |
| Super Fine | | | | | | | |
| 2 | 50 | | 66261091459 | | | | |
| 3 | 25 | | 66261091460 | | | | |

• Non-stock. Ask your Norton representative for current lead-times and order quantities

Surface Preparation Stars

MERIT SURFACE PREPARATION STARS

THE PERFECT ITEM FOR ID WORK



- | FEATURES | BENEFITS |
|------------------|--|
| • Star shape | • Penetrates the ID and polishes or cleans the surface without disturbing any tolerances |
| • 1/4-20 eyelets | • Attach to Merit MM20-4 mandrel, Part # 08834183164 (See description at end of Overlap Slotted Disc Section.) |

TIER: **GOOD**
 BRAND: Merit
 TRADENAME: **SURFACE PREP**
 ABRASIVE: Aluminum Oxide
 ATTACHMENT: 1/4-20 Eyelet

| SIZE (D x EYELET) | GRIT | STD. PKG. | PART # |
|-------------------|------|-----------|-------------|
| 1-1/2" x 1/4-20 | C | 100 | 08834185923 |
| | M | 100 | 08834185924 |
| | VF | 100 | 08834185925 |
| 2" x 1/4-20 | C | 100 | 08834185926 |
| | M | 100 | 08834185927 |
| | VF | 100 | 08834485928 |
| 3" x 1/4-20 | C | 100 | 08834185929 |
| | M | 100 | 08834185678 |
| | VF | 100 | 08834185931 |
| 4" x 1/4-20 | C | 100 | 08834185932 |
| | M | 100 | 08834185933 |
| | VF | 100 | 08834185934 |

2", 3" and 4" Merit Surface Prep Stars are non-stock. Ask your Norton/Merit representative for lead-times.

Cross Buffs

MERIT CROSS BUFFS

EXCELLENT FOR BLENDING, POLISHING AND ID USAGE



- | FEATURES | BENEFITS |
|-----------------|---|
| • Unique design | • Durable non-woven construction that delivers longer life and cool running |
| • 8-32 eyelets | • Attach to Merit MM32-4 mandrel. Part No. 08834183163 (See description at end of Overlap Slotted Disc Section) |

TIER: **BETTER** | **GOOD**
 BRAND: Merit | Merit
 TRADENAME: **HIGH STRENGTH** | **BUFFING**
 ABRASIVE: Aluminum Oxide | Aluminum Oxide
 ATTACHMENT: 8-32 Eyelet | 8-32 Eyelet

| SIZE (D x W) | GRIT | PLY | STD. PKG. | PART # | PART # |
|--------------|-----------|-----|-----------|-------------|-------------|
| 1-1/2 x 1/2 | Coarse | 2 | 100 | | 08834188761 |
| | Medium | 2 | 100 | 08834189306 | 08834187312 |
| | Very Fine | 2 | 100 | 08834189307 | 08834188585 |
| 1-1/2 x 1/2 | Coarse | 3 | 100 | | 66623301763 |
| | Medium | 3 | 100 | 08834189308 | 08834187311 |
| | Very Fine | 3 | 100 | 08834189309 | 08834188586 |

Buffing/Polishing Discs

NORTON & MERIT BUFFING/POLISHING DISCS

DESIGNED FOR LIGHT REMOVAL OF PAINT OR RUST



FEATURES

- High-strength discs
- For light removal of paint or rust

BENEFITS

- Tough, yet conformable, and resist tearing on burrs and sharp edges
- Smear-proof
- Does not affect the base product

TIER: **BEST**
 BRAND: Norton
 TRADENAME: **HIGH-STRENGTH**
 ABRASIVE: Aluminum Oxide
 ATTACHMENT: TR (Type III)



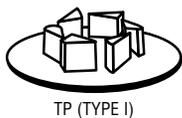
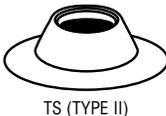
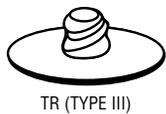
| BETTER | BETTER | GOOD | GOOD | GOOD |
|----------------------|----------------------|----------------|----------------|----------------|
| Merit | Merit | Merit | Merit | Merit |
| HIGH-STRENGTH | HIGH-STRENGTH | BUFFING | BUFFING | BUFFING |
| Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| TR (Type III) | TS (Type II) | TR (Type III) | TS (Type II) | TP (Type I) |



| SIZE (D) | GRIT | STD. PKG. | PART # | STD. PKG. | PART # | PART # | PART # | PART # | |
|----------|------|-----------|-------------|-----------|-------------|-------------|-------------|-------------|-------------|
| 1-1/2 | M | | | 100 | | | 08834166368 | 08834166392 | 08834166292 |
| | F | | | 100 | | | 08834166369 | | 08834166332 |
| 2 | C | | | 50 | | | 08834161649 | 08834166394 | 08834161627 |
| | M | 160 | 66261014792 | 50 | 08834164064 | 08834164244 | 08834166303 | 08834166395 | 08834166280 |
| | F | | | 50 | | | 08834166304 | 08834166396 | 08834166281 |
| | VF | | | 50 | 08834163987 | 08834164245 | 08834166305 | 08834166405 | 08834166282 |
| 3 | C | | | 25 | | | 08834161651 | 08834166397 | 08834166293 |
| | M | 80 | 66261014793 | 25 | 08834164065 | 08834164252 | 08834166308 | 08834166398 | |
| | F | | | 25 | | | 08834166309 | 08834166399 | 08834166285 |
| | VF | | | 25 | 08834163559 | 08834164255 | 08834166310 | 08834166403 | 08834166286 |

Quick-Change Back-up Pads

- Hard density pads are for aggressive cutting action
- Medium density pads are for all-purpose applications
- Soft density pads are used for contours and fine finishing work



| TIER: | GOOD | GOOD | GOOD | GOOD | GOOD |
|-------------|---------------|---------------|--------------|--------------|-------------|
| BRAND: | Norton | Merit | Norton | Merit | Merit |
| ATTACHMENT: | TR (Type III) | TR (Type III) | TS (Type II) | TS (Type II) | TP (Type I) |

| SIZE (DIAMETER) | MAX. RPM | DENSITY | PART # |
|----------------------------------|----------|---------|-------------|-------------|-------------|-------------|-------------|
| Quick-Change Back-up Pads | | | | | | | |
| 3/4" | 40,000 | Medium | | 08834164038 | | 08834164206 | 08834164001 |
| 1" | 40,000 | Medium | | 08834164037 | | 08834164651 | 08834164002 |
| 1-1/2" | 30,000 | Hard | | | | 08834164622 | 08834163996 |
| | 30,000 | Medium | 66261047580 | 08834161174 | | 08834164146 | 08834164003 |
| 2" | 30,000 | Hard | | 08834164643 | 63642543205 | 08834164624 | 08834163997 |
| | 30,000 | Medium | 66261055103 | 08834164922 | 63642543210 | 08834164198 | 08834164004 |
| | 30,000 | Soft | | 08834164641 | | 08834161625 | 08834163949 |
| 3" | 20,000 | Hard | 63642504900 | 08834164036 | 63642543220 | 08834161626 | 08834163998 |
| | 20,000 | Medium | 66261055105 | 08834164949 | 63642543225 | 08834164113 | 08834164005 |
| | 20,000 | Soft | | 08834164644 | | 08834164626 | 08834163948 |
| 4" | 15,000 | Medium | 66261047581 | 08834164655 | 63642543232 | 08834164135 | 08834164006 |
| 4" TR+ | 8,000 | Medium | 66261016581 | 63642555106 | | | |

All quick-change back-up pads have a 1/4" diameter shank. Std. Pkg. = 1

Refer to the end of the Coated Abrasive Quick-Change Discs section for a complete list of back-up pads and mandrels.

ARBOR HOLE (GANGABLE) DISCS

Non-Woven High Strength Discs

NORTON & MERIT HIGH STRENGTH AND FASTCUT DISCS

BETTER CHOICE FOR LIGHT DEBURRING AND FINISHING



FEATURES

- Firm, durable web
- Tough, yet conformable
- Strong, smear-proof resin binders

BENEFITS

- High resistance to tearing on burrs and sharp edges
- Can be "ganged" together and used as a wheel
- Produce light satin finishes

Applications include rust/oxide or coating removal, pipe ID and OD polishing, casting cleaning, highlighting (antiquing), contaminant removal, removal of handling marks, gasket removal, cleaning and blending of surface imperfections, prepping prior to soldering, removal of filling materials, cleaning angles and odd shapes. Will not stretch or shed. Ganging increases versatility.

| SIZE (D x H) | GRIT | MAX. RPM | STD. PKG. | TIER: BEST | BETTER | GOOD |
|--------------|------|----------|-----------|----------------------------|----------------------|----------------------|
| | | | | BRAND: Norton | Norton | Merit |
| | | | | TRADENAME: FAST CUT | HIGH STRENGTH | HIGH STRENGTH |
| | | | | ABRASIVE: Aluminum Oxide | Aluminum Oxide | Aluminum Oxide |
| | | | | PART # | PART # | PART # |
| 6 x 1/4 | VF | 4,000 | 70 | | 66261007628 | |
| 6 x 1/2 | M | 4,000 | 70 | | 66261005073 | 25 |
| | F | 4,000 | 70 | | | 25 |
| 8 x 1/2 | VF | 4,000 | 70 | 66261000601 | 66261004980 | 25 |
| | M | 3,000 | 50 | | 66261005491 | 25 |
| | VF | 3,000 | 50 | | 66261004506 | 25 |
| 12 x 1-1/4 | VF | 1,900 | 25 | | 66261008723 | 25 |



| FITS HOLE | FOR DISC WIDTH | FOR DISC DIAMETER | SHANK DIAMETER | OVERALL LENGTH | WASHER DIAMETER | STD. PKG. | PART # |
|---|-----------------|-------------------|----------------|----------------|-----------------|-----------|-------------|
| Mandrel Assemblies For Using Discs On Edge | | | | | | | |
| 1/4" | 1/2" (Standard) | up to 6" | 1/4" | 2-1/2" | 1-1/2" | 1 | 66261009502 |
| 1/2" | 1/2" (Standard) | Up to 8" | 1/4" | 3-1/8" | 2-1/4" | 1 | 66261059420 |

Non-Woven Disc Wheels

MERIT DISC WHEELS

GOOD CHOICE FOR LIGHT DEBURRING AND FINISHING



FEATURES

- Discs are "ganged" together to form a wheel

BENEFITS

- Mounted on a 1/4" steel mandrel embedded in an epoxy core
- Strong and durable

| SIZE (D x W x 1/4 SHANK) | GRIT | PLY | MAX. RPM | STD. PKG. | TIER: GOOD |
|--------------------------|-----------|-------|----------|-----------|--------------------------|
| | | | | | BRAND: Merit |
| | | | | | ABRASIVE: Aluminum Oxide |
| | | | | | PART # |
| 2 x 1/2 | Medium | 2 Ply | 12,000 | 10 | 08834131551 |
| 2 x 1 | Medium | 4 Ply | 12,000 | 10 | 08834131554 |
| 3 x 1/2 | Medium | 2 Ply | 8,000 | 10 | 08834131558 |
| | Very Fine | 3 Ply | 8,000 | 10 | 08834131560 |
| 3 x 1 | Medium | 4 Ply | 8,000 | 10 | 08834131496 |
| | Fine | 5 Ply | 8,000 | 10 | 08834131557 |
| | Very Fine | 5 Ply | 8,000 | 10 | 08834131497 |
| | Fine | 3 Ply | 6,000 | 10 | 08834131562 |
| 4 x 1/2 | Fine | 3 Ply | 6,000 | 10 | 08834131564 |
| 4 x 1 | Medium | 4 Ply | 6,000 | 10 | 08834131564 |
| 5 x 1/2 | Medium | 2 Ply | 4,000 | 10 | 08834131567 |
| 5 x 1 | Medium | 4 Ply | 4,000 | 10 | 08834131570 |
| | Fine | 5 Ply | 4,000 | 10 | 08834131571 |

Disc wheels are constructed by number of plies. The actual face width will vary and will not match the listed width exactly. Face width is given for reference only.



Made from non-woven synthetic fiber mesh, which is impregnated with abrasives and bound with resins, non-woven wheels are designed to create desired surface finish where little or no stock removal is required. The industry's broadest offering is available for light stock removal, deburring, blending, finishing and polishing. Non-woven wheels have an open mesh construction that is waterproof, washable, conformable and non-loading.

Applications: Cleaning and removing imperfections on metal surfaces, cleaning built-up residue, deburring or finishing a variety of surfaces, blending weld seams or creating decorative finishes. Non-woven surface finishing products have excellent versatility.

Abrasive Grain: Ceramic Alumina, Engineered Aluminum Oxide, Aluminum Oxide, Silicon Carbide

Grit Range: Extra Coarse (XC), Coarse (C), Medium (M), Fine (F)

Machine Used:



APPLICATION/GRIT RECOMMENDATION GUIDE

| | ← MOST AGGRESSIVE | | | LEAST AGGRESSIVE → | | | |
|----------------------|--------------------|----------------------------|----------------------------------|----------------------------------|---------------------------------|----------------------------------|-----------------------------------|
| NORTON | Rapid Strip Wheels | Rapid Blend Unified Wheels | Rapid Finish GP Convolute Wheels | Metal Finishing Convolute Wheels | Clean & Finish Convolute Wheels | Light Finishing Convolute Wheels | Non-Woven / Interleaf Flap Wheels |
| Scale Removal | Best Choice | | | | | | |
| Stock Removal | | Best Choice | Second Choice | | | | |
| Heavy Deburring | | Best Choice | Second Choice | | | | |
| Decorative Finishing | | | | Best Choice | Second Choice | | |
| Blending | | | Best Choice | Second Choice | | | |
| Cleaning | | | | Second Choice | Best Choice | | |
| Light Deburring | | | Second Choice | | | Best Choice | |
| Light Finishing | | | Second Choice | | | Best Choice | |
| Polishing | | | | | | Best Choice | Second Choice |
| Buffing | | | | | | | Best Choice |

SURFACE FINISH VARIABLES

Changes in any one of many factors can affect the surface finish on the workpiece. This chart shows the effect on surface finish by changes in single factors of product specifications. Arrows have been used to signify the trend direction. The arrow length does not signify that the effect of each factor is equal.

| Variable Factor | Rough Finish High Rms Reading | Smooth Surface Lower Rms Reading |
|-----------------|-------------------------------|----------------------------------|
| 1. Wheel Speed | Slow ← | Fast → |
| 2. Feed Speed | Faster (Long Scratch) ← | Slower (Short Scratch) → |
| 3. Oscillation | No Oscillation ← | Oscillation → |
| 4. Lubricants | Dry ← | Soluble Oil → |
| | Water ← | Straight Oil → |
| | | Compounds → |

NON-WOVEN MARKING SYSTEM

| ABRASIVE | SILICON CARBIDE | ALUMINUM OXIDE | | |
|-----------|---|---|-------------|-------------|
| | ← SHARPER, FINER/BRIGHTER SCRATCH PATTERN | MORE DURABLE, LONGER LASTING, POLISHED FINISH → | | |
| GRIT SIZE | XC (24-36) | C (50-80) | M (100-150) | F (180-220) |
| | ← FASTER, AGGRESSIVE CUT, ROUGHER FINISH | REDUCED CUT RATE, FINER FINISH → | | |
| DENSITY | 2 | 9 | | |
| | ← SOFT, OPEN, CONFORMABLE, LESS BURNING/LOADING | HARDER, MORE DURABLE, FASTER CUTTING, BETTER FINISH → | | |

CROSS REFERENCE GUIDE

| | STRIPPING | | HEAVY/LIGHT DEBURRING | | LIGHT DEBURRING/BLENDING/POLISHING | | | CLEANING/FINISHING | | | |
|----------|-------------------|-------------|-----------------------|------------------|---------------------------------------|-------------|---------------------|--------------------|-----------------|-----------------|-----------------------------------|
| | BEST | GOOD | BEST | GOOD | BEST | BEST | BETTER | BEST | BEST | BEST | GOOD |
| NORTON | Blaze Rapid Strip | Rapid Strip | Vortex Rapid Blend | NEX Rapid Blend | Rapid Finish GP | Series 4000 | Series 1000 | Light Finishing | Metal Finishing | Clean & Finish | Non-Woven / Interleaf Flap Wheels |
| 3M | | Clean Strip | Cut & Polish Unified | EXL Unitized | 3M EXL, General Purpose | EX2 & EX3 | EXL Deburring | Light Deburring | Metal Finishing | Multi Finishing | Finishing Flap Brush |
| Standard | | Britestrip | 800 & 900 Series | 500 - 700 Series | General Purpose Plus, Light Deburring | GP Plus | Deburring Convolute | LDW | Metal Finishing | Multi Finishing | Buff & Blend Flap Brush |

Rapid Strip Wheels

NORTON BLAZE RAPID STRIP CERAMIC ALUMINA

BEST CHOICE FOR REMOVING COATINGS ON A VARIETY OF SUBSTRATES, SUCH AS WOOD, METAL AND PLASTICS



NEW

FEATURES & BENEFITS

- Norton Blaze ceramic alumina grain provides 2X cut rate, 2X life over silicon carbide products
- Advanced resin bond does not shed on rust-encrusted pieces, and prevents gouging and rework; does not snag when used for deburring
- Leave a thoroughly cleaned surface that ensures excellent adhesion for subsequent processes such as coating, painting and soldering.



NEW

| | | |
|------------|--------------------------|--------------------|
| TIER: | BEST | GOOD |
| BRAND: | Norton | Norton |
| TRADENAME: | BLAZE RAPID STRIP | RAPID STRIP |
| ABRASIVE: | Ceramic Alumina | Silicon Carbide |
| GRIT: | Extra Coarse | Extra Coarse |

| SIZE | MAX. RPM | STD. PKG. | PART # |
|-------------------|----------|-----------|-------------|
| Arbor Hole | | | |
| 4 x 1/4 | 8,000 | 25 | 66261009324 |
| 4 x 1/2 | 8,000 | 25 | 66623304856 |
| 6 x 1/4 | 4,000 | 15 | 66623340171 |
| 6 x 1/2 | 4,000 | 15 | 66261099378 |

Note: Blaze Rapid Strip shown with mandrel inserted into arbor hole.

Rapid Blend Unified Wheels

Designed for maintenance operations needing an efficient and cost-effective method of deburring, polishing, cleaning or finishing metals and composites. Easily preformed for use on a wide variety of shapes/contours. Hold shape well; less wheel dressing. Non-metallic so no contamination of workpiece. Uniform construction maintains part tolerance; prevents cutting or gouging.

NORTON VORTEX RAPID BLEND ALUMINUM OXIDE

BETTER CHOICE FOR LIGHT WELD BEAD AND WELD SPLATTER REMOVAL, HEAVY DEBURRING AND FINISHING APPLICATIONS



FEATURES

BENEFITS

- | | |
|--|--|
| • High-performance engineered grain and improved resin bond system | • Aggressive, fast, stock removal, reduced cycle times, and increased part quality |
| • Thick nylon web | • 2X longer life and faster finishing – with minimal shedding |
| • Controlled porosity | • Cool cutting and improved cut rate |

| | |
|------------|--|
| TIER: | BETTER |
| BRAND: | Norton |
| TRADENAME: | VORTEX RAPID BLEND UNIFIED WHEELS |

| SIZE (D x T x H) | ABRASIVE | GRIT SIZE | STD. PKG. | MAX. RPM | 3 DENSITY PART # | MAX. RPM | 5 DENSITY PART # | MAX. RPM | 7 DENSITY PART # | MAX. RPM | 9 DENSITY PART # |
|------------------|----------|-----------|-----------|----------|------------------|----------|------------------|----------|------------------|----------|------------------|
| 2 x 1/8 x 1/8 | A/O | M | 60 | | | 22,000 | 66254425657 | 20,000 | 66254410849 | | |
| 2 x 1/8 x 1/4 | A/O | M | 60 | | | | | 22,000 | 66261191446 | | |
| 2 x 1/4 x 1/4 | A/O | M | 60 | 18,000 | 66254428456 | 22,000 | 66254433504 | 22,000 | 66261080270 | | |
| 2 x 1 x 1/4 | A/O | M | 15 | | | | | 22,000 | 66261080269 | | |
| 3 x 1/8 x 1/4 | A/O | M | 40 | | | 18,000 | 66261093448 | 18,000 | 66261191445 | | |
| 3 x 1/8 x 3/8 | A/O | M | 40 | | | 18,000 | 66254433503 | 18,000 | 66254401131 | | |
| 3 x 1/4 x 1/4 | A/O | M | 40 | 12,000 | 66254428454 | 18,000 | 66254414832 | 18,000 | 66261199696 | | |
| 3 x 1/4 x 3/8 | A/O | M | 40 | 12,000 | 66254433505 | 12,000 | 66254433506 | | | | |
| 3 x 1/2 x 1/4 | A/O | M | 20 | | | 18,000 | 66254432925 | 18,000 | 66261080267 | 18,000 | 66254433507 |
| 3 x 1/2 x 3/8 | A/O | M | 20 | | | 18,000 | 66254433508 | 18,000 | 66261080266 | 18,000 | 66254420696 |

Rapid Blend Unified Wheels *continued*

NORTON NEX RAPID BLEND A/O & S/C

GOOD CHOICE FOR LIGHT DEBURRING AND BLENDING



FEATURES

- Uniform construction
- Smear-resistant formula

BENEFITS

- Extra long life
- Excellent, consistent, smear-free finishes

TIER: **GOOD**

BRAND: Norton

TRADENAME: **NEX RAPID BLEND UNIFIED WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | STD. PKG. | 2 DENSITY PART # | 3 DENSITY PART # | 4 DENSITY PART # | 6 DENSITY PART # | 7 DENSITY PART # | 8 DENSITY PART # |
|------------------|----------|------|----------|-----------|------------------|------------------|------------------|------------------|------------------|------------------|
| 1 x 1 x 3/16 | A/O | C | 30,000 | 50 | | | | | | 66261014915 |
| | A/O | M | 18,000 | 50 | 66261014891 | | | | | |
| | A/O | M | 30,000 | 50 | | | | 66261014908 | | 66261014924 |
| | S/C | F | 18,000 | 50 | 66261014883 | | | | | |
| | S/C | F | 30,000 | 50 | | | | 66261014904 | | 66261014923 |
| 2 x 1/8 x 1/4 | A/O | M | 22,000 | 60 | | | | | | 66261014927 |
| 2 x 1/4 x 1/4 | A/O | M | 18,000 | 60 | 66261014892 | | | | | |
| | A/O | M | 22,000 | 60 | | | | | | 66261014926 |
| | A/O | F | 22,000 | 60 | | | | 66261014901 | | |
| | S/C | F | 18,000 | 60 | 66261014884 | | | | | |
| 2 x 1/2 x 1/4 | A/O | M | 22,000 | 30 | | | | | | 66261014925 |
| 3 x 1/4 x 1/4 | A/O | C | 18,000 | 40 | | | | | | 66261014919 |
| | A/O | M | 18,000 | 40 | | | | 66261014909 | | 66261014930 |
| | S/C | F | 12,000 | 40 | 66261014886 | | | | | |
| 3 x 1/4 x 3/8 | A/O | C | 18,000 | 40 | | | | | | 66261014920 |
| | A/O | M | 12,000 | 40 | 66261014895 | | | | | |
| | A/O | M | 18,000 | 40 | | | | 66261014910 | | 66261014933 |
| | A/O | F | 12,000 | 40 | | | 66261014899 | | | |
| | S/C | F | 12,000 | 40 | 66261014887 | 66261016006 | | | | |
| 3 x 1/2 x 1/4 | A/O | M | 12,000 | 20 | 66261014893 | | | | | |
| | A/O | M | 18,000 | 20 | | | | 66261014928 | | |
| | S/C | F | 12,000 | 20 | 66261014885 | | | | | |
| 3 x 1/2 x 3/8 | A/O | M | 18,000 | 20 | | | | | | 66261014929 |
| 3 x 1 x 3/8 | S/C | XC | 14,000 | 10 | | | | | 66261014914 | |
| 6 x 1/2 x 1 | A/O | M | 7,500 | 4 | | | | | | 66261014931 |
| 6 x 1 x 1 | S/C | F | 5,000 | 2 | 66261014888 | | | | | |

NORTON RAPID BLEND DEBURRING A/O & S/C

GOOD STARTING SPECIFICATION FOR HIGH-SPEED DEBURRING APPLICATIONS



FEATURES

- Controlled density range

BENEFITS

- More durable than General Duty Wheels

TIER: **GOOD**

BRAND: Norton

TRADENAME: **RAPID BLEND DEBURRING UNIFIED WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | STD. PKG. | PART # |
|------------------|----------|------|----------|-----------|-------------|
| 2 x 1/4 x 1/4 | A/O | 220 | 20,000 | 60 | 66261052200 |
| 2 x 1/2 x 1/4 | A/O | 120 | 20,000 | 40 | 66261058876 |
| | S/C | 220 | 20,000 | 40 | 66261058782 |
| 3 x 1/4 x 1/4 | A/O | 220 | 18,000 | 40 | 66261058877 |
| | S/C | 220 | 18,000 | 40 | 66261058854 |
| 3 x 1/2 x 1/4 | S/C | 220 | 18,000 | 20 | 66261058859 |
| 3 x 3/4 x 1/4 | A/O | 220 | 18,000 | 20 | 66261058881 |

Rapid Blend Unified Wheels *continued*

NORTON RAPID BLEND GENERAL DUTY DEBURRING

GOOD CHOICE FOR GENERAL PURPOSE LIGHT DEBURRING APPLICATIONS

FEATURES

- Excellent resistance to snagging

BENEFITS

- For general purpose light deburring applications

TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **RAPID BLEND
 GENERAL DUTY UNIFIED WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | DENSITY | MAX. RPM | STD. PKG. | PART # |
|------------------|----------|------|---------|----------|-----------|-------------|
| 1 x 1 x 3/16 | A/O | C | 8 | 15,000 | 50 | 66261000938 |
| 2 x 1/4 x 1/4 | A/O | C | 8 | 11,000 | 60 | 66261052275 |
| 2 x 1/2 x 1/4 | A/O | F | 4 | 11,000 | 40 | 66261058764 |
| 3 x 1/4 x 1/4 | A/O | C | 8 | 8,000 | 40 | 66261052276 |
| | A/O | F | 4 | 8,000 | 40 | 66261058816 |
| | S/C | F | 4 | 8,000 | 40 | 66261000745 |
| 3 x 1/2 x 1/4 | A/O | F | 4 | 8,000 | 20 | 66261054046 |
| | S/C | F | 4 | 8,000 | 20 | 66261054048 |
| 3 x 3/4 x 1/4 | A/O | F | 4 | 8,000 | 20 | 66261058769 |
| | S/C | M | 4 | 8,000 | 20 | 66261058773 |
| | S/C | F | 4 | 8,000 | 20 | 66261058771 |
| 6 x 1/2 x 1/2 | S/C | M | 4 | 4,800 | 8 | 66261058779 |
| 6 x 1 x 1/2 | S/C | M | 4 | 4,800 | 4 | 66261058792 |
| | S/C | F | 4 | 4,800 | 4 | 66261058790 |
| 6 x 1 x 1 | S/C | F | 4 | 4,800 | 4 | 66261058797 |

Assemblies and Mandrels for Unified Wheels

| FITS WHEEL CENTER HOLE | FOR WHEEL WIDTH | FOR WHEEL DIAMETER | SHANK DIAMETER | OVERALL LENGTH | WASHER DIAMETER | 3M EQUIVALENT | STD. PKG. | PART # |
|--|------------------------|--------------------|----------------|----------------|-----------------|---------------|-----------|-------------|
| Mandrel Assemblies for Unified Wheels and Discs On Edge | | | | | | | | |
| 3/16 | 1/8 – 1/2 | 1 – 2 | 1/4 | 2 | 7/16 | 994 | 1 | 66261009852 |
| 1/4 – 5/16 | Up to 1/2 | Up to 2 | 1/4 | 2 | 5/8 | 932 | 1 | 66261015146 |
| 1/4 – 5/16 | Up to 1 | Up to 2 | 1/4 | 2-1/2 | 5/8 | 932 | 1 | 66261059422 |
| | Up to 1 | 2 – 3 | 1/4 | 2-1/2 | 1 | 933 | 1 | 66261059421 |
| 3/8 | Up to 1/2 | 2 – 4 | 1/4 | 2-1/2 | 1 | 990 | 1 | 66261009851 |
| 1/2 | Up to 1 | 3 – 6 | 1/4 | 3-1/8 | 1-5/8 | 934 | 1 | 66261009850 |
| Threaded Mandrel for Unified Wheels | | | | | | | | |
| FOR CENTER HOLE | USE WITH UNIFIED WHEEL | SHANK DIAMETER | SHANK LENGTH | | | 3M EQUIVALENT | STD. PKG. | PART # |
| 3/16 | 1 x 1 x 3/16 | 1/4" | 1-3/4" | | | 948 | 5 | 66261047584 |



MANDREL ASSEMBLY 66261059421



MANDREL ASSEMBLY 66261059422



THREADED MANDREL 66261047584





Convolute Wheels

Formed by wrapping and bonding web material impregnated with abrasive grain and resin around a center core. Convolute wheels offer a wide range of uses:

- Burr and flashing removal
- Surface roughness reduction
- Blending weld areas on stainless steel
- Blending scratch patterns
- Weld polishing
- Removing rust and oxides
- Applying decorative finishes including antique patterns

TIP

- Convolute wheels must always run in the direction indicated by the arrow printed on the side of each wheel.
- Light to medium pressure is recommended. Excessive pressure may result in part damage.
- Lubricants such as water-soluble oil and straight oil will decrease the heat and improve the surface finish and lustre.



It is the user's responsibility to refer to and comply with ANSI B7.1

NORTON RAPID FINISH GENERAL PURPOSE A/O & S/C

BEST CHOICE FOR BROAD RANGE OF APPLICATIONS: GENERAL DEBURRING, BLENDING, AND FINISHING ON ALL MATERIALS INCLUDING METALS, WOOD, GLASS



FEATURES & BENEFITS

- Eliminate smearing and loading on a wide range of workpieces (from high-nickel-content alloys to aluminum and other soft metals with patent-pending Norton Clean Bond resin technology)
- Increase throughput with a 30% faster finish through new Norton grain/bond configuration
- Decrease wheel changes with a 10-30% longer life, provided by a new fiber and the high-temperature resin bond
- Ease wheel selection with color-coding wheel to match the primary use (maroon for General Purpose), and fiberglass core to match the abrasive (black for silicon carbide and white for aluminum oxide)
- Use wet or dry

TIER: **BEST**

BRAND: Norton

TRADENAME: **RAPID FINISH GENERAL PURPOSE**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | STD. PKG. | PRODUCT CODE | 6 DENSITY PART # | 7 DENSITY PART # | 8 DENSITY PART # | 9 DENSITY PART # |
|------------------|----------|-----------|----------|-----------|--------------|------------------|------------------|------------------|------------------|
| 6" x 1/2" x 1" | A/O | Med. | 6,000 | 4 | C2315 | | 66261134177 | 66261134178 | 66261134179 |
| | S/C | Med. | 6,000 | 4 | C4315 | | | | 66261108076 |
| | S/C | Fine | 6,000 | 4 | C4415 | | 66261133213 | 66261106732 | 66261112985 |
| 6" x 1" x 1" | A/O | Med. | 6,000 | 3 | C2315 | 66261134180 | 66261134181 | 66261134182 | 66261134183 |
| | A/O | Fine | 6,000 | 3 | C2408 | 66261132100 | 66261132322 | 66261132324 | |
| | S/C | Med. | 6,000 | 3 | C4315 | | 66261108074 | 66261133215 | 66261108075 |
| | S/C | Fine | 6,000 | 3 | C4415 | 66261114475 | 66261119988 | 63642577269 | 63642581587 |
| | S/C | Very Fine | 6,000 | 3 | C4515 | 66261131970 | | | |
| 6" x 2" x 1" | A/O | Med. | 6,000 | 2 | C2315 | | 66261134184 | | |
| | S/C | Med. | 6,000 | 2 | C4315 | | 66261114471 | | |
| | S/C | Fine | 6,000 | 2 | C4415 | | 66261132325 | | 66261114485 |
| 8" x 1" x 3" | S/C | Med. | 4,500 | 3 | C4315 | | 66261108066 | 66261108069 | |
| | S/C | Fine | 4,500 | 3 | C4415 | 66261108064 | 66261108065 | 63642553754 | 63642576004 |
| | S/C | Very Fine | 4,500 | 3 | C4515 | | | | 66261133209 |
| 8" x 2" x 3" | S/C | Med. | 4,500 | 2 | C4315 | | 66261114473 | | |
| | S/C | Fine | 4,500 | 2 | C4415 | | 66261114480 | 66261114483 | 66261114486 |
| | S/C | Very Fine | 4,500 | 2 | C4515 | | | | 66261133210 |
| 10" x 1" x 5" | A/O | Med. | 3,600 | 3 | C2315 | | 66261134185 | | |
| | S/C | Fine | 3,600 | 3 | C4415 | | | 66261106554 | 66261114488 |
| 10" x 2" x 5" | S/C | Fine | 3,600 | 1 | C4415 | | | 63642581044 | 66261114489 |
| 12" x 1" x 5" | A/O | Med. | 3,000 | 2 | C2315 | | | | 66261134186 |
| | S/C | Fine | 3,000 | 2 | C4415 | 66261108053 | 66261114481 | 66261114484 | 66261114074 |
| | S/C | Very Fine | 3,000 | 2 | C4515 | | | | 66261134187 |
| 12" x 2" x 5" | S/C | Fine | 3,000 | 1 | C4415 | | 66261114482 | 66261112766 | 66261114490 |

Convolute Wheels *continued*

NORTON SERIES 4000 A/O & S/C

BEST CHOICE FOR HEAVY DEBURRING APPLICATIONS



FEATURES

- Advanced resin bond system
- High quality synthetic web

BENEFITS

- Free cutting
- Use both wet and dry
- Long life for heavy deburring, edge breaking and removing parting lines on exotic metals

TIER: **BEST**

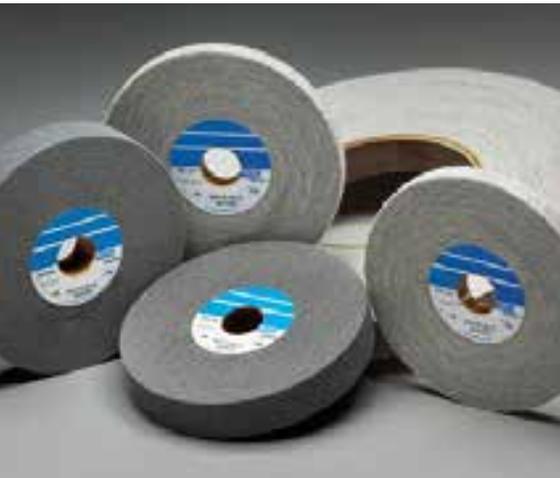
BRAND: Norton

TRADENAME: **SERIES 4000 CONVOLUTE WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | STD. PKG. | 8 DENSITY PART # | 9 DENSITY PART # |
|------------------|----------|------|----------|-----------|------------------|------------------|
| 6 x 1/2 x 1 | S/C | F | 6,000 | 4 | | 66261004021 |
| 6 x 1 x 1 | A/O | M | 6,000 | 3 | 66261004208 | |
| | S/C | F | 6,000 | 3 | 66261004142 | 66261004141 |
| 8 x 1 x 3 | A/O | M | 4,500 | 3 | 66261004165 | |
| | S/C | F | 4,500 | 3 | 66261004123 | 66261004135 |
| 12 x 1 x 5 | S/C | F | 3,000 | 2 | 66261004284 | 66261004148 |
| 12 x 2 x 5 | S/C | F | 3,000 | 1 | | 66261004011 |

NORTON SERIES 1000 LONG LIFE A/O & S/C

BETTER CHOICE FOR GENERAL DEBURRING, BLENDING, AND FINAL FINISHING



FEATURES

- Smear and heat-resistant formula
- Dense web construction (9 density)
- More open web construction (7 density)
- Waterproof
- Non-metallic
- Optimum grain/resin formulation
- Conformable and flexible

BENEFITS

- Consistent, high quality results
- Starting point for deburring, blending, polishing and finishing applications
- Smear-resistant and cool cutting on light deburring applications
- Use dry, wet or with oil
- No contamination of workpiece
- Durable, long life construction with versatile application range and consistent cut rate and shed resistance
- Less operator fatigue

TIER: **BETTER**

BRAND: Norton

TRADENAME: **SERIES 1000 LONG LIFE CONVOLUTE WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | STD. PKG. | 7 DENSITY PART # | 8 DENSITY PART # | 9 DENSITY PART # |
|------------------|----------|------|----------|-----------|------------------|------------------|------------------|
| 6 x 1/2 x 1 | A/O | M | 6,000 | 4 | 66261018857 | | 66261018650 |
| | S/C | M | 6,000 | 4 | | | 66261019540 |
| | S/C | F | 6,000 | 4 | 66261018628 | | 66261018629 |
| 6 x 1 x 1 | A/O | M | 6,000 | 3 | 69957397884 | 66261018636 | 66261019337 |
| | S/C | M | 6,000 | 3 | 69957397882 | 69957397883 | 66261018630 |
| | S/C | F | 6,000 | 3 | 66261018631 | 66261018774 | 66261018632 |
| 8 x 1 x 3 | A/O | M | 4,500 | 3 | 69957397885 | 66261018855 | 66261018633 |
| | S/C | M | 4,500 | 3 | 69957394610 | 66261018673 | 66261018997 |
| | S/C | F | 4,500 | 3 | 66261018639 | 66261018640 | 66261018641 |
| 12 x 1 x 5 | A/O | M | 3,000 | 2 | 69957397887 | | 66261018896 |
| | S/C | M | 3,000 | 2 | | 66261018786 | 66261018908 |
| | S/C | F | 3,000 | 2 | | | 66261018626 |

Convolute Wheels *continued*

NORTON LIGHT FINISHING SILICON CARBIDE

BEST CHOICE FOR LIGHT DEBURRING, POLISHING, AND FINE FINISHING APPLICATIONS



FEATURES

- Controlled cut rate
- Very conformable
- Superior form holding
- Durable resin bond system
- Advanced manufacturing process

BENEFITS

- Prevents “over benching”
- Deburrs and polishes without altering geometry
- Operator friendly, reduces fatigue
- Consistent, reliable edge breaking and finishing with minimal wheel dressing and reshaping
- Less dust and shedding with more uniform wear
- Substantial extended wheel life in a soft, conformable wheel
- Consistent web forming and grain distribution produce consistent finish on intricate polishing applications

TIER: **BEST**

BRAND: Norton

TRADENAME: **LIGHT FINISHING CONVOLUTE WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | MAX. RPM | 6 DENSITY PART # | 7 DENSITY PART # | 8 DENSITY PART # |
|------------------|----------|------|----------|------------------|------------------|------------------|
| 6 x 1/2 x 1 | S/C | F | 6,000 | 66261092322 | 66261092324 | 66254421572 |
| 6 x 1 x 1 | S/C | F | 6,000 | 66254403708 | 66254403709 | 66254421573 |
| 8 x 1/2 x 3 | S/C | F | 4,500 | 66254403707 | 66254409698 | 66254421575 |
| 8 x 1 x 3 | S/C | F | 4,500 | 66261095702 | 66254409924 | 66254421577 |

All Light Finishing convolute wheels are non-stock. Ask your Norton representative for current lead-times and order quantities.

NORTON METAL FINISHING ALUMINUM OXIDE

BEST CHOICE FOR DECORATIVE FINISHING, BLENDING, AND FINAL FINISHING



FEATURES

- Premium, medium grit aluminum oxide grain
- Dense, very durable web
- Strongest resin binders
- Uniform grain dispersion and coating
- Available in 5 and 6 densities

BENEFITS

- Generates uniform distinct satin and antique finishes
- Can be used for blending applications
- Resilient, long life construction
- Clean and condition without gouging or changing dimensions of workpiece
- Ideal for blending and matching #3 and 4 mil. finishes, and surface prep for buffing, polishing and applying decorative finishes

TIER: **BEST**

BRAND: Norton

TRADENAME: **METAL FINISHING CONVOLUTE WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | DENSITY | MAX. RPM | STD. PKG. | PART # |
|------------------|----------|------|---------|----------|-----------|-------------|
| 6 x 1 x 1 | A/O | M | 5 | 6,000 | 3 | 66261007936 |
| | | M | 6 | 6,000 | 3 | 66261010148 |
| 6 x 2 x 1 | A/O | M | 5 | 6,000 | 2 | 66261007957 |
| | | M | 6 | 6,000 | 2 | 66261009635 |
| 8 x 1 x 3 | A/O | M | 5 | 4,500 | 3 | 66261007831 |
| 8 x 2 x 3 | A/O | M | 5 | 4,500 | 2 | 66261007904 |
| | | M | 6 | 4,500 | 2 | 66261012971 |
| 12 x 1 x 5 | A/O | M | 5 | 3,000 | 2 | 66261007434 |
| | | M | 6 | 3,000 | 2 | 66261009481 |
| 12 x 2 x 5 | A/O | M | 5 | 3,000 | 1 | 66261007212 |
| 14 x 2 x 8 | A/O | M | 5 | 2,550 | 1 | 66261007817 |
| | | M | 6 | 2,550 | 1 | 66261012041 |

Convolute Wheels *continued*

NORTON CLEAN & FINISH SILICON CARBIDE

BEST CHOICE FOR FINE FINISHING WITH LIGHT PRESSURE



FEATURES

- Silicon carbide grain
- Open mesh construction

BENEFITS

- Good for blending, rust removal, applying decorative, contrast finishes and low- to moderate-speed applications
- Not used for deburring
- Used with light to moderate pressure, low speed

TIER: **BEST**

BRAND: Norton

TRADENAME: **CLEAN & FINISH
CONVOLUTE WHEELS**

| SIZE (D x T x H) | ABRASIVE | GRIT | DENSITY | MAX. RPM | STD. PKG. | PART # |
|------------------|----------|------|---------|----------|-----------|-------------|
| 4 x 1 x 1 | S/C | M | 4 | 4,000 | 10 | 66261058502 |
| | | F | 4 | 4,000 | 10 | 66261058501 |
| 6 x 1 x 1 | S/C | M | 4 | 3,000 | 4 | 66261058507 |
| | | F | 4 | 3,000 | 4 | 66261058506 |
| 6 x 2 x 1 | S/C | M | 4 | 3,000 | 2 | 66261058510 |
| | | F | 4 | 3,000 | 2 | 66261058509 |
| 6 x 3 x 1 | S/C | M | 4 | 3,000 | 1 | 66261058512 |
| 6 x 4 x 1 | S/C | M | 4 | 3,000 | 1 | 66261058514 |
| 8 x 1 x 3 | S/C | M | 4 | 2,500 | 3 | 66261058518 |
| 8 x 2 x 3 | S/C | M | 4 | 2,500 | 2 | 66261058521 |
| 8 x 3 x 3 | S/C | M | 4 | 2,500 | 1 | 66261058524 |
| 8 x 4 x 3 | S/C | M | 4 | 2,500 | 1 | 66261058526 |

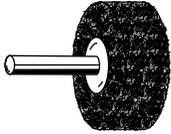
Aluminum Reducing Bushings for Flap and Convolute Wheels



- Durable, aluminum one-piece-design flanges with integrated "contact washer"
- Snug fit; extended usable life
- Available in stock and non-stock sizes in many combinations of ID hole reduction

| WHEEL CENTER HOLE | BUSHING REDUCES HOLE SIZE TO | FOR WHEEL DIAMETER | STD. PKG. | PART # |
|-------------------|------------------------------|--------------------|-----------|-------------|
| 1 | 3/8 | 4 - 6 | 1 Pair | 66261080522 |
| | 1/2 | 4 - 6 | 1 Pair | 66261080523 |
| | 5/8 | 4 - 6 | 1 Pair | 66261080524 |
| | 3/4 | 4 - 6 | 1 Pair | 66261080525 |
| | 7/8 | 4 - 6 | 1 Pair | 66261080526 |
| 2 | 1/2 | 6 | 1 Pair | 66261080527 |
| | 5/8 | 6 | 1 Pair | 66261080528 |
| | 1 | 6 | 1 Pair | 66261080529 |
| | 1-1/4 | 6 | 1 Pair | 66261080530 |
| 3 | 1 | 8 | 1 Pair | 66261080531 |
| | 1-1/4 | 8 | 1 Pair | 66261080532 |
| | 1-1/2 | 8 | 1 Pair | 66261080383 |
| | 2 | 8 | 1 Pair | 66261080514 |
| 5 | 1 | 10 and 12 | 1 Pair | 66261080533 |
| | 1-1/4 | 10 and 12 | 1 Pair | 66261080534 |
| | 3 | 10 and 12 | 1 Pair | 66261080535 |
| 8 | 1-1/4 | 14 | 1 Pair | 66261080536 |
| 10 | 1-1/4 | 16 | 1 Pair | 66261080520 |

1/4" Mounted Steel Shanks



| | | | | |
|------------|------------------|------------------|------------------|------------------|
| TIER: | BETTER | GOOD | BETTER | GOOD |
| BRAND: | Norton | Merit | Norton | Merit |
| TRADENAME: | INTERLEAF | INTERLEAF | NON-WOVEN | NON-WOVEN |

| SIZE (D x W x SK.) | ABRASIVE | CA GRIT | NON-WOVEN GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|--------------------|----------|---------|----------------|----------|-----------|--------------|-------------|--------------|--------------|
| 2 x 1 x 1/4 | A/O | 60 | Coarse | 12,000 | 10 | 66261051720* | 08834138122 | | |
| | A/O | 80 | Medium | 12,000 | 10 | 66261051721* | 08834138123 | | |
| | A/O | 120 | Medium | 12,000 | 10 | 66261051722 | 08834144457 | 66261051716* | 66261189992* |
| | A/O | 180 | Fine | 12,000 | 10 | | 08834144458 | | |
| 2 x 1-1/2 x 1/4 | A/O | 320 | Very Fine | 12,000 | 10 | | 08834144459 | 66261051717* | 69957399202 |
| | A/O | 80 | Medium | 12,000 | 10 | | 08834138125 | | |
| | A/O | 120 | Medium | 12,000 | 10 | | 08834138126 | | |
| 3 x 1 x 1/4 | A/O | 320 | Very Fine | 12,000 | 10 | | 08834138128 | | |
| | A/O | 60 | Coarse | 12,000 | 10 | | 08834138129 | | |
| | A/O | 80 | Medium | 12,000 | 10 | | 08834138130 | | |
| | A/O | 120 | Medium | 12,000 | 10 | 66261051725* | 08834138118 | 66261051718* | 08834131921 |
| | A/O | 180 | Fine | 12,000 | 10 | | 08834138120 | | |
| 3 x 2 x 1/4 | A/O | - | Very Fine | 12,000 | 10 | | | 66261051719* | |
| | A/O | 320 | Very Fine | 12,000 | 10 | | 08834138119 | | |
| | A/O | 120 | Medium | 8,000 | 10 | | 08834144460 | 66261058474 | |
| 4 x 2 x 1/4 | A/O | 180 | Medium | 8,000 | 10 | | 08834144461 | | |
| | A/O | 80 | Coarse | 12,000 | 10 | | 08834121115 | | |
| | A/O | 120 | Medium | 12,000 | 10 | | 08834120458 | | |

*Standard package quantity = 20

Refer to Non-Woven Convolute Wheel section for Flap Wheel Reducing Bushings.



Arbor Hole Mounts



| | | | | |
|------------|------------------|------------------|------------------|------------------|
| TIER: | BETTER | GOOD | BETTER | GOOD |
| BRAND: | Norton | Merit | Norton | Merit |
| TRADENAME: | INTERLEAF | INTERLEAF | NON-WOVEN | NON-WOVEN |

| SIZE (D x W x SK.) | ABRASIVE | CA GRIT | NON-WOVEN GRIT | MAX. RPM | STD. PKG. | PART # | PART # | PART # | PART # |
|-----------------------|----------|------------|-------------------|-------------|--------------|-------------|-------------|-------------|-------------|
| 3 x 2 x 3/8 | A/O | 60 | Coarse | 12,000 | 10 | | 08834139000 | | |
| | A/O | 120 | Medium | 12,000 | 10 | | 08834139001 | | |
| | A/O | 240 | Very Fine | 12,000 | 10 | | 08834139028 | | |
| | A/O | 320 | Very Fine | 12,000 | 10 | | 08834139024 | | |
| 4 x 2 x 5/8 | A/O | 60 | Coarse | 12,000 | 10 | | 08834126025 | | |
| | A/O | 240 | Very Fine | 12,000 | 10 | | 08834126014 | | |
| | A/O | 320 | Very Fine | 12,000 | 10 | | 08834126027 | | |
| 6 x 1 x 1 | A/O | 120 | Medium | 6,000 | 10 | | 08834126006 | | |
| | A/O | 240 | Very Fine | 6,000 | 10 | | 08834126030 | | |
| 6 x 1 x 2 | A/O | - | Medium | 3,000 | 4 | | | 66261058456 | |
| | A/O | 180 | Fine | 3,000 | 4 | | | 66261058487 | |
| | S/C | - | Fine | 3,000 | 4 | | | 66261058451 | |
| | S/C | - | Very Fine | 3,000 | 4 | | | 66261058450 | 05539512658 |
| 6 x 2 x 1 | A/O | 80 | Medium | 6,000 | 10 | | 08834126009 | | |
| | A/O | 180 | Fine | 6,000 | 10 | | 08834126018 | | |
| 6 x 3 x 1 | A/O | 80 | Medium | 6,000 | 6 | | 08834126055 | | |
| 8 x 1 x 3 | A/O | 120 | Medium | 2,500 | 3 | 66261010711 | | | |
| | - | - | Fine | 2,500 | 3 | | | 66261058491 | |
| 8 x 2 x 3 | A/O | - | Medium | 2,500 | 2 | | | 66261000889 | |
| | A/O | - | Medium | 2,500 | 2 | | | | 05539512677 |
| | A/O | - | Fine | 2,500 | 2 | | | 66261058493 | |
| 12 x 1 x 5 | A/O | 80 | Medium | 1,900 | 2 | 66261010712 | | | |
| 12 x 2 x 5 | A/O | - | High Strength | 1,900 | 1 | | | 66261005070 | 05539562637 |

MERIT





Norton non-woven belts are a combination of strong synthetic mesh and quality abrasive, bonded together by a smear-resistant adhesive. The open construction of non-woven material enables aggressive cutting action and improved surface finish while maintaining its non-loading feature.

Applications:

Removing surface defects, light edge burrs, parting lines, flashing, rust, oxides, corrosion, paints, and scale; blending mill marks, tool marks, uneven edges, and applying decorative finishes.

Abrasive Grain:

Engineered Aluminum Oxide, Aluminum Oxide

Grit Range:

Extra Coarse (Black), Coarse (Brown), Medium (Maroon), Fine (Green), Very Fine (Blue)

Machine Used:



APPLICATION/GRIT RECOMMENDATION GUIDE

| |  |  |  |  |  |
|-----------------|---|---|--|---|---|
| | EXTRA COARSE | COARSE | MEDIUM | FINE | VERY FINE |
| | BETTER Choice - Norton Rapid Prep Vortex | | | | |
| | GOOD Choice - Norton Rapid Prep | | | | |
| Scale Removal | X | | | | |
| Stock Removal | | X | | | |
| Heavy Deburring | | X | | | |
| Light Deburring | | | X | | |
| Light Finishing | | | X | | |
| Blending | | | | X | |
| Finishing | | | | | X |

NORTON VORTEX RAPID PREP ALUMINUM OXIDE

BETTER CHOICE FOR FINISHING AND BLENDING APPLICATIONS



FEATURES

- Proprietary engineered Vortex aluminum oxide abrasive grain and new coating method
- Clean Bond resin system, aerospace-tailored

BENEFITS

- Most consistent cutting and finishing of surface conditioning products on the market
- Combine maximum cutting speed with the finish of fine grits
- Reduce process times by 50+% by eliminating 2 to 5 grit sequences to 1 step in your technical blending operations
- More resistant to edge wear; up to 4X the life of competitive products
- Friable grain structure keeps Ra specs throughout belt life and reduces scrap and rework
- Smear-free, even on high nickel content alloys
- Will not load on aluminum and soft metals, as competitive products can

NORTON RAPID PREP ALUMINUM OXIDE

GOOD CHOICE FOR FINISHING AND BLENDING APPLICATIONS



FEATURES

- Clean Bond resin system, aerospace-tailored
- Proprietary new coating method
- Extended form holding

BENEFITS

- Smear-free, even on high nickel content alloys
- Will not load on aluminum and soft metals, as competitive products can
- Thick layer of grain throughout the product extends life; grain does not sit on top of fibers as other competitive products can
- Lowest total cost of consumable tooling per workpiece
- 50% better life than competitive aluminum oxide products

Norton Rapid Prep Vortex

| | | TIER: | BETTER | BETTER | BETTER | BETTER | BETTER |
|-------|----------|-------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | BRAND: | Norton | Norton | Norton | Norton | Norton |
| | | TRADENAME: | VORTEX RAPID PREP |
| | | ABRASIVE: | Engineered A/O |
| | | GRIT/COLOR: | EXTRA COARSE | COARSE | MEDIUM | FINE | VERY FINE |
| WIDTH | LENGTH | STD. PKG. | PART # |
| 2 | 18-15/16 | 12 | 66623313274 | 66623335031 | 66623333675 | 66623333649 | 66623333688 |
| 2-3/4 | 15-1/2 | 10 | 66623333718 | 66623333628 | 66623333676 | 66623333655 | 66623333694 |
| 3 | 10-11/16 | 12 | 66623333719 | 66623335039 | 66623335110 | 66623333656 | 66623333695 |
| | 18 | 10 | 66623335149 | 66623335040 | 66623335112 | 66623333657 | 66623335135 |
| 3-1/2 | 15-1/2 | 8 | 66623333725 | 66623335042 | 66623335118 | 66623333665 | 66623335139 |
| 4 | 24 | 8 | | | 66623335119 | | |

Norton Rapid Prep

| | | TIER: | GOOD | GOOD | GOOD | GOOD | GOOD | |
|-------|--------|-------------|---------------------|-------------------|-------------------|-------------------|-------------------|-------------|
| | | BRAND: | Norton | Norton | Norton | Norton | Norton | |
| | | TRADENAME: | RAPID PREP | RAPID PREP | RAPID PREP | RAPID PREP | RAPID PREP | |
| | | ABRASIVE: | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | Aluminum Oxide | |
| | | GRIT/COLOR: | EXTRA COARSE | COARSE | MEDIUM | FINE | VERY FINE | |
| WIDTH | LENGTH | STD. PKG. | PART # | PART # | PART # | PART # | PART # | |
| 1/4 | 18 | 24 | | 66261011420 | 66261012524 | 66623333424 | 66623333511 | |
| | 24 | 24 | | 69957392606 | 66261097565 | 66623333425 | 66623333512 | |
| 1/2 | 12 | 24 | | 66261003177 | 66261006465 | 66623318175 | 66254499884 | |
| | 18 | 24 | | 66261055309 | 66261055310 | 66623333426 | 66261055311 | |
| | 24 | 24 | | 66261055312 | 66261008972 | 66254490859 | 66261019876 | |
| 3/4 | 18 | 12 | | 66261002111 | 66261015808 | 66254490858 | 66261003622 | |
| | 20-1/2 | 12 | | 66261083899 | 66261003260 | 66623333427 | 66623333515 | |
| | 80 | 12 | | 66623333411 | 66623333505 | 66623333428 | 66623333516 | |
| 1 | 18 | 12 | | 66261007023 | 66261017898 | 66623333429 | 66623333518 | |
| | 21 | 12 | | 66623333412 | 66623336005 | 66623333430 | 66623333519 | |
| | 30 | 12 | | 66261019801 | 66623336006 | 66623333431 | 66261001972 | |
| | 42 | 12 | | 66261008317 | 66254441289 | 66623333432 | 66623333521 | |
| | 60 | 12 | | 66623333413 | 66623333506 | 66623333433 | 66261055412 | |
| | 64 | 12 | | 66623333414 | 66623301513 | 66623333434 | 66261055413 | |
| | 72 | 12 | | 66261194240 | 66261006378 | 66254493830 | 66261005583 | |
| | 132 | 10 | | 66623314981 | 66261011414 | 66254436886 | 66623333525 | |
| | 1-1/2 | 60 | 8 | | 66623333415 | 66261007644 | 66623333435 | 66623303624 |
| | 2 | 18-15/16 | 12 | 66261018226 | 66261018224 | 66623333507 | 66623333436 | 66623333528 |
| 34 | | 12 | | 66261063309 | 66623312203 | 66623333437 | 66623333529 | |
| 48 | | 10 | | 66261006504 | 66261006648 | 66623333438 | 66623333531 | |
| 60 | | 8 | | 66623333416 | 66261189669 | 66623333439 | 66623333532 | |
| 72 | | 8 | | 66261002571 | 66261007757 | 66623333440 | 66261002307 | |
| 132 | | 6 | | | | 66261069525 | 66623333533 | |
| 2-1/2 | | 60 | 6 | | 66254429365 | 66254441491 | 66623333441 | 66623333534 |
| 2-3/4 | | 15-1/2 | 10 | 66623333578 | 66623333417 | 66623333508 | 66623333442 | 66623333535 |
| 3 | | 10-11/16 | 12 | 66623333580 | 66261018076 | 66261067469 | 66623333443 | 66623333536 |
| | | 18 | 10 | 66254428772 | 66254496043 | 66254428776 | 66623333444 | 66261019836 |
| | 21 | 10 | 66623333584 | 66623333418 | 66261010870 | 66623333445 | 66623333537 | |
| | 24 | 10 | 66254433359 | 66623314158 | 66254428773 | 66623333446 | 66261055593 | |
| | 72 | 6 | | 66623333419 | 69957396833 | 66623333447 | 66261003176 | |
| | 80 | 4 | | 66623333420 | 66261007149 | 66623333448 | 66623333542 | |
| | 90 | 4 | | 66623333421 | 66623333509 | 66623333449 | 66623333541 | |
| | 118 | 4 | | 66623333422 | 66623333510 | 66623333450 | 66261047121 | |
| | 132 | 4 | | 66254490470 | 66261055322 | 66623333451 | 66623333543 | |
| | 3-1/2 | 15-1/2 | 8 | 66623333595 | 66261055324 | 66254444576 | 66623333452 | 66261055326 |
| 4 | 24 | 8 | 66623333596 | 66254495931 | 66261031667 | 66623333453 | 66623333545 | |
| | 36 | 6 | | 66623333423 | 66261002321 | 66623333454 | 66623333546 | |
| | 132 | 2 | | 66261009056 | 66261006898 | 66623333455 | 66623333547 | |
| | 168 | 2 | | 63642576650 | 66261009174 | 66623333456 | 66623333548 | |
| | 48 | 4 | | 66261055330 | 66261055331 | 66623333457 | 66261055332 | |

If you do not see the Rapid Prep belts you need in our stock offering, call your local Norton distributor to check for made-to-order availability.

Introduction

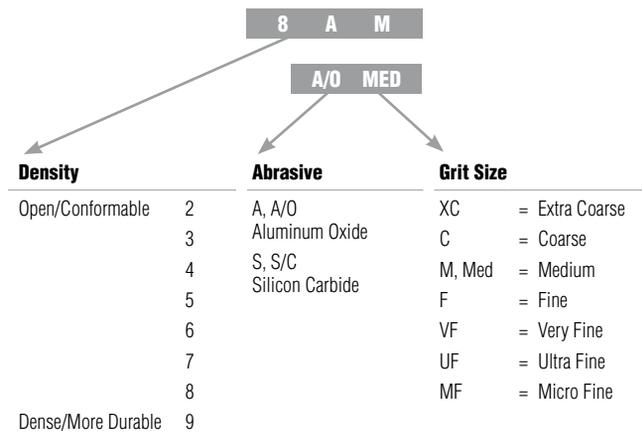
Most Norton Bear-Text and Merit products consist of a non-woven web of nylon fibers impregnated throughout with abrasive grain and bonded with synthetic resins. This design produces a cushioned, three-dimensional material that is extremely pliable and long lasting. The uniform dispersion of abrasive throughout the web provides a continuous supply of new grain as the old grain and fibers wear away during use.

Norton Bear-Text and Merit products, with their open mesh construction, are waterproof, washable, resilient, conformable, non-loading, non-conductive, non-metallic and non-rusting. Non-woven wheels are easily pre-formed to conform to special-shaped work pieces.

Since non-woven products are designed for use where stock removal is not required, they begin where other abrasives leave off. The relatively non-aggressive nature of nylon and grit inherent in the material makes it ideal as a finishing tool. While 60 to 80 grits are considered intermediate sizes in other products, they are considered coarse for non-woven items.

Used wet or dry, Norton Bear-Text and Merit non-woven products offer the following advantages: controlled cut (with little or no stock removal) allows for increased productivity, consistent, uniform finish, ability to automate operations, minimized smearing and reduced operator training. These advantages make our non-woven products an excellent alternative to bristle brushes, set-up wheels, greaseless compounds and steel wool.

Product Identification System



Abrasives

Ceramic alumina, silicon carbide and aluminum oxide abrasives are offered. Ceramic alumina cuts the fastest and is the most cost effective on large-volume applications. Silicon carbide is sharper, cuts faster than aluminum oxide, and produces finer scratch patterns on most surfaces. Aluminum oxide is more durable and tends to last longer. It causes less discoloration on aluminum, and is more aggressive on certain applications such as hardened steel parts. Norton Bear-Text hand pads are also available in a non-abrasive material.

Grits

Grit refers to the size of the abrasive grain impregnated into the nylon web. The coarser the grit, the more aggressive the cut, the rougher the finish. The finer the grit, the less aggressive the cut and the resulting surface finish will be finer, if all other conditions are equal.

| GRIT DESIGNATIONS | GRIT SIZE |
|-------------------|------------|
| Extra Coarse (XC) | 24 – 36 |
| Coarse (C) | 50 – 80 |
| Medium (M) | 100 – 150 |
| Fine (F) | 180 – 220 |
| Very Fine (VF) | 240 – 360 |
| Super Fine (SF) | 400 |
| Ultra Fine (UF) | 600 |
| Micro Fine (MF) | 800 – 1200 |

Densities

The product “density” refers to the number of fibers which have been compressed into the nylon web material. Under identical conditions, harder density wheels cut faster, last longer and produce finer finishes than softer density wheels. Softer density wheels offer greater conformability and have less tendency to load or burn the work piece.

Fiber Sizing

Several nylon fiber sizes are used in the manufacture of Norton Bear-Text and Merit web material because the fiber size is a significant factor in the coating process, as each produces distinct cutting characteristics.

Bonding Agents

Waterproof resins are used in the manufacture of Norton Bear-Text and Merit web material to bond the nylon fibers together and to firmly anchor the abrasive grains throughout the web.

Conventional Finishing Methods Versus Norton Bear-Text and Merit Non-Woven Products

The following chart outlines the advantages achievable when using our products as alternatives to other cleaning, blending, deburring and finishing methods. These products are listed in the sequence of normal preference for the application stated. However, because of the numerous variables, only testing can ensure selection of the most cost-effective product.

| CONVENTIONAL FINISHING METHOD | KEY APPLICATION | NORTON/MERIT PRODUCT ALTERNATIVES | ADVANTAGES OF NORTON/MERIT PRODUCT VERSUS ALTERNATE FINISHING METHODS |
|-------------------------------|------------------------|--|---|
| Bristle Brushes | Cleaning | Clean & Finish Wheels Metal Finishing Wheels Flap Wheels | Superior cleaning performance Higher productivity No slurry or compound required More consistent finish Eliminate compound dust |
| Greaseless Compounds | Finishing | Flap Wheels Convolute Wheels Unified Wheels | Reduced maintenance No compound, instant set-up Elimination of compound dust More uniform finish More consistent work rate |
| Set-up Wheels | Blending/ Deburring | Convolute Wheels Unified Wheels | No break-in time required More consistent cut More uniform finish Maintain geometry Safer, no flying wheel pieces |
| Steel Wool | Cleaning | Rolls Discs Hand Pads | Faster, longer life Less pressure required Non-rusting, cleaner Safer, no splinters |

Getting the Most Out of Norton Bear-Tex and Merit Wheels

Maximum wheel life and best surface conditioning results can be achieved by closely adhering to the following recommendations.

1) Wheel Direction

Convolute wheels and interleaf flap wheels must always run in the direction indicated by the arrow printed on the side of each wheel. Conventional flap wheels and unified wheels can be run in either direction.

2) Wheel Speed

Wheel speed is an important factor in that it affects product finish, rate of cut, and wheel life. In general, fast wheel speeds give harder action and a finer finish; whereas, slower speeds give a softer action and a coarser finish for the same wheel density.

The following are recommended operating speeds for the most common applications.

| APPLICATION | RECOMMENDED SPEED |
|--|-------------------|
| Cleaning and upgrading of surface conditions | 2200 to 6000 SFPM |
| Cut-buffing on metal surfaces | 6500 to 8000 SFPM |
| Deburring | 5500 to 8000 SFPM |
| Decorative finishing | 500 to 3000 SFPM |
| Imparting decorative finishes | 900 to 3000 SFPM |
| Oxide removal | 3500 to 6500 SFPM |

Testing might show that a slower or faster speed is desirable for specific operations. Never exceed the maximum RPM rating of the wheel.

3) Pressure

Light to medium pressure is recommended for most operations. Flap wheels require much lighter pressure to perform properly than other non-woven wheels; unified wheels can withstand much higher pressures in order to perform deburring jobs. In all cases, avoid excessive pressure which might result in wheel deformation and damage to the work surface.

4) Feed Speed

Low feed speed reduces the number of workpieces completed, while producing a shorter scratch pattern. Slow feed speed allows for longer dwell time and permits more work to be done on each piece. Conversely, a fast feed speed increases the number of workpieces completed, while producing a longer scratch pattern.

5) Oscillation

Oscillation may be used to break up scratch lines and produce a more uniform finish. Additionally, an increase in cut might be experienced. A general starting point for oscillation is 3/8" amplitude at 200 cycles per minute.

6) Lubricants

Lubricants, such as water, water soluble oil, and straight oil, will decrease the heat generated while running, improve the luster, and reduce the surface finish. The higher the viscosity of the lubricant, the lower the surface finish (RMS value) produced.

Factors in Wheel Choice

This chart provides a relative comparison of other Norton Bear-Tex wheel variables. It can serve as a useful guide in choosing the most suitable product for a given application. However, as many other factors affect wheel performance, this chart can only be general in nature. The most cost-effective results can always be obtained by wheel testing on the application.

| | | | | | | | | |
|-----------------------------|-------------------------|-------------|-----------------|-----------------|---|-------------------------------|--------------------------|---|
| 1 Wheel Conformability | MOST CONFORMABLE (SOFT) | | | | | | LEAST CONFORMABLE (HARD) | |
| | ← | Flap Wheels | Clean & Finish | Metal Finishing | Rapid Finish GP 7 Density | Rapid Finish GP 8 & 9 Density | Series 4000 | → |
| 2 Wheel Openness | OPEN MESH | | | | | | CLOSED MESH | |
| | ← | | Clean & Finish | Metal Finishing | Rapid Finish GP 7 Density | Rapid Finish GP 8 & 9 Density | Series 4000 | → |
| 3 Wheel Aggressiveness | MOST AGGRESSIVE | | | | | | LEAST AGGRESSIVE | |
| | ← | | Metal Finishing | | Clean & Finish | Rapid Finish GP | Flap Wheels | → |
| 4 Finishing Action | COARSER | | | | | | FINER | |
| | ← | | Metal Finishing | Clean & Finish | Series 4000 | Rapid Finish GP Series 4000 | Flap Wheels | → |
| 5 Pressure for Best Results | LIGHTER | | | | | | HIGHER | |
| | ← | | Flap Wheels | Clean & Finish | Metal Finishing Rapid Finish GP 7 Density | Rapid Finish GP 8 & 9 Density | Series 4000 | → |

* On steel surfaces, silicon carbide wheels will produce a brighter finish than aluminum oxide wheels.

Surface Finish Variables

Changes in any one of many factors can affect the surface finish on the work piece. This chart shows the effect on surface finish by changes in single factors of product specifications. Arrows have been used to signify the trend direction. The arrow length does not signify that the effect of each factor is equal.

| Variable Factor | Rough Finish High Rms Reading | Smooth Surface Lower Rms Reading |
|----------------------------|-------------------------------|----------------------------------|
| 1 Grit Size | Coarse ← | → Very Fine |
| 2 Wheel Grade | Soft ← | → Hard |
| 3 Wheel Speed | Slow ← | → Fast |
| 4 Feed Speed | Faster (Long Scratch) ← | → Slower (Short Scratch) |
| 5 Oscillation | No Oscillation ← | → Oscillation |
| 6 Lubricants and Compounds | Dry ← | → Straight Oil |
| | ← Water | → Soluble Oil |
| | ← Compounds | → |

complementing our **ABRASIVES PORTFOLIO**

To help you finish the job, Norton accessory items let you one-stop shop. Our goal is to get it finished faster, easier and with less hassle of multiple vendors and invoices.



Get Wired

Our broad wire brush offering includes the basic shapes and configurations you'll need for heavy- to light-duty brushing applications.



Just the Right Amount of Fiber

Trap dirt, grime or liquids with microfiber cloths. Whether you are cleaning, dry tacking, or polishing, these cloths make quick work, trapping all unwanted particles.



Unmasking the Mystery

Masking tape choices: Professional High Heat for maximum performance and clean release on multiple surfaces and Blue Core 14-Day tape for easy on/off.

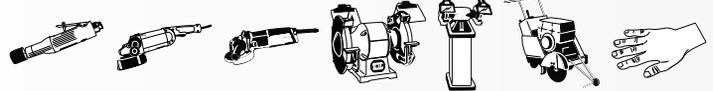


Our Norton wire brush broad offering includes all the basic shapes and configurations. Informative, attractive packaging clearly explains dimensions, structure, safety and machine usage. All brushes are individually clamshell packaged unless otherwise noted. When using wire brushes, be sure to comply with ANSI B165 "Power-Driven Brushing Tools: Safety Requirement for the Design, Care and Use." and safety documents on www.nortonabrasives.com website.

- Applications: Cleaning rust, scale and dirt; light deburring; edge blending; roughening for adhesion; finishing for appearance; finish preparation prior to plating or painting
- Shapes: Cup, saucer cup, wheel, joint/crack, end brush, hand brush
- Wire Design: Twist knot, crimped, and stringer bead
- Other: Color-coded for easy identification:

STEEL/METAL **STAINLESS**

Machine Used:



TWIST KNOT WIRE SAUCER CUP BRUSHES

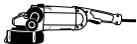
IDEAL FOR CLEANING CORNERS, RECESSES, AND OTHER HARD-TO-REACH AREAS – FOR STEEL/STAINLESS

FEATURES

- Twist knot style

BENEFITS

- For heavy-duty cleaning



| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|-----------------------------------|----------|-----------|------------------|-------------|
| 4 x .020 x 5/8-11 | 15,000 | 5 | CARBON | 66252833483 |
| 5 x .020 x 5/8-11 | 12,500 | 10 | CARBON | 66252835585 |
| 5 x .020 x 5/8-11 | 12,500 | 10 | STAINLESS | 66252835586 |

HIGH PERFORMANCE (HP) CABLE CRIMPED WIRE CUP BRUSHES

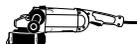
FOR LIGHT- TO MEDIUM-DUTY BRUSHING APPLICATIONS ON FLAT OR IRREGULAR SURFACES, AND BEVEL BUFFING – FOR STEEL

FEATURES

- 12 wires of .009" brass-coated steel are bundled together into a group, then crimped
- Cable crimped wire breaks down in smaller pieces than standard crimped brushes

BENEFITS

- Creates a 50% longer lasting brush compared to standard crimped brushes; better flexibility on irregular surfaces
- Safer to use
- Protective guard



| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|---|----------|-----------|---------------|-------------|
| Crimped Cup with Protective Guard – Single Row | | | | |
| 3 x (12 x .009) x 5/8-11 | 15,000 | 5 | CARBON | 66252833493 |
| 4 x (12 x .009) x 5/8-11 | 9,000 | 5 | CARBON | 66252833494 |

CRIMPED WIRE CUP BRUSHES

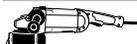
FOR LIGHT- TO MEDIUM-DUTY BRUSHING APPLICATIONS ON FLAT OR IRREGULAR SURFACES, AND BEVEL BUFFING – FOR STEEL

FEATURES

- Highly flexible heavy wire fill

BENEFITS

- Fast cutting



| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|-----------------------------------|----------|-----------|------------------|-------------|
| 3 x .014 x 5/8-11 | 15,000 | 5 | CARBON | 69936653341 |
| 3 x .014 x 5/8-11 | 15,000 | 5 | STAINLESS | 66252836362 |
| 4 x .014 x 5/8-11 | 9,000 | 5 | CARBON | 69936653347 |
| 4 x .020 x 5/8-11 | 9,000 | 5 | STAINLESS | 66252843844 |
| 6 x .014 x 5/8-11 | 6,000 | 5 | CARBON | 69936653348 |
| 6 x .020 x 5/8-11 | 6,000 | 5 | CARBON | 69936653349 |

TWIST KNOT WIRE CUP BRUSHES

HIGH IMPACT CUTTING AND CLEANING ON MORE DEMANDING APPLICATIONS – FOR STEEL/STAINLESS

FEATURES

- Rigid structure
- Available with or without plastic guard
- Protective guard opens up into a shield
- Single row construction
- Double row construction

BENEFITS

- High impact cutting and cleaning on more demanding applications
- Application-specific
- Prevents wire, dust and/or projection from reaching the end-user
- Provides for a friendly handling of the brush, preventing potential pricking caused by the wire ends
- Limits flaring of the brush on corners and angles
- More aggressive; provides twice the cutting points of a single row cup brush for heavy-duty action in very severe applications



| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|---|----------|-----------|-------------|-------------|
| Knotted Cup With Protective Guard – Single Row | | | | |
| 2-3/4 x .020 x 5/8-11 | 15,000 | 5 | CARBON | 66252833492 |
| 4 x .020 x 5/8-11 | 9,000 | 5 | CARBON | 66252833496 |
| 5 x .020 x 5/8-11 | 6,500 | 5 | CARBON | 66252833497 |
| Knotted Cup – Single Row | | | | |
| 2-3/4 x .020 x 5/8-11 | 15,000 | 5 | CARBON | 69936653336 |
| 2-3/4 x .020 x 5/8-11 | 15,000 | 5 | STAINLESS | 69936653340 |
| 4 x .020 x 5/8-11 with bridle | 9,000 | 5 | CARBON | 69936653345 |
| 4 x .020 x 5/8-11 with bridle | 9,000 | 5 | STAINLESS | 66252833947 |
| 6 x .020 x 5/8-11 | 6,000 | 5 | CARBON | 69936605965 |
| 6 x .020 x 5/8-11 | 6,000 | 5 | STAINLESS | 66253371115 |
| 6 x .035 x 5/8-11 | 6,000 | 5 | CARBON | 69936602003 |
| Knotted Cup – Double Row | | | | |
| 6 x .020 x 5/8-11 | 6,000 | 5 | CARBON | 69936653346 |

CRIMPED WIRE WHEEL BRUSHES

EXCELLENT PERFORMANCE FOR DEBURRING, REMOVING RUST, CORROSION AND DIRT – FOR STEEL/STAINLESS

FEATURES

- Brushes may be used individually or stacked on a shaft

BENEFITS

- Single-section, narrow-faced brushes are ideal for general-purpose brushing of uneven or difficult-to-reach surfaces
- Single section, medium-faced brushes clean larger surface areas and have longer life



| DIAMETER x WIRE THICKNESS x HOLE | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|----------------------------------|----------|-----------|-------------|-------------|
| Crimped Narrow 3/4" Face | | | | |
| 6 x .014 x 1/2-2** | 6,500 | 5 | CARBON | 69936653306 |
| Crimped Medium 1" Face | | | | |
| 4-1/2 x .014 x 5/8-11 | 13,000 | 6 | CARBON | 66253370278 |
| 6 x .014 x 1/2-2** | 6,500 | 5 | CARBON | 69936653324 |
| 8 x .014 x 1/2-2** | 4,500 | 5 | CARBON | 69936653326 |

** 7 bushing sizes included with each brush (fit 1/2" - 2")

STANDARD TWIST KNOT WIRE WHEEL BRUSHES

IDEAL FOR TOUGHER WELDING AND METAL FABRICATION APPLICATIONS (REMOVING WELD SCALE SPATTER, EXTRA-HEAVY RUST AND CORROSION, OR SURFACE ROUGHENING) – FOR STEEL/STAINLESS



EXPANDED OFFERING



FEATURES

- Twist knot wire design
- Pipeline: heavy-duty knot construction

BENEFITS

- Provides added rigidity for extra cutting and cleaning power
- Small diameter wheels are used for small- to medium-duty jobs requiring some flexibility and lighter brushing action
- Stiffer, longer-lasting knots for tougher applications / heavy build-up
- Longest life for brushing/cleaning joints and preparing expansion joints for filling and scaling

| DIAMETER x WIRE THICKNESS x MOUNT/HOLE | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|--|----------|-----------|-----------------|-------------|
| 3 x .015 x 1/2-3/8 | 20,000 | 5 | CARBON | 69936653314 |
| 4 x .020 x 5/8-11 | 20,000 | 5 | CARBON | 66252838300 |
| 4-1/2 x .020 x 5/8-11 | 20,000 | 5 | CARBON | 69936606275 |
| 4-1/2 x .020 x 5/8-11 with black hub | 20,000 | 6 | CARBON PIPELINE | 66252840466 |
| 4-1/2 x .020 x 5/8-11 | 20,000 | 6 | CARBON | 69936653331 |
| 4-1/2 x .020 x 5/8-11 | 20,000 | 5 | STAINLESS | 69936653333 |
| 5 x .020 x 5/8-11 | 12,500 | 5 | CARBON | 66252833487 |
| 5 x .020 x 5/8-11 | 12,500 | 5 | STAINLESS | 66252833488 |
| 6 x .020 x 5/8-11 | 12,500 | 5 | CARBON | 69936653352 |
| 6 x .020 x 5/8-11 | 12,500 | 5 | STAINLESS | 66253371540 |
| 6 x .020 x 5/8-1/2 | 12,500 | 5 | CARBON | 69936653327 |

STRINGER BEAD KNOT WIRE WHEEL BRUSHES

DELIVER HIGH-IMPACT CUTTING AND CLEANING FOR TOUGHEST APPLICATIONS – FOR STEEL/STAINLESS



EXPANDED OFFERING



FEATURES

- Stringer bead wire for hard-to-reach areas
- Heavy-Duty brushes
- Pipeline brushes

BENEFITS

- Specially suited for groove and weld bead, corners, and t-connections
- 1/3 more welding points which provide 50% more resistance to side load pressure
- 6-7/8" brushes have 76 knots vs. standard 56 knot brushes, resulting in 40% more cleaning action and up to 2X life, with similar life for the smaller versions of the heavy-duty brushes
- Longest life for brushing/cleaning joints and preparing expansion joints for filling and scaling

| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|-----------------------------------|----------|-----------|--------------------|-------------|
| For Right Angle Grinders | | | | |
| 4 x .020 x 5/8-11 | 20,000 | 5 | CARBON | 69936606277 |
| 4 x .020 x 5/8-11 | 20,000 | 6* | CARBON | 66252833489 |
| 4 x .020 x 5/8-11 | 20,000 | 10* | CARBON | 66253370022 |
| 4 x .020 x 5/8-11 | 20,000 | 6* | CARBON PIPELINE | 66252840467 |
| 4 x .020 x 5/8-11 | 20,000 | 5 | STAINLESS | 69936606278 |
| 4 x .020 x 5/8-11 | 20,000 | 6* | STAINLESS PIPELINE | 66252842233 |
| 4-1/2 x .020 x 5/8-11 | 20,000 | 6 | CARBON HEAVY-DUTY | 66252844886 |
| 4-1/2 x .020 x 5/8-11 | 20,000 | 6* | CARBON PIPELINE | 66252842299 |
| 5 x .020 x 5/8-11 | 12,500 | 10* | CARBON | 66252833490 |
| 5 x .020 x 5/8-11 | 12,500 | 10* | STAINLESS | 66252833491 |
| 6 x .020 x 5/8-11 | 12,500 | 10* | CARBON | 69936653350 |
| 6 x .020 x 5/8-11 | 12,500 | 10 | CARBON HEAVY-DUTY | 66252844887 |
| 6 x .020 x 5/8-11 | 12,500 | 10* | CARBON PIPELINE | 66252840469 |
| 6 x .020 x 5/8-11 | 12,500 | 10 | STAINLESS | 69936653351 |
| 6-7/8 x .020 x 5/8-11 | 9,000 | 10* | CARBON | 69936653329 |
| 6-7/8 x .020 x 5/8-11 | 9,000 | 10* | CARBON HEAVY-DUTY | 66252843919 |
| 6-7/8 x .020 x 5/8-11 | 9,000 | 10* | CARBON PIPELINE | 66252840468 |
| 6-7/8 x .020 x 5/8-11 Double Hub | 9,000 | 6* | CARBON | 66252810992 |
| 6-7/8 x .020 x 5/8-11 | 9,000 | 10* | STAINLESS | 66253371116 |
| 9 x .020 x 5/8-11 | 6,000 | 6 | CARBON | 66252837993 |

*Bulk packed item

JOINT/CRACK CLEANING WIRE BRUSHES

DELIVER HIGH-IMPACT FILING AND SCALING FOR TOUGHEST APPLICATIONS – FOR STEEL/STAINLESS



FEATURES

- Joint/Crack cleaning wire wheel brushes

BENEFITS

- Used for brushing joints, cleaning cracks in concrete and asphalt, and preparing expansion joints for filling and scaling

| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|--|----------|-----------|-------------|-------------|
| For Walk-Behind Machines – Joint/Crack Cleaning Brushes | | | | |
| 12 x .035 x 1 - DP | 4,500 | 2 | Carbon | 69936606280 |

END BRUSHES

CLEAN AND DEBURR A RECESSED AREA OR THE INSIDE DIAMETER OF A TUBE OR PIPE – FOR STEEL/STAINLESS



FEATURES

- Twist knot wire end brushes
- Crimped wire end brushes

BENEFITS

- For more aggressive cutting
- For lighter brushing action and contoured surfaces

| DIAMETER x WIRE THICKNESS x MOUNT | MAX. RPM | STD. PKG. | APPLICATION | PART # |
|-----------------------------------|----------|-----------|-------------|-------------|
| Stem Mounted Knotted | | | | |
| 3/4 x .020 x 1/4 Shank | 20,000 | 10* | CARBON | 69936653316 |
| 1 x .014 x 1/4 Shank | 20,000 | 10* | CARBON | 69936606279 |
| 1 x .020 x 1/4 Shank | 20,000 | 10* | CARBON | 69936653310 |
| Stem Mounted Crimped | | | | |
| 3/4 x .006 x 1/4 Shank | 20,000 | 10* | STAINLESS | 69936606145 |
| 3/4 x .014 x 1/4 Shank | 20,000 | 10* | CARBON | 69936653317 |
| 1 x .020 x 1/4 Shank | 20,000 | 10* | CARBON | 69936653309 |

*Bulk packed items

HAND BRUSHES

FOR STEEL/STAINLESS



FEATURES

- Long handle and shoe handle brushes
- Plastic handle scratch brush

BENEFITS

- Steel scratch brushes are made with a high-carbon, brass-coated steel; stainless steel is made with a 304L stainless
- Ergonomic handle
- Crimped wire for longer life
- Wires are wrapped up and around the metal post so they never come out
- Curved face for hard-to-reach places
- Narrow brush allows access into tight areas and slots

| SIZE | STD. PKG. | APPLICATION | PART # |
|----------------------------------|-----------|-------------|-------------|
| Scratch Brush 3 x 19 Long Handle | 12 | CARBON | 66252833948 |
| Scratch Brush 3 x 19 Long Handle | 12 | STAINLESS | 66252833950 |
| Scratch Brush 4 x 16 Shoe Handle | 12 | CARBON | 66252833949 |
| Scratch Brush 4 x 16 Shoe Handle | 12 | STAINLESS | 66252833951 |
| Scratch Brush Plastic Handle | 24 | CARBON | 66252833954 |
| Scratch Brush Plastic Handle | 24 | STAINLESS | 66252833953 |
| Inspection Brush 3 x 7 | 36 | STAINLESS | 66252833952 |



A micro-fiber is a single fiber with a thickness less than a human hair that has been split 16 times and woven into various products. The surface area of a micro-fiber product is increased over 15 times, creating millions of spaces between the fibers which trap dirt, grime or liquids, making this product one of the most absorbent materials. These cloths save you labor, time, and additional costs of multiple cleaning products and chemicals.

Applications: Cleaning Cloth: Used for general-purpose wet or dry applications. Works best when sprayed with a light water mist to deep clean.
Dry Tack Cloth: This woven terry cloth has a low profile to resist snagging and help pick up embedded debris.

Other: Polishing Cloth: Streak-free cleaning of mirrors, optical lens and highly-polished items.
Color-coded for easy identification
Cleaning Cloth: Blue
Dry Tack Cloth: Red
Polishing Cloth: Yellow

Machine Used:



| DESCRIPTION | COLOR | STD. PKG. | PART # |
|---|--------|-----------|-------------|
| Micro-Fiber Cleaning Cloth 16" x 16" | Blue | 20 | 07660705300 |
| Micro-Fiber Dry Tack Cloth 16" x 16" | Red | 20 | 07660704025 |
| Micro-Fiber Polishing Cloth 16" x 16" | Yellow | 20 | 07660705301 |



TIP

- Use these micro-fiber cloths dry for general cleaning
- To remove spills, stains or grime, lightly dampen the cloth for best results
- All micro-fiber cloths can be used with or without chemicals
- Micro-fiber cloths can be washed up to 300+ times without losing cleaning and trapping abilities
- Clean often for best results



It is the user's responsibility to refer to and comply with all safety regulations.



Norton Premium Tan High Heat Tape

- Designed for maximum performance and clean release on multiple surfaces
- These high quality masking tapes are ideal for conditions that include exposure to the high heat curing temperatures found in automobile, truck, bus and other transportation assembly operations, as well as aerospace manufacturing applications
- Can be baked up to 230°F and be exposed to wet sanding without adhesive transfer
- Conforms easily to contours and irregular surfaces
- No bleed-through or flaking upon removal
- Available in bulk, accordion-wrapped for protection and work site stocking

| SIZE (W x L) | STD. PKG. | PART # |
|--|-----------|-------------|
| Norton Premium Tan High Heat Tape | | |
| 48mm x 54.8m (2" x 60 yards) | 24 | 63642506185 |
| <i>Packed in sleeves, with 4 sleeves to a case</i> | | |



Norton Blue Core 14-Day Tape

- Our premium paint masking tape has a specially formulated adhesive system that provides optimum low- to medium-tack adhesion and clean removal from a variety of surfaces, for up to 14 days
- Norton Blue Core masking tape can be used indoors or out
- The crepe paper backing is designed to enable easy unrolling and to minimize slivering
- It delivers very sharp, clean edges on smooth- to moderately-textured surfaces

| SIZE (W x L) | STD. PKG. | PART # |
|--|-----------|-------------|
| Norton Blue Core 14 Day Tape | | |
| 36mm x 54.8m (1-1/2" x 60 yards) | 24 | 07660721954 |
| 48mm x 54.8m (2" x 60 yards) | 24 | 07660721955 |
| <i>Bulk packed as individual rolls</i> | | |



improve your
**PROCESS, PRODUCTIVITY,
AND COST POSITION**

You know the industry-leading performance of our engineered abrasives. Norton R & D has now created new formulations of these abrasives with our exclusive, proprietary Norton Vitrium3 (VS3) bond. You won't get better productivity from any other grinding wheels and segments.

- Cooler cutting with better chip clearance; improved coolant flow; significantly reduced burn
- Reduced wheel loading
- Improved part quality
- Improved precision profile; ultra-radius accuracy
- Extended wheel life
- Reduced dressing frequency and cost
- Improved cycle and process time
- Able to run at higher operating speed; increased throughput and productivity
- Leverage existing equipment; optimize machine efficiency



A Quantum Leap in Technology

A new generation of Norton Quantum ceramic abrasive products is designed for maximizing performance and cost savings in precision grinding. See new Vitrium3 bond Quantum wheels.



Sharper Versatility

Sharp monocrystalline aluminum oxide grain makes Norton 32A the industry's most versatile abrasive; free cutting on full range of applications and materials. See new Vitrium3 bond 32A wheels.



Cooler Cutting

White, friable 38A abrasive grain delivers exceptionally cool cutting in light pressure, toolroom grinding applications.





Used on surface, cylindrical, and tool and cutter grinders, Norton precision, form-holding vitrified toolroom wheels maximize your productivity. Available in latest-generation ceramic alumina, aluminum oxide, and silicon carbide – for every ferrous and nonferrous MRO, small job shop, and production operation.

Applications: Surface grinding, tool and cutter grinding, and sharpening
 Shapes: Type 01 Straight, Type 02 Cylinder, Type 05 and 07 Recessed 1 and 2 Sides, Type 06 and 11 Straight and Flaring Cups, Type 12 Dish, Type 20 Concaved 1 Side, and Type 35 Plate Mounted Disc
 Size Range: 3/4" – 18" diameter
 Grit Range: 46 – 220
 Abrasive Grain: Ceramic Alumina, Aluminum Oxide, Silicon Carbide

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| APPLICATION / MATERIAL | PERFORMANCE/PRODUCTIVITY | | | | | | | | |
|---|--------------------------|------------|------------|---------------------|------------|------------|---------------------------|---------------------------|---------------------------|
| | Narrow Contact Area | | | Medium Contact Area | | | Wide Contact Area | | |
| | BEST | BETTER | GOOD | BEST | BETTER | GOOD | BEST | BETTER | GOOD |
| Tool Resharpener | | | | | | | | | |
| • Heavy Stock Removal (> .004) | | | | | | | | | |
| HSS & Tool Steel RC 50-68 | 5SG46-KVS | 32A46-KVBE | 38A46-KVBE | 5SG46-JVS | 32A46-JVBE | 38A46-JVBE | 5SG46-GVSP 3SGR46-GVP2 | 32A46-GVBEP 48A46-GVP2 | 38A46-GVBEP 38A46-GVP2 |
| • Moderate Stock Removal (.002-.004) | | | | | | | | | |
| HSS & Tool Steel RC 50-68 | 5SG60-KVS | 32A60-KVBE | 38A60-KVBE | 5SG60-JVS | 32A60-JVBE | 38A60-JVBE | 5SG60-GVSP 3SGR60-GVP2 | 32A60-GVBEP 48A60-GVP2 | 38A60-GVBEP |
| Carbide | | | 39C60-JVK | | | 39C60-JVK | | | |
| Surface Grinding | | | | | | | | | |
| • Heavy Stock Removal (> .004) | | | | | | | | | |
| HSS & Tool Steel RC 50-68 | 5NQ46-JVS | 32A46-JVBE | 38A46-JVBE | 5SG46-IVS | 32A46-IVBE | 38A46-IVBE | 5SG46-GVSP 3SGR46-GVP2 | 32A46-GVBEP 48A46-GVP2 | 38A46-GVBEP 38A46-GVP2 |
| 400 Series Stainless | | | | | | | | | |
| Soft Steels RC 30-45 | 5SG46-KVS | 32A46-KVBE | 38A46-KVBE | 5SG46-JVS | 32A46-JVBE | 38A46-JVBE | 5SG46-HVSP 3SGR46-HVP2 | 32A46-HVBEP 48A46-HVP2 | 38A46-HVBEP 38A46-HVP2 |
| 300 Series Stainless | | | | | | | | | |
| Cast Iron: Ductile & Gray | 5SG46-KVS | 32A46-KVBE | 38A46-KVBE | 5SG46-JVS | 32A46-JVBE | 38A46-JVBE | 5SG46-HVSP 3SGR46-GVP2 | 32A46-HVBEP 48A46-HVP2 | 38A46-HVBEP 38A46-HVP2 |
| Nonferrous Alloys | | | 39C46-JVK | | | 39C46-IVK | | | |
| • Moderate Stock Removal (.002-.004) | | | | | | | | | |
| HSS & Tool Steel RC 50-68 | 5NQ60-JVS | 32A60-JVBE | 38A60-JVBE | 5SG60-IVS | 32A60-IVBE | 38A60-IVBE | 5SG60-GVSP 3SGR60-GVP2 | 32A60-GVBEP 48A60-GVP2 | 38A60-GVBEP |
| 400 Series Stainless | | | | | | | | | |
| Soft Steels RC 30-45 | 5SG60-KVS | 32A60-KVBE | 38A60-KVBE | 5SG60-JVS | 32A60-JVBE | 38A60-JVBE | 5SG60-HVSP 3SGR60-HVP2 | 32A60-HVBEP 48A60-HVP2 | 38A60-HVBEP 38A60-HVP2 |
| 300 Series Stainless | | | | | | | | | |
| Cast Iron: Ductile & Gray | 5SG60-KVS | 32A60-KVBE | 38A60-KVBE | 5SG60-JVS | 32A60-JVBE | 38A60-JVBE | 5SG60-HVSP 3SGR60-HVP2 | 32A60-HVBEP 48A60-HVP2 | 38A60-HVBEP 38A60-HVP2 |
| Nonferrous Alloys | | | 39C60-JVK | | | 39C60-IVK | | | |
| • Light Stock Removal and Finishing (<.001) | | | | | | | | | |
| HSS & Tool Steel RC 50-68 | | 32A80-JVBE | 38A80-JVBE | | 32A80-IVBE | 38A80-IVBE | | 32A80-HVBE | 38A80-HVBE |
| 400 Series Stainless | | | | | | | | | |
| Soft Steels RC 30-45 | | 32A80-KVBE | 38A80-KVBE | | 32A80-JVBE | 38A80-JVBE | | 32A80-IVBE | 38A80-IVBE |
| 300 Series Stainless | | | | | | | | | |
| Cast Iron: Ductile & Gray | | 32A80-KVBE | 38A80-KVBE | | 32A80-JVBE | 38A80-JVBE | | 32A80-IVBE | 38A80-IVBE |
| Nonferrous Alloys | | | 39C80-JVK | | | 39C80-IVK | | | 39C80-HVK |

Upgrade to Vitrium³ to improve your process and productivity in 3 ways

Vitrium³ bond (VS3) wheels for enhanced-performance are available with these abrasives: NQ, SG, 32A, and 48A

| | | |
|---|---|---|
| <h3>1. COOL CUTTING</h3> <p>VITRIUM³ BOND BOND-PART INTERACTION</p> <p>Improved holding power (using less bond-to-abrasive ratio) exposes a larger grain surface area, improving freer cut rate.</p> | <h3>2. PRECISE PROFILE</h3> <p>Vitrium³ wheel After 5 grinding cycles</p> <p>Superior grain-holding properties significantly improve wheel form and corner holding vs. other bond systems – reducing dressing time and dresser wear.</p> | <h3>3. HIGH SPEED</h3> <p>High Speed – Norton Vitrium³ bond provides the ultimate wheel strength. This allows for high speed operation on equipment designed and rated for high speed.</p> |
|---|---|---|

VITRIFIED WHEEL BONDS

| Bond | Description |
|-----------|--|
| NEW! VS3 | Quantum (white) and Norton SG (white): Patented technology produces a strong, exceptionally cool-cutting bond with unprecedented form holding; able to run at higher operating speed; increased throughput and productivity; versatile, for all areas of contact |
| NEW! VS3P | Quantum (white) Norton SG (white): Porous bond; use where heat is an issue; patented technology produces a strong, exceptionally cool-cutting bond with unprecedented form holding; versatile, for all areas of contact |
| VS | Quantum (green) and Norton SG (blue): High stock removal; narrow/medium contact area; roughing/finishing; cool cutting |
| VSP | Quantum (green) and Norton SG (blue): Porous bond; use where heat is an issue; high stock removal; medium/wide contact area; cool cutting; high chip clearance |
| VBE | 32A (purple), 38A (white) and 57A (brown): General purpose; narrow/medium contact area; versatile; economical. |
| VBEP | 32A (purple) and 38A (white): Porous bond; use where heat is an issue; medium/wide contact area; cool cutting; high chip clearance; high stock removal |
| V | 38A (orange): For fine grit, form/corner holding applications; narrow contact area |
| VK | 37C (black) and 39C (green): Designed specifically for silicon carbide abrasives; medium to narrow area of contact ; for non-steel applications |
| VCP | 32A (purple) and 23A (blue/grey): Induced-pore, wide contact area, surface/creepfeed grinding applications |
| VP2 | 3SGR (ruby), 48A (ruby), 25A (pink) and 38A (white): Unique, controlled-porosity (NORPOR) bond for heat-sensitive applications |

TECH TIP

SELECTING A WHEEL WITH THE CORRECT BOND TYPE

Single Point Diamond Tools

- Use VBE, V, VS, VS3, and VK bonds for general purpose applications or medium contact areas.
- Use VBEP, VSP, VS3P, VCP, and VP2 bonds on wide contact areas where heat is an issue.



It is the user's responsibility to refer to and comply with ANSI B7.1

APPLICATION/GRIT RECOMMENDATION GUIDE

| Grit | Requirement | Finish | Minimum Corner Radius |
|----------|---------------------|-------------------|-----------------------|
| 46 | General Purpose | 32 Ra and rougher | 0.020" |
| 60 | Commercial Finish | 32 Ra and better | 0.016" |
| 80 – 100 | Fine Finish | 20 Ra and better | 0.0105" |
| 120 | Very Fine Finish | 10 Ra and better | 0.006" |
| 150 | Corner-Form Holding | | 0.005" |
| 180 | Corner-Form Holding | | 0.0035" |
| 220 | Corner-Form Holding | | 0.0026" |

STARTING RECOMMENDATIONS FOR TRUING AND DRESSING NORTON TOOLROOM WHEELS

TRUING & DRESSING: DRESSING STICK STARTING RECOMMENDATIONS

| Size/Spec. | High Performance Stick Part # | Size/Spec. | Conventional Stick Part # |
|------------------------|-------------------------------|--|---------------------------|
| 3 x 1/2 x 1/4" Norbide | 61463610148 | 6 x 1 x 1" 37C24-SVK | 61463610462 |
| | | 8 x 1 x 1" 37C24-SVK | 61463610471 |
| | | Other sizes are available. See the Dressing Stick section. | |

DRESSING: SINGLE POINT DRESSING TOOL STARTING RECOMMENDATIONS

| Wheel Sizes | Tool Shank Diameter | Ceramic (NQ, Norton SG, TG, Etc.), 37C & 39C Wheels | | 25A, 32A, 38A, 48A, 53A, 57A, 64A, 86A Wheels | |
|-------------|---------------------|---|-------------|---|-------------|
| | | Product No. | Part # | Product No. | Part # |
| Up to 7" | 3/8 | BCSG2M6 | 66260157007 | BC2M6 | 66260195000 |
| | 7/16 | BCSG2M7 | 66260156905 | BC2M7 | 66260195001 |
| 8" to 10" | 3/8 | BCSG3M6 | 66260157008 | BC3M6 | 66260195002 |
| | 7/16 | BCSG3M7 | 66260156906 | BC3M7 | 66260195003 |
| 12" to 14" | 3/8 | BCSG5M6 | 66260157009 | BC5M6 | 66260195004 |
| | 7/16 | BCSG5M7 | 66260156907 | BC5M7 | 66260195005 |

*These tools are a standard recommendation; see the "Diamond Tool" section for additional tools
See the Fliesen Tool section for Furioso tools, engineered specifically for Quantum vitrified wheel dressing*

CROSS REFERENCE GUIDE

| NORTON | Camel | Cincinnati | Radiac | Tyrolit | Winterthur |
|-------------|--------------------|-------------------|--------------------|----------|---------------|
| Quantum 5NQ | | 5M5B | | | |
| 3SGR | AS3 | 3BP | 7BP, 8BP | | |
| 5SG | SZA | 5MSB | 7BW, 8BW | | |
| 25A | PA | 12A | RAA | 88A | 57A |
| 32A | AZ | 4A, 12A, 29A, 32A | 32A, WRA | 90A | 67A, 68A |
| 38A | 83A, WA, AZ (Blue) | 9A, 10A, 11A, 82A | WA, 9A | 88A, 89A | 53A, 49A, 42A |
| 48A | | | RA | 91A | 68A |
| 53A | 91A, DA | 29A, 97A | 43A, 45A, 97A, WPA | 50A | 61A, 64A |
| 57A | 94A, CGW, A | A, AK | A | A, 52A | A |
| 37C | | 6C | C | 1C | C |
| 39C | | 5C | GC | C | 11C |

TECH TIP

Wheel Dressing

Single Point Diamond Tools

- Rigidly mount Single Point tools at a 10°-15° angle to the wheel centerline with a line drawn through the center of the wheel, pointing in the direction of wheel travel
- Point of contact should be slightly below centerline of wheel
- Use coolant whenever possible
- Normal infeed is .001" per pass
- Lead selections range from .002" - .010" per wheel revolution
- Rotate the tool 1/4 turn periodically to maintain a sharp point
- Use VBE, V, VS, VK bonds for general purpose applications or medium contact areas.
- Use VBEP, VSP, VS3P, VCP, VP2 bonds on wide contact areas where heat is an issue.

Multi-Point Diamond Tools

- Most multi-point tools are used for straight face dressing
- Tool should have full face contact with the wheel
- With new tool, 3 to 5 passes at .005" per pass should be taken to expose diamonds
- Infeed per pass .001" - .002"
- Use coolant whenever possible
- Use appropriate lead (and traverse rate)

Contact your Norton representative for proper tool selection for Targa (TG) wheels



It is the user's responsibility to refer to and comply with ANSI B7.1

Dressing Ceramic Wheels

- Use our specially designed Norton SG diamond tools when dressing ceramic wheels
- When first using a Norton SG tool, make 3 to 5 passes at .005" infeed to ensure full face contact between the dressing tool and wheel face
- Reduce normal dressing infeed by half. Do not exceed infeed of .002" per pass.
- The lead selection should be between .006" - .030" per wheel revolution. Faster traverse with Norton SG tools generally provides an open wheel face that can maximize productivity of the ceramic abrasive.
- To optimize applications using ceramic abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in substantially lower cost per part ground.
- See the Fliesen Tool section for Furioso tools, engineered specifically for Quantum vitrified wheel dressing.



Reshaping the World of Precision Grinding – Norton Vitrium3 VS3 and VS3P Bond Wheels

A Revolutionary Bond That Lowers Process Cost In Three Ways

Our exclusive bond platform provides unprecedented wheel performance and finished part accuracy across many precision grinding applications.

1. Coolest cutting with maximum chip clearance
 - Significantly reduces burn
 - Increases cutting efficiency and cut rate
 - Improves coolant flow
 - Reduces wheel loading
 - Delivers exceptional part quality
2. Optimized precision profile
 - Ultra radius accuracy
 - Extended wheel life; highest productivity
 - Reduced dressing frequency and cost
 - Improved cycle and process time
3. Able to run at higher operating speeds
 - Increases throughput and productivity
 - Leverages existing equipment
 - Maximizes your machine efficiency
 - Best choice for machinery designed and rated for high speed

Available in non-stock wheels made-to-order to your exact requirements, and in an expanded offering of our best-selling stock wheels.

TROUBLESHOOTING GUIDE

Check the obvious first. Before changing the grinding wheel specification, investigate the following most common causes for most grinding problems:

1. Diamond dressing tool condition (check if worn or dull, rotate tool or replace if necessary)
2. Coolant direction, volume and filtration
3. Wheel dressing procedures (dress more open to free up cut rate, dress more closed to improve finish)

| PROBLEM | POSSIBLE CAUSE | CORRECTION |
|----------------------------|----------------------------------|---|
| Workpiece burn | Poor coolant direction | Redirect coolant into grinding zone |
| | Restricted or low coolant volume | Increase coolant volume |
| | Wheel too hard | Use one grade softer wheel |
| | Wheel structure too closed | Use porous bond wheel |
| | Wheel dressed too fine | Dress wheel coarser, more "open" |
| | Worn dressing tool | Inspect, rotate or replace dressing tool |
| | Work speed too slow | Increase work speed |
| | Infeed too fast | Reduce stock removed per pass or upgrade to 5SG or 5NQ |
| Wheel loading and glazing | Wheel too fine | Use coarser grit or softer grade wheel |
| | Wheel too hard | Use one grade softer wheel |
| | Too durable abrasive | Use a sharper, more friable abrasive |
| | Poor coolant quality | Change coolant or use high detergent type |
| | Wheel structure too closed | Use a porous bond wheel |
| | Wheel too finely dressed | Dress wheel very open |
| | Diamond dressing tool worn | Replace diamond and dress coarse (open) |
| | Depth of cut too small | Increase feed and traverse speed |
| Chatter | Unsupported work | Increase work support |
| | Machine vibration | Check for worn bearings |
| | Too heavy cut rate | Reduce cut rate |
| | Wheel too hard | Use one grade softer wheel |
| | Wheel structure too closed | Use a porous bond wheel |
| | Wheel out of balance | Check wheel balance or try new wheel |
| Chatter marks on workpiece | Worn spindle bearings | Check and correct for truth and end play |
| | Wheel out of truth | Redress wheel and check mounting |
| | Poorly clamped wheel | Check tightness of mounting nuts |
| | Glazed face of wheel | Redress wheel with sharp dressing tool |
| Poor surface finish | Incorrect wheel dress | Dress wheel finer (slow down dressing tool traverse) |
| | Worn dressing tool | Inspect, rotate, or replace dressing tool |
| | Too coarse grit size | Use a finer grit size |
| | Wheel too hard | Use softer grade |
| Not holding form | Wheel too soft | Use one grade harder wheel |
| | Wheel structure too open | Use a more closed wheel structure |
| Not holding corner | Incorrect wheel dress | Dress wheel finer. Face and side true wheel. |
| | Too large grit size | Use smaller grit size (maximum grit diameter less than 1.5 times corner radius) |
| | Wheel too soft | Use harder grade wheel |
| | Wheel structure too open | Use more closed structure wheel |



Single-Pack Toolroom Wheels

The Small Quantity Order Solution

Available in our most popular specification of BEST, BETTER and GOOD performance tiers. Norton single-pack toolroom wheels provide many opportunities:

- Test order small quantities of a variety of wheel specifications
- Display and safely store your most often used wheels
- No need to repackage small orders from bulk shipments
- Ensure your wheel arrives on site undamaged

NORTON QUANTUM (5NQ) CERAMIC ALUMINA

BEST CHOICE FOR VERSATILITY, MAXIMUM PERFORMANCE AND COST SAVINGS



EXPANDED OFFERING

FEATURES

- Revolutionary, engineered ceramic grain shape and chemistry with proven bond technology – green in color
- NEW! Quantum abrasive with coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond – white
- Provide sharp edge on tools and dies

BENEFITS

- Versatile; for all low, medium and high force applications ranging from cast iron, to stainless steel and hard-to-grind Inconel and titanium
- Perform well on old and new machines
- 33% to 100% longer life vs. competitive ceramic products
- 30%+ higher metal removal rate
- 15%+ lower threshold power
- Lowest total grinding costs
- Highest productivity; lowest cycle and process time; most accurate finished parts
- Longer life of tools and dies in production

NORTON SG CERAMIC ALUMINA

BEST CHOICE FOR HIGH PRODUCTIVITY, LOW TOTAL PER-PART GRINDING COST



EXPANDED OFFERING

FEATURES

- High-performance seeded gel ceramic aluminum oxide abrasive
- Self-sharpening abrasive
- NORPOR 3SGR – Norton SG and 48A abrasive blend with VP2 porous bond – purple
- High performance VS and VSP bonds
- 5SG – durable Norton SG and aluminum oxide blend – blue
- NEW! 5SG abrasive with coolest cutting, high-speed, precise form holding Vitrium 3 VS3 Bond – white

BENEFITS

- Fast stock removal, cool, superior cutting
- 3X - 5X more life than aluminum oxide wheels
- Double rough stock removal rate versus conventional abrasives
- Less burn, less dressing; very consistent performing wheel
- Maximum productivity in heat-sensitive, heavy stock removal operations
- Versatile; exceptional form holding
- High stock removal rates, excellent productivity, long wheel life, low overall grinding cost
- Highest productivity; lowest cycle and process time; most accurate finished parts

NORTON 32A ALUMINUM OXIDE

BETTER CHOICE FOR MEDIUM TO HEAVY STOCK REMOVAL



EXPANDED OFFERING

FEATURES

- Sharp monocrystalline aluminum oxide grain – the industry's most versatile abrasive – purple in color
- NEW! 32A abrasive w/ coolest cutting, high-speed, precise form holding Vitrium 3 VS3 bond wheels – white

BENEFITS

- Free cutting on a wide range of applications and materials
- Outstanding form holding
- Highest productivity; lowest cycle and process time; most accurate finished parts

NORTON 38A ALUMINUM OXIDE

GOOD CHOICE FOR LIGHT GRINDING OF TOOL STEEL



FEATURES

- White, friable abrasive grain
- Consistent quality
- NORPOR 38A – most friable, aluminum oxide abrasive with VP2 porous bond – white
- Versatile

BENEFITS

- Cool and burn-free cutting; ideal for heat-sensitive applications with light to moderate feed rates
- Excellent balance and dimensional accuracy time after time
- Exceptionally cool cutting in light pressure grinding applications, or heat-sensitive applications
- Ideal for use across a broad variety of tool steels

NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR USE ON GENERAL PURPOSE APPLICATIONS; ECONOMICAL



FEATURES

- Durable aluminum oxide abrasive and strong vitrified bond – Blue
- Versatile, economical

BENEFITS

- Consistent stock removing performance on narrow to medium contact areas; cool cutting
- Ideal when numerous small jobs are run on one machine
- The choice when initial price is the main purchasing criterion

ID and Race Wheels



ID and Race Wheel FastTrack Availability

| | | | | |
|----------------------------------|---|-------------------------------|----------------------------|---------|
| Type 01 Straight | | | | |
| Diameter: 0.164" thru 4.532" | | Thickness: 0.150" thru 2.750" | | |
| Type 05 Recessed One Side | | | | |
| Diameter: 0.407" thru 4.625" | | Thickness: 3/16" thru 3.100" | | |
| ABRASIVE | 25A, 32A, 38A, 48A, 53A, 57A | 5TG** | Quantum (NQ) 1SG, 3SG, 5SG | 32AA |
| GRIT | 46* - 120 | 80/1, 120/1 | 36 - 150 | 46 - 80 |
| GRADE | J - P | I - M | I - N | I - M |
| STRUCTURE | 6 | 8 | 6 | 6 |
| BOND | VFL | VFL | VFL | VFL |
| SPEED | 8,500 SFPM*** | | | |
| TREAT 22 | Available for Quantum (NQ) 32A, and 53A | | | |

* 46 grit only available in .312 Diameter
 ** 5TG is available in /1 combination, only
 *** Speeds up to 12,500 SFPM by request and Safety approval

For more program details, ask your Norton sales representative to review the First Line VFL ID & Race Wheel Brochure #6981 with you.

Vitrified First Line (VFL) ID and Race Wheel availability encompasses over 1,000 wheel sizes and most abrasive types. These high-performance wheels are made-to-order and shipped within two weeks of receipt of your order.

Additional dimensions and grinding faces are available as made-to-order products with 4-week lead-times.

Vitrified Wheels For Steel Applications



TIER: **BEST**
BRAND: Norton
TRADENAME: **QUANTUM / NORTON SG**
ABRASIVE: Ceramic Alumina



TIER: **BETTER**
BRAND: Norton
TRADENAME: **32A**
ABRASIVE: Aluminum Oxide



TIER: **GOOD**
BRAND: Norton
TRADENAME: **38A**
ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|---|----------|----------------|------------|---------------|-------------|---------------|----------------|-------------|---------------|
| Type O1 Straight  | | | | | | | | | |
| 2 x 1/2 x 3/8 | 16,235 | 10/50 | | | 32A60-KVBE | 66243428214 | | | |
| 3 x 1/4 x 1/2 | 10,825 | 10/50 | | | 32A60-KVBE | 66243528696 | | | |
| 3 x 1/2 x 3/8 | 10,825 | 10/50 | | | 32A60-KVBE | 66243528825 | 10/50 | 38A60-JVBE | 66243529032 |
| 3 x 1/2 x 1/2 | 10,825 | 10/50 | | | 32A60-KVBE | 66243528828 | | | |
| 3 x 1 x 1/2 | 10,825 | | | | | | 10/10 | 38A60-MVBE | 66243529145 |
| | 10,825 | | | | | | 10/10 | 38A80-MVBE | 66243529146 |
| 4 x 1/4 x 1/2 | 8,120 | 1/10 | | | 32A60-KVBE | 66243529532 | 1/10 | 38A60-KVBE | 66243529777 |
| | 8,120 | | | | | | 1/10 | 38A100-IVBE | 66243529782 |
| 4 x 1/4 x 3/4 | 8,120 | 1/10 | | | 32A60-KVBE | 66243529736 | | | |
| 4 x 1/2 x 1/2 | 8,120 | 1/10 | | | | | 1/10 | 38A60-KVBE | 66243529947 |
| | 8,120 | | | | | | 1/10 | 38A100-KVBE | 66243529954 |
| 4 x 1/2 x 3/4 | 8,120 | 1/10 | | | 32A60-KVBE | 66243529849 | 1/10 | 38A60-KVBE | 66243529961 |
| | 8,120 | 1/10 | | | 32A80-KVBE | 66243529850 | | | |
| 4 x 1 x 1/2 | 8,120 | | | | | | 1/10 | 38A60-MVBE | 66243530126 |
| 5 x 1/4 x 1/2 | 4,970 | 1/10 | | | 32A60-KVBE | 66252830572 | | | |
| 6 x 1/8 x 1-1/4 | 4,140 | 1/10 | | | 32A80-KVBE | 66252835361 | 1/10 | 38A150-LVBE | 66252835506 |
| 6 x 1/4 x 1/2 | 4,140 | 1/10 | | | 32A60-KVBE | 66252835784 | | | |
| 6 x 1/4 x 1-1/4 | 4,140 | 1/10 | | | 32A60-KVBE | 66252835786 | 1/10 | 38A60-KVBE | 66252835803 |
| | 4,140 | | | | | | 1/10 | 38A80-KVBE | 66252835807 |
| | 4,140 | | | | | | 1/10 | 38A150-KV | 66252835759 |
| 6 x 1/2 x 1/2 | 4,140 | 1/10 | | | 32A60-KVBE | 66252836394 | 1/10 | 38A60-KVBE | 66252836530 |
| | 4,140 | | | | | | 1/10 | 38A80-KVBE | 66252836548 |
| 6 x 1/2 x 1-1/4 | 4,140 | 1/10 | | | 32A46-KVBE | 66252836380 | 1/10 | 38A46-KVBE | 66252836520 |
| | 4,140 | 1/10 | 5SG60-KVS | 66252803344 | 32A60-KVBE | 66252836396 B | 1/10 | 38A60-KVBE | 66252836533 |
| | 4,140 | 1/10 | | | 32A80-JVBE | 66252836405 | 1/10 | 38A80-KVBE | 66252836550 |
| | 4,140 | | | | | | 1/10 | 38A120-KVBE | 66252836664 |
| 6 x 3/4 x 1/2 | 4,140 | 1/10 | | | 32A60-KVBE | 66252837420 | | | |
| 6 x 3/4 x 5/8 | 4,140 | | | | | | 1/10 | 38A60-KVBE | 66252837444 |
| 6 x 3/4 x 1-1/4 | 4,140 | 1/10 | | | 32A60-KVBE | 66252837421 | 1/10 | 38A60-KVBE | 66252837445 |
| 6 x 1 x 1-1/4 | 4,140 | 1/10 | | | 32A60-KVBE | 66252837921 B | | | |
| 7 x 1/8 x 1-1/4 | 3,275 | 1/10 | | | 32A60-IVBE | 66252939112 | 1/10 | 38A80-IVBE | 66252939219 |
| | 3,600 | | | | | | 1/10 | 38A100-KVBE | 66252939223 |
| 7 x 1/4 x 1-1/4 | 3,600 | 1/10 | 5NQ46-IVS | 66253350690 | 32A46-HVBE | 66252939543 | 1/10 | 38A46-HVBE | 66252939690 |
| | 3,600 | 1/10 | 5NQ46-IVS3 | 66243495257 | 32A46-IVBE | 66252939544 | 1/10 | 38A46-IVBE | 66252939691 |
| | 3,600 | 1/10 | 5NQ60-JVS | 66253293579 | 32A46-JVBE | 66252939545 | 1/10 | 38A46-JVBE | 66252909755 |
| | 3,600 | 1/10 | 5NQ60-JVS3 | 66243495258 | 32A46-KVBE | 66252939862 | 1/10 | 38A60-HVBE | 66252939695 |
| | 3,600 | 1/10 | 5SG46-IVS | 66252940207 B | 32A60-HVBE | 66252939547 | 1/10 | 38A60-IVBE | 66252939696 |
| | 3,600 | 1/10 | 5SG46-IVS | 66253288575 S | 32A60-IVBE | 66252939548 B | 1/10 | 38A60-JVBE | 66252939698 |
| | 3,600 | 1/10 | 5SG60-IVS | 66252939459 B | 32A60-IVBE | 66253288569 S | 1/10 | 38A60-KVBE | 66252939700 |
| | 3,600 | 1/10 | 5SG60-IVS | 66253288576 S | 32A60-JVBE | 66252939549 B | 1/10 | 38A80-HVBE | 66252939707 |
| | 3,600 | 1/10 | 5SG60-IVS3 | 66243495259 | 32A60-KVBE | 66252939552 B | 1/10 | 38A80-IVBE | 66252939808 |
| | 3,600 | 1/10 | 5SG60-JVS | 66252939460 | 32A60-KVBE | 66253288570 S | 1/10 | 38A80-JVBE | 66252939809 |
| | 3,600 | 1/10 | 5SG60-KVS | 66252939461 B | 32A60-KVS3 | 66243495260 | 1/10 | 38A80-KVBE | 66252939812 |
| | 3,600 | 1/10 | 5SG60-KVS | 66253288577 S | 32A80-HVBE | 66252939557 | 1/10 | 38A100-IVBE | 66252939823 |
| | 3,600 | 1/10 | 5SG80-IVS | 66252939462 | 32A80-IVBE | 66252939658 B | 1 | 38A100-IVBE | 66253288799 S |
| | 3,600 | 1/10 | 5SG80-JVS | 66252939463 | 32A80-IVBE | 66253288571 S | 1/10 | 38A100-JVBE | 66252939826 |
| | 3,600 | 1/10 | 5SG80-KVS | 66252939464 | 32A80-JVBE | 66252939660 B | 1/10 | 38A100-KVBE | 66252939827 |
| | 3,600 | 1/10 | 5SG100-JVS | 66252939467 | 32A80-KVBE | 66252939662 B | 1/10 | 38A100-LVBE | 66252939830 |
| | 3,600 | 1/10 | 5SG100-KVS | 66252939468 B | 32A80-KVBE | 66253288572 S | 1/10 | 38A120-JVBE | 66252939833 |
| | 3,600 | 1/10 | 5SG100-KVS | 66253288578 S | 32A80-KVS3 | 66243495262 | 1/10 | 38A120-KVBE | 66252939834 |
| | 3,600 | 1/10 | | | 32A100-IVBE | 66252939670 B | 1/10 | 38A150-KVBE | 66252939838 |
| | 3,600 | 1/10 | | | 32A100-JVBE | 66252939672 | 1/10 | 38A150-LVBE | 66252939839 |
| | 3,600 | 1/10 | | | 32A100-IVBE | 66253288573 S | 1/10 | 38A150-MV | 66252939521 |
| | 3,600 | 1/10 | | | 32A100-KVBE | 66252939673 B | 1/10 | 38A220-KV | 66252939528 |
| | 3,600 | 1/10 | | | 32A100-KVBE | 66253288574 S | 1/10 | 38A220-LV | 66252939529 |
| | 3,600 | 1/10 | | | 32A120-IVBE | 66252939680 | 1/10 | 38A220-LVBE | 66252939847 |

B = Best Seller, performs well in a variety of applications for many satisfied customers
S = Single Pack

Continued

Vitrified Wheels For Steel Applications (continued)



TIER: **BEST**
 BRAND: Norton
 TRADENAME: **QUANTUM / NORTON SG**
 ABRASIVE: Ceramic Alumina



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **32A / 48A**
 ABRASIVE: Aluminum Oxide



TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **38A / 25A / GEMINI**
 ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # | |
|-------------------------|-----------------|----------------|-------------|---------------|---------------|---------------|----------------|--------------|---------------|-------------|
| Type O1 Straight | | | | | | | | | | |
| 7 x 1/4 x 1-1/4 | 3,600 | 1/10 | | | 32A120-KVBE | 66252939682 | 1/10 | 38A220-MV | 66252939530 | |
| | 3,600 | 1/10 | | | 32A220-LVBE | 66252939689 | 10/10 | Gemini 60-I | 66253246722 | |
| | 3,600 | 1/10 | | | | | 10/10 | Gemini 60-J | 66253246788 | |
| | 3,600 | 1/10 | | | | | 10/10 | Gemini 60-K | 66253246789 | |
| 7 x 3/8 x 1-1/4 | 3,600 | 1/10 | | | 32A60-KVBE | 66252940276 | 1/10 | 38A60-KVBE | 66252940294 | |
| | 3,600 | 1/10 | | | 32A80-KVBE | 66252940284 | 1/10 | 38A80-IVBE | 66252940297 | |
| 7 x 1/2 x 1-1/4 | 3,600 | 1/10 | 5NQ46-HVS3 | 66253375053 | 32A46-FVBEP | 66252941203 | 1/10 | 25A46-HVP2 | 66252916219 | |
| | 3,600 | 1/10 | 5NQ46-IVS | 69083159103 | 32A46-GVBE | 66252940862 | 1/10 | 25A60-HVP2 | 66252916221 | |
| | 3,600 | 1/10 | 5NQ46-IVS3 | 66253375052 | 32A46-GVBEP | 66252941204 B | 1/10 | 38A46-GVBE | 66252941022 | |
| | 3,600 | 1/10 | 5NQ46-JVS | 69083159104 | 32A46-HVBE | 66252940863 B | 1/10 | 38A46-GVBEP | 66252941323 | |
| | 3,600 | 1/10 | 5NQ60-GVSP | 69083159105 | 32A46-HVBE | 66253288775 S | 1/10 | 38A46-HVBE | 66252941023 | |
| | 3,600 | 1/10 | 5NQ60-IVS3 | 66253375047 | 32A46-HVBEP | 66252941205 B | 1 | 38A46-HVBE | 66253288770 S | |
| | 3,600 | 1/10 | 5NQ60-JVS | 69083159106 | 32A46-HVS3 | 66243494107 | 1/10 | 38A46-HVBEP | 66252941324 | |
| | 3,600 | 1/10 | 5NQ60-JVS3 | 66253375046 | 32A46-IVBE | 66252940864 B | 1/10 | 38A46-HVP2 | 662529416223 | |
| | 3,600 | 1/10 | 3SGP46-GVSP | 66252911717 | 32A46-IVBE | 66253288776 S | 1/10 | 38A46-IVBE | 66252941024 | |
| | 3,600 | 1/10 | 3SGR46-HVP2 | 66252916211 | 32A46-IVBEP | 66252941206 | 1/10 | 38A46-JVBE | 66252941026 | |
| | 3,600 | 1/10 | 3SGR60-HVP2 | 66252916213 | 32A46-IVS3 | 66243495357 | 1 | 38A46-JVBE | 66253288767 S | |
| | 3,600 | 1/10 | 5SG46-GVSP | 66252940522 | 32A46-JVBE | 66252940865 B | 1/10 | 38A46-KVBE | 66252941028 | |
| | 3,600 | 1/10 | 5SG46-HVS3 | 66253375050 | 32A46-JVBE | 66253288777 S | 1/10 | 38A60-HVBE | 66252941035 | |
| | 3,600 | 1/10 | 5SG46-HVSP | 66252941130 | 32A46-JVS3 | 66243495264 | 1/10 | 38A60-HVBEP | 66252941330 | |
| | 3,600 | 1/10 | 5SG46-IVS | 66252940193 B | 32A46-KVBE | 66252940867 B | 1/10 | 38A60-IVBE | 66252941036 | |
| | 3,600 | 1/10 | 5SG46-IVS | 66253288788 S | 32A46-KVS3 | 66243495362 | 1/10 | 38A60-JVBE | 66252941038 | |
| | 3,600 | 1/10 | 5SG46-IVS3 | 66253375049 | 32A54-IVBE | 66252940873 | 1 | 38A60-JVBE | 66253288766 S | |
| | 3,600 | 1/10 | 5SG46-IVSP | 66252940523 | 32A60-GVBEP | 66252941313 | 1/10 | 38A60-KVBE | 66252941041 | |
| | 3,600 | 1/10 | 5SG46-JVS | 66252940194 B | 32A60-HVBE | 66252940879 B | 1 | 38A60-KVBE | 66253288769 S | |
| | 3,600 | 1/10 | 5SG46-JVS | 66253288789 S | 32A60-HVBEP | 66252941314 | 1/10 | 38A60-LVBE | 66252911677 | |
| | 3,600 | 1/10 | 5SG46-JVS3 | 66243495263 | 32A60-IVBE | 66252940880 B | 1/10 | 38A80-HVBE | 66252941047 | |
| | 3,600 | 1/10 | 5SG46-KVS | 66252940195 | 32A60-IVBE | 66253288779 S | 1/10 | 38A80-IVBE | 66252941048 | |
| | 3,600 | 1/10 | 5SG60-GVSP | 66252940524 | 32A60-IVS3 | 66243495363 | 1/10 | 38A80-JVBE | 66252941049 | |
| | 3,600 | 1/10 | 5SG60-IVS | 66252940196 B | 32A60-JVBE | 66252940882 B | 1/10 | 38A80-KVBE | 66252941054 | |
| | 3,600 | 1/10 | 5SG60-IVS | 66252941316 S | 32A60-JVBEP | 66252941316 | 1 | 38A80-KVBE | 66253350641 S | |
| | 3,600 | 1/10 | 5SG60-IVS3 | 66253375045 | 32A60-JVS3 | 66243495364 | 1/10 | 38A80-LVBE | 66252941056 | |
| | 3,600 | 1/10 | 5SG60-IVSP | 66252940525 | 32A60-KVBE | 66252940885 B | 1/10 | 38A100-IVBE | 66252941163 | |
| | 3,600 | 1/10 | 5SG60-JVS | 66252940197 B | 32A60-KVBE | 66253288782 S | 1/10 | 38A100-JVBE | 66252941165 | |
| | 7 x 1/2 x 1-1/4 | 3,600 | 1/10 | 5SG60-JVS | 66253288792 S | 32A60-LVBE | 66252940888 | 1/10 | 38A100-KVBE | 66252941168 |
| | | 3,600 | 1/10 | 5SG60-JVS3 | 66253375043 | 32A80-HVBE | 66252940894 | 1/10 | 38A120-JVBE | 66252941174 |
| | | 3,600 | 1/10 | 5SG60-KVS | 66252940198 | 32A80-IVBE | 66252940895 B | 1/10 | 38A120-KVBE | 66252941175 |
| | | 3,600 | 1/10 | 5SG60-LVS | 66252940199 | 32A80-IVBE | 66253288783 S | 1/10 | 38A150-JVBE | 66252941179 |
| | | 3,600 | 1/10 | 5SG80-IVS | 66252940200 | 32A80-JVBE | 66252940897 B | 1/10 | 38A150-MV | 66252940595 |
| | | 3,600 | 1/10 | 5SG80-IVSP | 66252940527 | 32A80-KVBE | 66252940899 B | 1/10 | 38A220-QU | 66252940605 |
| | | 3,600 | 1/10 | 5SG80-JVS | 66252940201 B | 32A80-KVBE | 66253288784 S | 10/10 | Gemini 46-H | 66253246795 |
| | | 3,600 | 1/10 | 5SG80-JVS | 66253288793 S | 32A80-LVBE | 66252940900 | 10/10 | Gemini 46-I | 66253246800 |
| 3,600 | | 1/10 | 5SG80-KVS | 66252940202 | 32A100-IVBE | 66252940907 | 10/10 | Gemini 46-J | 66253246802 | |
| 3,600 | | 1/10 | 5SG80-LVS | 66252940203 | 32A100-JVBE | 66252941008 | 10/10 | Gemini 46-K | 66253246812 | |
| 3,600 | | 1/10 | 5SG100-JVS | 66252940204 | 32A120-LVBE | 66252941018 B | 10/10 | Gemini 60-I | 66253246818 | |
| 3,600 | | 1/10 | 5SG100-KVS | 66252940205 | 32A120-LVBE | 66253288786 S | 10/10 | Gemini 60-J | 66253246820 | |
| 3,600 | | 1/10 | | | 48A46-HVP2 | 66252916215 B | 10/10 | Gemini 60-K | 66253246821 | |
| 3,600 | | 1/10 | | | 48A60-HVP2 | 66252916217 B | 10/10 | Gemini 80-K | 66253246832 | |
| 3,600 | | 1/10 | | | | | 10/10 | Gemini 100-K | 66253246838 | |
| 7 x 5/8 x 1-1/4 | | 3,600 | 1/10 | | | 32A60-IVBE | 66252941762 | | | |
| 7 x 3/4 x 1-1/4 | | 3,600 | 1/10 | 5SG46-IVS | 66252942304 | 32A46-GVBEP | 66252942070 | 1/10 | 38A46-HVBE | 66252941950 |
| | | 3,600 | 1/10 | 5SG46-KVS | 66252942305 | 32A46-HVBE | 66252941930 | 1/10 | 38A46-KVBE | 66252941954 |
| | 3,600 | 1/10 | 5SG60-JVS | 66252942307 | 32A46-IVBE | 66252941931 | 1/10 | 38A60-IVBE | 66252942207 | |
| | 3,600 | 1/10 | 5SG60-KVS | 66252942308 | 32A46-KVBE | 66252941935 | 1/10 | 38A60-KVBE | 66252942060 | |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66252941938 | | | | |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66252941943 | | | | |
| | 3,600 | 1/10 | | | 32A80-IVBE | 66252941946 | | | | |

B = Best Seller; performs well in a variety of applications for many satisfied customers
 S = Single Pack

Vitrified Wheels For Steel Applications (continued)



TIER: BEST
BRAND: Norton
TRADENAME: **QUANTUM / NORTON SG**
ABRASIVE: Ceramic Alumina

BETTER
 Norton
32A
 Aluminum Oxide

GOOD
 Norton
38A / 25A / GEMINI
 Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|---|-----------------|----------------|---------------------------------------|---------------|-------------|-----------------|----------------|-------------|---------------|
| Type 01 Straight  | | | | | | | | | |
| 7 x 1 x 1-1/4 | 3,600 | 1/10 | 5SG60-JVS | 66252942429 | 32A46-HVBE | 66252942513 | 1/10 | 38A46-HVBE | 66252942534 |
| | 3,600 | 1/10 | 5SG60-KVS | 66252942430 | 32A46-JVBE | 66252942268 | | | |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66252942524 | | | |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66252942709 | | | |
| 200mm x 10mm x 31.75mm | 2,870 | 5 | 320 S/C Organic Micro Dressing wheels | 66253296349* | | | | | |
| 8 x 1/4 x 1-1/4 | + | 1/10 | 5SG60-KVS | 66253043351 | 32A46-HVBE | 66253043412 | 1/10 | 38A60-IVBE | 66253043431 |
| | + | 1/10 | 5SG80-KVS | 66253043353 | 32A46-IVBE | 66253043310 | 1/10 | 38A60-JVBE | 66253043432 |
| | 3,600 | 1/10 | | | 32A46-KVBE | 66253043413 | 1/10 | 38A60-KVBE | 66253010825 |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66253043416 B | 1/10 | 38A80-IVBE | 66253043437 |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66253288796 S | 1/10 | 38A80-JVBE | 66253043439 |
| | 3,600 | 1/10 | | | 32A60-JVBE | 66253043417 | 1/10 | 38A80-KVBE | 66253043461 |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66253043399 | 1/10 | 38A100-IVBE | 66253043445 |
| | 3,600 | 1/10 | | | 32A80-IVBE | 66253043421 | 1/10 | 38A100-KVBE | 66253043447 |
| | 3,600 | 1/10 | | | 32A80-KVBE | 66253043458 B | 1/10 | 38A120-KVBE | 66253043450 |
| | 3,600 | 1/10 | | | 32A80-KVBE | 66253288797 S | 1/10 | 38A150-KVBE | 66253043451 |
| | 3,600 | 1/10 | | | 32A80-LVBE | 66253043425 | | | |
| | 3,600 | 1/10 | | | 32A100-IVBE | 66253043426 | | | |
| | 3,600 | 1/10 | | | 32A100-KVBE | 66253043428 | | | |
| | 8 x 3/8 x 1-1/4 | 3,600 | 1/10 | | | 32A60-KVBE | 66253043565 | | |
| 8 x 1/2 x 1-1/4 | + | 1/10 | 5NQ46-HVS3 | 66253387211 | 32A46-GVBEP | 66253043882 B | 1/10 | 25A46-HVP2 | 66253019354 |
| | 3,105 | 1/10 | 5NQ46-IVS | 69083159107 | 32A46-HVBE | 66253043712 B | 1/10 | 38A46-HVBE | 66253043746 |
| | 3,105 | 1/10 | 5NQ46-IVS3 | 66253387212 | 32A46-HVBE | 66253288800 S | 1 | 38A46-HVBE | 66253350640 S |
| | + | 1/10 | 5NQ46-JVS | 69083159108 | 32A46-HVBEP | 66253043883 † B | 1/10 | 38A46-HVBEP | 66253043891 † |
| | + | 1/10 | 5NQ46-JVS3 | 66243494087 | 32A46-HVS3 | 66243495312 | 1/10 | 38A46-IVBE | 66253043749 |
| | + | 1/10 | 5NQ60-GVSP | 69083159109 | 32A46-HVS3P | 66243495368 | 1/10 | 38A46-JVBE | 66253043752 |
| | + | 1/10 | 5NQ60-IVS3 | 66253387214 | 32A46-IVBE | 66253043713 B | 1/10 | 38A46-KVBE | 66253043762 |
| | + | 1/10 | 5NQ60-JVS | 69083159110 | 32A46-IVS3 | 66243495313 | 1/10 | 38A60-HVBE | 66253043756 |
| | 3,600 | 1/10 | 5NQ60-JVS3 | 66253387213 | 32A46-JVBE | 66253043715 B | 1/10 | 38A60-IVBE | 66253043757 |
| | + | 1/10 | 3SGP46-HVSP | 66253011505 | 32A46-JVBE | 66253288801 S | 1/10 | 38A60-JVBE | 66253043858 |
| | 3,600 | 1/10 | 3SGP46-JVH | 66253013796 | 32A46-JVS3 | 66243495314 | 1/10 | 38A60-KVBE | 66253043861 |
| | 3,600 | 1/10 | 3SGR46-GVP2 | 66253019345 | 32A46-KVBE | 66253043716 B | 1/10 | 38A80-IVBE | 66253043866 |
| | + | 1/10 | 3SGR46-HVP2 | 66253019346 | 32A60-FVBEP | 66253043886 † | 1/10 | 38A80-JVBE | 66253013787 |
| | + | 1/10 | 3SGR60-HVP2 | 66253019348 | 32A60-GVBEP | 66253043887 † | 1/10 | 38A80-KVBE | 66253043869 |
| | + | 1/10 | 5SG46-GVSP | 66253043649 | 32A60-HVBE | 66253043724 | 1/10 | 38A100-KVBE | 66253043877 |
| | + | 1/10 | 5SG46-HVS3 | 66253387220 | 32A60-HVBEP | 66253043888 | 10/10 | Gemini 46-H | 66253246841 |
| | + | 1/10 | 5SG46-HVSP | 66253043915 † | 32A60-IVBE | 66253043725 B | 10/10 | Gemini 46-I | 66253246843 |
| | + | 1/10 | 5SG46-IVS | 66253044089 B | 32A60-IVBE | 66253288802 S | 10/10 | Gemini 46-J | 66253246845 |
| | + | 1/10 | 5SG46-IVS | 66253288804 S | 32A60-JVBE | 66253043727 B | 10/10 | Gemini 46-K | 66253246848 |
| | + | 1/10 | 5SG46-IVS3 | 66253387221 | 32A60-KVBE | 66253043729 B | 10/10 | Gemini 60-J | 66253246857 |
| | + | 1/10 | 5SG46-IVSP | 66253043650 | 32A60-KVBE | 66253288803 S | | | |
| | 3,600 | 1/10 | 5SG46-JVS | 66253044090 B | 32A80-HVBE | 66253043733 | | | |
| | 3,600 | 1/10 | 5SG46-JVS | 66253288806 S | 32A80-IVBE | 66253043734 | | | |

B = Best Seller; performs well in a variety of applications for many satisfied customers S = Single Pack
 * = For fine grit diamond Polyamide wheels
 † = Refer to Tech Tip at the bottom of this page for maximum operating speed

Continued

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

TECH TIP

+ 8" Type 01 and Type 05 Vitrified Toolroom Wheels' Maximum Operating Speeds:

- Stock NorPor VP2 wheels = 3,600 RPMs
- All other 46 grit, J grade and harder = 3,600 RPMs
- All other 54 grit, I grade and harder = 3,600 RPMs
- All other 60 grit and finer, H grade and harder = 3,600 RPMs
- † Exceptions to the rule: speed-tested to 3,600 RPM
- All other specifications = 3,105 RPMs



It is the user's responsibility to refer to and comply with ANSI B7.1

Vitrified Wheels For Steel Applications (continued)



TIER: BEST
 BRAND: Norton
 TRADENAME: **QUANTUM / NORTON SG**
 ABRASIVE: Ceramic Alumina



TIER: BETTER
 BRAND: Norton
 TRADENAME: **32A / 48A**
 ABRASIVE: Aluminum Oxide



TIER: GOOD
 BRAND: Norton
 TRADENAME: **38A / 57A**
 ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # | |
|-------------------------|-----------------|----------------|-------------|---------------|-------------|---------------|----------------|-------------|-------------|-------------|
| Type 01 Straight | | | | | | | | | | |
| 8 x 1/2 x 1-1/4 | 3,600 | 1/10 | 5SG46-KVS | 66253044091 | 32A80-JVBE | 66253043736 | | | | |
| | 3,600 | 1/10 | 5SG60-GVSP | 66253043651 † | 32A80-KVBE | 66253043737 | | | | |
| | 3,600 | 1/10 | 5SG60-IVS | 66253044092 | 32A100-IVBE | 66253043740 | | | | |
| | 3,600 | 1/10 | 5SG60-IVS3 | 66253387225 | 32A100-KVBE | 66253043742 | | | | |
| | 3,600 | 1/10 | 5SG60-IVSP | 66253043652 | 48A46-HVP2 | 66253019350 B | | | | |
| | 3,600 | 1/10 | 5SG60-JVS | 66253044093 B | | | | | | |
| | 3,600 | 1/10 | 5SG60-JVS | 66253288808 S | | | | | | |
| | 3,600 | 1/10 | 5SG60-JVS3 | 66253387228 | | | | | | |
| | 3,600 | 1/10 | 5SG60-KVS | 66253044094 | | | | | | |
| | 3,600 | 1/10 | 5SG80-JVS | 66253044096 | | | | | | |
| | 3,600 | 1/10 | 5SG80-KVS | 66253044097 | | | | | | |
| | 3,600 | 1/10 | 5SG100-KVS | 66253019435 | | | | | | |
| | 8 x 3/4 x 1-1/4 | 3,105 | 1/10 | 5NQ46-IVS | 69083159111 | 32A46-GVBEP | 66253044195 | 1/10 | 38A46-HVBE | 66253044175 |
| | | 3,105 | 1/10 | 5NQ46-IVS3 | 66243494089 | 32A46-HVBE | 66253044159 | 1/10 | 38A46-IVBE | 66253044177 |
| 3,600 | | 1/10 | 5NQ46-JVS | 69083159112 | 32A46-HVBEP | 66253044196 † | 1/10 | 38A46-KVBE | 66253044180 | |
| + | | 1/10 | 5NQ46-JVS3 | 66243494090 | 32A46-IVBE | 66253044215 | 1/10 | 38A60-IVBE | 66253044184 | |
| + | | 1/10 | 5NQ60-GVS3P | 66243495369 | 32A46-JVBE | 66253044161 | | | | |
| + | | 1/10 | 5NQ60-GVSP | 69083159113 | 32A46-KVBE | 66253044165 | | | | |
| + | | 1/10 | 5NQ60-JVS | 69083159114 | 32A60-GVBEP | 66253044198 | | | | |
| 3,600 | | 1/10 | 5NQ60-JVS3 | 66243494091 | 32A60-HVBE | 66253044168 | | | | |
| + | | 1/10 | 5SG46-IVS | 66253044098 | 32A60-IVBE | 66253044169 | | | | |
| 3,600 | | 1/10 | 3SGP46-JVH | 66253013792 | 32A60-JVBE | 66253044171 | | | | |
| 3,600 | | 1/10 | 5SG46-JVS | 66253044099 B | 32A60-KVBE | 66253044173 | | | | |
| 3,600 | | 1/10 | 5SG46-JVS3 | 66243495315 | 32A80-KVBE | 66253044064 | | | | |
| 3,600 | | 1/10 | 5SG60-IVS | 66253044101 | | | | | | |
| 3,600 | | 1/10 | 5SG60-JVS | 66253044102 | | | | | | |
| 8 x 1 x 1-1/4 | + | 1/10 | 5SG60-KVS | 66253044103 | | | | | | |
| | + | 1/10 | 5SG46-KVS | 66253002588 | 32A46-HVBE | 66253044616 | 1/10 | 38A46-IVBE | 66253044636 | |
| | 3,600 | 1/10 | 5SG60-GVSP | 66253003228† | 32A46-IVBE | 66253044617 | 1/10 | 38A60-IVBE | 66253044456 | |
| | 3,600 | 1/10 | 5SG60-IVS | 66253002639 | 32A46-KVBE | 66253044622 | 1/10 | 57A60-MVBE | 66253044270 | |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66253044624 | | | | |
| 10 x 1/4 x 3 | 2,485 | | | | | 1 | 38A80-KVBE | 66253149572 | | |
| 10 x 1/2 x 3 | 2,485 | 1 | | | 32A60-JVBE | 66253149729 | 1 | 38A60-KVBE | 66253149859 | |
| | 2,485 | | | | | | 1 | 38A80-KVBE | 66253149865 | |
| 10 x 3/4 x 3 | 2,485 | 1 | | | 32A46-IVBE | 66253160024 | 1 | 38A46-JVBE | 66253160158 | |
| | 2,485 | 1 | | | 32A60-IVBE | 66253160137 | 1 | 38A60-IVBE | 66253160163 | |
| | 2,485 | 1 | | | 32A60-KVBE | 66253160143 | | | | |
| 10 x 1 x 1-1/4 | 2,485 | 1 | | 32A60-KVBE | 66253160774 | | | | | |
| 10 x 1 x 2 | 2,485 | 1 | | | 32A46-IVBE | 66253160749 | | | | |
| 10 x 1 x 3 | 2,485 | 1 | 5SG46-GVSP | 66253160494 | 32A46-HVBE | 66253160747 | 1 | 38A46-IVBE | 66253160889 | |
| | 2,485 | 1 | 5SG46-IVS | 66253160400 | 32A46-IVBE | 66253160750 | 1 | 38A46-JVBE | 66253160892 | |
| | 2,485 | 1 | 5SG46-JVS | 66253160401 | 32A46-JVBE | 66253160754 | 1 | 38A60-IVBE | 66253160898 | |
| | 2,485 | 1 | 5SG46-JVS3 | 66243495316 | 32A46-KVBE | 66253160758 | 1 | 38A60-KVBE | 66253160900 | |
| | 2,485 | 1 | 5SG46-KVS | 66253160402 | 32A60-IVBE | 66253160769 | | | | |
| | 2,485 | 1 | 5SG60-GVSP | 66253160495 | 32A60-KVBE | 66253160777 | | | | |
| | 2,485 | 1 | 5SG60-IVS | 66253160403 | 32A80-KVBE | 66253160782 | | | | |
| | 2,485 | 1 | 5SG60-JVS | 66253160404 | | | | | | |
| | 2,485 | 1 | 5SG60-KVS | 66253160405 | | | | | | |

B = Best Seller; performs well in a variety of applications for many satisfied customers S = Single Wheel Pack
 + = Refer to Tech Tip at the bottom of this page for maximum operating speed

TECH TIP

+ 8" Type 01 and Type 05 Vitrified Toolroom Wheels' Maximum Operating Speeds:

- Stock NorPor VP2 wheels = 3,600 RPMs
- All other 46 grit, J grade and harder = 3,600 RPMs
- All other 54 grit, I grade and harder = 3,600 RPMs
- All other 60 grit and finer, H grade and harder = 3,600 RPMs
- † Exceptions to the rule: speed-tested to 3,600 RPM
- All other specifications = 3,105 RPMs



It is the user's responsibility to refer to and comply with ANSI B7.1

Vitrified Wheels For Steel Applications (continued)



TIER: BEST
BRAND: Norton
TRADENAME: **QUANTUM / NORTON SG**
ABRASIVE: Ceramic Alumina



TIER: BETTER
BRAND: Norton
TRADENAME: **32A / 48A**
ABRASIVE: Aluminum Oxide



TIER: GOOD
BRAND: Norton
TRADENAME: **38A**
ABRASIVE: Aluminum Oxide

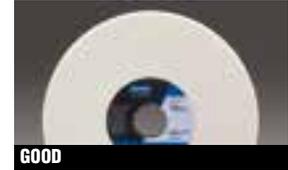
| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|-------------------------|----------|----------------|-------------|---------------|-------------|---------------|----------------|------------|-------------|
| Type O1 Straight | | | | | | | | | |
| 12 x 1/2 x 3 | 2,070 | 2 | | | 32A60-JVBE | 66253262134 | | | |
| | 2,070 | 2 | | | 32A80-KVBE | 66253262110 | | | |
| 12 x 1/2 x 5 | 2,070 | 2 | | | 32A60-KVBE | 66253262107 | | | |
| | 2,070 | 2 | | | 32A80-KVBE | 66253262111 | | | |
| 12 x 3/4 x 3 | 2,070 | 1 | 5SG46-IVS | 66253262204 | 32A46-GVBEP | 66253262392 | 1 | 38A46-JVBE | 66253262281 |
| | 2,070 | 1 | | | 32A46-HVBE | 66253262260 | | | |
| | 2,070 | 1 | | | 32A46-IVBE | 66253262261 | | | |
| | 2,070 | 1 | | | 32A60-IVBE | 66253262270 | | | |
| | 2,070 | 1 | | | 32A60-KVBE | 66253262273 | | | |
| | 2,070 | 1 | | | 32A46-KVBE | 66253262570 | | | |
| 12 x 1 x 1-1/4 | 2,070 | 1 | | | | | | | |
| 12 x 1 x 3 | • | 1 | 3SGR46-HVP2 | 66253220885 | 32A46-GVBEP | 66253262840 | 1 | 38A46-HVBE | 66253262700 |
| | 2,070 | 1 | 5SG46-HVSP | 66253262488 | 32A46-HVBE | 66253262562 | 1 | 38A46-IVBE | 66253262702 |
| | 2,070 | 1 | 5SG46-IVS | 66253262500 | 32A46-HVBEP | 66253262842 | 1 | 38A46-JVBE | 66253262704 |
| | 2,070 | 1 | 5SG46-JVS | 66253262501 | 32A46-IVBE | 66253262564 | 1 | 38A60-IVBE | 66253262713 |
| | 2,070 | 1 | 5SG46-JVS3 | 66243495317 | 32A46-JVBE | 66253262567 | | | |
| | 2,070 | 1 | 5SG46-KVS | 66253262502 | 32A46-KVBE | 66253262572 | | | |
| | 2,070 | 1 | 5SG46-KVS3 | 66243495318 | 32A60-HVBE | 66253262580 | | | |
| | 2,070 | 1 | 5SG60-GVSP | 66253262593 | 32A60-IVBE | 66253262581 | | | |
| | 2,070 | 1 | 5SG60-IVS | 66253262503 | 32A60-KVBE | 66253262689 | | | |
| | 2,070 | 1 | 5SG60-JVS | 66253262504 | 32A80-KVBE | 66253262532 | | | |
| | • | 1 | 5SG60-KVS | 66253262505 | 48A60-HVP2 | 66253220891 | | | |
| 12 x 1 x 5 | 2,070 | 1 | 5SG46-GVSP | 66253262594 | 32A46-GVBEP | 66253262841 | 1 | 38A46-IVBE | 66253262703 |
| | 2,070 | 1 | 5SG46-IVS | 66253262508 | 32A46-HVBE | 66253262563 | 1 | 38A60-KVBE | 66253262719 |
| | 2,070 | 1 | 5SG46-JVS | 66253262509 B | 32A46-IVBE | 66253262565 | | | |
| | 2,070 | 1 | 5SG46-KVS | 66253262510 | 32A46-KVBE | 66253262573 | | | |
| | 2,070 | 1 | 5SG60-GVSP | 66253262595 | 32A60-HVBE | 66253262734 | | | |
| | 2,070 | 1 | 5SG60-IVS | 66253262511 | 32A60-IVBE | 66253262582 | | | |
| | 2,070 | 1 | 5SG60-JVS | 66253262512 | 32A60-JVBE | 66253262686 | | | |
| | 2,070 | 1 | 5SG60-KVS | 66253262513 | 32A60-KVBE | 66253262691 B | | | |
| | 2,070 | 1 | 5SG80-JVS | 66253262515 | 32A80-JVBE | 66253262696 | | | |
| | 2,070 | 1 | | | 32A80-KVBE | 66253262697 | | | |
| 12 x 1-1/4 x 3 | 2,070 | 1 | | | 32A46-IVBE | 66253262301 | | | |
| 12 x 1-1/2 x 1-1/4 | 2,070 | 1 | | | 32A46-KVBE | 66253263146 | | | |
| 12 x 1-1/2 x 3 | 2,070 | 1 | 5SG46-IVS | 66253202820 | 32A46-HVBE | 66253263143 | | | |
| | 2,070 | 1 | | | 32A46-IVBE | 66253263144 | | | |
| | 2,070 | 1 | | | 32A60-JVBE | 66253263123 | | | |
| 12 x 1-1/2 x 5 | 2,070 | 1 | 5NQ46-IVS | 69083159115 | 32A46-GVBEP | 66253263192 | 1 | 38A46-IVBE | 66253214987 |
| | 2,070 | 1 | 5NQ46-IVS3 | 66243494092 | 32A46-HVBE | 66253263128 | | | |
| | 2,070 | 1 | 5NQ46-JVS | 69083159116 | 32A46-IVBE | 66253263145 | | | |
| | 2,070 | 1 | 5NQ46-JVS3 | 66243494093 | 32A46-JVBE | 66253263120 | | | |
| | 2,070 | 1 | 5NQ60-GVSP | 69083159117 | 32A60-HVBE | 66253263149 | | | |
| | 2,070 | 1 | 5NQ60-JVS | 69083159118 | 32A60-KVBE | 66253263034 | | | |
| | 2,070 | 1 | 3SGP60-GVSP | 66253215030 | | | | | |
| | 2,070 | 1 | 5SG46-GVSP | 66253203453 | | | | | |
| | 2,070 | 1 | 5SG46-IVS | 66253202842 | | | | | |
| | 2,070 | 1 | 5SG46-IVS3 | 66243495319 | | | | | |
| | 2,070 | 1 | 5SG46-JVS | 66253202926 | | | | | |
| | 2,070 | 1 | 5SG60-GVSP | 66253262596 | | | | | |
| 12 x 2 x 1-1/4 | 2,070 | 1 | | | 32A46-KVBE | 66253263461 | | | |
| | 2,070 | 1 | | | 32A46-MVBE | 66253263463 | | | |
| 12 x 2 x 3 | 2,070 | 1 | | | 32A46-IVBE | 66253263459 | | | |
| 12 x 2 x 5 | 2,070 | 1 | | | 32A46-HVBE | 66253263403 | | | |
| | 2,070 | 1 | | | 32A46-IVBE | 66253262302 | | | |
| | 2,070 | 1 | | | 32A60-KVBE | 66253263465 | | | |

+ † Refer to the Tech Tips at the bottom of page 223 • 12" Type O1 Wheel Maximum RPM: NORPOR Wheels = 2,710; all others = 2,070

B = Best Seller; performs well in a variety of applications for many satisfied customers

To maximize the performance of these wheels and finished part quality, refer to the beginning of this section and the "Diamond Tool" and "Dressing Sticks" sections for truing and dressing products.

Vitrified Wheels For Steel Applications (continued)



TIER: **BEST**
 BRAND: Norton
 TRADENAME: **QUANTUM / NORTON SG**
 ABRASIVE: Ceramic Alumina

TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **32A**
 ABRASIVE: Aluminum Oxide

TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **38A / 57A**
 ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # | |
|-------------------------|----------------|----------------|-------------|---------------|-------------|---------------|----------------|-------------|-------------|-------------|
| Type O1 Straight | | | | | | | | | | |
| 14 x 1/2 x 5 | 1,800 | 1 | 5SG80-KVS | 66253363814 | 32A60-KVBE | 66253363761 | | | | |
| 14 x 3/4 x 5 | 1,800 | 1 | | | 32A60-KVBE | 66253363772 | | | | |
| 14 x 1 x 3 | 1,800 | 1 | 5SG46-IVS | 66253363960 | 32A46-HVBE | 66253363912 | | | | |
| | 1,800 | 1 | 5SG46-KVS | 66253363961 | 32A46-IVBE | 66253363914 | | | | |
| | 1,800 | 1 | | | 32A60-IVBE | 66253363927 | | | | |
| 14 x 1 x 5 | 1,800 | 1 | 5SG46-GVSP | 66253364108 | 32A46-GVBEP | 66253364074 | 1 | 38A46-HVBE | 66253364043 | |
| | 1,800 | 1 | 5SG46-HVSP | 66253313990 | 32A46-HVBE | 66253363913 | 1 | 38A60-IVBE | 66253363947 | |
| | 1,800 | 1 | 5SG46-IVS | 66253363970 | 32A46-IVBE | 66253363915 | 1 | 38A60-JVBE | 66253364051 | |
| | 1,800 | 1 | 5SG46-JVS | 66253363971 | 32A46-JVBE | 66253363919 | 1 | 38A60-KVBE | 66253364053 | |
| | 1,800 | 1 | 5SG46-JVS3 | 66243495320 | 32A46-KVBE | 66253363921 | 1 | 38A80-KVBE | 66253364058 | |
| | 1,800 | 1 | 5SG60-IVS | 66253363974 | 32A60-GVBEP | 66253364077 | 1 | 57A60-KVBE | 66253364065 | |
| | 1,800 | 1 | 5SG60-IVSP | 66253363871 | 32A60-HVBE | 66253363926 | 1 | 57A60-LVBE | 66253364066 | |
| | 1,800 | 1 | 5SG60-JVS | 66253363975 | 32A60-JVBE | 66253363930 | 1 | 57A80-MVBE | 66253364070 | |
| | 1,800 | 1 | 5SG60-KVS | 66253363976 | 32A60-KVBE | 66253363932 | | | | |
| | 1,800 | 1 | 5SG80-JVS | 66253363979 | 32A60-LVBE | 66253364035 | | | | |
| | 1,800 | 1 | 5SG80-KVS | 66253364003 | 32A80-JVBE | 66253364038 | | | | |
| | 1,800 | 1 | | | 32A80-KVBE | 66253364039 | | | | |
| | 14 x 1 x 8 | 1,800 | 1 | | | 32A60-IVBE | 66253363887 | | | |
| | 14 x 1-1/2 x 5 | 1,800 | 1 | 5NQ46-HVS3 | 66253387216 | 32A46-GVBEP | 66253364238 | 1 | 38A46-HVBE | 66253313968 |
| 1,800 | | 1 | 5NQ46-IVS3 | 66253387219 | 32A46-HVBE | 66253364335 B | 1 | 38A46-HVBEP | 66253313969 | |
| 1,800 | | 1 | 5NQ46-IVS | 69083159119 | 32A46-HVBEP | 66253364243 | 1 | 38A46-IVBE | 66253364090 | |
| 1,800 | | 1 | 5NQ46-JVS | 69083159120 | 32A46-IVBE | 66253364336 | 1 | 38A46-JVBE | 66253364240 | |
| 1,800 | | 1 | 5NQ46-JVS3 | 66243494095 | 32A46-JVBE | 66253364337 | 1 | 38A60-IVBE | 66253364247 | |
| 1,800 | | 1 | 5NQ60-GVS3P | 66243495372 | 32A46-KVBE | 66253364339 | | | | |
| 1,800 | | 1 | 5NQ60-GVSP | 69083159122 | 32A60-HVBE | 66253364340 | | | | |
| 1,800 | | 1 | 5NQ60-JVS | 69083159124 | 32A60-IVBE | 66253364239 | | | | |
| 1,800 | | 1 | 5NQ60-JVS3 | 66243494096 | 32A60-JVBE | 66253364341 | | | | |
| 1,800 | | 1 | 3SGP46-GVSP | 66253306780 | 32A60-KVBE | 66253364342 | | | | |
| 1,800 | | 1 | 3SGP46-HVSP | 66253307025 | 32A80-JVBE | 66253364246 | | | | |
| 1,800 | | 1 | 3SGP46-JVH | 66253313976 | | | | | | |
| 1,800 | | 1 | 5SG46-GVSP | 66253364320 | | | | | | |
| 1,800 | | 1 | 5SG46-HVS3 | 66253387231 | | | | | | |
| 1,800 | | 1 | 5SG46-HVSP | 66253302625 | | | | | | |
| 1,800 | | 1 | 5SG46-IVS | 66253364097 | | | | | | |
| 1,800 | | 1 | 5SG46-IVS3 | 66253387234 | | | | | | |
| 1,800 | | 1 | 5SG46-IVSP | 66253302498 | | | | | | |
| 1,800 | | 1 | 5SG46-JVS | 66253364098 B | | | | | | |
| 1,800 | | 1 | 5SG60-IVS | 66253364100 | | | | | | |
| 1,800 | | 1 | 5SG60-JVS | 66253364101 | | | | | | |
| 1,800 | | 1 | 5SG60-KVS | 66253302160 | | | | | | |
| 1,800 | | 1 | 5SG80-KVS | 66253363815 | | | | | | |
| 14 x 2 x 5 | 1,800 | 1 | 5SG60-JVS | 66253364414 | 32A46-IVBE | 66253364323 | | | | |
| | 1,800 | 1 | | | 32A46-JVBE | 66253364508 | | | | |
| | 1,800 | 1 | | | 32A46-KVBE | 66253364509 | | | | |
| | 1,800 | 1 | | | 32A60-KVBE | 66253364510 | | | | |

B = Best Seller; performs well in a variety of applications for many satisfied customers

DRESSING: SINGLE POINT DRESSING TOOL STARTING RECOMMENDATIONS

| Wheel Sizes | Tool Shank Diameter | Ceramic (NQ, Norton SG, TG, etc.), 37C & 39C Wheels | | 25A, 32A, 38A, 48A, 53A, 57A, 64A, 86A Wheels | |
|-------------|---------------------|---|-------------|---|-------------|
| | | Product No. | Part # | Product No. | Part # |
| 12" to 14" | 3/8" | BCSG5M6 | 66260157009 | BC5M6 | 66260195004 |
| | 7/16" | BCSG5M7 | 66260156907 | BC5M7 | 66260195005 |

These tools are a standard recommendation; see the "Diamond Tool" section for additional tools.
 See the Fliesen Tool section for Furioso tools, engineered specifically for Quantum vitrified wheel dressing.

Vitrified Wheels For Steel Applications (continued)



TIER: **BETTER**
 BRAND: Norton
 TRADENAME: **32A / 23A**
 ABRASIVE: Aluminum Oxide



TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **38A / 53A / 57A**
 ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|----------------------------------|----------|----------------|--------------|-------------|----------------|------------|-------------|
| Type 02 Cylinder | | | | | | | |
| 6 x 1 x 4 | 3,600 | 1/10 | 32A46-KVBE | 66252838308 | 1/10 | 38A80-HVBE | 66252838314 |
| Rim 1" | 3,600 | 1/10 | 32A60-JVBE | 66252838309 | | | |
| Plate A47466 | | | | | | | |
| 8 x 2 x 5-1/2 | 2,865 | | | | 1/8 | 53A46-KVBE | 66253044942 |
| Rim 1-1/4" | | | | | | | |
| Plate A50831 | | | | | | | |
| 10 x 2 x 7-1/2 | 2,295 | 1 | 32A54-JVG | 66253161687 | 1 | 53A60-KVG | 66253161701 |
| Rim 1-1/4" | | | | | | | |
| (ME62845) | | | | | | | |
| Plate A110170 | | | | | | | |
| 11 x 5 | 1,910 | 1 | 32A30-HVBE | 66253161800 | | | |
| Rim 1" (ME33437) | | | | | | | |
| Tape Wound | | | | | | | |
| 11 x 5 | 1,740 | 1 | 32A36-EVBEP | 66253161780 | 1 | 38A46-GVBE | 66253161807 |
| Rim 1" (ME52726) | 1,910 | 1 | 32A36-GVBEP | 66253161808 | | | |
| Tape Wound | 1,910 | 1 | 32A46-HVBE | 66253161893 | | | |
| 14 x 4 x 11 | 1,640 | | | | 1 | 38A46-KVBE | 66253364652 |
| Rim 1-1/2" | | | | | | | |
| (ME62806) | | | | | | | |
| Plate A52814 | | | | | | | |
| Tape Wound | | | | | | | |
| 18 x 5 Rim 1-1/2" | 1,065 | 1 | 32A30-E19VCP | 66253465142 | | | |
| (ME15536) | | | | | | | |
| Tape Wound | | | | | | | |
| 18 x 5 Rim 1-1/2" | 1,170 | 1 | 23A30-F19VCP | 66253465235 | | | |
| (ME52719) | | | | | | | |
| Tape Wound | | | | | | | |
| Includes Strips | | | | | | | |
| Type 05 Recessed One Side | | | | | | | |
| 3/4 x 3/4 x 1/4 | 43,290 | 5/40 | 32A60-KVBE | 66243427582 | | | |
| Recess 1/S 3/8 x 3/8 | | | | | | | |
| 1 x 1 x 1/4 | 32,470 | 5/40 | 32A60-KVBE | 66243427769 | | | |
| Recess 1/S 1/2 x 1/2 | | | | | | | |
| 1 x 1 x 3/8 | 32,470 | 5/40 | 32A60-KVBE | 66243427773 | | | |
| Recess 1/S 1/2 x 1/2 | | | | | | | |
| 1-1/4 x 1 x 3/8 | 25,975 | 5/40 | 32A60-KVBE | 66243427799 | | | |
| Recess 1/S 5/8 x 1/2 | | | | | | | |
| 1-1/2 x 1 x 3/8 | 25,975 | 5/40 | 32A60-KVBE | 66243427938 | | | |
| Recess 1/S 5/8 x 1/2 | | | | | | | |

Continued

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

To maximize the performance of these wheels and finished part quality, refer to the beginning of this section and the "Diamond Tool" and "Dressing Sticks" sections for truing and dressing products.

Vitrified Wheels For Steel Applications (continued)



TIER: BEST
BRAND: Norton
TRADENAME: **QUANTUM / NORTON SG**
ABRASIVE: Ceramic Alumina

BETTER
 Norton
32A / 48A
 Aluminum Oxide

GOOD
 Norton
38A / GEMINI
 Aluminum Oxide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|--|----------|----------------|-------------|-------------|-------------|-------------|----------------|-------------|-------------|
| Type O5 Recessed One Side | | | | | | | | | |
| 1-1/2 x 1 x 3/8 Recess 1/8 3/4 x 1/2 | 21,645 | 5/40 | | | 32A60-KVBE | 66243427937 | | | |
| 2 x 1 x 3/8 Recess 1/8 3/4 x 1/2 | 16,235 | 5/40 | | | 32A60-KVBE | 66243428329 | | | |
| 2 x 1-1/2 x 5/8 Recess 1/8 1 x 3/4 | 16,235 | 10/30 | | | 32A60-KVBE | 66243428332 | | | |
| 7 x 3/4 x 1-1/4 Rec 1/8 2-3/4 x 1/4 | 3,600 | 1/10 | 5SG46-IVS | 66252941976 | 32A46-HVBE | 66252942209 | 1/10 | 38A46-IVBE | 66252942222 |
| | 3,600 | 1/10 | 5SG46-IVS3 | 66243494097 | 32A46-IVBE | 66252942211 | 1/10 | 38A60-IVBE | 66252942225 |
| | 3,600 | 1/10 | 5SG60-IVS | 66252942312 | 32A46-IVS3 | 66243495322 | | | |
| | 3,600 | 1/10 | | | 32A46-JVBE | 66252942213 | | | |
| | 3,600 | 1/10 | | | 32A46-JVS3 | 66243495323 | | | |
| | 3,600 | 1/10 | | | 32A60-IVBE | 66252942217 | | | |
| | 3,600 | 1/10 | | | 32A60-JVBE | 66252942218 | | | |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66252942205 | | | |
| 7 x 3/4 x 1-1/4 Rec 1/8 3 x 1/4 | 3,600 | | | | | | 10/10 | Gemini 46-J | 66253246826 |
| | 3,600 | | | | | | 10/10 | Gemini 60-J | 66253246830 |
| 7 x 1 x 1-1/4 Rec 1/8 2-3/4 x 1/2 | 3,600 | 1/10 | 5NQ46-IVS3 | 66243495326 | 32A46-GVBEP | 66252942826 | | | |
| | 3,600 | 1/10 | 3SGR46-HVP2 | 66252916228 | 32A46-HVBE | 66252942688 | | | |
| | 3,600 | 1/10 | 5SG46-IVS | 66252942318 | 32A46-HVBEP | 66252942828 | | | |
| | 3,600 | 1/10 | 5SG46-IVS3 | 66243494098 | 32A46-IVBE | 66252942691 | | | |
| | 3,600 | 1/10 | 5SG46-JVS | 66252942427 | 32A46-KVBE | 66252942708 | | | |
| | 3,600 | 1/10 | 5SG46-JVS3 | 66243494099 | 32A60-IVBE | 66252942699 | | | |
| | 3,600 | 1/10 | 5SG60-JVS | 66252942431 | 32A60-JVBE | 66252942701 | | | |
| | 3,600 | 1/10 | 5SG60-JVS3 | 66243494100 | 32A60-KVBE | 66252942703 | | | |
| | 3,600 | 1/10 | | | 48A46-HVP2 | 66252916232 | | | |
| 7 x 1 x 1-1/4 Rec 1/8 3 x 1/2 | 3,600 | 1/10 | 5NQ46-IVS | 66253350691 | 32A46-HVBE | 66252942689 | 1/10 | 38A46-HVBE | 66252942707 |
| | 3,600 | 1/10 | 5SG46-IVS | 66252901814 | 32A46-IVBE | 66252942690 | 1/10 | 38A46-IVBE | 66252942809 |
| | 3,600 | 1/10 | 5SG46-IVS3 | 66243494101 | 32A60-IVBE | 66252942686 | 1/10 | 38A46-KVBE | 66252942793 |
| | 3,600 | 1/10 | 5SG60-IVS | 66252906907 | | | 1/10 | 38A60-IVBE | 66252942815 |
| | 3,600 | 1/10 | 5SG60-IVS3 | 66243494102 | | | 1/10 | 38A60-JVBE | 66252942816 |
| | 3,600 | | | | | | 1/10 | 38A60-KVBE | 66252942817 |
| | 3,600 | | | | | | 10/10 | Gemini 46-H | 66253246831 |
| | 3,600 | | | | | | 10/10 | Gemini 46-J | 66253246835 |
| | 3,600 | | | | | | 10/10 | Gemini 60-J | 66253246839 |
| 7 x 1-1/4 x 1-1/4 Rec 1/8 2-3/4 x 5/8 | 3,600 | 1/5 | | | 32A46-HVBE | 66252942833 | | | |
| | 3,600 | 1/5 | | | 32A60-IVBE | 66252942859 | | | |
| | 3,600 | 1/5 | | | 32A60-JVBE | 66252942835 | | | |
| 7 x 1-1/2 x 1-1/4 Rec 1/8 2-3/4 x 3/4 | 3,600 | 1/5 | | | 32A46-IVBE | 66252942843 | | | |
| | 3,600 | 1/5 | | | 32A60-IVBE | 66252942844 | | | |
| 8 x 3/4 x 1-1/4 Rec 1/8 3-1/4 x 1/4 | 3,105 | 1/10 | | | 32A46-IVBE | 66253044213 | | | |
| 8 x 1 x 1-1/4 Rec 1/8 3 x 1/2 | 3,105 | | | | | | 10/10 | Gemini 46-H | 66253246849 |
| | 3,600 | | | | | | 10/10 | Gemini 46-J | 66253246850 |
| 8 x 1 x 1-1/4 Rec 1/8 3-1/4 x 1/2 | 3,105 | 1/10 | 5SG46-IVS | 66253013543 | 32A46-IVBE | 66253044790 | | | |
| | + | 1/10 | 5SG46-IVS3 | 66243494103 | 32A46-JVBE | 66253044382 | | | |
| | 3,600 | 1/10 | 5SG46-JVS | 66253003301 | 32A46-JVS3 | 66243495329 | | | |
| | 3,600 | 1/10 | 5SG46-JVS3 | 66243494104 | 32A60-IVBE | 66253044753 | | | |
| | 3,600 | 1/10 | | | 32A60-IVS3 | 66243495330 | | | |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66253044810 | | | |
| 10 x 3/4 x 2 Rec Side A 5 x 3/16 Face Bev Side A 75 Deg From 1/8" Flat | 2,485 | 1 | | | 32A60-JVBE | 66253160189 | | | |

Continued

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

Vitrified Wheels For Steel Applications (continued)



| | | | |
|------------|------------------|------------------|------------------------|
| TIER: | BEST | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | NORTON SG | 32A / 48A | 38A / 25A / 53A |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|--|----------|----------------|-------------|-------------|-------------|-------------|----------------|------------|-------------|
| Type 05 Recessed One Side | | | | | | | | | |
| 12 x 1-1/2 x 3 Rec 1/S 6 x 1/2 | 2,070 | 1 | | | 32A46-IVBE | 66253263186 | | | |
| 12 x 1-1/2 x 5 Rec 1/S 7-1/2 x 1/2 | • 2,070 | 1 | 3SGR46-HVP2 | 66253220904 | 32A46-HVBEP | 66253263180 | 1 | 38A46-IVBE | 66253263175 |
| | 2,070 | 1 | 5SG46-GVSP | 66253263127 | 32A46-IVBE | 66253263166 | | | |
| | 2,070 | 1 | 5SG46-GVS3P | 66243495374 | 32A46-JVBE | 66253263169 | | | |
| | 2,070 | 1 | 5SG46-IVS | 66253202883 | 32A46-KVBE | 66253263170 | | | |
| | 2,070 | 1 | 5SG46-IVS3 | 66243494105 | 32A60-KVBE | 66253263172 | | | |
| | | | 5SG60-IVSP | 66253263050 | | | | | |
| | | | 5SG60-IVS3P | 66243495376 | | | | | |
| 14 x 1-1/2 x 5 Rec 1/S 8 x 1/2 | • 1,800 | 1 | 3SGR46-GVP2 | 66253319953 | 32A46-HVBE | 66253364359 | | | |
| | • 1,800 | 1 | 3SGR46-HVP2 | 66253319954 | 32A46-IVBE | 66253364300 | | | |
| | • 1,800 | 1 | 3SGR60-HVP2 | 66253319956 | 32A46-KVBE | 66253364362 | | | |
| | 1,800 | 1 | 5SG46-IVS | 66253364102 | 32A60-JVBE | 66253364364 | | | |
| | 1,800 | 1 | 5SG46-IVS3 | 66243494106 | 32A60-KVBE | 66253364365 | | | |
| | • 1,800 | 1 | 5SG46-JVS | 66253364103 | 48A46-HVP2 | 66253319958 | | | |
| | 1,800 | 1 | 5SG60-IVS | 66253364104 | | | | | |
| | 1,800 | 1 | 5SG60-JVS | 66253364105 | | | | | |
| 14 x 2 x 5 Rec 1/S 8 x 1/2 | 2,320 | 1 | 3SGR46-GVP2 | 66253319936 | 48A46-HVP2 | 66253319941 | 1 | 25A46-HVP2 | 66253319945 |
| | 2,320 | 1 | 3SGR46-HVP2 | 66253319937 | | | 1 | 38A46-HVP2 | 66253319949 |
| | 2,320 | | | | | | 1 | 38A60-HVP2 | 66253319951 |
| 14 x 2 x 5 Rec 1/S 8 x 1 | 1,800 | 1 | | | 32A60-KVBE | 66253364390 | | | |
| | 1,800 | 1 | | | 32A60-LVBE | 66253364525 | | | |
| <ul style="list-style-type: none"> • 12" Type 05 Wheel Maximum RPM: NORPOR VP2 Wheels = 2,710; all others = 2,070 • 14" Type 05 Wheel Maximum RPM: NORPOR VP2 Wheels = 2,320; all others = 1,800 | | | | | | | | | |
| Type 06 Straight Cup | | | | | | | | | |
| 3-1/2 x 1-1/2 x 1/2 Rim 1/2" Back 1/2" | 6,550 | | | | | | 1/10 | 38A60-KVBE | 66243529372 |
| 100mm x 50mm x 20mm Rim 10mm, Back 13mm | 6,550 | | | | | | 1/10 | 38A80-JVBE | 66243530429 |
| 4 x 1-1/2 x 1/2 Rim 1/2" Back 1/2" | 5,730 | 1/10 | | | 32A60-KVBE | 66243530218 | | | |
| 4 x 1-1/2 x 1-1/4 Rim 1/2" Back 1/2" | 5,730 | | | | | | 1/10 | 38A60-KVBE | 66243530221 |
| 4 x 2 x 20mm Rim 3/8" Back 1/2" | 5,730 | | | | | | 1/10 | 38A80-JVBE | 66243530523 |
| 5 x 1-1/2 x 1-1/4 Rim 3/8" Back 3/8" | 4,585 | 1/10 | | | 32A46-KVBE | 66252830832 | 1/10 | 38A46-KVBE | 66252830842 |
| Face Y (ME19243) | 4,585 | 1/10 | | | 32A60-JVBE | 66252830837 | | 38A60-KVBE | 66252830846 |
| 5 x 2 x 5/8 Rim 1/2" Back 1/2" | 4,585 | 1/10 | | | 32A60-KVBE | 66252830838 | | | |
| | | | | | 32A60-JVBE | 66252830987 | | | |
| 6 x 1-1/2 x 1/2 Rim 1" Back 1/2" | 3,820 | 1/10 | | | 32A46-KVBE | 66252838458 | | | |
| 6 x 2 x 1-1/4 Rim 1/2" Back 1/2" | 3,820 | 1/10 | | | 32A46-IVBE | 66252838544 | 1/10 | 38A60-KVBE | 66252838486 |
| | 3,820 | 1/10 | | | 32A60-JVBE | 66252838538 | | | |
| 7 x 2 x 1-1/4 Rim 1/2" Back 1/2" | 3,275 | 1/8 | | | 32A46-JVBE | 66252942856 | | | |
| 9-1/2 x 1-1/2 x 1-1/2 Rim 1-1/2" Back 5/8" | 2,415 | | | | | | 1 | 53A46-LVBE | 66253149136 |
| 10 x 4 x 1-1/2 Rim 1-1/4" Back 1" Tape Wound | 2,295 | | | | | | 1 | 38A46-IVBE | 66253161797 |
| 12 x 2-1/2 x 7 Rim 1-1/2" Back 7/8" | 1,910 | 1 | | | 32A46-LVBE | 66253263614 | | | |

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

Vitrified Wheels For Steel Applications (continued)



| | | | |
|------------|------------------|----------------|----------------|
| TIER: | BEST | BETTER | GOOD |
| BRAND: | Norton | Norton | Norton |
| TRADENAME: | NORTON SG | 32A | 38A |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide | Aluminum Oxide |

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|---|----------|----------------|------------|-------------|-------------|-------------|----------------|------------|-------------|
| Type 07 Recessed Two Sides  | | | | | | | | | |
| 12 x 2 x 3 | 2,070 | 1 | | | 32A46-IVBE | 66253263588 | | | |
| Rec 2/S 5-1/2 x 3/8 | | | | | 32A46-IVS3 | 66243495383 | | | |
| 12 x 2 x 3 | 2,070 | 1 | | | 32A46-HVBE | 66253263590 | | | |
| Rec 2/S 7-1/4 x 1/2 | 2,070 | 1 | | | 32A46-HVS3 | 66243495377 | | | |
| | 2,070 | 1 | | | 32A46-JVBE | 66253263348 | | | |
| 12 x 2 x 5 | 2,070 | 1 | | | 32A46-IVBE | 66253263594 | | | |
| Rec 2/S 7-1/4 x 1/2 | | | | | | | | | |
| 12 x 2 x 5 | 2,070 | 1 | 5SG46-JVS | 66253209930 | 32A46-HVBE | 66253263591 | 1 | 38A46-IVBE | 66253263600 |
| Rec 2/S 7-1/2 x 1/2 | 2,070 | 1 | | | 32A46-HVBEP | 66253263603 | | | |
| | 2,070 | 1 | | | 32A46-JVBE | 66253263483 | | | |
| | 2,070 | 1 | | | 32A46-KVBE | 66253263596 | | | |
| | 2,070 | 1 | | | 32A60-IVBE | 66253263597 | | | |
| Type 11 Flaring Cup  | | | | | | | | | |
| 3/2-1/4 x 1-1/4 x 3/4 | 7,640 | 1/10 | | | 32A60-JVBE | 66243529183 | 1/10 | 38A60-JVBE | 66243529197 |
| Rim 1/4" Back 3/8" | 7,640 | 1/10 | | | 32A60-KVBE | 66243529187 | | | |
| Face Z (ME21560) | 7,640 | 1/10 | | | 32A60-KVS3 | 66243495338 | | | |
| 3-1/2/2-3/4 x 1-1/2 x 1-1/4 | 7,640 | 1/10 | | | 32A60-KVBE | 66243529358 | | | |
| Rim 1/4" Back 3/8" | | | | | | | | | |
| Face Z (ME24327) | | | | | | | | | |
| 4/3 x 1-1/2 x 1-1/4 | 5,730 | 1/5 | 5SG46-IVSP | 66243530127 | 32A46-IVBE | 66243530240 | 1/10 | 38A46-KVBE | 66243530378 |
| Rim 1/4" Back 1/2" | 5,730 | 1/5 | 5SG46-KVS | 66243503342 | 32A46-KVBE | 66243530246 | 1/10 | 38A60-JVBE | 66243530387 |
| Face Z (ME19237) | 5,730 | 1/5 | 5SG46-KVS3 | 66243495339 | 32A60-JVBE | 66243530256 | 1/10 | 38A60-KVBE | 66243530390 |
| | 5,730 | 1/5 | 5SG60-JVS | 66243530415 | 32A60-KVBE | 66243530361 | 1/10 | 38A80-JVBE | 66243530393 |
| | 5,730 | 1/5 | 5SG60-JVS3 | 66243495342 | 32A60-KVS3 | 66243495345 | 1/10 | 38A80-KVBE | 66243530395 |
| | 5,730 | 1/5 | 5SG60-LVS | 66243530417 | 32A80-KVBE | 66243530368 | | | |
| | 5,730 | 1/5 | 5SG80-JVS | 66243530419 | | | | | |
| | 5,730 | 1/5 | 5SG80-KVS | 66243530420 | | | | | |
| 4-1/2/3-3/4 x 2 x 1-1/4 | 5,730 | 1/5 | | | 32A46-KVBE | 66252830539 | | | |
| Rim 1/4" | | | | | | | | | |
| Back 1/2"(ME20115) | | | | | | | | | |
| 5/3-3/4 x 1-3/4 x 1-1/4 | 4,585 | 1/5 | 5SG46-KVS | 66252803291 | 32A46-JVBE | 66252830858 | 1/5 | 38A46-KVBE | 66252830971 |
| Rim 1/4" Back 1/2" | 4,585 | 1/5 | 5SG60-KVS | 66252830737 | 32A46-KVBE | 66252830859 | 1/5 | 38A60-JVBE | 66252830973 |
| Face Z (ME21563) | 4,585 | 1/5 | 5SG60-KVS3 | 66243495574 | 32A46-KVS3 | 66243495576 | 1/5 | 38A60-KVBE | 66252830975 |
| | 4,585 | 1/5 | 5SG60-LVS | 66252830736 | 32A60-JVBE | 66252830962 | | | |
| | 4,585 | 1/5 | | | 32A60-KVBE | 66252830964 | | | |
| 6/4-1/2 x 2 x 1-1/4 | 3,820 | 1/5 | | | 32A46-JVBE | 66252838491 | 1/5 | 38A46-KVBE | 66252838495 |
| Rim 3/8" Back 1/2" | 3,820 | 1/5 | | | 32A46-KVBE | 66252838528 | 1/5 | 38A60-KVBE | 66252838497 |
| Face Z (ME19241) | 3,820 | 1/5 | | | 32A60-JVBE | 66252838492 | | | |
| 7/5 x 2 x 1-1/4 | 3,275 | 1/8 | | | 32A46-JVBE | 66252942959 | 1/8 | 38A46-HVBE | 66252942963 |
| Rim 3/4" Back 1/2" | | | | | | | | | |
| (ME19242) | | | | | | | | | |

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

To maximize the performance of these wheels and finished part quality, refer to the beginning of this section and the "Diamond Tool" and "Dressing Sticks" sections for truing and dressing products.

Vitrified Wheels For Steel Applications (continued)



| | | |
|------------|------------------|----------------|
| TIER: | BEST | BETTER |
| BRAND: | Norton | Norton |
| TRADENAME: | NORTON SG | 32A |
| ABRASIVE: | Ceramic Alumina | Aluminum Oxide |

| | |
|------------|----------------|
| TIER: | GOOD |
| BRAND: | Norton |
| TRADENAME: | 38A |
| ABRASIVE: | Aluminum Oxide |

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | SPEC. | PART # | MIN./STD. PKG. | SPEC. | PART # |
|-----------------------------------|----------|----------------|-----------|-------------|---------------|-------------|----------------|------------|-------------|
| Type 12 Dish | | | | | | | | | |
| 4 x 1/2 x 3/4 (ME19226) | 6,207 | 1/10 | | | 32A60-KVBE | 66243530067 | | | |
| 6 x 1/2 x 1-1/4 (ME19229) | 4,140 | 1/10 | 5SG60-LVS | 66252836574 | 32A46-JVBE | 66252836860 | 1/10 | 38A60-JVBE | 66252836977 |
| | 4,140 | 1/10 | | | 32A60-JVBE | 66252836966 | | | |
| 6 x 3/4 x 1-1/4 (ME19230) | 4,140 | 1/10 | 5SG60-KVS | 66252837771 | 32A46-KVBE | 66252837732 | | | |
| | 4,140 | 1/10 | | | 32A60-JVBE | 66252837734 | | | |
| | 4,140 | 1/10 | | | 32A60-KVBE | 66252837735 | | | |
| 7 x 1/2 x 1-1/4 (ME13717) | 3,600 | 1/10 | | | 32A46-KVBE | 66252941644 | | | |
| | 3,600 | 1/10 | | | 32A60-KVBE | 66252941647 | | | |
| 8 x 3/4 x 1-1/4 (ME19231) | 3,600 | | | | | | 1/10 | 38A60-KVBE | 66253044319 |
| 10 x 1 x 1 (ME38702) | 2,485 | 1 | | | 32A54-JVBE | 66253161196 | | | |
| 10 x 1 x 1-1/4 (ME38702) | 2,485 | 1 | | | 32A54-JVBE | 66253161197 | | | |
| Type 20 Concave One Side | | | | | | | | | |
| 14 x 1-1/2 x 5 | 1,800 | 1 | 5SG60-JVS | 66253302265 | 32A60-JVBE | 66253364250 | | | |
| Concave from Periphery | 1,800 | 1 | | | 32A60-KVBE | 66253364332 | | | |
| 1/2" Deep to 8" Flat Spot | 1,800 | 1 | | | 32A60-LVBE | 66253364375 | | | |
| Type 35 Plate Mounted Disc | | | | | | | | | |
| 9 x 2 x 4-15/16 | 2,550 | 1 | | | 32A46-MVBE | 66253049115 | | | |
| Rim 2-1/32" (ME31130) | 2,550 | 1 | | | 32A60-J25VCF2 | 66253006557 | | | |
| Plate A47248 | 2,550 | 1 | | | 32A70-JVBEP | 66253049112 | | | |

For non-stock toolroom wheels: if you don't see the toolroom wheel you need in our stock listing, call your local authorized Norton distributor to check our made-to-order non-stock availability – including our revolutionary new Quantum ceramic and Vitrium3 bond wheels.

To maximize the performance of these wheels and finished part quality, refer to the beginning of this section and the "Diamond Tool" and "Dressing Sticks" sections for truing and dressing products.





These sharp silicon carbide, vitrified wheels are used for grinding non-steel applications.

- Applications:** Use 39C (green silicon carbide) for cemented carbides, titanium, metal matrix composites and plasma sprayed materials.
Use 37C (black silicon carbide) on 300 series stainless steels, irons, nonferrous metals (aluminum, brass, bronze and copper) and non-metallic materials (stone, marble, rubber, ceramics and glass).
- Shapes:** Type 01 Straight, Type 02 Cylinder, and Type 05 Recessed 1 Side
- Size Range:** 3" – 14" diameter
- Grit Range:** 24 – 120
- Abrasive Grain:** 39C Green Silicon Carbide, 37C Black Silicon Carbide

Vitrified Wheels For Non-Steel Applications

TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **39C / 37C**
 ABRASIVE: Silicon Carbide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # | |
|-----------------------------|-----------------|----------------|------------|---------------|-------------|
| Type 01 Straight | | | | | |
| 3 x 1/2 x 1/2 | 10,825 | 10/50 | 37C60-MVK | 66243529041 | |
| 3 x 1 x 1/2 | 10,825 | 10/10 | 37C60-MVK | 66243529166 | |
| | 10,825 | 10/10 | 37C80-HVK | 66243529170 | |
| | 10,825 | 10/10 | 37C80-MVK | 66243529171 | |
| | 10,825 | 10/10 | 37C100-HVK | 66243529172 | |
| | 10,825 | 10/10 | 37C100-MVK | 66243529070 | |
| 3-1/2 x 1-1/2 x 7/8 (ME622) | 7,095 | 1/10 | 37C24-SVK | 66243529339 | |
| | 7,095 | 1/10 | 37C30-SVK | 66243529338 | |
| 4 x 1/2 x 1/2 | 8,120 | 1/10 | 37C60-MVK | 66243529960 | |
| | 8,120 | 1/10 | 39C100-IVK | 66243530064 | |
| 6 x 1/2 x 1-1/4 | 4,140 | 1/10 | 39C60-IVK | 66252836706 | |
| | 4,140 | 1/10 | 39C80-IVK | 66252836816 | |
| | 4,140 | 1/10 | 39C100-IVK | 66252836827 | |
| | 4,140 | 1/10 | 39C120-IVK | 66252836836 | |
| 6 x 3/4 x 1-1/4 | 4,140 | 1/10 | 39C60-IVK | 66252837584 | |
| | 4,140 | 1/10 | 39C80-IVK | 66252837598 | |
| | 4,140 | 1/10 | 39C100-IVK | 66252837717 | |
| 6 x 1 x 1-1/4 | 4,140 | 1/10 | 39C60-IVK | 66252838161 | |
| | 4,140 | 1/10 | 39C80-IVK | 66252838173 | |
| | 4,140 | 1/10 | 39C100-IVK | 66252838173 | |
| 7 x 1/4 x 1-1/4 | 3,600 | 1/10 | 39C80-JVK | 66252940007 | |
| | 3,600 | 1/10 | 39C100-IVK | 66252940109 | |
| | 3,600 | 1/10 | 39C120-IVK | 66252940111 | |
| 7 x 1/2 x 1-1/4 | 3,600 | 1/10 | 37C46-JVK | 66252941488 | |
| | 3,600 | 1/10 | 37C60-OVK | 66252941498 | |
| | 3,600 | 1/10 | 39C60-IVK | 66252941609 | |
| | 3,600 | 1/10 | 39C60-JVK | 66252941611 | |
| | 3,600 | 1/10 | 39C60-KVK | 66252941613 | |
| | 3,600 | 1/10 | 39C80-IVK | 66252941617 | |
| | 3,600 | 1/10 | 39C80-JVK | 66252941618 | |
| | 3,600 | 1/10 | 39C100-HVK | 66252941622 | |
| | 3,600 | 1/10 | 39C100-IVK | 66252941624 | |
| | 3,600 | 1/10 | 39C120-IVK | 66252941632 B | |
| | 7 x 3/4 x 1-1/4 | 3,600 | 1/10 | 39C80-JVK | 66252942096 |
| | | 3,600 | 1/10 | 39C100-JVK | 66252942104 |
| 7 x 1 x 1-1/4 | 3,600 | 1/10 | 39C60-IVK | 66252942666 | |
| | 3,600 | 1/10 | 39C80-IVK | 66252942413 | |
| | 3,600 | 1/10 | 39C120-IVK | 66252942416 | |
| 8 x 1/4 x 1-1/4 | 3,600 | 1/10 | 39C80-IVK | 66253014526 | |
| 8 x 3/8 x 1-1/4 | 3,600 | 1/10 | 39C80-IVK | 69936664144 | |
| 8 x 1/2 x 1-1/4 | 3,600 | 1/10 | 39C60-IVK | 66253044013 | |
| | 3,600 | 1/10 | 39C80-IVK | 66253044015 | |
| | 3,600 | 1/10 | 39C100-IVK | 66253044017 B | |
| 8 x 3/4 x 1-1/4 | 3,600 | 1/10 | 39C60-JVK | 66253044312 | |
| | 3,600 | 1/10 | 39C80-IVK | 66253350645 | |
| | 3,600 | 1/10 | 39C100-IVK | 66253044314 | |

TIER: **GOOD**
 BRAND: Norton
 TRADENAME: **39C / 37C**
 ABRASIVE: Silicon Carbide

| SIZE (D x T x H) | MAX. RPM | MIN./STD. PKG. | SPEC. | PART # |
|---|----------|----------------|------------|---------------|
| Type 01 Straight | | | | |
| 8 x 1 x 1-1/4 | 3,600 | 1/10 | 39C60-JVK | 66253044770 |
| | 3,600 | 1/10 | 39C80-IVK | 66253044425 B |
| | 3,600 | 1/10 | 39C100-IVK | 66253044379 |
| 10 x 1 x 3 | 2,485 | 1 | 39C60-JVK | 66253160348 |
| 10 x 1-1/2 x 2 | 2,485 | 1 | 39C60-JVK | 66253161640 |
| 12 x 1 x 3 | 2,070 | 1 | 39C60-IVK | 66253262985 |
| 12 x 1 x 5 | 2,070 | 1 | 39C60-IVK | 66253262884 |
| | 2,070 | 1 | 39C80-JVK | 66253262988 |
| 14 x 1 x 5 | 1,800 | 1 | 39C60-JVK | 66253364206 |
| | 1,800 | 1 | 39C80-JVK | 66253364208 |
| 14 x 1-1/2 x 5 | 1,800 | 1 | 39C60-JVK | 66253364242 |
| | 1,800 | 1 | 39C60-JVK | 66253364322 |
| Type 02 Cylinder | | | | |
| 6 x 1 x 4 Rim 1" Plate A47466 | 3,600 | 1/10 | 39C60-IVK | 66252838322 |
| | 3,600 | 1/10 | 39C60-JVK | 66252838324 |
| | 3,600 | 1/10 | 39C80-IVK | 66252838327 |
| | 3,600 | 1/10 | 39C100-IVK | 66252838330 |
| | 3,600 | 1/10 | 39C120-IVK | 66252838193 |
| 6 x 1-1/4 x 4 Rim 1" Plate A47466 | 3,600 | 1/10 | 39C60-IVK | 66252838345 |
| | 3,600 | 1/10 | 39C60-IVK | 66252838345 |
| 7 x 1-1/2 x 5 Rim 1" Plate A39027 | 3,600 | 1/8 | 39C60-IVK | 66252942848 |
| | 3,600 | 1/10 | 39C60-IVK | 66252942848 |
| 10 x 2 x 7 Rim 1-1/2" Plate A83831 | 2,100 | 1 | 39C60-HVK | 66253161675 |
| | 2,295 | 1 | 39C60-JVK | 66253161678 |
| | 2,295 | 1 | 39C120-IVK | 66253161784 |
| 14 x 4 x 11 Rim 1-1/2" Plate A52814 Tape Wound | 1,640 | 1 | 39C60-JVK | 66253364657 |
| | 1,640 | 1 | 39C60-JVK | 66253364657 |
| | 1,640 | 1 | 39C60-JVK | 66253364657 |
| Type 05 Recessed One Side | | | | |
| 14 x 1-1/2 x 5 Rec 1/5 8 x 1/2 | 1,800 | 1 | 39C60-IVK | 66253364328 |

B = Best Seller, performs well in a variety of applications for many satisfied customers



Large surface grinding wheels are generally used to grind flat stock or flat surfaces within a workpiece. These wheels are typically used on horizontal spindle machines. Applications can vary from heavy, rapid stock removal to precision tolerance operations.

- Applications:
- Producing flat stock
 - Grinding large molds and dies
 - Sharpening knives, blades and cutlery
 - Manufacturing broaches
- Shape: Type 01 Straight, Type 05 Recessed 1 Side, Type 07 Recessed 2 Sides
 Size Range: Stock: 20" diameter
 1" – 6" thickness
 Abrasive Grain: Aluminum Oxide

CROSS REFERENCE GUIDE

| NORTON | GOOD GEMINI |
|---------------------|----------------|
| Camel | 91A |
| Cincinnati Milacron | 29A, 97A |
| Radiac | WAA, 97A, 45A |

NORTON GEMINI ALUMINUM OXIDE BLEND

GOOD CHOICE WHEN A BROAD RANGE OF PARTS ARE GROUND ON A FEW MACHINES



| FEATURES | BENEFITS |
|--|---|
| <ul style="list-style-type: none"> • Specially blended aluminum oxide abrasive for many surface grinding applications • Porous bond • Versatile | <ul style="list-style-type: none"> • Consistent performance at an economical price • Faster grinding rates remove stock; lower rates produce finer finishes • Cool cutting on medium to wide contact areas; high chip clearance and stock removal • Ideal when a broad range of tool steel parts are ground on a few machines |

TIER: **GOOD** EXPANDED OFFERING
 TRADENAME: **NORTON GEMINI**
 ABRASIVE: Aluminum Oxide

| SIZE (D x T x H) | RECESS | MAX. RPM | STD. PKG. | SPEC. | PART # |
|---|--|----------|-----------|---------------------------|-------------|
| Type 01 Straight Wheels | | | | | |
| 20 x 1 x 8 | – | 1,625 | 1 | Norton Gemini A46-H | 66253246937 |
| 20 x 2 x 10 | – | 1,625 | 1 | Norton Gemini A36-J | 66253246956 |
| Type 05 Recessed One Side Wheels | | | | | |
| 20 x 1-1/2 x 8 | Recess 1 Side 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A46-H | 66253246941 |
| Type 07 Recessed Two Sides | | | | | |
| 20 x 2 x 8 | Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini 59A46-I | 66253246949 |
| | Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A46-G VSP | 66253246953 |
| 20 x 3 x 8 | NEW! Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A36-J/K P | 66253246965 |
| | Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A46-G VSP | 66253246972 |
| | NEW! Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A46-I | 66253246960 |
| 20 x 3 x 10 | NEW! Recess Side A 12-1/2 x 1/2, Side B 12-1/2 x 1 | 1,625 | 1 | Norton Gemini A46-G P | 66253246995 |
| | Recess Side A 12-1/2 x 1/2, Side B 12-1/2 x 1 | 1,625 | 1 | Norton Gemini A46-I | 66253246978 |
| | Recess 2 Sides 12-1/4 x 3/4 | 1,625 | 1 | Norton Gemini 59A46-I VSP | 66253058315 |
| | Recess Side A 12-1/2 x 1/2, Side B 12-1/2 x 1 | 1,625 | 1 | Norton Gemini A36-J VSP | 66253246980 |
| | Recess Side A 12-1/2 x 1/2, Side B 12-1/2 x 1 | 1,625 | 1 | Norton Gemini A46-D VSP | 66253246988 |
| 20 x 4 x 8 | NEW! Recess 2 Sides 11-1/2 x 1/2 | 1,625 | 1 | Norton Gemini A46-G P | 66253247012 |
| 20 x 4 x 10 | NEW! Recess Side A 12-1/2 x 5/8, Side B 12-1/2 x 1-1/4 | 1,625 | 1 | Norton Gemini A46-I | 66253247017 |
| 20 x 6 x 12 | NEW! Recess 2 Sides 14-1/4 x 1 | 1,625 | 1 | Norton Gemini A36-J/K P | 66253247038 |

There are many more sizes and specifications available made-to-your-order. Contact your Norton representative with your custom requirements.



Surface grinding segments are generally used to grind flat stock or flat surfaces within a workpiece. The segment moves over the workpiece in a flat plane or vice versa. Applications can vary from heavy, rapid stock removal to precision tolerance operations.

- Applications:
- Vertical spindle surface grinding
 - Grinding large molds, dies and plates
 - Producing flat stock
 - Sharpening knives, blades, cutlery
- Abrasive Grain:
- Ceramic Alumina, Aluminum Oxide

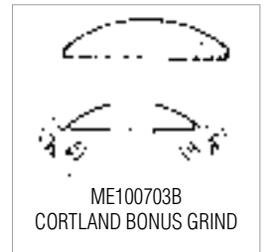
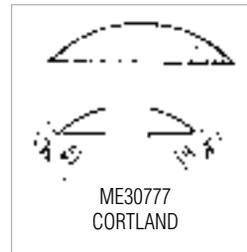
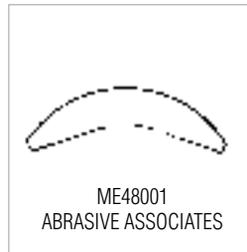
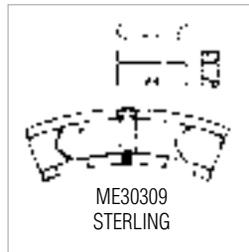
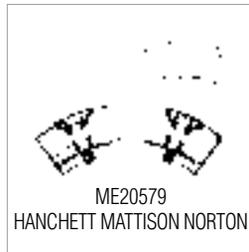
MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| Material | Heavy-Duty | General-Duty |
|---------------------|---------------|--------------------|
| Aluminum | 86A30-E20VTX2 | Norton Gemini 30-E |
| Bronze (hard) | | Norton Gemini 30-G |
| Cast Iron | QuantumX 20-G | Norton Gemini 30-G |
| Hastalloy | 86A24-G20VTX2 | Norton Gemini 30-E |
| Inconel | QuantumX 30-F | Norton Gemini 30-E |
| Hardened Steel | QuantumX 20-G | Norton Gemini 30-E |
| High Speed Steel | QuantumX 20-G | Norton Gemini 30-E |
| Soft Steel | 86A24-G20VTX2 | Norton Gemini 30-G |
| Stainless Steel 300 | 86A30-E20VTX2 | Norton Gemini 30-E |
| Stainless Steel 400 | 86A30-E20VTX2 | Norton Gemini 30-F |

TROUBLESHOOTING GUIDE

| PROBLEM | CORRECTION |
|-------------------------|---|
| Segment acting too hard | Increase rate of downfeed |
| | Increase table rotation speed (watch amp-meter) |
| | Dress more frequently |
| Segment acting too soft | Consider reducing area of table load |
| | Decrease rate of downfeed |
| | Decrease table rotation speed |
| Glazing and/or burning | Check for abnormal machine vibration |
| | Choose a softer grade |
| | Increase table speed (watch amp-meter) |

SEGMENT BLUEPRINTS



NORTON QUANTUM AND QUANTUMX CERAMIC ALUMINA

BEST CHOICE FOR ALL LOW-, MEDIUM-, AND HIGH-FORCE APPLICATIONS RANGING FROM CAST IRON, TO STAINLESS STEEL AND HARD-TO-GRIND ALLOYS



FEATURES

- Revolutionary, engineered ceramic grain shape and chemistry with proven bond technology
- Perform well on old and new machines
- QuantumX with controlled porosity Vitrium³ bond

BENEFITS

- Versatile; for applications ranging from cast iron, to stainless steel and hard-to-grind alloys
- 33% to 100% longer life versus competitive ceramic products
- 30%+ higher metal removal rate
- 15%+ lower threshold power
- Lowest total grinding costs
- The newest, strongest bond in the Norton portfolio: patented pore-induced construction; for all low-, medium- and high-force applications; excels on hard-to-grind aerospace alloys and large areas of contact; exceptional form and corner-holding

NORTON 86A ALUMINUM OXIDE

BETTER CHOICE FOR VERSATILE, CONSISTENT PERFORMANCE



FEATURES

- Sharper aluminum oxide abrasive
- VTx2 Vitrium 3 bond

BENEFITS

- Cooler cutting
- The newest, strongest bond in the Norton portfolio: patented pore-induced construction; for all low-, medium- and high-force applications; excels on hard-to-grind aerospace alloys and large areas of contact; exceptional form and corner-holding

NORTON GEMINI ALUMINUM OXIDE BLEND

GOOD CHOICE WHEN A BROAD VARIETY OF PARTS ARE GROUND ON A FEW MACHINES



FEATURES

- Quality aluminum oxide abrasive blend

BENEFITS

- Excellent value for general purpose use, and for the account where initial price is a main purchasing consideration



TIER: **BEST**
 TRADENAME: **NORTON QUANTUM/QUANTUMX**
 ABRASIVE: Ceramic Alumina

TIER: **BETTER**
 TRADENAME: **NORTON 86A**
 ABRASIVE: Aluminum Oxide

TIER: **GOOD**
 TRADENAME: **NORTON GEMINI**
 ABRASIVE: Aluminum Oxide Blend

| WIDTH | THICK | HEIGHT | BLUEPRINT NO. | STD. PKG. | SPEC. | UPC NO. | SPEC. | UPC NO. | SPEC. | UPC NO. |
|---------|-------|--------|---------------|-----------|------------------------|--------------|---------------|-------------|-------------|-------------|
| 5 | 1-1/2 | 6 | ME20579 | 8 | QUANTUMX 20-G | 66253350603 | 86A24-G20VTX2 | 66253350601 | Gemini 30-E | 66253050295 |
| | | | | 8 | QUANTUMX 20-H | 66253350604 | 86A24-H20VTX2 | 66253350602 | Gemini 30-F | 66253050297 |
| | | | | 8 | | | 86A30-F12VBEP | 61463650273 | Gemini 30-G | 66253050299 |
| 6-13/16 | 1-1/2 | 6 | ME30309 | 8 | | | 86A24-G20VTX2 | 66253350595 | | |
| | | | | 8 | | | 86A24-H20VTX2 | 66253350596 | | |
| 11 | 2-1/8 | 6 | ME48001 | 5 | | | 86A24-G20VTX2 | 66253350586 | | |
| | | | | 5 | | | 86A24-H20VTX2 | 66253350590 | | |
| 11-1/4 | 2-1/4 | 6 | ME30777 | 5 | QUANTUMX 20-G | 66253350607 | 86A24-E12VBEP | 61463650279 | Gemini 30-E | 69936699706 |
| | | | | 5 | QUANTUMX 20-H | 66253350608 | 86A24-G20VTX2 | 66253350605 | Gemini 30-F | 69936699709 |
| | | | | 5 | 3NQP36-G12VSP | 66253251527 | 86A24-H20VTX2 | 66253350606 | Gemini 30-G | 69936699710 |
| | | | | 5 | | | 86A30-E12VBEP | 61463650285 | Gemini 30-H | 66243447588 |
| | | | | 5 | | | 86A30-F12VBEP | 61463650287 | | |
| 11-1/4 | 2-1/4 | 8 | ME30777 | 5 | QUANTUMX 20-G | 66253350612 | 86A24-G20VTX2 | 66253350609 | Gemini 30-E | 69936699712 |
| | | | | 5 | QUANTUMX 20-H | 66253350615 | 86A24-H20VTX2 | 66253350610 | Gemini 30-F | 69936699716 |
| | | | | 5 | QUANTUMX 30-E | 66253387810 | 86A30-E20VTX2 | 66253387812 | Gemini 30-G | 69936699717 |
| | | | | 5 | QUANTUMX 30-F | 66253387811 | 86A30-F20VTX2 | 66253387813 | Gemini 30-H | 66243447591 |
| | | | | 5 | 3NQP30-F12VSP | 66253238276 | | | Gemini 30-I | 66243447592 |
| 11-1/4 | 3 | 8 | ME100703B | 4 | QUANTUMX 20-G | 66253350623 | 86A24-G20VTX2 | 66253350617 | Gemini 30-E | 69936699725 |
| | | | | 4 | QUANTUMX 20-H | 66253350624 | 86A24-H20VTX2 | 66253350621 | Gemini 30-F | 69936699727 |
| | | | | 4 | QUANTUMX 30-E | 66253387808 | | | Gemini 30-G | 69936699728 |
| | | | | 4 | QUANTUMX 30-F | 66253387809 | | | Gemini 30-H | 66243447594 |
| | | | | 4 | 3NQP30-F12VSP | 69083156473 | | | Gemini 30-I | 66243447595 |
| | | 1-5/8 | | 10 | Vitrified Burr Remover | 61463650268* | | | Gemini 30-K | 66253344077 |

*Minimum Quantity = 2

TECH TIP

- Choose as coarse a grit size as possible in order to remove stock as quickly as possible (in big chips).
- To maximize production, choose the hardest grade possible that will not overload the machine.



It is the user's responsibility to refer to and comply with ANSI B7.1



Cylindrical wheels are used most often when the part is held between centers and in chucks. There are three methods of cylindrical grinding: plunge, traverse, and angular.

- Plunge grinding – wheel is thrust or plunged into the part
- Traverse grinding – wheel moves across the part
- Angular grinding – wheel contacts the part at an angle

Typical Industries: Automotive, shipbuilding, engine building, bearing, land- and air-based turbine blades, and toolroom

Shape: Type 01 Straight, Type 05 Recessed One Side, and Type 07 Recessed 2 Sides

Size Range: 16", 18", 20", 24" and 30" diameter

Abrasive Grain: Ceramic Alumina and Aluminum Oxide

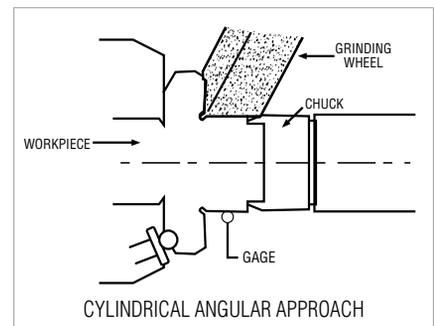
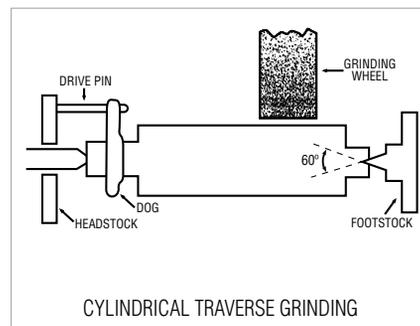
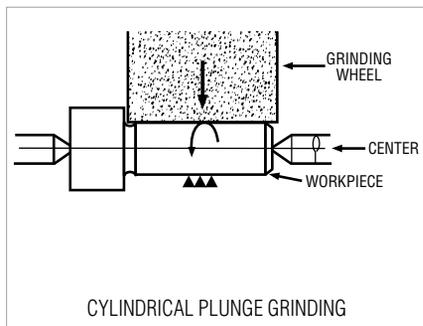
STATIONARY DRESSING TOOL RECOMMENDATIONS FOR CYLINDRICAL WHEELS

| Grinding Wheel Diameter | Diamond Carat Weight | Single Point | | Multi-Point (Grit) | | | | | |
|-------------------------|----------------------|---------------------|-------------|---------------------|-------------|---------------------|-------|-------------|-----------------|
| | | Tool Product/Part # | 0° Angle | Tool Product/Part # | Shape | Tool Product/Part # | Shape | | |
| 16" - 20" | 3/4 | BC7M7 | 66260195007 | BC62 | 66260195012 | 1/4 x 1/2 Rect. | BC63 | 66260195013 | 1/4 x 1/2 Rect. |
| | | NS7M7 | 66260195132 | 2A6D7 | 66260195046 | | 2A6E7 | 66260195049 | |
| 21" + | 1 | BC10M7 | 66260195009 | BC61 | 66260195011 | 1/4 x 3/4 Rect. | BC60 | 66260195010 | 1/4 x 3/4 Rect. |
| | | NS10M7 | 66260195137 | 1A6A7 | 66260195031 | | 1A6C7 | 66260195039 | |

NS Single Point Diamond Tools are resettable. BC Diamond Tools are not resettable. All tools specified above have 7/16" diameter shanks.

TROUBLESHOOTING GUIDE

| PROBLEM | POSSIBLE CAUSES | SUGGESTED CORRECTION |
|-----------------------------|---|---|
| Burn or cracks on workpiece | Wheel too hard | Try softer wheel or make wheel act softer (see Tech Tip on next page) |
| | Dress is too fine | Dress faster |
| | Nozzle not directing coolant properly | Redirect flow |
| | Work speed too slow or wheel speed too fast | Adjust speeds |
| | Wheel feed too slow causing excess contact time | Increase feed rate |
| Chatter marks on workpiece | Loose spindle, end play, bearing failure | Check wheel spindle on assembly |
| | Work drive faults, out-of-truth plate | Check gear action, truth, drive on pin pressure |
| | Wheel too hard, poor truing, poor mounting | Use softer grade; dress wheel correctly; secure mounting |
| Poor quality finish | Poor quality dressing | Reduce final depth of dress on wheel |
| | Diamond insecurely held | Check and replace diamond and secure properly |
| | Misalignment of head and tail stocks | Check for properly aligned workpiece |
| | Dirty coolant | Clean coolant frequently; use efficient filter |
| | Scored workpiece centers | Check and lap center holes as required |



NORTON 5SG CERAMIC ALUMINA/ALUMINUM OXIDE BLEND

BEST CHOICE FOR HIGHEST PRODUCTIVITY, LOWEST TOTAL PER-PART GRINDING COST

FEATURES

- Durable Norton SG seeded gel ceramic and aluminum oxide blend
- Self-sharpening abrasive

BENEFITS

- High stock removal rates, excellent productivity, long wheel life, low overall grinding cost
- 3X - 5X more life than aluminum oxide wheels
- Cool cutting; less burn, less dressing; very consistent performing wheel

NORTON 32A ALUMINUM OXIDE

BETTER CHOICE FOR MEDIUM TO HEAVY STOCK REMOVAL

FEATURES

- Sharp monocrystalline aluminum oxide grain – the industry's most versatile abrasive

BENEFITS

- Free cutting on a wide range of applications and materials
- Outstanding form holding

NORTON 86A ALUMINUM OXIDE

BETTER CHOICE FOR LONGER WHEEL LIFE

FEATURES

- Premium abrasive; superior bond system
- Engineered for easy use

BENEFITS

- High grinding G-Ratios (metal removal/wheel wear) increase productivity
- Decrease in dress frequency and/or dress compensation
- Less wheel dressing means lower abrasive costs
- Hold form for better part geometry
- Grind cycles do not need to be altered
- No special operator training is needed

NORTON 64A ALUMINUM OXIDE BLEND

GOOD CHOICE FOR VERSATILE PERFORMANCE AT AN ECONOMICAL PRICE

FEATURES

- Specially blended aluminum oxide abrasive coupled with a superior bond
- Broad availability
- Versatile

BENEFITS

- Will maintain high grinding rates without wheel breakdown
- Quick delivery on popular sizes
- Engineered to grind a variety of materials

NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR USE ON GENERAL PURPOSE APPLICATIONS; ECONOMICAL

FEATURES

- Durable aluminum oxide abrasive and strong vitrified bond – Blue
- Versatile, economical

BENEFITS

- Consistent stock removing performance on narrow to medium contact areas; cool cutting
- Ideal when numerous small jobs are run in one facility

NORTON GEMINI2 ALUMINUM OXIDE

GOOD CHOICE FOR SMALLEST VOLUME, LOWEST INITIAL PRICE APPLICATIONS

NEW

FEATURES & BENEFITS

- Quality aluminum oxide abrasive blend and a durable bond system deliver an efficient cut rate and grinding wheel life to your low-volume precision operations
- Low-initial-priced, made-in-USA wheels are ideal for small-sized manufacturing facilities that perform a variety of jobs on a few machines
- Carefully chosen, versatile specifications and sizes meet many cylindrical grinding applications
- Easy to spec with little to no technical support.

| SIZE (D x T x H) | TIER: BEST | | | BETTER | | GOOD | |
|-------------------------|-------------------|-----------|-------------|--------------|-------------|---------------|-------------|
| | STD. PKG. | SPEC. | PART # | SPEC. | PART # | SPEC. | PART # |
| Type O1 Straight | | | | | | | |
| 16 x 1 x 5 | 1 | 5SG60-JVS | 66253467007 | 32A60-J8VBE | 66253464836 | 64A60-K8V127 | 66253466722 |
| | 1 | | | 32A60-K5VBE | 66253464837 | Gemini2 60-I | 66243497801 |
| | 1 | | | | | Gemini2 60-K | 66243495077 |
| | 1 | | | | | Gemini2 60-M | 66243497802 |
| | 1 | | | | | Gemini2 100-I | 66243497804 |
| | 1 | | | | | Gemini2 100-K | 66243497806 |
| | 1 | | | | | Gemini2 100-M | 66243497807 |
| 16 x 1 x 8 | 1 | | | 32A60-K5VBE | 66253464826 | | |
| 16 x 1-1/2 x 5 | 1 | 5SG60-KVS | 66253467010 | 32A46-H8VBE | 66253464925 | | |
| 16 x 2 x 5 | 1 | | | 32A46-J8VBE | 66253464995 | 64A60-K8V127 | 66253466721 |
| | 1 | | | 32A60-K5VBE | 66253464960 | Gemini2 60-I | 66243497810 |
| | 1 | | | | | Gemini2 60-K | 66243495078 |
| | 1 | | | | | Gemini2 100-I | 66243497812 |
| | 1 | | | | | Gemini2 100-K | 66243497815 |
| 16 x 3 x 5 | 1 | | | | | Gemini2 60-I | 66243497820 |
| | 1 | | | | | Gemini2 100-I | 66243497821 |
| 18 x 1 x 5 | 1 | | | | | Gemini2 60-I | 66243483777 |
| | 1 | | | | | Gemini2 60-K | 66243497610 |
| | 1 | | | | | Gemini2 60-M | 66243497611 |
| | 1 | | | | | Gemini2 100-I | 66243497612 |
| | 1 | | | | | Gemini2 100-K | 66243497613 |
| | 1 | | | | | Gemini2 100-M | 66243497615 |
| 18 x 2 x 5 | 1 | | | | | 64A60-K8V127 | 66253466719 |
| | 1 | | | | | Gemini2 60-I | 66243483779 |
| | 1 | | | | | Gemini2 60-K | 66243497618 |
| | 1 | | | | | Gemini2 100-I | 66243497619 |
| | 1 | | | | | Gemini2 100-K | 66243497620 |
| 18 x 3 x 5 | 1 | | | | | Gemini2 60-I | 66243483780 |
| | 1 | | | | | Gemini2 100-I | 66243497621 |
| 20 x 1 x 8 | 1 | | | 86A60-J8V127 | 69078608982 | Gemini2 60-I | 66243483782 |
| | 1 | | | 86A80-J8V127 | 69078608983 | Gemini2 60-K | 66243497840 |
| | 1 | | | | | Gemini2 60-M | 66243497841 |
| | 1 | | | | | Gemini2 100-I | 66243497842 |
| | 1 | | | | | Gemini2 100-K | 66243497843 |
| | 1 | | | | | Gemini2 100-M | 66243497846 |
| 20 x 1 x 10 | 1 | | | | | Gemini2 60-I | 66243495332 |
| | 1 | | | | | Gemini2 60-K | 66243497789 |
| | 1 | | | | | Gemini2 60-M | 66243497791 |
| | 1 | | | | | Gemini2 100-I | 66243497793 |
| | 1 | | | | | Gemini2 100-K | 66243497796 |
| | 1 | | | | | Gemini2 100-M | 66243497798 |
| 20 x 1 x 12 | 1 | | | | | Gemini2 60-I | 66243483787 |
| | 1 | | | | | Gemini2 60-K | 66243497827 |
| | 1 | | | | | Gemini2 60-M | 66243497831 |
| | 1 | | | | | Gemini2 100-I | 66243497835 |
| | 1 | | | | | Gemini2 100-K | 66243497837 |
| | 1 | | | | | Gemini2 100-M | 66243497838 |
| 20 x 1-1/2 x 5 | 1 | | | 32A46-H8VBE | 69078665382 | | |
| 20 x 2 x 5 | 1 | | | | | 64A60-J8V127 | 69078666713 |
| 20 x 2 x 8 | 1 | | | 32A46-I8VBE | 69078665433 | 64A60-K8V127 | 69078666712 |
| | 1 | | | 32A60-K5VBE | 69078665490 | Gemini2 60-I | 66243483785 |
| | 1 | | | | | Gemini2 60-K | 66243497855 |
| | 1 | | | | | Gemini2 100-I | 66243497856 |
| | 1 | | | | | Gemini2 100-K | 66243497857 |
| 20 x 2 x 10 | 1 | | | | | Gemini 60-J | 66253246959 |
| | 1 | | | | | Gemini2 60-I | 66243495334 |
| | 1 | | | | | Gemini2 60-K | 66243497848 |
| | 1 | | | | | Gemini2 100-I | 66243497849 |
| | 1 | | | | | Gemini2 100-K | 66243497850 |
| 20 x 2 x 12 | 1 | | | 32A46-I8VBE | 69078665455 | Gemini2 60-I | 66243483788 |
| | 1 | | | | | Gemini2 60-K | 66243497851 |
| | 1 | | | | | Gemini2 100-I | 66243497852 |
| | 1 | | | | | Gemini2 100-K | 66243497854 |

For additional stock cylindrical wheels, see the large surface grinding wheel section of this catalog

Contact your Norton representative with your custom cylindrical wheel requirements. There are many more sizes and specifications available made-to-your-order, including wheels made from Norton 55A and Quantum blank stock. Our revolutionary Norton Quantum and Vitrium³ bond ceramic wheels bring a quantum leap in technology to your operation. See 55A and Quantum Blank Stock FastTrack Service catalog sections for more details.

| SIZE (D x T x H) | TIER: BEST | | BETTER | | GOOD | |
|--|-------------------|-------|--------|-------------|---------------|-------------|
| | STD. PKG. | SPEC. | SPEC. | PART # | SPEC. | PART # |
| ABRASIVE: 5SG Ceramic Alumina / Aluminum Oxide 32A, 86A Aluminum Oxide 64A, Gemini, or Gemini2 Aluminum Oxide | | | | | | |
| Type 01 Straight | | | | | | |
| 20 x 3 x 8 | 1 | | | | 64A46-I8V127 | 69078666447 |
| | 1 | | | | 64A60-J8V127 | 69078608140 |
| | 1 | | | | Gemini2 60-I | 66243483786 |
| | 1 | | | | Gemini2 100-I | 66243497862 |
| 20 x 3 x 10 | 1 | | | | Gemini2 60-I | 66243495333 |
| | 1 | | | | Gemini2 100-I | 66243497859 |
| 20 x 3 x 12 | 1 | | | | Gemini2 60-I | 66243483789 |
| | 1 | | | | Gemini2 100-I | 66243497860 |
| 24 x 1 x 12 | 1 | | | | Gemini2 60-I | 66243483790 |
| | 1 | | | | Gemini2 60-K | 66243497863 |
| | 1 | | | | Gemini2 100-I | 66243497866 |
| | 1 | | | | Gemini2 100-K | 66243497868 |
| | 1 | | | | Gemini2 100-M | 66243497870 |
| 24 x 2 x 12 | 1 | | | | 64A60-K8V127 | 69083166710 |
| | 1 | | | | 64A80-K8V127 | 69083166711 |
| | 1 | | | | Gemini2 60-I | 66243483792 |
| | 1 | | | | Gemini2 60-K | 66243497872 |
| | 1 | | | | Gemini2 100-I | 66243497873 |
| | 1 | | | | Gemini2 100-K | 66243497874 |
| 24 x 3 x 12 | 1 | | | | Gemini2 60-I | 66243483793 |
| | 1 | | | | Gemini2 100-I | 66243497877 |
| 30 x 2 x 12 | 1 | | | | 64A60-J8V127 | 69210466704 |
| | 1 | | | | Gemini2 60-J | 66243497878 |
| | 1 | | | | Gemini2 60-L | 66243497986 |
| 30 x 3 x 12 | 1 | | | | 64A60-J8V127 | 69210466697 |
| | 1 | | | | 64A60-K8V127 | 69210466698 |
| | 1 | | | | Gemini2 60-J | 66243497987 |
| | 1 | | | | Gemini2 60-L | 66243497988 |
| 30 x 4 x 12 | 1 | | | | 64A60-J8V127 | 69210401774 |
| | 1 | | | | Gemini2 60-J | 66243497989 |
| | 1 | | | | Gemini2 60-L | 66243497990 |
| Type 07 Recessed Two Sides | | | | | | |
| 18 x 2 x 8 | 1 | | | 32A46-I8VBE | 66253465110 | |
| Rec 2/S 10-1/2 x 1/2 | | | | | | |
| 20 x 2 x 8 | 1 | | | 32A46-I8VBE | 69078665537 | |
| Rec 2/S 11-1/2 x 1/2 | | | | | | |
| 20 x 3 x 8 | 1 | | | 32A46-I8VBE | 69078665686 | |
| Rec 2/S 11-1/4 x 1/2 | | | | | | |
| 20 x 3 x 8 | 1 | | | | | Gemini 46-H |
| Rec 2/S 11-1/2 x 1/2 | | | | | | 66253246969 |
| 20 x 3 x 10 | 1 | | | 32A46-I8VBE | 69078665575 | |
| Rec 2/S 12-1/4 x 5/8 | | | | | | |
| 20 x 6 x 10 | 1 | | | 32A46-I8VBE | 69078665854 | |
| Rec Side A 12-1/4 x 2 | | | | | | |
| Rec Side B 12-1/4 x 1 | | | | | | |

For additional stock cylindrical wheels, see the large surface grinding wheel section of this catalog

Contact your Norton representative with your custom cylindrical wheel requirements. There are many more sizes and specifications available made-to-your-order, including wheels made from Norton 55A and Quantum blank stock. Our revolutionary Norton Quantum and Vitrium³ bond ceramic wheels bring a quantum leap in technology to your operation. See 55A and Quantum Blank Stock FastTrack Service catalog sections for more details.

TECH TIP

To make a wheel act softer:

- Increase work speed
- Increase traverse speed
- Increase infeed
- Decrease wheel speed
- Increase dresser traverse rate
- Increase depth of dress per traverse
- Dress more often

To make a wheel act harder:

- Decrease work speed
- Decrease traverse speed
- Decrease infeed
- Increase wheel speed (do not exceed MAX RPM marked on wheel)
- Dress at slower traverse rate
- Decrease depth of dress per traverse



It is the user's responsibility to refer to and comply with ANSI B7.1



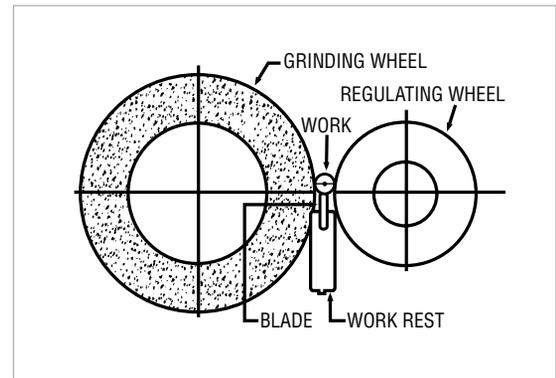
Centerless grinding is a production process that produces extremely close tolerances on metal cylindrical forms or parts. Centerless grinding is used on a wide variety of workpieces. The key components in the process are the grinding wheel, the work rest blade (used to support the work) and the regulating or “feed” wheel (the drive mechanism for the workpiece).

- Applications:
- High production operations on large volume continuous grinding
 - Parts ranging from miniature roller bearings to train axles and bearings
 - Fastener and tool manufacturing
 - Steel mills
 - Automotive related components
 - Bearing
 - Machine tools
 - Aircraft
 - Turbine blades – land- and air-based
- Shape:
Centerless wheels: Type 01 Straight
Feed wheels: Type 01 Straight and Type 07 Recessed 2 Sides
- Size Range:
Centerless wheels: 16", 20", and 24" diameter
Feed wheels: 12" and 14" diameter
- Abrasive Grain:
Aluminum Oxide, Aluminum Oxide/Silicon Carbide Blend

MATERIAL-TO-PRODUCT RECOMMENDATION GUIDE

| Application | Wheel Specifications |
|--|--------------------------|
| Alnico | 55A60-KVS3, 32AC54-QB |
| Cast Iron | 55A60-KVS3, 32AC54-QB |
| Hastalloy | 55A60-KVS3 |
| Inconel | 55A60-KVS3 |
| Stainless | 55A60-KVS3 |
| Stainless – 300 series | 55A60-KVS3 |
| Stainless – 400 series (commercial finish) | 55A60-KVS3 |
| Steel – Hard or Soft | |
| Less than 1/2" diameter | 55A80-LVS3 |
| 5/8" to 2-1/2" diameter | 55A60-KVS3 |
| Over 2-1/2" diameter | 55A60-KVS3, 2NQMC54-QB45 |
| High Speed (commercial finish) | 55A60-KVS3, 2NQMC54-QB45 |
| High Speed (fine finish) | 32AC90-QB |

Note: Grade, Grit and Abrasive tuning might be necessary to obtain optimum performance



STATIONARY DRESSING TOOL RECOMMENDATIONS FOR CENTERLESS WHEELS

| Grinding Wheel Diameter | Diamond Carat Weight | Single Point | | Indexable Single Point | | Multi-point (Grit) | |
|-------------------------|----------------------|--------------------------------|--------------------------------|--------------------------------|-----------|---------------------------------|-----------|
| | | Tool Product # Part # 0° Angle | Tool Product # Part # 0° Angle | Tool Product # Part # 0° Angle | Shape | Tool Product # Part # 15° Angle | Shape |
| 11" - 14" | 1/2 | BC5M7 66260195005 | BCUD5 66260195025 | BC65 66260195015 | 3/8 Round | BC63 66260195013 | 1/4 x 1/2 |
| | | NS5M7 66260195127 | NSUD5 66260195163 | 2R6K7 66260195096 | | 2A6E7 66260195049 | Rectangle |
| 15" - 20" | 3/4 | BC7M7 66260195007 | N/A | BC62 66260195012 | 1/4 x 1/2 | BC63 66260195013 | 1/4 x 1/2 |
| | | NS7M7 66260195132 | NSUD7 66260195164 | 2A6D7 66260195046 | Rectangle | 2A6E7 66260195049 | Rectangle |
| 21" + | 1 | BC10M7 66260195009 | N/A | BC61 66260195011 | 1/4 x 3/4 | BC60 66260195010 | 1/4 x 3/4 |
| | | NS10M7 66260195137 | NSUD10 66260195165 | 1A6A7 66260195031 | Rectangle | 1A6C7 66260195039 | Rectangle |

STATIONARY DRESSING TOOL RECOMMENDATIONS FOR FEED WHEELS

| Feed Wheel Diameter | Tool Carat Weight | Tool Shank Diameter | Indexable Single Point | |
|---------------------|-------------------|---------------------|------------------------|-------------|
| | | | Tool Product # | Tool Part # |
| Up to 14" | 1/2 | 7/16" | NSUD5 | 66260195163 |

NORTON QUANTUM (2NQ) CENTURY45 CERAMIC ALUMINA

BEST CHOICE FOR CAST IRON TO STAINLESS AND HARD-TO-GRIND MATERIALS AND ALLOYS (TITANIUM, INCONEL...)

NEW

FEATURES & BENEFITS

- Proprietary Century45 2NQ ceramic abrasive and resin bond formulation engineered specifically to maximize productivity of centerless applications
- Wheel life increase from 30%–100+% versus standard ceramic wheels
- Over 30% improvement of stock removal
- Up to 50% reduction in cycle time
- Less grinding noise significantly improves operator safety
- More versatility to grind a wide range of materials
- Improved surface finish on the part

55A-VS3 ALUMINUM OXIDE

BETTER CHOICE FOR PERFORMANCE TO PRICE RATIO

FEATURES & BENEFITS

- Advanced combination of monocrystalline 55A aluminum oxide and coolest cutting, high-speed, precise form holding, controlled porosity Norton Vitrium 3 VS3 bond
- Superior performance on throughfeed grinding applications with 2X+ the life of competitive aluminum oxide wheels
- Ideal for simple- to complex-shaped components
- Increased productivity; more quality parts at low cost per part

32AC ALUMINUM OXIDE / SILICON CARBIDE BLEND

BETTER CHOICE WHEN ONE WHEEL IS USED TO GRIND SEVERAL DIFFERENT MATERIALS

FEATURES & BENEFITS

NEW

- Aluminum oxide/silicon carbide abrasive blend in a strong resin bond is ideal when one wheel is used to grind several different materials from high-to-low tensile strength
- Proprietary Century45 32AC aluminum oxide/silicon carbide abrasive blend and resin bond formulation engineered specifically to increase productivity and part quality of medium volume centerless applications

57A ALUMINUM OXIDE WITH FINE/HARD SIDE

GOOD CHOICE FOR HARD-TO-GRIND FASTENERS

FEATURES & BENEFITS

- Durable, aluminum oxide abrasive with a strong vitrified bond for cool cutting with consistent stock removing performance on narrow-to-medium contact areas
- 3/16" thick fine/hard side provides good form holding while grinding stainless and Inconel fasteners

64A ALUMINUM OXIDE BLEND

GOOD CHOICE FOR GRINDING A VARIETY OF MATERIALS, ECONOMICALLY

FEATURES & BENEFITS

- Specially blended aluminum oxide abrasive coupled with a superior vitrified bond will maintain high grinding rates without wheel breakdown
- Broad availability for quick delivery on popular sizes
- Versatile; engineered to grind a variety of materials

NORTON GEMINI ALUMINUM OXIDE

GOOD CHOICE FOR USE ON GENERAL PURPOSE APPLICATIONS; ECONOMICAL

FEATURES

- Durable aluminum oxide abrasive and strong vitrified bond – Blue
- Versatile, economical

BENEFITS

- Consistent stock removing performance on narrow to medium contact areas; cool cutting
- Ideal when numerous small jobs are run in one facility

NORTON GEMINI2 ALUMINUM OXIDE

GOOD CHOICE FOR SMALLEST VOLUME, LOWEST INITIAL PRICE APPLICATIONS **NEW**

FEATURES & BENEFITS

- Quality aluminum oxide abrasive blend and a durable bond system deliver an efficient cut rate and grinding wheel life to your low-volume precision operations
- Low-initial-priced, made-in-USA wheels are ideal for small-sized manufacturing facilities that perform a variety of jobs on a few machines
- Carefully chosen, versatile specifications and sizes meet many centerless grinding applications
- Easy to spec with little to no technical support.

TECH TIP

Proper Wheel Mounting

1. Thoroughly clean spindle and flange bearing area of all dirt and foreign material.
2. Inspect for worn, distorted or damaged areas on flanges and spindle.
3. If mounting a wide centerless wheel on a spindle (i.e., twin-grip), do not use grease or other petroleum lubricants. Use a silicone spray lubricant on the spindle to ease mounting the wheel, if necessary.
4. Ensure mount up arrow is at the top of the wheel. In the case of butted sets, assemble so that the arrow is formed across the top of the wheel face.
5. Ensure proper blotters are installed; one on each flange mating surface. Always use new blotters.
6. Install blotter flange and snug up the bolts only finger tight.
7. Using a torque wrench, tighten all bolts in an alternating pattern from side to side to 15 foot pounds.
8. Repeat the same tightening sequence, increasing the torque to 35 foot pounds.
 - » for wide wheels (18"-20"), torque the bolts at 45 to 50 foot pounds
 - » for narrower wheels (2"-12"), a torque of 35 foot pounds is sufficient
9. Retorque the flange bolts to specification after the first eight hours of operation.

TECH TIP

- Use vitrified bond wheels for form holding and plunge grinding
- Use resinoid bond wheels for stock removal, long irregular parts and faster throughfeed grinding
- Vitrified Centerless Wheel Speeds:
 - » 64A46-KVCE wheels: 6500 SFPM max. operating speed
 - » All other vitrified centerless stock products: 8500 SFPM max. operating speed
 - » Always check wheel speed markings on wheels before running wheel



It is the user's responsibility to refer to and comply with ANSI B7.1

TECH TIP

To make a wheel act softer:

- Increase work speed/regulating wheel speed
- Increase throughput speed/regulating wheel speed
- Increase infeed
- Decrease wheel speed
- Dress at a faster traverse rate

To make a wheel act harder:

- Decrease work speed/regulating wheel speed
- Decrease throughput speed/regulating wheel speed
- Decrease infeed
- Increase wheel speed (observe safe limits)



Centerless Wheels

| TIER: BEST NEW | | | | TIER: BETTER EXPANDED OFFERING | | TIER: BETTER | | TIER: GOOD EXPANDED OFFERING | |
|---|-----------|--------------|-------------|---|-------------|---|-------------|---|-------------|
| TRADENAME: QUANTUM CENTURY45 CENTERLESS RESINOID WHEELS | | | | TRADENAME: 32AC / 32AC CENTURY 45 CENTERLESS RESINOID WHEELS | | TRADENAME: 55A CENTERLESS VITRIFIED WHEELS | | TRADENAME: 53A, 57A, 64A, GEMINI, GEMIN2 CENTERLESS VITRIFIED WHEELS | |
| ABRASIVE: Ceramic Alumina | | | | ABRASIVE: Aluminum Oxide/Silicon Carbide | | ABRASIVE: Aluminum Oxide | | ABRASIVE: Aluminum Oxide | |
| SIZE (D x T x H) | STD. PKG. | SPEC. | PART # | SPEC. | PART # | SPEC. | PART # | SPEC. | PART # |
| Type 01 Straight | | | | | | | | | |
| 16 x 4 x 10 | 1 | | | | | | | 57A80-L8VCN | 66253465001 |
| 20 x 2 x 12 | 1 | | | | | | | 53A60-K8VCN | 69078665347 |
| 20 x 4 x 12 | 1 | | | | | | | 64A60-KVCE | 69078666723 |
| | 1 | | | | | | | 64A80-LVCE | 69078666727 |
| 20 x 6 x 12 | 1 | 2NQMC46-QB45 | 66243496406 | 32AC80-NB45 | 66243496398 | 55A60-KVS3 | 66253387817 | 64A60-KVCE | 69078666729 |
| | 1 | | | 32AC54-QB | 69078666545 | 55A80-LVS3 | 66253387815 | Gemini 60-L | 66253246994 |
| | 1 | | | | | | | Gemini2 60-K | 66253451854 |
| | 1 | | | | | | | Gemini2 100-L | 66253451855 |
| 20 x 8 x 12 | 1 | 2NQMC46-QB45 | 66243496407 | 32AC80-NB45 | 66243496400 | 55A60-KVS3 | 66253387819 | 64A60-KVCE | 69078666748 |
| | 1 | | | 32AC54-QB | 69078666546 | 55A80-LVS3 | 66253387818 | 64A60-LVCE | 69078666749 |
| | 1 | | | | | | | 64A80-KVCE | 69078666751 |
| | 1 | | | | | | | Gemini 54-J | 66253247001 |
| | 1 | | | | | | | Gemini2 60-K | 66253451857 |
| | 1 | | | | | | | Gemini2 100-L | 66253451858 |
| 24 x 1-1/2 x 12 | 1 | | | | | | | 57A 80/120 O/Q | 66253193575 |
| w/ 3/16" fine/hard layer | 1 | | | | | | | 57A 80/120 P/R | 66253354449 |
| 24 x 2-1/2 x 12 | 1 | | | | | | | 57A 80/120 O/Q | 66253285629 |
| w/ 3/16" fine/hard layer | 1 | | | | | | | 57A 80/120 P/R | 66253340540 |
| 24 x 3 x 12 | 1 | | | | | | | 64A60-K8V127 | 69083166708 |
| 24 x 4 x 12 | 1 | | | | | | | Gemini2 60-K | 66253451860 |
| | 1 | | | | | | | Gemini2 100-L | 66253451861 |
| 24 x 6 x 12 | 1 | 2NQMC46-QB45 | 66243496408 | 32AC80-NB45 | 66243496401 | 55A80-LVS3 | 66253387821 | Gemini 60-K | 66253247047 |
| | 1 | | | 32AC54-QB | 69083166547 | | | Gemini2 60-K | 66253451862 |
| | 1 | | | | | | | Gemini2 100-L | 66253451863 |
| 24 x 8 x 12 | 1 | 2NQMC46-QB45 | 66243496409 | 32AC80-NB45 | 66243496403 | 55A60-KVS3 | 66253387827 | Gemini2 60-K | 66253451864 |
| | 1 | | | 32AC54-QB | 69083166548 | 55A80-LVS3 | 66253387825 | Gemini2 100-L | 66253451865 |
| 24 x 10 x 12 | 1 | 2NQMC46-QB45 | 66243496410 | 32AC80-NB45 | 66243496404 | 55A60-KVS3 | 66253387830 | Gemini2 60-K | 66253451866 |
| | 1 | | | 32AC54-QB | 69083166549 | 55A80-LVS3 | 66253387828 | Gemini2 100-L | 66253451867 |
| 24 x 20 x 12 | 1 | | | 32AC54-QB | 69083166552 | | | | |
| Composed of 2 Wheels | 1 | | | 32AC54-SB | 69083166553 | | | | |
| 10" Thick (ME90362) | | | | | | | | | |

Rubber Bond Feed Wheels

| TIER: BETTER | | | |
|-----------------------------------|-----------|------------|-------------|
| ABRASIVE: Aluminum Oxide | | | |
| SIZE (D x T x H) | STD. PKG. | SPEC. | PART # |
| Type 01 Straight | | | |
| 12 x 2 x 5 | 1 | 57A80-RR51 | 66253222840 |
| Type 07 Recessed Two Sides | | | |
| 12 x 4 x 5 | 1 | 57A80-RR51 | 66253222844 |
| Rec 2 Sides 7-1/2 x 1-1/2 | | | |
| 12 x 6 x 5 | 1 | 57A80-RR51 | 66253222846 |
| Rec Side A 7-1/2 x 1-1/2 | | | |
| Rec Side B 7-1/2 x 1-1/2 | | | |
| 12 x 6 x 5 | 1 | 57A80-RR51 | 66253222847 |
| Rec 2 Sides 7-1/2 x 1-1/2 | | | |
| 12 x 8 x 5 | 1 | 57A80-RR51 | 66253222850 |
| Rec Side A 7-1/2 x 2-1/2 | | | |
| Rec Side B 7-1/2 x 1-1/2 | | | |
| 14 x 8 x 5 | 1 | 57A80-RR51 | 66253322859 |
| Rec Side A 8 x 2 | | | |
| Rec Side B 8 x 1-1/2 | | | |
| 14 x 20 x 6 | 1 | 57A80-RR51 | 66253322196 |
| Rec 2 Sides 8-1/2 x 1-1/2 | | | |
| Butted Feed Wheels | | | |
| Composed of 2 Wheels | | | |
| 10" Thick (ME91512) | | | |

Plastic Bond Feed Wheels

| TIER: BETTER | | | |
|-----------------------------------|-----------|-----------|-------------|
| ABRASIVE: Aluminum Oxide | | | |
| SIZE (D x T x H) | STD. PKG. | SPEC. | PART # |
| Type 07 Recessed Two Sides | | | |
| 12 x 8 x 5 | 1 | 57A80-RP4 | 66253222199 |
| Rec Side A 7-1/2 x 2-1/2 | | | |
| Rec Side B 7-1/2 x 1-1/2 | | | |

There are many more sizes and specifications available made-to-your-order, including wheels made from our blank stock FastTrack Service for rush orders. Contact your Norton representative with your custom centerless requirements.

CREEPFEEED BLANK STOCK FASTTRACK SERVICE



Norton creepfeed wheels are the best performing creepfeed wheels in the industry. These high-performance blank stock wheels can be altered to your dimensional requirements.

Applications: Heat-sensitive, porous grinding of difficult-to-grind alloys
 Typical Industries: Aerospace, automotive, toolroom, gear, energy
 Size Range: Blank Stock: 16" – 25" diameter
 Finished Wheel: 14" – 25" diameter
 Grade/Porosity: C28 – F26
 Abrasive Grain: Ceramic Alumina, Fused Aluminum Oxide

NORTON QUANTUM X CERAMIC ALUMINA AND VORTEX ALUMINUM OXIDE BLEND



BEST CHOICE FOR VERSATILITY, MAXIMUM PERFORMANCE, AND HIGHEST PRODUCTIVITY

FEATURES

- Leading Norton technologies produce the most free-cutting creepfeed wheel: patented pore-induced construction, a blend of Norton Quantum ceramic and Vortex aluminum oxide abrasives, and the newest, strongest Norton bond: Vitrium3

BENEFITS

- Versatile; for all low-, medium- and high-force applications on hard-to-grind Inconel, titanium, and aerospace alloys
- Excel on large area of contact applications
- Exceptional form and corner-holding; 20+% less power draw
- Best MRR vs. all other ceramic creepfeed wheels
- Reduce grinding cycle times up to 50%

NORTON VORTEX ENGINEERED ALUMINUM OXIDE



BETTER CHOICE FOR HEAT-SENSITIVE, POROUS GRINDING OF DIFFICULT-TO-GROUND ALLOYS

FEATURES

- High-performance, engineered, fused aluminum oxide abrasive, optimally spaced
- Highly porous and permeable

BENEFITS

- High metal removal rates; able to grind large areas of contact
- Exceptional part integrity and quality; superior surface finish
- Long wheel life: dramatically shorter grinding cycles = less wheel changes and more parts/wheel = high productivity

Key Program Features

- Standard lead-time: 2 weeks
- Alteration Parameters:
 - » Diameter may be altered to 2" smaller than the original blank stock diameter
 - » Thickness may be altered to 1/2 the original blank stock thickness
 - » Bore may be altered to these parameters 5" altered up to 8" max. 8" altered up to 12" max.

CREEPFEEED BLANK STOCK FASTTRACK SERVICE

TIER: **BEST**

EXPANDED OFFERING

BETTER

TRADENAME:

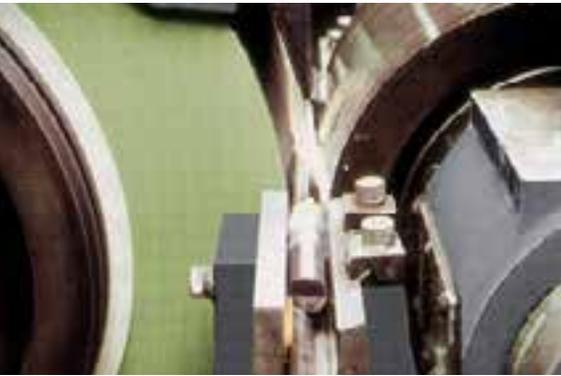
**NORTON QUANTUM X 3NQX
CERAMIC UNFINISHED BLANK STOCK**

**NORTON VORTEX
A/O UNFINISHED BLANK STOCK**

| SIZE (D x T x H) | SPEC. | UF BLANK PART # | SPEC. | UF BLANK PART # |
|-------------------------|---|-----------------|--------------|-----------------|
| Type 01 Straight |  | | | |
| 16 x 1 x 5 | 3NQX60-C28VTX2 | 00310438575 | | |
| | 3NQX60-D28VTX2 | 00310425238 | | |
| | 3NQX60-D+28VTX2 | 00310479157 | | |
| | 3NQX60-E24VTX2 | 00310425239 | | |
| | 3NQX80-E+28VTX2 | 00310479160 | | |
| 16 x 3 x 5 | 3NQX60-C28VTX2 | 00310438656 | | |
| | 3NQX60-D28VTX2 | 00310425240 | | |
| | 3NQX60-D+28VTX2 | 00310479158 | | |
| | 3NQX60-E24VTX2 | 00310425241 | | |
| | 3NQX80-D+28VTX2 | 00310479163 | | |
| 16 x 4 x 5 | | | IPA60-D29VTX | 00310312485 |
| | | | IPA60-E26VTX | 00310312486 |
| 16 x 5 x 5 | 3NQX60-D28VTX2 | 00310425242 | | |
| | 3NQX60-E24VTX2 | 00310425243 | | |
| 16 x 6 x 5 | 3NQX60-C28VTX2 | 00310438657 | | |
| | 3NQX80-D+28VTX2 | 00310479164 | | |
| | 3NQX80-E+28VTX2 | 00310479162 | | |
| 20 x 1 x 8 | 3NQX60-C28VTX2 | 00310438658 | | |
| | 3NQX60-D28VTX2 | 00310425244 | | |
| | 3NQX60-E24VTX2 | 00310425245 | | |
| 20 x 2-1/2 x 8 | | | IPA60-E26VTX | 00310303130 |
| | | | IPA60-F17VTX | 00310303131 |
| | | | IPA80-D29VTX | 00310303132 |
| 20 x 3 x 8 | 3NQX60-C28VTX2 | 00310438659 | | |
| | 3NQX60-D28VTX2 | 00310425256 | | |
| | 3NQX60-E24VTX2 | 00310425257 | | |
| 20 x 4 x 8 | | | IPA60-D29VTX | 00310303133 |
| | | | IPA60-E26VTX | 00310303134 |
| 20 x 5 x 8 | 3NQX60-D28VTX2 | 00310425258 | | |
| | 3NQX60-E24VTX2 | 00310425259 | | |
| 20 x 6 x 8 | 3NQX60-C28VTX2 | 00310438660 | | |
| 24 x 4 x 8 | | | IPA60-C29VTX | 03103925091 |
| | | | IPA60-D29VTX | 00310406547 |
| | | | IPA60-F26VTX | 00310303135 |
| | | | IPA60-E26VTX | 00310404613 |
| 25 x 2-1/2 x 8 | | | IPA60-E26VTX | 00310404613 |
| 25 x 3-1/2 x 8 | | | IPA60-E26VTX | 00310404678 |



QUANTUM BLANK STOCK FASTTRACK SERVICE



The newest-generation ceramic Norton Quantum vitrified wheels deliver the highest productivity of any wheel in the marketplace. They will grind with superior results in many applications. They can be altered to your specific needs within two weeks of receipt of your order.

- Applications: Centerless plunge and throughfeed grinding
Surface grinding
Cylindrical grinding
- Size Range: Blank Stock: 18" – 30" diameter
Finished Wheel: 16" – 30" diameter
- Grit Range: 60, 80, and 120
- Grade Range: I – M
- Abrasive Grain: Ceramic Alumina

NORTON QUANTUM CERAMIC ALUMINA

BEST CHOICE FOR VERSATILITY, MAXIMUM PERFORMANCE, AND COST SAVINGS



FEATURES

- Revolutionary, sharp, durable, engineered ceramic alumina grain shape and chemistry; highly-porous

BENEFITS

- Versatile; for all low-, medium- and high-force applications ranging from cast iron, to stainless steel and hard-to-grind Inconel and titanium
- Perform well on old and new machines
- 30%+ higher metal removal rate
- 15%+ lower threshold power
- Highest productivity; lowest total grinding cost

TIER: **BEST**

TRADENAME: **NORTON QUANTUM CERAMIC UNFINISHED BLANK STOCK**

| SIZE (D x T x H) | SPECIFICATION | UNFINISHED BLANK PART # |
|-------------------------|---------------|-------------------------|
| Type 01 Straight | | |
| 18 x 1 x 5 | 3NQ80-K10VS | 00310405993 |
| 18 x 2 x 5 | 3NQ80-K10VS | 00310405994 |
| 18 x 3 x 5 | 3NQ80-K10VS | 00310405995 |
| 20 x 1 x 8 | 3NQ80-K10VS | 00310405985 |
| 20 x 1 x 12 | 3NQ80-K10VS | 00310406017 |
| | 3NQ120-MVS | 00310405924 |
| 20 x 2 x 8 | 3NQ80-K10VS | 00310406036 |
| 20 x 3 x 8 | 3NQ80-K10VS | 00310406037 |
| 20 x 6 x 12 | 3NQ80-L10VS | 00310406018 |
| 20 x 8 x 12 | 3NQ80-L10VS | 00310406026 |
| 24 x 1 x 8 | 3NQ80-K10VS | 00310406034 |
| 24 x 1 x 12 | 3NQ80-K10VS | 00310406038 |
| 24 x 2 x 8 | 3NQ80-K10VS | 00310406035 |
| 24 x 2 x 12 | 3NQ80-K10VS | 00310406029 |
| 24 x 3 x 8 | 3NQ60-J10VS | 00310425121 |
| | 3NQ80-K10VS | 00310406046 |
| 24 x 3 x 12 | 3NQ60-J10VS | 00310425120 |
| | 3NQ80-K10VS | 00310406030 |
| 24 x 6 x 12 | 3NQ80-L10VS | 00310406031 |
| 24 x 8 x 12 | 3NQ80-L10VS | 00310406032 |
| 24 x 10 x 12 | 3NQ80-L10VS | 00310406033 |
| 30 x 2 x 12 | 3NQ80-I10VS | 00310427211 |
| | 3NQ80-J10VS | 00310406047 |
| | 3NQ80-K10VS | 00310406048 |
| 30 x 3 x 12 | 3NQ60-I10VS | 00310427212 |

There are many finished sizes and specifications available. Contact your local Norton distributor or salesperson with your size and specification requirements for quantity guidelines, quotations and helpful ordering instructions.

Please note "2-week delivery request" if needed, on your order.

55A BLANK STOCK FASTTRACK SERVICE



55A-VH blank stock wheels are competitively-priced, monocrystalline grain wheels specifically engineered for numerous carbon steel applications requiring moderate to heavy stock removal rates. They can be altered to your specific needs within two weeks of receipt of your order.

- Applications: Centerless plunge and throughfeed grinding
 Surface grinding
 Cylindrical grinding
- Size Range: Blank Stock: 18" – 42" diameter
 Finished Wheel: 16" – 42" diameter
- Grit Range: 60 – 120
 Grade Range: I – M
 Abrasive Grain: Aluminum Oxide

55A-VH ALUMINUM OXIDE

BETTER CHOICE FOR PRECISION GRINDING OF CARBON STEEL AND CAST IRON

FEATURES & BENEFITS

- Advanced combination of monocrystalline 55A aluminum oxide abrasive and superior VH bond
- Superior performance on centerless plunge and throughfeed, surface, and cylindrical grinders with up to 2X the life of competitive aluminum oxide wheels
- Ideal for simple- to complex-shaped components
- Increased productivity; more quality parts at lowest cost per part



TIER: **BETTER**

OTHER: **55A-VH ALUMINUM OXIDE UNFINISHED BLANK STOCK**

| SIZE (D x T x H) | GRIT | GRADE | UNFINISHED BLANK PART # |
|-------------------------|------|-------|-------------------------|
| Type 01 Straight | | | |
| 18 x 1 x 5 | 80 | K | 00310404552 |
| 18 x 2 x 5 | 80 | K | 00310404554 |
| 18 x 3 x 5 | 80 | K | 00310404555 |
| 20 x 1 x 8 | 60 | K | 00310020910 |
| 20 x 1 x 12 | 100 | K | 00310302177 |
| | 120 | K | 00310302220 |
| | 120 | M | 00310064512 |
| 20 x 1-1/2 x 12 | 80 | K | 00310302221 |
| | 100 | K | 00310302222 |
| 20 x 2 x 8 | 80 | K | 00310020918 |
| | 100 | K | 00310020920 |
| | 120 | M | 00310064252 |
| 20 x 3 x 8 | 80 | K | 00310425116 |
| 20 x 3 x 12 | 80 | K | 00310425117 |
| 20 x 6 x 12 | 80 | K | 00310020965 |
| 24 x 1 x 8 | 80 | K | 00310021884 |
| 24 x 1 x 12 | 60 | K | 00310020921 |
| | 80 | M | 00310020923 |
| 24 x 1-1/4 x 12 | 60 | M | 00310302224 |
| 24 x 1-1/2 x 8 | 80 | K | 00310302223 |
| 24 x 1-1/2 x 12 | 80 | K | 00310302225 |
| | 80 | M | 00310302226 |
| 24 x 2 x 8 | 80 | K | 00310021885 |
| 24 x 2 x 12 | 60 | K | 00310020924 |
| | 80 | I | 00310020926 |
| 24 x 3 x 8 | 80 | K | 00310021757 |
| 24 x 5 x 12 | 60 | L | 00310302227 |
| 24 x 6 x 12 | 60 | K | 00310020968 |
| 24 x 8 x 12 | 100 | K | 00310302228 |
| 24 x 10 x 12 | 80 | K | 00310020972 |
| 30 x 2 x 12 | 60 | L | 00310020929 |
| 30 x 3 x 12 | 60 | L | 00310020930 |
| 42 x 1-1/2 x 12 | 60 | M | 00310020931 |

There are many finished sizes and specifications available. Contact your local Norton distributor or salesperson with your size and specification requirements for quantity guidelines, quotations and helpful ordering instructions.

Please note "2-week delivery request" if needed, on your order.

GEAR WHEEL BLANK STOCK FASTTRACK SERVICE



Norton quality non-stock gear wheels are designed to produce high metal removal rates with less power draw. The blank stock wheels below comprise our FastTrack alteration service. All Norton FastTrack wheels are altered on state-of-the-art CNC controlled machines and are finished using Saint-Gobain dressing wheels. The Saint-Gobain dressing wheels and machines give these wheels excellent accuracy and repeatability.

Vitrium 3 VS3G bond wheels

Our revolutionary, exclusive bond platform provides unprecedented wheel performance and finished part accuracy across many precision grinding applications – while lowering process time and cost in three ways:

1. Coolest cutting with maximum chip clearance
2. Optimized precision profile delivers ultra radius accuracy
3. Able to run at higher operating speeds (maximizing your older and newer machines' performances)

Size Range: Blank Stock: 120mm – 450mm diameter
 Finished Wheel: 115mm – 450mm diameter
 Grit Range: 60 – 120
 Abrasive Grain: Ceramic Alumina and Aluminum Oxide

KEY PROGRAM FEATURES

- Standard lead time:
 - » 2 weeks
- Alteration Parameters:
 - » Diameter may be altered to 2" smaller than the original blank stock diameter
 - » Thickness may be altered to 1/2 the original blank stock thickness

NORTON QUANTUM X CERAMIC ALUMINA AND VORTEX ALUMINUM OXIDE BLEND

BEST CHOICE FOR VERSATILITY, HIGHEST PRODUCTIVITY, AND LOWEST TOTAL COST

EXPANDED OFFERING

FEATURES & BENEFITS

- Best MRR (metal removal rate) versus all other ceramic gear wheels; reduce grinding cycle times up to 50%
- Best choice for grinding from solid
- Leading Norton technologies produce the most free-cutting gear wheels: patented pore-induced construction, Norton Quantum X ceramic alumina and Vortex aluminum oxide abrasive blend, and strong Norton bond
- Versatile; for all low-, medium- and high-force applications on hard-to-grind Inconel, titanium, and aerospace alloys
- Excel on large area of contact applications with exceptional form and corner-holding; 20+% less power draw

NORTON TARGA TG, 3GT, STG CERAMIC ALUMINA

EXCELLENT CHOICE FOR THE MOST DEMANDING OPERATIONS

EXPANDED OFFERING

FEATURES & BENEFITS

- The unique elongated shape of our second generation Norton seeded gel ceramic alumina abrasive offers exceptional durability for the most demanding applications and materials
- Consider Targa (TG) when your requirements for SG have been exceeded
- VS3G Vitrium3 bond is the newest, strongest bond in the Norton portfolio: patented pore-induced construction; for all low-, medium- and high-force applications; excels on hard-to-grind aerospace alloys and large areas of contact; exceptional form and corner-holding

NORTON SG CERAMIC ALUMINA

EXCELLENT CHOICE FOR HIGH PRODUCTIVITY, LOW TOTAL PER-PART GRINDING COST

EXPANDED OFFERING

FEATURES & BENEFITS

- High-performance seeded gel ceramic aluminum oxide abrasive provides fast stock removal, cool, superior cutting, and 3X - 5X more life than aluminum oxide wheels, and double rough stock removal rate versus conventional abrasives
- Self-sharpening abrasive for less burn, less dressing; very consistent performing wheel
- Versatile, high-performance VS and VSP bonds provide exceptional form holding
- 5SG – durable Norton SG and aluminum oxide blend – blue, for high stock removal rates, excellent productivity, long wheel life, low overall grinding cost

NORTON 86A ALUMINUM OXIDE

BETTER CHOICE FOR VERSATILE, CONSISTENT PERFORMANCE

EXPANDED OFFERING

FEATURES & BENEFITS

- Sharper aluminum oxide abrasive for cooler cutting
- VS3G Vitrium3 bond is the newest, strongest bond in the Norton portfolio: patented pore-induced construction; for all low-, medium- and high-force applications; excels on hard-to-grind aerospace alloys and large areas of contact; exceptional form and corner-holding

GEAR WHEEL BLANK STOCK FASTTRACK SERVICE

| TIER: BEST <small>EXPANDED OFFERING</small> | | TIER: BEST <small>EXPANDED OFFERING</small> | | TIER: BETTER <small>EXPANDED OFFERING</small> | | TIER: BETTER <small>EXPANDED OFFERING</small> | |
|--|-----------------|---|------------------|---|---------------|--|------------------------------|
| TRADENAME: NORTON QUANTUM X: 5NQX NORTON QUANTUM: NQ, 3NQ, 5NQ VS3G = VITRIUM3 BOND | | TRADENAME: NORTON SEEDED GEL: 3TGP, SG, 5SG VS3G = VITRIUM3 BOND | | TRADENAME: BRGL VS3G = VITRIUM 3 BOND | | TRADENAME: 86A, 25A, X25A VS3G = VITRIUM 3 BOND | |
| ABRASIVE: Ceramic Alumina Unfinished Blank Stock | | ABRASIVE: Ceramic Alumina Unfinished Blank Stock | | ABRASIVE: BRGL – Ceramic Alumina Unfinished Blank Stock | | ABRASIVE: 86A, 25A, X25A – Aluminum Oxide Unfinished Blank Stock | |
| SIZE (D x T x H) | SPECIFICATION | BLANK PART # | SPECIFICATION | BLANK PART # | SPECIFICATION | BLANK PART # | SPECIFICATION |
| Type O1 Straight | | | | | | | |
| Worm Profile Wheels | | | | | | | |
| 220mm x 180mm x 76.2mm | | | | | BRGL80-GVPHS | 00310048274 | |
| 275mm x 125mm x 160mm | | | | | | | 86A90-J10VS3G 00310477165 |
| 275mm x 160mm x 160mm | 5NQM90-J10VS3G | 00310491163 | | | | | 86A100/5-110VTX2 00310458402 |
| 280mm x 160mm x 115mm | NQ80-H8VS3G | 00310448492 | SG80-HVX | 00310419856 | | | 86A90-J10VS3G 00310486397 |
| | | | | | | | 25A100-110VS3G 00310460909 |
| 300mm x 125mm x 160mm | 3NQ90-J10VH | 00310394338 | | | | | X25A70-G16VPAP 00310410369 |
| 300mm x 160mm x 160mm | | | | | | | 25A80-H8VS3G 00310448494 |
| | | | | | | | 86A80-H10VS3G 00310470137 |
| 320 x 125 x 115 | NQ80-H8VS3G | 00310472371 | | | | | 86A100/5-J10VTX2 00310458405 |
| 350mm x 104mm x 160mm | | | | | BRGL80-GVPHS | 00310066976 | 86A100/5-110VTX2 00310458404 |
| | | | | | BRGL100-GVPLS | 00310066991 | 86A90-J10VS3G 00310486981 |
| 350mm x 125mm x 160mm | 3NQ90-H10VS3G | 00310448495 | | | | | 86A120-J10VS3G 00310486983 |
| Single Rib Wheels | | | | | | | |
| 120mm x 30mm x 20mm | 5NQX100-G20VTX2 | 00310490920 | 3TGP80/3-G12VS3G | 00310448502 | | | |
| 300mm x 30mm x 50.8mm | 5NQX60-G20VTX2 | 00310490863 | 3TGP80/3-G12VS3G | 00310448501 | | | |
| 300mm x 60mm x 50.8mm | 5NQX60-G20VTX2 | 00310490864 | 3TGP80/3-G12VS3G | 00310448500 | | | |
| 400mm x 50mm x 127mm | | | 3TGP60-G20VSPF | 00310404596 | | | |
| 400mm x 60mm x 127mm | 5NQX60-G20VTX2 | 00310490865 | | | | | |
| 400mm x 75mm x 127mm | | | 3TGP60-G20VSPF | 00310404597 | | | |
| 400mm x 100mm x 127mm | 5NQX60-G20VTX2 | 00310490916 | 3TGP60-G20VSPF | 00310404598 | | | |
| 400mm x 150mm x 127mm | 5NQX60-G20VTX2 | 00310490917 | | | | | |
| 450mm x 50mm x 127mm | | | 3TGP80/3-G12VS3G | 00310448499 | | | |
| 450mm x 60mm x 127mm | 5NQX60-G20VTX2 | 00310490918 | | | | | |
| 450mm x 100mm x 127mm | 5NQX60-G20VTX2 | 00310490921 | 3TGP80/3-G12VS3G | 00310448498 | | | |
| 450mm x 150mm x 127mm | 5NQX60-G20VTX2 | 00310490919 | 3TGP80/3-G12VS3G | 00310448497 | | | |

| TIER: BEST <small>NEW</small> | | TRADENAME: NORTON SEEDED GEL: TG, 5TG, 5SG | |
|--|---------|---|--------------|
| ABRASIVE: Ceramic Alumina Unfinished Blank Stock | | | |
| SIZE (D x T x RIM) | PLATE # | SPECIFICATION | BLANK PART # |
| Type O2 Plate-Mounted Cylinder | | | |
| 3.000 x 3.000 x .600 | A311220 | 5SG80-JVS | 310485211 |
| 3.350 x 3.000 x .650 | A311220 | 5SG80-JVS | 310485212 |
| 3.750 x 3.000 x .650 | A311220 | 5SG80-JVS | 310485213 |
| 4.100 x 3.000 x .700 | A311220 | 5SG80-JVS | 310485214 |
| 5.200 x 3.500 x .800 | A311250 | 5SG80-JVS | 310485215 |
| 5.700 x 3.500 x .800 | A311250 | 5SG80-JVS | 310485226 |
| 7.000 x 3.500 x 1.050 | A311251 | 5SG80-JVS | 310485227 |
| 8.400 x 3.500 x 1.050 | A311384 | 5SG80-JVS | 310485228 |
| | | TG280-H12V-X575 | 310485229 |
| 8.346 x 3.500 x 1.043 | A311384 | 5TG80-3-J8VH | 310480245 |

Gear blank stock alteration orders must include complete blueprint information.

Please ask your Norton representative for appropriate blueprint worksheet to fill in:

- Worm wheel blueprint worksheet: ME161508
- Single rib wheel blueprint worksheet: ME161178



How to Read an Abrasive Product Specification

Conventional Grinding Wheels

32A 46 I 8 V BE

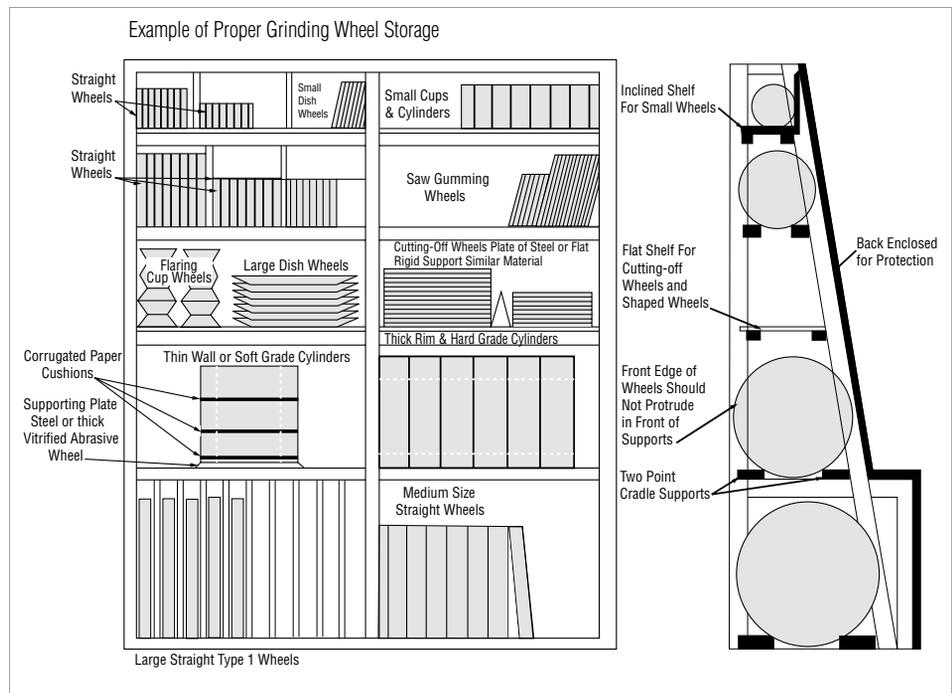
| Abrasive | | | Grit Size | | | Grade | | | Structure | Bond Type | Norton Symbol |
|----------------|---------------------|-----------------|-----------|--------|------|-------|--------|------|---|---------------|---|
| Aluminum Oxide | Ceramic | Silicon Carbide | Coarse | Medium | Fine | Soft | Medium | Hard | Relative grain spacing | Resin = B | Designates a variation or modification to bond. |
| 23A | Aluminum Oxide | 4N | 12 | 30 | 80 | D | I | Q | Dense | Shellac = E | |
| 25A | 3SGP | 37C | 14 | 36 | 90 | E | J | R | ↑ 2 4 5 6 8 12 16 19 25 28 ↓ Open | Plastic = P | |
| 32A | 3SGR | 39C | 16 | 46 | 100 | F | K | S | | Rubber = R | |
| 32AC (blend) | 5SG | 42F | 20 | 54 | 120 | G | L | T | | Vitrified = V | |
| 38A | BRG | 4Z | 24 | 60 | 150 | H | M | u | | | |
| 48A | SG | 4ZF | | 70 | 220 | | N | V | | | |
| 53A | SXG | AZ (blend) | | | | | O | Y | | | |
| 55A | NorZon Plus (blend) | Charger (blend) | | | | | P | Z | | | |
| 57A | NQ | NZ | | | | | | | | | |
| U57A | Quantum | NZC (blend) | | | | | | | | | |
| 64A | Targa | NZIII | | | | | | | | | |
| 86A | | NZIV | | | | | | | | | |
| 90A | | NorZon | | | | | | | | | |
| Alundum | | ZI | | | | | | | | | |
| FabCut | | | | | | | | | | | |
| India | | | | | | | | | | | |
| Gemini | | | | | | | | | | | |
| Metal | | | | | | | | | | | |
| Vortex | | | | | | | | | | | |

Shelf Life and Proper Storage of Grinding Wheels

It has always been Saint-Gobain Abrasives recommendation that resinoid bonded grinding wheels be used within 2 years from the date of manufacture. This recommendation assumes that resinoid bonded grinding wheels have been stored under ideal storage conditions. It might be true that under ideal storage conditions resinoid bonded grinding wheels can survive without any degradation in strength for well over two years. However, it is always wise to suspect any wheels over two years old and have them reinspected or re-speed tested to determine if there has been any degradation in strength. If the wheels are stored under less than ideal conditions, they might have a much shorter shelf life depending upon the severity of storage conditions. These same comments also apply to rubber and shellac bonded grinding wheels.

As for vitrified grinding wheels, the shelf life is less influenced by humidity and adverse storage conditions as compared to resinoid, rubber or shellac, but even vitrified grinding wheels do not have an infinite shelf life. The best procedure and the best rule of thumb is to have any wheel that is two years old or older re-speed tested and reinspected to ensure it is fit for use. The procedure for having this done and the charges will be explained by our Customer Service Department, but the cost of shipping as well as the cost of re-inspection is the customer's responsibility. Also, any wheels rejected or otherwise lost in the re-inspection process will also be the responsibility of the customer.

Keep in mind, however, that this procedure is good to verify the reliability of a product but must not be performed until you are ready to consume the wheel. If wheels are sent back after the two year time frame for re-inspection and re-testing and then put back on the shelf, there is no telling how long they will be fit for use after that last inspection. Therefore, these wheels must be consumed as soon as is practical.



our dressing tools **MAKE THE PERFECT POINT**

The Norton full line of expertly-crafted stationary and rotary dressing tools - whether stock or custom-engineered - delivers your every application need. And, our expert resetting and relapping services renew used tools to reduce your "cost per dress."



Single Has Advantages

Our extensive single point tool offering leads the industry for resetaable and non-resetaable products for all abrasive types and the technology-leading "Indexable" tool design.



Exceeding Conventional

Since Norton multi-point tools never need turning or resetting, they pay for themselves time and time again with higher productivity from your grinding wheels and dressing operations.



When Shape Matters

For intricate forms, tight tolerances, and the most difficult applications, Norton customized tools can be made-to-order to meet a special shape and quality requirement.



Our Norton offering is the industry's most comprehensive line of stock and made-to-order products to true (restore the wheel's profile) and dress (opening – to remove stock – or closing to finish) the face of the wheel. In addition to these catalog stock stationary tools, Norton manufactures a full line of custom stationary tools, rotary diamond dressers and truing/dressing devices to meet all your specific application needs. Contact us at 1-800-438-4773.

- Applications: Truing and dressing conventional and superabrasive wheels, straight, step, radius and form dressing
- Tool Types: Stationary: Single Point, Toolroom, Multi-Point, Blade, Form, and Cluster Tools, and Truing Devices
- Rotary: Reverse Plated and Infiltrated Form Plunge Diamond Rolls, Diamond CNC Traversing Discs, and Dressing Spindles

DETERMINING THE BEST VALUE

- Remember that diamonds are a rare commodity—the larger the stone and the better the quality, the higher the initial cost. The key to successful diamond tool productivity and use is based on the “cost per dress.” Normally, higher quality diamonds and a proactive resetting program will result in the lowest “cost per dress.”
- In those situations where a resetting program is not feasible or low initial cost is the primary purchasing consideration, Norton offers a complete line of non-resettable tools.

RESETTING YOUR USED DIAMOND TOOLS

Resetting – Minimizing Your Cost

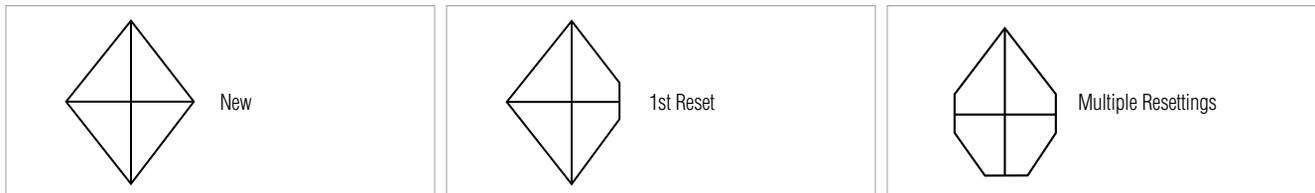
Buying a higher quality diamond is your best value, especially if you participate in a proactive resetting program. Although initial cost may be higher, the payback comes through several factors:

- Diamond durability, providing longer tool life
- Tighter form tolerances
- Consistent finish rates
- Resetting the diamond lowers the overall tooling cost

Used properly, the overall cost of a higher quality, resettable diamond will compare favorably with that of an inexpensive, non-resettable diamond. Initially, the best diamond point is selected for use. When returned, the next best diamond point is selected for resetting, and so on.

To ensure you get the best value for your diamond:

- Rotate the diamond tool ¼ turn periodically to maintain a sharp point
- Use proper flow of coolant to protect the diamond from heat which can create fracturing of the diamond
- Excessive wear on the diamond point may impact the ability to reset the diamond. The widest point of the diamond is referred to as the girth. The diamond girth is buried in a powder metal matrix. Using a diamond into the girth zone might impact the ability to reset other diamond points



TECH TIP

Selecting the Correct Diamond Tool

To determine the type of Norton dressing tool to use, it is best to think about the desired shape of the wheel face. Finished wheel face shapes are generally categorized into six types, as illustrated below.

Typical Wheel Forms Dressed by Stationary Diamond Tools

Look for the applicable wheel forms beside each product type to help you choose the correct product for your application



Straight



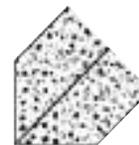
Tapered



Convex



Concave



Angled



Multi-Angled



Single Point Tools

Our Norton line of single point tools is used in straight and simple form dressing applications. It includes: resettable and non-resettable products, tools for all abrasive types (conventional and advanced ceramic grains) and the technology-leading Norton "Indexable" tool design.

Wheel Forms Dressed by These Tools



STRAIGHT



TAPERED



CONVEX

SPEC CHECK

Selection Guide

Stock Tools for Ceramic Abrasive Wheels

| | |
|--------------|---|
| SG/Ceramic | Engineered for use on ceramic (SG, NQ, Targa, etc.) wheels but may also provide significant benefits when used on conventional abrasive products. These tools are furnished with top quality specially selected diamonds. |
| BCSG/Ceramic | Economical alternative to an "SG" tool. Best choice when a disposable tool is preferred. |

Stock Tools for Conventional Abrasive Wheels

| | |
|----|--|
| NS | Engineered for use on conventional abrasives. These high quality, value-priced tools can be used for a variety of dressing applications. |
| BC | Economical alternative to an "NS" tool. Best choice when a disposable tool is preferred. |

Selecting the Correct Single Point Tool:

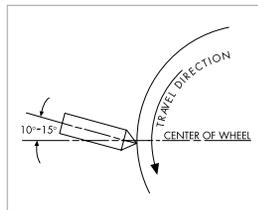
- Identify the wheel abrasive type: aluminum oxide, silicon carbide, or ceramic
- Determine the wheel diameter – to select the optimum carat weight
- Determine the tool holder size – to select appropriate shank diameter

Examples of Single Point Tool Selection

| | |
|--------------------------|--|
| Conventional Wheel Spec: | 32A46-IVBE 7" x 1/2" x 1-1/4" |
| | Machine has a 7/16" tool holder |
| Tool Selections: | Resettable: NS2M7 or NSUD2 (Indexable) |
| | Non-Resettable: BC2M7 or BCUD2 (Indexable) |
| Ceramic Wheel Spec: | 5SG60-JVS or 5NQ60-IVS 10" x 1" x 3" |
| | Machine has a 3/8" tool holder |
| Tool Selections: | Resettable: SG3M6 |
| | Non-Resettable: BCSG3M6 |

TECH TIP

- Rigidly mount single point tools at a 10° - 15° angle to the wheel centerline with a line drawn through the center of the wheel, pointing in the direction of wheel travel.
- Point of contact should be slightly below centerline of wheel as shown.
- Use coolant whenever possible.
- Normal infeed is .001" per pass.
- Lead selections range from .002" – .010" per wheel revolution.
- Rotate the tool 1/4 turn periodically to maintain a sharp point.



To optimize applications using ceramic abrasives and/or tools, normal dressing parameters must change. Reduce infeed by 25%. Significant reductions in the amount of infeed and frequency of dress will result in substantially lower cost per part ground.

Single Point Dress Traverse Rate

Select a Lead Value based on desired Surface Finish and run the formula below.

| Finish | Lead Value (Per Wheel Revolutions) |
|------------------------------------|------------------------------------|
| For Coarse Finish (approx. 64 RMS) | .008" to .010" |
| For Medium Finish (approx. 32 RMS) | .005" to .009" |
| For Fine Finish (approx. 16 RMS) | .002" to .004" |

Lead Value x Wheel Speed (RPM) = Traverse Rate in Inches/Minute

- Slower traverse rates result in a closed wheel face and lower surface finish readings on the workpiece.
- Faster traverse rates result in an open wheel face that produces greater stock removal and a rougher workpiece finish.



It is the user's responsibility to refer to and comply with ANSI B7.1

Single Point Tools *continued*

Single Point Tools for Truing/Dressing Ceramic Abrasives

SG/CERAMIC SINGLE POINT TOOLS



FEATURES

- Specially selected broad-shaped, diamond
- Each diamond is hand selected for stone shape, quality and structural integrity
- Multi-purpose

BENEFITS

- Withstands the increased grinding pressures of ceramic abrasives
- Consistent tool performance
- Accommodate most straight dressing and simple form dressing applications
- Stand up to ceramic (Norton SG, NQ, TG, etc.) abrasive sharpness; can also be used to dress conventional abrasives

RESETTABLE SG/CERAMIC SINGLE POINT TOOLS

FEATURES & BENEFITS

- Norton high quality diamond and a proactive resetting program will result in the lowest dressing cost per part

NON-RESETTABLE BCSG/CERAMIC SINGLE POINT TOOLS

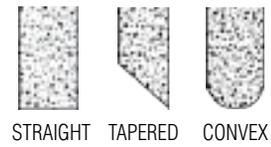
FEATURES & BENEFITS

- The best selection when a resetting program is not feasible or low initial cost is the primary purchasing consideration

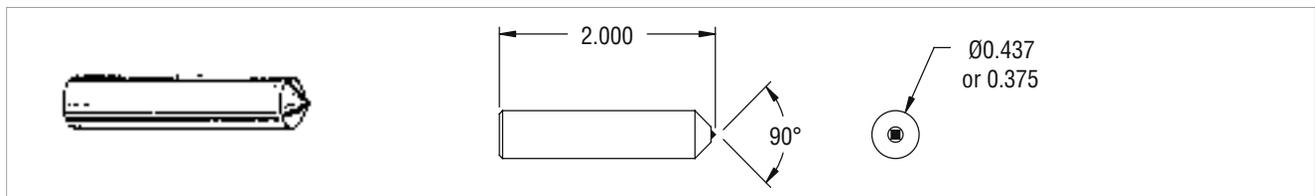
| WHEEL DIAMETER | TOOL CARAT WEIGHT | TOOL DIAMETER | TOOL LENGTH | TIER: BEST | | GOOD | |
|---|-------------------|---------------|-------------|-------------------|----------------------------------|-------------|-----------------------|
| | | | | PRODUCT # | 3 SETTABLE PTS (2 RESETS) PART # | PRODUCT # | NON-RESETTABLE PART # |
| Stock Single Point Tools for Truing/Dressing Ceramic Abrasives | | | | | | | |
| Up to 7" | 1/4 (.25) | 3/8" | 2" | SG2M6 | 66260195365 | BCSG2M6 | 66260157007 |
| | | 7/16" | 2" | SG2M7 | 66260195366 | BCSG2M7 | 66260156905 |
| 8" to 10" | 1/3 (.33) | 3/8" | 2" | SG3M6 | 66260195368 | BCSG3M6 | 66260157008 |
| | | 7/16" | 2" | SG3M7 | 66260195368 | BCSG3M7 | 66260156906 |
| 11" to 14" | 1/2 (.50) | 3/8" | 2" | SG5M6 | 66260195369 | BCSG5M6 | 66260157009 |
| | | 7/16" | 2" | SG5M7 | 66260195370 | CSG5M7 | 66260156907 |
| 15" to 20" | 3/4 (.75) | 7/16" | 2" | SG7M7 | 66260195372 | BCSG7M | 66260156908 |
| 21"+ | 1 (1.00) | 7/16" | 2" | | | BCSG10M7 | 66260157010 |

Standard Package = 1 tool

Wheel Forms Dressed by These Tools



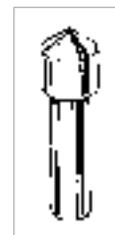
STRAIGHT TAPERED CONVEX



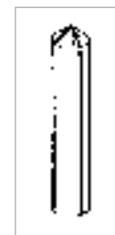
TECH TIP

Stock Single Point Tool Marking System

| Diamond Quality | Diamond Size | Shank Design | Shank Diameter |
|-----------------|---------------------|--------------|----------------|
| SG/Ceramic | 1 = 1/5 (.20) carat | M | 6 = 3/8" |
| BCSG/Ceramic | 2 = 1/4 (.25) carat | J | 7 = 7/16" |
| NS | 3 = 1/3 (.33) carat | | |
| BC | 5 = 1/2 (.50) carat | | |
| | 7 = 3/4 (.75) carat | | |
| | 10 = 1 carat | | |



SHANK J



SHANK M

Example: **NS 2 M 6**

Single Point Tools *continued*

Single Point Tools for Truing/Dressing Conventional Abrasives

CONVENTIONAL SINGLE POINT TOOLS

FEATURES

- Consistent diamond structure and shape
- Well defined, sharp diamond point
- Steeper 60 degree included angle head design

BENEFITS

- Repeatable dressing performance
- Durable; maximum cost effectiveness for dressing conventional abrasives
- Greater machine and part clearance produce forms with tighter tolerances



RESETTABLE NS (NORTON STANDARD) SINGLE POINT TOOLS

FEATURES & BENEFITS

- High quality diamonds, value priced
- Selection of the correct tool and a proactive resetting program will result in the lowest dressing cost per part

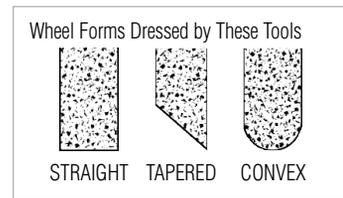
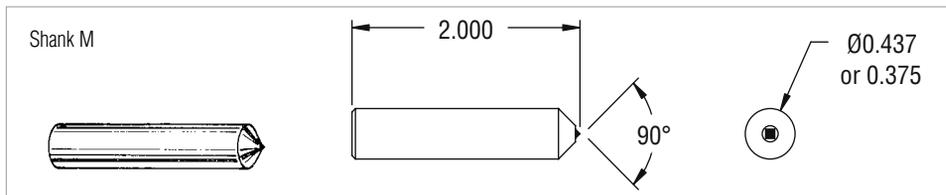
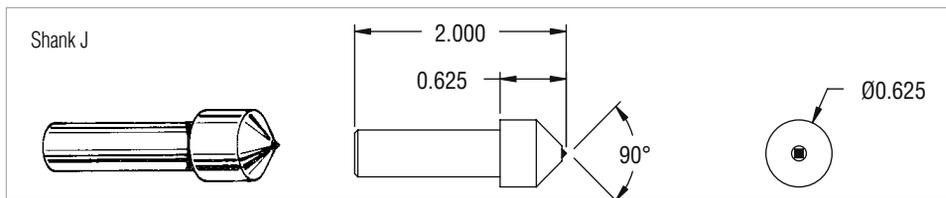
NON-RESETTABLE BC SINGLE POINT TOOLS

FEATURES & BENEFITS

- The best selection when a resetting program is not feasible or low initial cost is the primary purchasing consideration

| WHEEL DIAMETER | | TOOL CARAT WEIGHT | | TOOL DIAMETER | | PRODUCT # | | TIER: BETTER TRADENAME: NS (NORTON STANDARD) | | GOOD BC | |
|--|--|-------------------|--|---------------|--|-----------|--|---|--|-----------------------|--|
| | | | | | | | | 2 SETTABLE PTS (1 RESET) PART # | | PRODUCT # | |
| | | | | | | | | | | NON RESETTABLE PART # | |
| Stock Single Point Tools for Truing/Dressing Conventional Abrasives | | | | | | | | | | | |
| Internal Wheel | | 1/5 (.20) | | 3/8" | | | | | | BC1M6 | |
| | | | | 7/16" | | | | | | 66260195021 | |
| Up to 7" | | 1/4 (.25) | | 3/8" | | NS2M6 | | 66260195116 | | BC1M7 | |
| | | | | 7/16" | | NS2M7 | | 66260195117 | | 66260195022 | |
| 8" to 10" | | 1/3 (.33) | | 3/8" | | NS3M6 | | 66260195121 | | BC2M6 | |
| | | | | 7/16" | | NS3M7 | | 66260195122 | | 66260195000 | |
| 11" to 14" | | 1/2 (.50) | | 3/8" | | NS5M6 | | 66260195126 | | BC2M7 | |
| | | | | 7/16" | | NS5M7 | | 66260195127 | | 66260195001 | |
| 15" to 20" | | 3/4 (.75) | | 3/8" | | | | | | BC3M6 | |
| | | | | 7/16" | | NS7M7 | | 66260195132 | | 66260195002 | |
| | | | | 7/16" | | NS7J7* | | 66260195130 | | BC3M7 | |
| 21" + | | 1 (1.00) | | 3/8" | | NS10M6 | | 66260195136 | | 66260195003 | |
| | | | | 7/16" | | NS10M7 | | 66260195137 | | BC5M6 | |
| | | | | 7/16" | | NS10J7 * | | 66260195135 | | 66260195005 | |
| | | | | | | | | | | BC5M7 | |
| | | | | | | | | | | 66260195006 | |
| | | | | | | | | | | BC7M7 | |
| | | | | | | | | | | 66260195007 | |
| | | | | | | | | | | BC10M6 | |
| | | | | | | | | | | 66260195008 | |
| | | | | | | | | | | BC10M7 | |
| | | | | | | | | | | 66260195009 | |

* J-shank tools are available in 7/16" diameter with 5/8" head. Standard Package = one tool



Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on www.nortonabrasives.com or your Norton representative for more in-depth information on all Norton superabrasive stock and made-to-order products.

Single Point Tools *continued*

Indexable Single Point Tools

Indexable tools are specifically designed to alleviate any misalignment issues and are the tools of choice for CNC grinders. They feature a two-part construction with the head and shank as separate pieces. After the initial installation, operators simply turn the indexable head with a wrench, while the tool shank remains secure (and aligned) in the tool holder.

INDEXABLE SINGLE POINT TOOLS

FEATURES

- Easily turned without removing tool from the holder
- U-Dex-It and Mini-Dex tools have a 60° included angle head design

BENEFITS

- Easier for operators to turn than conventional tools – increasing frequency of beneficial tool turning
- Extended life; less downtime and increased productivity
- Provides additional form versatility through better machine and part clearance
- Excellent choice for regulating wheels



Indexable Single Point Tools for Truing/Dressing Ceramic Abrasives

NON-RESETTABLE BCSGUD/CERAMIC U-DEX-IT INDEXABLE SINGLE POINT TOOLS

FEATURES AND BENEFITS

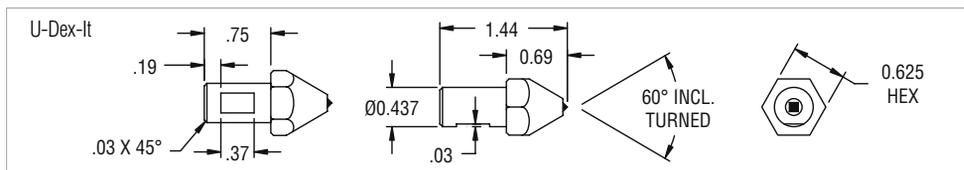
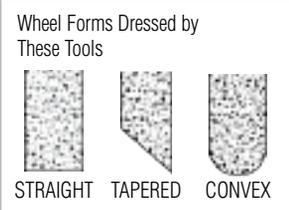
- These U-Dex-It tools contain specially selected diamonds to withstand increased ceramic (SG, Quantum NQ, Targa TG, etc.) grinding pressures
- Ideal for centerless grinders; using standard 5/8" wrench, the head can be turned through the hole in the side of the wheel guard without removing the guard
- The best selection when a resetting program is not feasible or low initial cost is the primary purchasing consideration

| WHEEL DIAMETER | TOOL CARAT WEIGHT | TOOL SIZE | PRODUCT # | NON-RESETTABLE PART # |
|----------------|-------------------|--------------------------------|-----------|-----------------------|
| 11" to 14" | 1/2 (.50) | 7/16" x 1-7/16" with 5/8" head | BCSGUD5 | 66260159894 |

TIER: **GOOD**

Stock Indexable Single Point Tools for Truing/Dressing Ceramic Abrasives

Standard Package = one tool



Indexable Single Point Tools for Truing/Dressing Conventional Abrasives

RESETTABLE NORTON STANDARD NSUD U-DEX-IT INDEXABLE SINGLE POINT TOOLS

FEATURES AND BENEFITS

- High quality diamonds, value priced
- Ideal for centerless grinders; using standard 5/8" wrench, the head can be turned through the hole in the side of the wheel guard without removing the guard
- Selection of the correct tool and a proactive resetting program will usually result in the lowest dressing cost per part

RESETTABLE NORTON STANDARD NSMD MINI-DEX INDEXABLE SINGLE POINT TOOLS

FEATURES AND BENEFITS

- High quality diamonds, value priced
- Use a standard 7/16" wrench to turn; designed for internal, bearing race, and twist drill flute machines
- Selection of the correct tool and a proactive resetting program will usually result in the lowest dressing cost per part

Single Point Tools *continued*

Indexable Single Point Tools for Truing/Dressing Conventional Abrasives *continued*

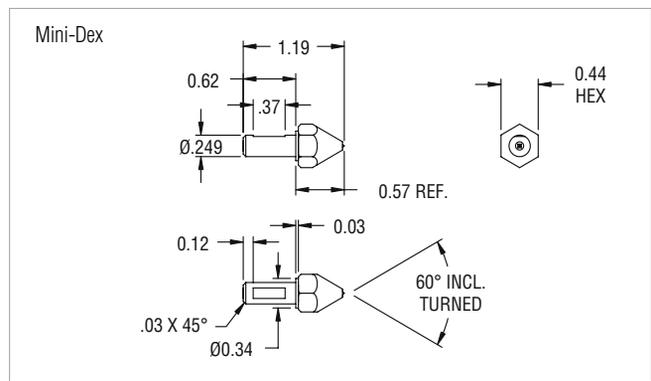
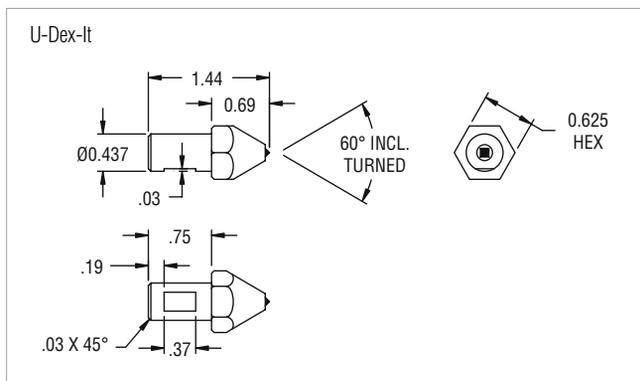
NON-RESETTABLE BCUD U-DEX-IT INDEXABLE SINGLE POINT TOOLS

FEATURES AND BENEFITS

- Ideal for centerless grinders; using standard 5/8" wrench, the head can be turned through the hole in the side of the wheel guard without removing the guard
- The best selection when a resetting program is not feasible or low initial cost is the primary purchasing consideration

| WHEEL DIAMETER | TOOL CARAT WEIGHT | TOOL SIZE | TIER: BETTER | | TIER: GOOD | |
|--|-------------------|---------------------------------|---------------------|---------------------------------|-------------------|-----------------------|
| | | | PRODUCT # | 2 SETTABLE PTS (1 RESET) PART # | PRODUCT # | NON-RESETTABLE PART # |
| Stock Indexable Single Point Tools for Truing/Dressing Conventional Abrasives | | | | | | |
| Up to 7" | 1/4 (.25) | 7/16" x 1-7/16" with 5/8" head | | | BCUD2 | 66260195023 |
| 8" to 10" | 1/3 (.33) | 7/16" x 1-3/16" with 7/16" head | NSMD2 | 66260195171 | | |
| 11" to 14" | 1/2 (.50) | 7/16" x 1-7/16" with 5/8" head | NSUD3 | 66260195162 | | |
| 15" to 20" | 3/4 (.75) | 7/16" x 1-7/16" with 5/8" head | NSUD5 | 66260195163 | BCUD5 | 66260195025 |
| | | | NSUD7 | 66260195164 | | |

Standard Package = one tool



Internal Grinding Tools

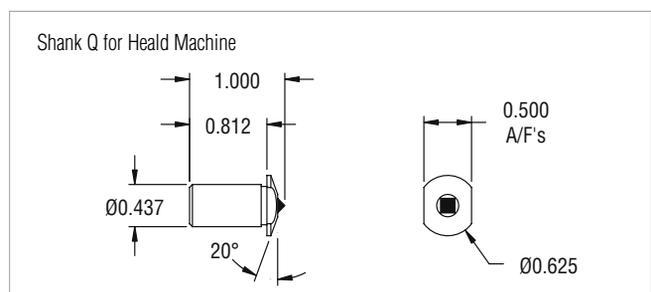
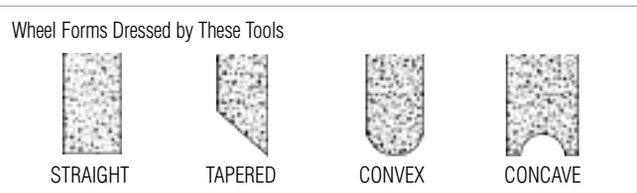
RESETTABLE INTERNAL GRINDING TOOLS

FEATURES AND BENEFITS

- Q style shank is used on a Heald internal grinder (resettable)

| MACHINE TYPE | CARAT WEIGHT | SHANK DIAMETER | TOOL LENGTH | TIER: BEST | |
|--------------------------------------|--------------|----------------|-------------|-------------------|---------------------------------|
| | | | | PRODUCT # | 2 SETTABLE PTS (1 RESET) PART # |
| Stock Internal Grinding Tools | | | | | |
| Heald | 1/5 (.20) | 7/16" | 1" | NI21Q7 | 66260195180 |

Standard Package = 1 Tool



Single Point Tools *continued*

Thread Grinding Tools

RESETTABLE SG/CERAMIC THREAD GRINDING TOOLS

FEATURES AND BENEFITS

- These wheels are used on J & L and Excello thread grinding machines to accurately dress the grinding wheels that form the desired thread configuration (non-resettable)



| MACHINE TYPE | SHANK DIAMETER | TOOL LENGTH | INCLUDED ANGLE | MAX. RADIUS ON POINT | TIER: BEST | |
|------------------------------------|----------------|-------------|----------------|----------------------|------------|-----------------------|
| | | | | | PRODUCT # | NON-RESETTABLE PART # |
| Stock Thread Grinding Tools | | | | | | |
| J & L | 1/4" | 1" | | | 38RL4* | 66260195100 |
| J & L | 1/4" | 1" | 80° | .010" | NT1L4 | 66260195187 |
| EXCELLO | 3/8" | 1-5/8" | 60° | .010" | NT106 | 66260195190 |

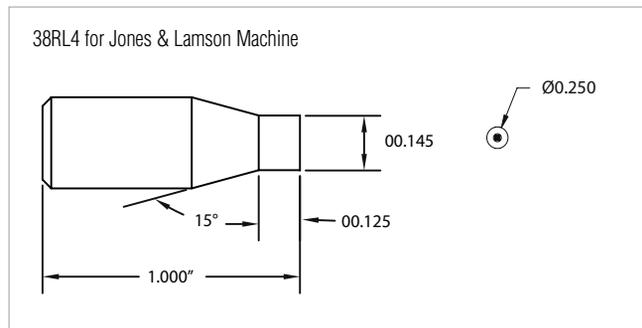
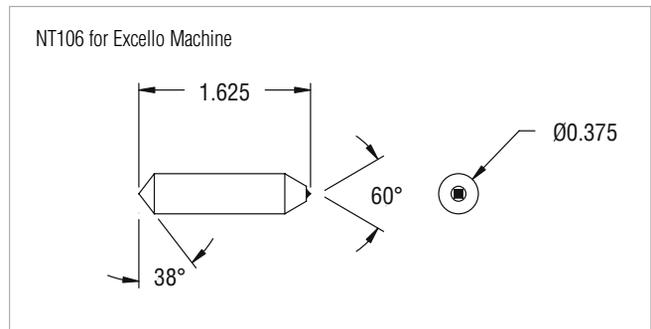
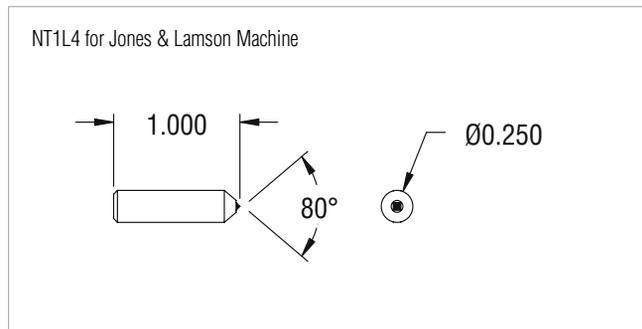
* 38RL4 is a multi-point (grit) 30 - 40 mesh tool
Standard Package = 1 Tool

Wheel Forms Dressed by These Tools



STRAIGHT

TAPERED



Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on www.nortonabrasives.com or your Norton representative for more in-depth information on all Norton superabrasive stock and made-to-order products.

Toolroom Tools

Norton Toolroom Dressing Tools are primarily used on surface grinders to form the grinding wheel to an exact concave or convex radius. Although some tools are designed for use on a specific machine, many radius tools can be used on any grinder having the correct set-up.

Used generally on 8" diameter and smaller vitrified toolroom wheels, our Norton offering includes phono-point, conventional radius, and full ball radius tools.

Wheel Forms Dressed by These Tools



STRAIGHT



CONCAVE



CONVEX



MULTI-ANGLED



Phono-Point Tools

NON-RESETTABLE PHONO-POINT TOOLS

FEATURES AND BENEFITS

For general toolroom concave and convex dressing on small diameter grinding wheels



| INCLUDED ANGLE | SHANK DIAMETER | TOOL LENGTH | TIER: BETTER | | GOOD | |
|--------------------------------|----------------|-------------|--------------|-----------------------|-----------|-----------------------|
| | | | PRODUCT # | NON-RESETTABLE PART # | PRODUCT # | NON-RESETTABLE PART # |
| Stock Phono-Point Tools | | | | | | |
| 60° | 1/8" | 1" | NP1M2 | 66260195225 | BCPP-60 | 66260195017 |
| | 3/16" | 1" | NP1M3 | 66260195226 | | |
| | 1/4" | 1" | NP1M4 | 66260195227 | | |
| 75° | 1/8" | 1" | NP2M2 | 66260195228 | BCPP-75 | 66260195018 |
| | 1/4" | 1" | NP2M4 | 66260195230 | | |
| 90° | 1/8" | 1" | NP3M2 | 66260195231 | BCPP-90 | 66260195019 |
| | 3/16" | 1" | NP3M3 | 66260195232 | | |
| | 1/4" | 1" | NP3M4 | 66260195233 | | |

Standard Package = one tool

Wheel Forms Dressed by These Tools



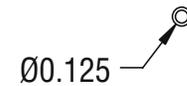
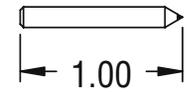
CONVEX



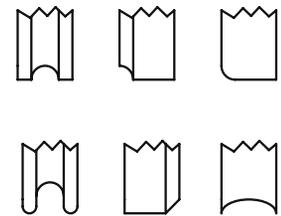
CONCAVE



CONVEX



TYPICAL WHEEL FORMS



SPEC CHECK

Phono-Point Tool Marking System

| Tool Type | Included Angle On Diamond | Shank Style | Shank Diameter |
|-----------|---------------------------|-------------|----------------|
| NP | 1 = 60° | M | 2 = 1/8" |
| BCPP | 2 = 75° | | 3 = 3/16" |
| | 3 = 90° | | 4 = 1/4" |

Example: **NP 1 M 3**

TECH TIP

How to Use Toolroom Tools

- We recommend dressing with coolant. However, if dressing totally dry, allow three to five seconds between passes for diamond to cool.
- Use extremely light cuts from .0002" to .001" maximum.
- Rotate tool if the application and set-up allow.
- Full Ball Radius Tools should be returned for relap after minimum wear.

Toolroom Tools *continued*

Radius Tools

Concave Radius Tools

This line offers a specially-shaped single point diamond, designed for forming concave radii on small diameter grinding wheels. Not resettable.

Convex Radius Tools

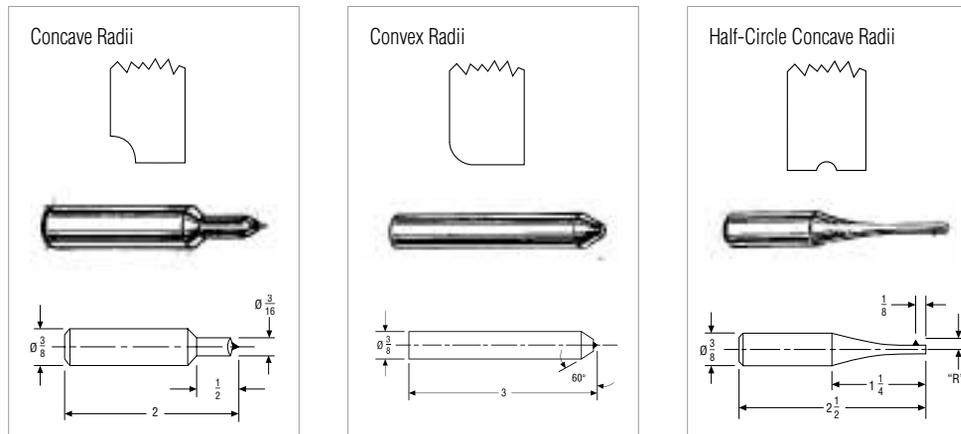
This line offers a specially-shaped single point diamond, designed for forming convex radii on small diameter grinding wheels. Not resettable.

Half-Circle Concave Radius Tools (Available as Non-stock Only)

This line offers a specially-shaped diamond set in the side of the shank for forming half-circle radii on small diameter grinding wheels. The tool is rotated to form the radius. Commonly called a "rat tail dresser." Not resettable.

| RADIUS SIZE TO BE DRESSED | SHANK DIAMETER | TOOL LENGTH | TIER: BEST | | GOOD | |
|-----------------------------------|----------------|-------------|------------|-----------------------|-----------|-----------------------|
| | | | PRODUCT # | NON-RESETTABLE PART # | PRODUCT # | NON-RESETTABLE PART # |
| Stock Concave Radius Tools | | | | | | |
| .010" to .015" | 3/8" | 2" | NR1P6 | 66260195210 | | |
| .016" to .020" | 3/8" | 2" | NR2P6 | 66260195211 | | |
| .021" to .032" | 3/8" | 2" | NR3P6 | 66260195212 | | |
| .033" to .062" | 3/8" | 2" | NR4P6 | 66260195213 | BCRD | 66260195016 |
| .063" to .125" | 3/8" | 2" | NR5P6 | 66260195214 | BCRD | 66260195016 |
| .126" to .250" | 3/8" | 2" | NR6P6 | 66260195215 | BCRD | 66260195016 |
| Stock Convex Radius Tools | | | | | | |
| .020" to .125" | 3/8" | 2" | NR2M6 | 66260195216 | | |
| .126" to .250" | 3/8" | 2" | NR12M6 | 66260195217 | | |

Standard Package = one tool



Full-Ball Radius Tools for precision plunge form dressing of concave radii in the center of a grinding wheel are available made to your custom requirements. Ask your Norton representative for details.

Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on nortonindustrial.com or your Norton representative for more in-depth information on all Norton superabrasive stock and made-to-order products.

Multi-Point (Grit) Tools

Since Norton conventional and high-performance Multi-Point tools never need turning or resetting, they are the most economical way to accomplish a variety of straight, tapered, and step dressing operations on all sizes of cylindrical, centerless, surface, and toolroom grinding wheel applications.

Wheel Forms Dressed by These Tools



STRAIGHT



TAPERED

NORTON MULTI-POINT TOOLS

FEATURES

- Uniformly distributed diamonds in a tough, durable matrix
- Fresh, multiple diamond points exposed in truing operation; no turning or resetting required
- Overall diamond weight exceeds equivalent single point tool

BENEFITS

- Consistent performance throughout tool life
- Faster, more consistent straight face dressing with maximum efficiency and longer tool life than single point tools
- The most economical way to dress straight and tapered forms

SPEC CHECK

Tech Tip Heading

- Identify the wheel abrasive type: ceramic (Norton SG, Quantum NQ, Targa TG), aluminum oxide, or silicon carbide
- Determine the wheel diameter and grit size
- Determine the tool's approach angle to the centerline of the wheel
- Identify the tool holder diameter
- Use 1E shape for angular wheel slide, cylindrical grinding and for shoulder or step truing

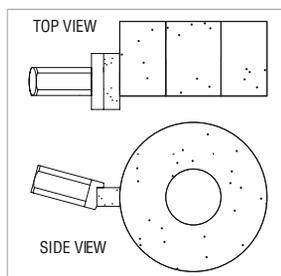
Examples of Multi-Point Tool Selection

| | |
|--------------------------|---|
| Conventional Wheel Spec: | 32A46-IVBE 7" x 1/2" x 1-1/4" Machine has a 3/8" tool holder |
| Tool Selection: | 1R6J6 |
| Ceramic Wheel Spec: | 5SG60-JVS or 5NQ60-IVS 10" x 1" x 3" Machine has a 7/16" tool holder |
| Tool Selections: | SG1R6J7 |

TECH TIP

Multi-Point Tools – Straight Face Dressing and Truing

- Most multi-point tools are used for straight face dressing.
- Tool should have full face contact with the wheel.
- With new tool, 3–5 passes at .005" per pass should be taken to expose diamonds.
- Infeed per pass .001" – .002"
- Use coolant whenever possible.
- Use appropriate lead (and traverse rate).
- Contact your Norton representative for proper tool selection for Targa wheels.



Multi-Point Dress Traverse Rate

Select a Lead Value based on desired Surface Finish and run the formula below.

| FINISH | LEAD VALUE (PER WHEEL REVOLUTIONS) |
|------------------------------------|------------------------------------|
| For Coarse Finish (approx. 64 RMS) | .023" to .030" (.58mm – .76mm) |
| For Medium Finish (approx. 32 RMS) | .013" to .022" (.33mm – .57mm) |
| For Fine Finish (approx. 16 RMS) | .006" to .012" (.15mm – .33mm) |

$$\text{Lead Value} \times \text{Wheel Speed (RPM)} = \text{Traverse Rate in Inches/Minute}$$

- Slower traverse rates result in a closed wheel face that produces less stock removal and improved workpiece finish.
- Faster traverse rates result in an open wheel face that produces greater stock removal and a rougher workpiece finish.



It is the user's responsibility to refer to and comply with ANSI B7.1

Multi-Point (Grit) Tools *continued*

SPEC CHECK

Multi-Point Tool Diamond Section Specifications

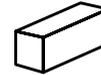
| SHAPE | WIDTH | LENGTH | DEPTH | TOOL APPROACH ANGLE TO WHEEL | FOR WHEEL DIAMETER |
|-------|------------|--------|-------|------------------------------|--------------------|
| 1A | 1/4" | 3/4" | 5/16" | 0° | Over 20" |
| 2A | 1/4" | 1/2" | 3/8" | 0° | 15" - 20" |
| 3A | 5/32" | 3/8" | 1/4" | 0° | Over 20" |
| 1E | 5/32" | 3/8" | 5/16" | - | |
| 2E | 1/4" | 1/2" | 1/2" | - | 20" x 2" and up |
| 1R | 1/4" Round | | 1/4" | 0° | Up to 10" |
| 2R | 3/8" Round | | 3/8" | 0° | 11" - 14" |



Multi-Point Tool Marking System

| Diamond Shape | Tool Diamond Size | To Dress Grinding Wheels With Grit Size Of: | Shank Design | Shank Diameter |
|---------------|-------------------|---|--|----------------|
| 1A | 4 | = 46 grit | See the following pages for shank configurations | 6 = 3/8" |
| 2A | 6 | = 54 - 100 grit | | 7 = 7/16" |
| 3A | 8 | = 120 - 150 grit | | 8 = 1/2" |
| 1E | 12 | = 150+ grit | | |
| 2E | 14 | = Special Applications | | |
| 1R | | | | |
| 2R | | | | |

Example: **1A 6 A 7**



A Shape is used primarily for straight face dressing.



E Shape (double angle top face) [is used for standard N-Face wheels, angular wheels, face and side truing of cylindrical wheels, and in step dressing.



R Shape is used for straight face dressing where the tool holder is perpendicular to the wheel face (no drag angle), and on thread grinding machines.

Multi-Point Tools for Straight Dressing

SG MULTI-POINT TOOL SHAPE AND SHANK AVAILABILITY

| | | |
|-----------------------|-----------------------|-----------------------|
| SHAPE SG1A SHANK A | SHAPE SG1A SHANK C | SHAPE SG2A SHANK D |
| SHAPE SG2A SHANK E | SHAPE SG1R SHANK J | SHAPE SG2R SHANK K |

CONVENTIONAL TOOLROOM MULTI-POINT TOOL SHAPE AND SHANK AVAILABILITY

| | | |
|-------------------|-------------------|-------------------|
| SHAPE 1A BC-60 | SHAPE 1A BC-61 | SHAPE 2A BC-62 |
| SHAPE 2A BC-63 | SHAPE 1R BC-64 | SHAPE 1R BC-65 |

CONVENTIONAL ABRASIVE MULTI-POINT TOOL SHAPE AND SHANK AVAILABILITY

| | | | | | |
|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| SHAPE 1A SHANK A | SHAPE 1A SHANK B | SHAPE 1A SHANK C | SHAPE 2A SHANK D | SHAPE 2A SHANK E | SHAPE 3A SHANK F |
| SHAPE 3A SHANK G | SHAPE 1E SHANK F | SHAPE 1R SHANK J | SHAPE 2R SHANK K | SHAPE 3R SHANK L | |

Shapes 3A (F and G Shanks) are used for form, shape, and step truing. Shape 1E is used for angle dressing

TECH TIP

Optimizing SG Multi-Point Tool Performance

- To optimize applications using ceramic abrasives/tools, normal dressing parameters must change. Significant reductions in the amount of infeed and frequency of dress will result in significantly lower cost per part ground.
- While all Norton SG/Ceramic tools have been designed to improve the efficiency of ceramic grinding applications, they can also offer significant benefits in many applications using conventional abrasives.
- When first using a Norton SG/Ceramic tool, make 3 to 5 passes at .005" infeed to ensure full face contact between the dressing tool and wheel face.
- Reduce normal dressing infeed by half. Do not exceed infeed of .002" per pass.
- The lead selection should be between .006"-.030" per wheel revolution. Faster traverse with a Norton SG/Ceramic tool generally provides an open wheel face that can maximize productivity of the ceramic abrasive.

Multi-Point (Grit) Tools *continued*

Multi-Point Tools for Truing and Straight Dressing

SG/CERAMIC MULTI-POINT TOOLS

FEATURES AND BENEFITS

- Designed specifically for use on ceramic (Norton SG, Quantum NQ, Targa TG, etc.) abrasives, SG tools contain a higher diamond concentration to withstand the increased grinding pressures generated by the ceramic abrasives. These tools have improved life and dress quality; they can also offer significant benefits in many applications using conventional abrasives.

STANDARD MULTI-POINT TOOLS

FEATURES AND BENEFITS

- The ideal selection for use on conventional abrasives in high-production applications

BC MULTI-POINT TOOLS

FEATURES AND BENEFITS

- These general-purpose tools are the ideal selection for conventional toolroom applications
- BC multi-point tools contain a specially selected diamond size for a broad range of dressing applications

| | | TIER: BEST | | BETTER | | GOOD | |
|--|-----------------|-----------------------------|---------------|------------------------|-------------|-----------------------|-------------|
| | | TO DRESS: Ceramic Abrasives | | Conventional Abrasives | | Conventional Toolroom | |
| WHEEL DIAMETER | WHEEL GRIT SIZE | TOOL APPROACH ANGLE | TOOL DIAMETER | PRODUCT # | PART # | PRODUCT # | PART # |
| Multi-Point Tools for Straight Dressing | | | | | | | |
| Up to 10" | 54 to 100 | 0° | 7/16" | | | 1R6J7 | 66260195088 |
| | | 0° | 3/8" | | | 1R6J6 | 66260195085 |
| 11" to 14" | 54 to 100 | 0° | 7/16" | SG2R6K7 | 66260195378 | 2R6K7 | 66260195096 |
| 15" to 20" | 46 | 15° | 7/16" | | | 2A4E7 | 66260195048 |
| | | 0° | 7/16" | SG2A6D7 | 66260195375 | 2A6D7 | 66260195046 |
| | 54 to 100 | 15° | 7/16" | SG2A6E7 | 66260195376 | 2A6E7 | 66260195049 |
| | | 0° | 7/16" | | | 2A8D7 | 66260195047 |
| 120 to 150 | | 15° | 7/16" | | | 2A8E7 | 66260195050 |
| | | 0° | 7/16" | | | 1A4C7 | 66260195038 |
| 21" + | 46 | 15° | 7/16" | | | 1A6A7 | 66260195031 |
| | | 0° | 7/16" | SG1A6A7 | 66260195373 | 1A6B7 | 66260195035 |
| | 54 to 100 | 15° | 7/16" | | | 1A6C7 | 66260195039 |
| | | 0° | 7/16" | SG1A6C7 | 66260195374 | 1A8C7 | 66260195040 |
| 120 to 150 | | 15° | 7/16" | | | | |

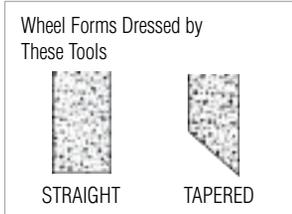


Standard Package = one tool

Multi-Point Tools for Form, Shape, or Step Dressing Conventional Abrasives

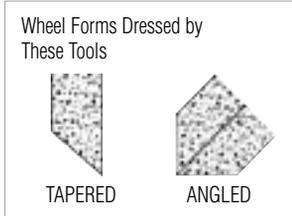
| | | TIER: BETTER | | | |
|---|-----------------|---------------------|---------------|-----------|-------------|
| WHEEL DIAMETER | WHEEL GRIT SIZE | TOOL APPROACH ANGLE | TOOL DIAMETER | PRODUCT # | PART # |
| Stock Multi-Point Tools for Form, Shape, and Step Dressing | | | | | |
| All | 54 to 100 | 0° | 7/16" | 3A6F7 | 66260195055 |
| | | 15° | 7/16" | 3A6G7 | 66260195975 |

Standard Package = one tool



| | | TIER: BETTER | | | |
|--|-----------------|---------------------|---------------|-----------|-------------|
| WHEEL DIAMETER | WHEEL GRIT SIZE | TOOL APPROACH ANGLE | TOOL DIAMETER | PRODUCT # | PART # |
| Stock Multi-Point Tools for Angular Dressing Conventional Abrasives | | | | | |
| All | 54 to 100 | 0° | 7/16" | 1E6F7 | 66260195080 |

Standard Package = one tool



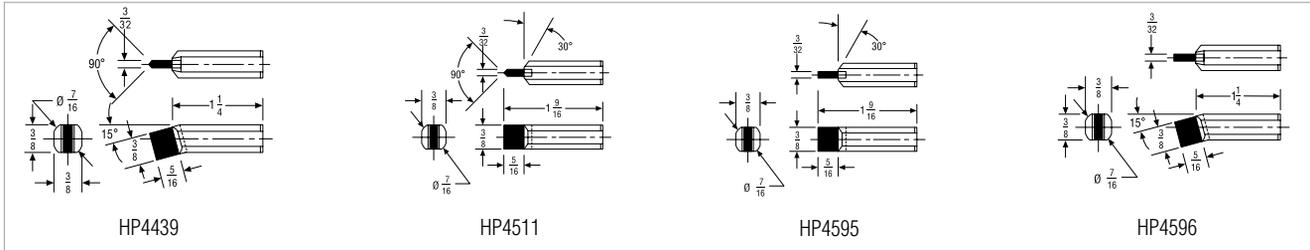
High Performance Grit Tools

Norton High Performance grit tools are used in the same manner as multi-point tools, but are designed to produce a superior finish. They are used on 120 - 150 grit wheels. The traverse rates are equal to or faster than ordinary tools. Mounted on standard shanks, standard High Performance grit tools have a 3/8" wide by .100" thick diamond impregnated blade with a greater number of sharp points than in ordinary multi-point tools.

Since High Performance grit tools contain a higher concentration of diamond than found in standard multi-point tools, they are well suited for ceramic abrasive applications.

Typical Machines and Applications

- HP4439: cylindrical machines, grinding thrust walls, bearing diameters and multi-diameter shafts with radii
- HP4511: angular machines plunge grinding multi-diameter shafts and plunge grinding on dual-wheel forms
- HP4595: cylindrical machines grinding main bearing and lobes on camshafts
- HP4596: centerless machines step grinding and machines dual-wheel grinding transmission shafts



TIER: **BEST**

| WHEEL DIAMETER | WHEEL GRIT SIZE | SHANK DIAMETER | TOOL LENGTH | PRODUCT # | PART # |
|--|-----------------|----------------|-------------|-----------|-------------|
| Stock High Performance Grit Tools | | | | | |
| Up to 20" | 120 to 150 | 7/16" | 1-9/16" | HP4439 | 66260195270 |
| Up to 20" | 120 to 150 | 7/16" | 1-9/16" | HP4511 | 66260195271 |
| Up to 20" | 120 to 150 | 7/16" | 1-9/16" | HP4595 | 66260195272 |
| Up to 20" | 120 to 150 | 7/16" | 1-9/16" | HP4596 | 66260195273 |

Standard Package = one tool

Wheel Forms Dressed by These Tools



STRAIGHT



TAPERED

Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on www.nortonabrasives.com or your Norton representative for more in-depth information on all Norton superabrasive stock and made-to-order products.

Blade Tools



With the choice of natural and synthetic diamond in three performance/price tiers, Norton blade tools can meet all your angle, step, and radius dressing requirements for cylindrical, surface, and centerless grinding.

Wheel Forms Dressed by These Tools



STRAIGHT



TAPERED



ANGLED



MULTI-ANGLED

SYNTHETIC BLADE TOOLS – USB AND NORTON QUANTUM

FEATURES

- USB (made-to-order)
- NEW! Norton Quantum NQ (made-to-order)
- Synthetic diamond with a controlled diamond shape provides a constant cross section of diamond to the wheel throughout the life of the tool

BENEFITS

- For dressing aluminum oxide wheels
- For dressing ceramics and silicon carbide wheels
- Provides consistent wheel conditioning from the first dress to last
- Ideal for close tolerance wheel dressing on manual and CNC grinders, long production runs, and critical form and finish applications (e.g. automotive cam, crank, and valve grinding)
- Economical, long-lasting alternative to chisel-type tools for centerless form grinding

MULTI-CUT BLADE TOOLS (AVAILABLE IN STOCK AND MADE-TO-ORDER)

FEATURES

- Manufactured with top quality elongated-shaped natural diamond

BENEFITS

- The choice when natural diamond is preferred on surface, cylindrical, and centerless grinders
- Durable performing tools in a medium price range

LONG LIFE BLADE TOOLS (ALL ARE MADE-TO-ORDER)

FEATURES

- Manufactured with processed elongated-shaped natural diamond

BENEFITS

- Developed as the first generation of the blade tool line for surface, cylindrical, and centerless grinders
- The choice when initial price is the primary purchasing consideration

| TIER: BEST | | | | | BETTER | |
|--|---------------------|----------------|-----------|--------------|------------------------|-------------|
| TRADENAME: NORTON QUANTUM TOOLS | | | | | MULTI-CUT TOOLS | |
| WHEEL DIAMETER (WIDTH <= 9") | TOOL APPROACH ANGLE | SHANK DIAMETER | PRODUCT # | PART # | PRODUCT # | PART # |
| Stock Blade Tools | | | | | | |
| 12" to 17" | 0° | 7/16" | NQ20A7 | 07958747944* | | |
| | 15° | 7/16" | NQ215A7 | 07958747945* | MC355 | 66260195266 |
| 18" to 29" | 0° | 7/16" | NQ30A7 | 07958747946* | | |
| | 15° | 7/16" | NQ315A7 | 07958747947* | | |
| 30" - 36" | 0° | 7/16" | NQ50A7 | 07958747948* | | |
| | 15° | 7/16" | NQ515A7 | 07958747950* | | |

These stock tools are composed of 1 layer with 3 diamonds. These tools are not resettable or relappable.

**Non-Stock: Please contact your Norton representative for current lead-times.*

Standard Package = one tool

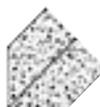
Wheel Forms Dressed by These Tools



STRAIGHT



TAPERED



ANGLED



MULTI-ANGLED

Form Tools

Norton Form Tools have diamond lapped to specific angles and radii required for a particular application, machine, contour dressing system, or CNC operation. Due to the high degree of accuracy necessary, the diamond is of special shape and quality.

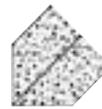
Wheel Forms Dressed by These Tools



CONVEX



CONCAVE



ANGLED



MULTI-ANGLED

CONE POINT TOOLS

FEATURES AND BENEFITS

- The Norton vacuum braze technology used in the manufacturing surpasses all traditional diamond retention methods.
- Benefits of this technology include absolute diamond retention, diamond pullout prevention during the dressing cycle, and longer tool life through multiple relaps
- Because the diamond is accurately coned to the specific included angle and radius, these tools are ideal when the most intricate, precise forms and radii are required
- Can be relapped

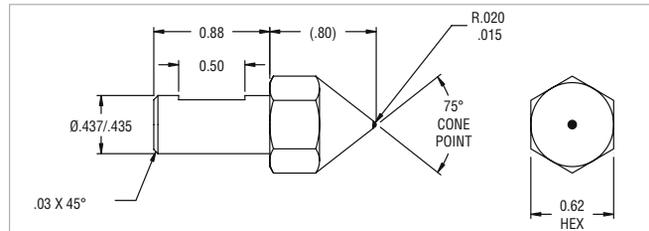
U-Dex-It Cone Point Tool

Used for precision dressing of intricate forms and radii. Specially designed with 5/8" indexable head for easy turning during use. These tools can be relapped.

TIER: **BEST**

| INCLUDED ANGLE ON DIAMOND | RADIUS ON DIAMOND | TOOL CARAT WEIGHT | SHANK DIAM. | TOOL LENGTH | PRODUCT # | RELAPPABLE PART # |
|---------------------------------------|-------------------|-------------------|-------------|-------------|-----------|-------------------|
| Stock U-Dex-It Cone Point Tool | | | | | | |
| 75° | .020" | .50 | 7/16" | 1.678" | CPUD720-7 | 66260158981 |

Standard Package = one tool



WHEEL FORMS DRESSED BY THESE TOOLS

CONVEX CONCAVE ANGLED MULTI-ANGLED

SPEC CHECK

Cone Point Tool Marking System

| Tool Type | Included Angle On Diamond | Radius On Diamond | Carat Weight | Shank Diameter |
|-----------|---------------------------|-------------------|---------------|----------------|
| CP | 6 = 60° | 05 = .005" | L = .10 - .15 | 6 = 3/8" |
| | 7 = 75° | 10 = .010" | M = .20 - .25 | 7 = 7/16" |
| | 9 = 90° | 15 = .015" | H = .33 | |
| | | 20 = .020" | X = .50 | |
| | | 25 = .025" | | |
| | | 30 = .030" | | |

Example: **CP 6 10 M-6**

Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on www.nortonabrasives.com or ask your Norton representative for information on our made-to-order form tools for the following machines:

- Jones & Lamson
- Moore Pantograph
- Hoglund
- Dia-Form

TECH TIP

How to Use Form Dressing Tools

- Proper centerline and light infeeds are essential to minimize side pressure. Excessive pressure will cause the diamond to fracture.
- Cone point tools should be rotated approximately 1/4 turn daily.

Form Tools *continued*

Standard Cone Point Tool

These tools are used for precision dressing when the most intricate forms and radii are required. Can be relapped.

TIER: **BEST**

| INCLUDED ANGLE ON DIAMOND | RADIUS ON DIAMOND | TOOL CARAT WEIGHT | SHANK DIAM. | TOOL LENGTH | PRODUCT # | RELAPPABLE PART # |
|--|-------------------|-------------------|-------------|-------------|-----------|-------------------|
| Stock Standard Cone Point Tools | | | | | | |
| 60° | .010" | .20 - .25 | 3/8" | 2" | CP610M-6 | 66260195240 |

Standard Package = one tool

Wheel Forms Dressed by These Tools



CONVEX



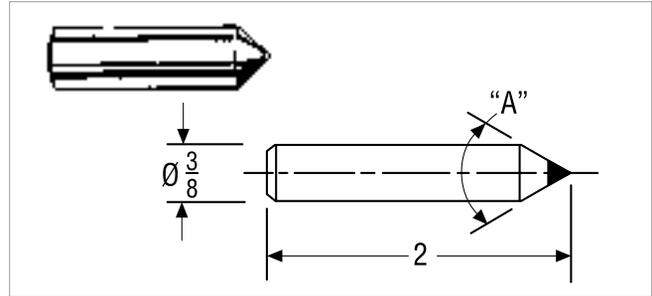
CONCAVE



ANGLED



MULTI-ANGLED



Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections on www.nortonabrasives.com or your Norton representative for more in-depth information on all Norton superabrasive stock and made-to-order products.

Chisel Point Tool for Toyoda Grinders

High-precision chisel point tool designed for forming intricate shapes and radii. Specifically engineered to fit Toyoda machine series GL32 and GL4, it can also be used on various straight and angle-head grinders – for dressing conventional and ceramic abrasive wheels, sizes 12" to 24". This tool can be reset/relapped.

TIER: **BEST**

| INCLUDED ANGLE ON DIAMOND | RADIUS ON DIAMOND | TOOL CARAT WEIGHT | SHANK DIAM. | TOOL LENGTH | PRODUCT # | RELAPPABLE PART # |
|--------------------------------|-------------------|-------------------|-------------|-------------|-----------|-------------------|
| Stock Chisel Point Tool | | | | | | |
| 55° | .020" | .75 | 7/16" | 1.10" | CHT520-7 | 66260103741 |

Standard Package = one tool

Wheel Forms Dressed by These Tools



CONVEX



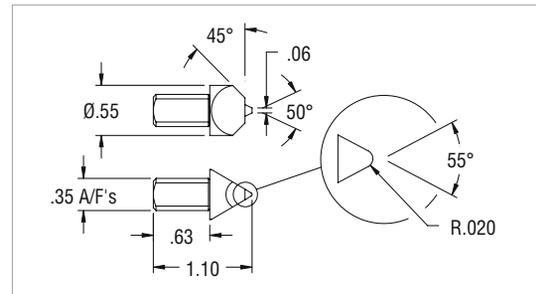
CONCAVE



ANGLED



MULTI-ANGLED



TECH TIP

Chisel Point Tool Marking System

| Tool Type | Included Angle On Diamond | Radius On Diamond | Carat Weight | Shank Diameter |
|-----------|---------------------------|-------------------|---------------|----------------|
| CH = | 6 = 60° | 05 = .005" | L = .10 - .15 | 6 = 3/8" |
| Natural | 7 = 75° | 10 = .010" | M = .20 - .25 | 7 = 7/16" |
| Diamond | 9 = 90° | 15 = .015" | H = .33 | |
| | | 20 = .020" | X = .50 | |
| | | 25 = .025" | | |
| | | 30 = .030" | | |

Example: **CH 9 5 M-6**

TECH TIP

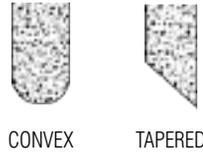
CHISEL POINT TOOLS

Chisel Point Tools should be rotated 180° when dulling or contour problems occur.

Cluster Tools

Norton Cluster tools are designed specifically for straight face dressing of large diameter, coarse grit grinding wheels on single or double disc, centerless, or surface grinders.

Wheel Forms Dressed by These Tools



Multi-Point Cluster Tools

Multi-Point Cluster tools are typically used for straight face dressing on disc and centerless operations. For greatest efficiency, these tools should be mounted at a 15° angle so that three diamonds are in contact with the wheel face at all times. The tool should be rotated at frequent intervals. Not resettable.

| TIER: BETTER | | | | | |
|--|----------------|-------------|-----------|-----------------------|--|
| DIAMONDS ON FACE | SHANK DIAMETER | TOOL LENGTH | PRODUCT # | NON-RESETTABLE PART # | |
| Stock Multi-Point Cluster Tools | | | | | |
| 7 | 7/16" | 1-5/16" | NC7K7 | 66260195206 | |

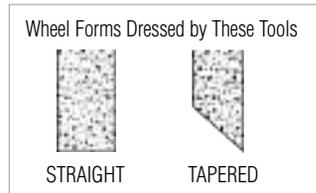
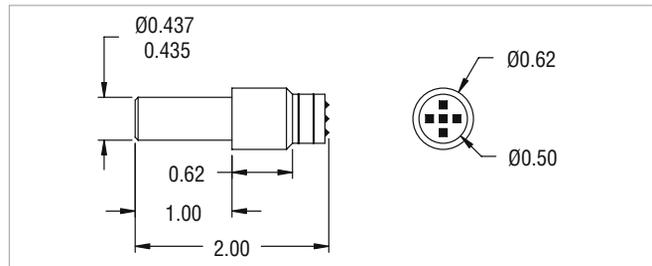
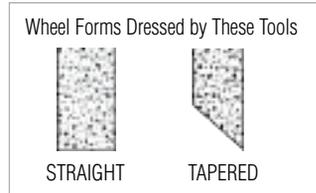
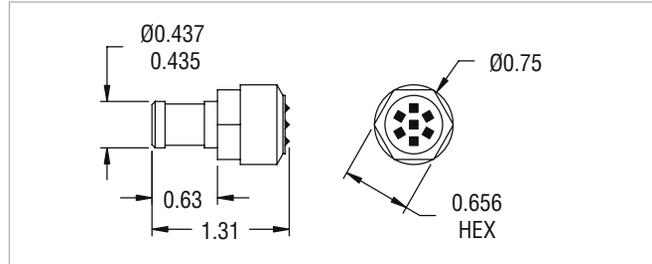
Standard Package = 1 Tool

Dia-Pak Tools

Dia-Pak tools are primarily used in straight face disc grinding, but are extremely versatile and may also be used in centerless and surface operations. Designed for maximum economy, three layers of diamond are carefully arranged so that a new layer is exposed before the previous layer is completely worn away. Not resettable.

| TIER: BETTER | | | | | |
|----------------------------|--------------------|----------------|-------------|-----------|-----------------------|
| FOR WHEEL DIAMETERS | DIAMONDS PER LAYER | SHANK DIAMETER | TOOL LENGTH | PRODUCT # | NON-RESETTABLE PART # |
| Stock Dia-Pak Tools | | | | | |
| Up to 14" | 5-4-5 | 7/16" | 2" | DP20 | 66260195200 |
| Up to 20" | 7-6-7 | 7/16" | 2" | DP30 | 66260195201 |
| Any | 7-6-7 | 7/16" | 2" | DP35 | 66260195202 |

Standard Package = 1 Tool



TECH TIP

Cluster and Dia-Pak Tools – Straight face dressing of hard / coarse wheels:

Tool should approach the wheel at a 15° angle and be rotated periodically to keep three diamonds in contact with the wheel at all times.

Tools can also be used at a 90° to the wheel face.

Multi-Point Cluster tools should be rotated at frequent intervals.

Infeed per pass should not exceed .0015" (.001" with ceramic – Norton SG, Quantum, Targa TG, etc. – wheels).

Use coolant whenever possible.

These tools permit a faster traverse rate providing a freer cutting wheel than when dressed by a conventional single-point tool.

Accessories

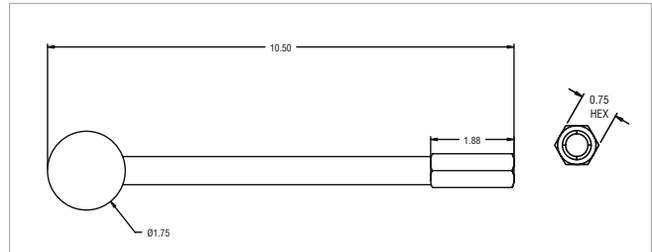
Tool holders typically used in toolroom applications.



Tool Holder/Hand Dresser

Designed for use when offhand truing and dressing on tool and cutter, or benchstand grinders. This stock hand dresser will not rust, and is 10-1/2" long, with a hollow shaft that accepts any tool shank length from 3/4" to 9". The 1-3/4" diameter plastic knob ensures a firm grip. The collet accepts a 7/16" diameter tool shank.

| DESCRIPTION | PART NUMBER |
|--------------|-------------|
| Hand Dresser | 66260195020 |



DIAMOND STATIONARY FLIESEN TOOLS



Open or Closed Dressing... You Can Count on Fliesen Tools

Whether dressing a wheel OPEN or CLOSED you can count on Fliesen tools. Open wheels (sharp, free-cutting abrasive grains are exposed) are created by increasing the speed a Fliesen tool moves across the wheel when dressing. Generally considered the most favorable wheel conditioning, open wheels avoid workpiece burn while maximizing a wheel's ability to remove metal quickly when grinding.

Slowing a Fliesen tool as it moves across the wheel creates a closed wheel condition (abrasive grains are smoother, less sharp), a very helpful condition when trying to lower part surface finish readings.

- Harder, H-bond metal formulation tools have been specifically engineered to efficiently dress durable silicon carbide and ceramic wheels
- Furioso Fliesen tools have a unique bond system developed for optimal performance when dressing Norton Quantum (NQ) ceramic wheels
- W-bond Fliesen tools are designed for conventional aluminum oxide wheels

The Benefits of Fliesen Tools

Spend More Time Grinding

Single point, chisel, and cone point tools require operator attention to ensure proper tool rotation at regular intervals. Fliesen tools require no adjustments. Simply install the tool, dress the wheel to break it in, and the tool will do the rest. Operators spend more time grinding – rather than making non-productive dressing adjustments.

Longer Tool Life

Expect long life when using a Fliesen tool. Other stationary tools, made with a single diamond stone, develop flat spots ("wear flats") over time – which create chatter and burn. Fliesen tools use hand-set, fine diamond grit, eliminating the creation of wear flats.

Fliesen Tool Configurations: Plate and Shank

Fliesen tools are available in two basic tool configurations. The most common is a plate configuration, which is somewhat rectangular-shaped with a mounting hole. Fliesen shank tool configurations are plates mounted in shanks of varying sizes and shapes. Most grinding machines accommodate one or the other tool configuration. To find the correct tool configuration for your machine, check the existing dressing tool, or consult your grinding machine manual.

Choosing The Correct Fliesen Tool

Using the chart below, find your desired wheel form – then locate the preferred diamond position. Next, find the correct tool configuration for your machine: plate or shank tool. Follow down that column to find the Fliesen page for your plate or standard shank tool configuration. Go to the appropriate page. Locate the corresponding zone for your wheel diameter and width on the graph. Find that zone number in the part number chart. Next, moving to the right, find your wheel abrasive type and grit size. Locate the part number for your Fliesen tool.

| | | | | | | | | |
|--------------------|------------------|--|---------------------------------------|--|-----------------------------|-----------------------------|-------------------------------|-------------------------------|
| Desired Wheel Form | | | | | | | | |
| Diamond Positions | | | | | | | | |
| | Blade Only FR | Side-Mounted FRS, FAS, FBS, FCS & FDS | Center-Mounted FAS, FBS, FCS & FDS | Side-Mounted FRS, FAS, FBS, FCS & FDS | Double-Sided FCSD & FDSD | Double-Sided FCSD & FDSD | Twin FDST, FSST & 1TFAS | Twin FDST, FSST & 1TFAS |

TOOL CONFIGURATION

Plates

| | | | | | |
|--|--------------------------|----------------|--------------------------|--------------------------|----------------|
| | Consult Customer Service | Page 287 – 288 | Consult Customer Service | Consult Customer Service | Page 287 – 288 |
|--|--------------------------|----------------|--------------------------|--------------------------|----------------|

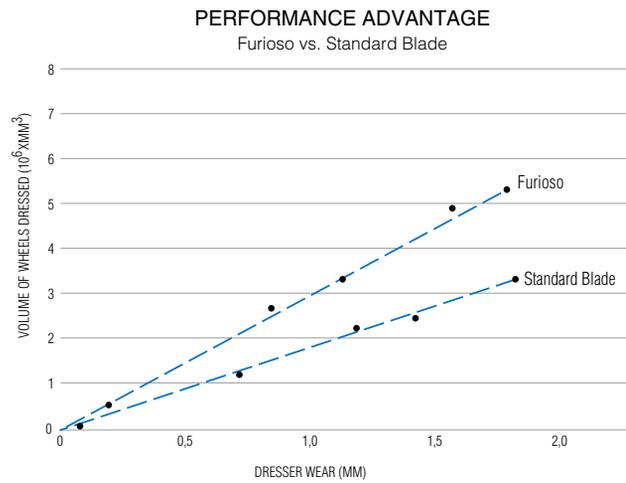
Shank Tools

| | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | Consult Customer Service |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|

DIAMOND STATIONARY FLIESEN TOOLS

Furioso Tools

The new generation of highly wear-resistant stationary diamond dressing tools for dressing modern ceramic abrasives



FURIOSO TOOLS

BEST CHOICE FOR OPTIMUM PERFORMANCE OF NORTON QUANTUM CERAMIC WHEELS

FEATURES

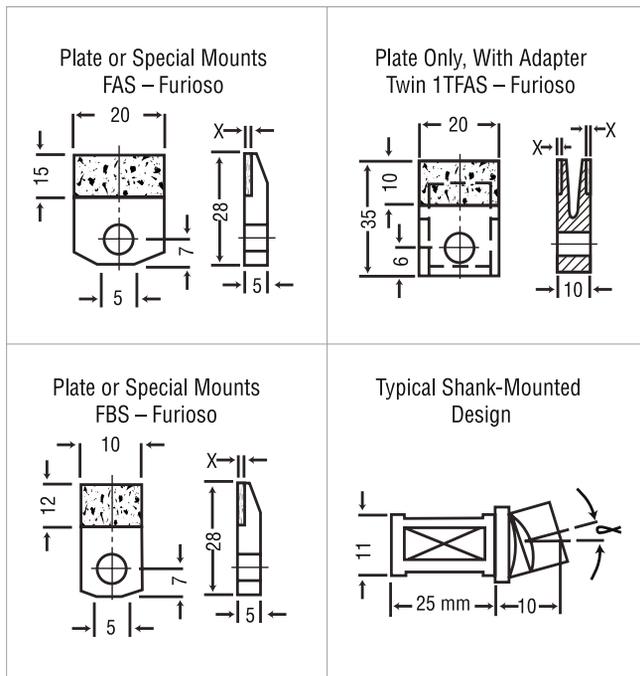
- The optimized combination of diamond quality, bond and setting pattern when dressing Norton Quantum (NQ) ceramic grinding wheels

BENEFIT

- Improved wear-resistance
- Excellent dressing behavior
- Constant surface roughness



Standard Furioso Plate Drawings



See the complete line of Norton Fliesen Tools

These three pages highlight a small sample of our Fliesen tool offering. Refer to our Diamond and cBN Superabrasive Standard Product Catalog #8068 sections or see the “Fliesen Tool” section on nortonindustrial.com or ask your Norton representative for complete product listing and information on these tools.

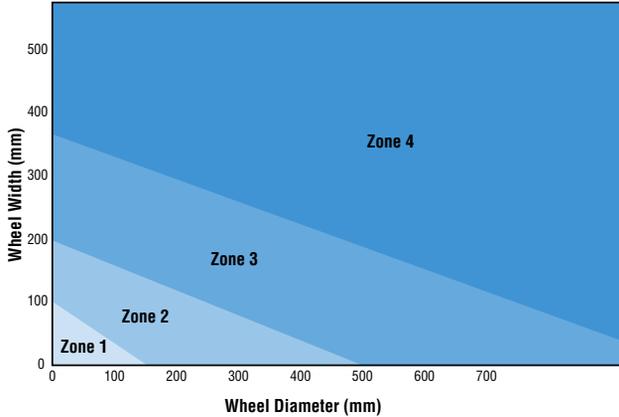
DIAMOND STATIONARY FLIESEN TOOLS

Furioso Plates; Side-Mounted and Twin

Use the Wheel/Tool Graph to identify your grinding wheel's Zone number, and the chart below to find the Furioso tool for your application.

Wheel / Furioso Tool Graph

Select Zone based on wheel diameter and width



TIER: **BEST**

TO DRESS: Norton Quantum NQ Ceramic Wheels

| ZONE NO. / SERIES | WHEEL GRIT SIZE | TOOL # | PART # | DESCRIPTION |
|---|-----------------|--------|-------------|-------------------|
| Side-Mounted | | | | |
|  Zone 2 FBS Series | 36 - 54 | DT1463 | 69014122948 | FBS 140 Furioso |
| | 54 - 80 | DT1462 | 69014122947 | FBS 115 Furioso |
| | 80 - 120 | DT1461 | 69014122946 | FBS 90 Furioso |
| | 120 - 180 | DT1460 | 69014122944 | FBS 75 Furioso |
|  Zone 3 FAS Series | 36 - 54 | DT1467 | 69014122952 | FAS 140 Furioso |
| | 54 - 80 | DT1466 | 60157690579 | FAS 115 Furioso |
| | 80 - 120 | DT1465 | 60157693885 | FAS 90 Furioso |
| | 120 - 180 | DT1464 | 69014122950 | FAS 75 Furioso |
| Twin | | | | |
|  Zone 4 1TFAS Series | 36 - 54 | DT1471 | 69014122956 | 1TFAS 140 Furioso |
| | 54 - 80 | DT1470 | 69014122955 | 1TFAS 115 Furioso |
| | 80 - 120 | DT1469 | 69014122954 | 1TFAS 90 Furioso |
| | 120 - 180 | DT1468 | 69014122953 | 1TFAS 75 Furioso |

• ALL FURIOSO PLATES shown ship in 10 business days from receipt of order.

SPEC CHECK

Blade Size

| DESCRIPTION | DIMENSION |
|-------------|-------------------------------------|
| 1 FBS | 10 mm thick, 15 mm usable length |
| 2 FAS | 20 mm thick, 15 mm usable length |
| 3 TFAS | Twin blade with cooling duct |

Diamond Grit Size

| DESCRIPTION | FEPA |
|-------------|-------|
| 140 | D1181 |
| 115 | D1001 |
| 90 | D711 |
| 75 | D501 |

Furioso Shank Tools

Made-to-order Furioso shank tools are also available. Ask your Norton representative for ordering assistance.

Side-Mounted Diamond Sections

Tools are available in different offset positions and angles.



Offset Left,
Specify
angle amount



Zero Offset



Offset Right,
Specify
angle amount

Tipping the Diamond Plates on Shank Tools

Diamond sections can be tipped right or left.



Diamond
Tipped Left,
Specify angle



Diamond
Tipped Right,
Specify angle



There are many different diamonds making up a single plate as this cut-away view shows.



Norton diamond rotary truing and dressing tools provide a very efficient way to modify the shape and topography of your grinding wheels.

- Products:
- Form Rolls: plunge dressing
 - Infiltrated diamond form rolls
 - Reverse plated diamond form rolls
 - Dressing Discs: uni-axial traverse dressing
 - Infiltrated dressing discs
 - BPR dressing discs
 - IDW dressing discs
 - Truing and Dressing Spindles and Devices

Form Roll: Plunge Dressing

- Diamond roll geometry matches geometry of part to be ground
- Roll is fed into grinding wheel to generate the desired form and wheel surface condition
- Used where lowest cycle time and highest accuracy is required

Dressing Disc: Uni-Axial Traverse Dressing

- Diamond dressing disc has a thin diamond section that is traversed across the face of the grinding wheel
- Profile is generated with a CNC program or template
- Used for simple profiles or where flexibility is necessary

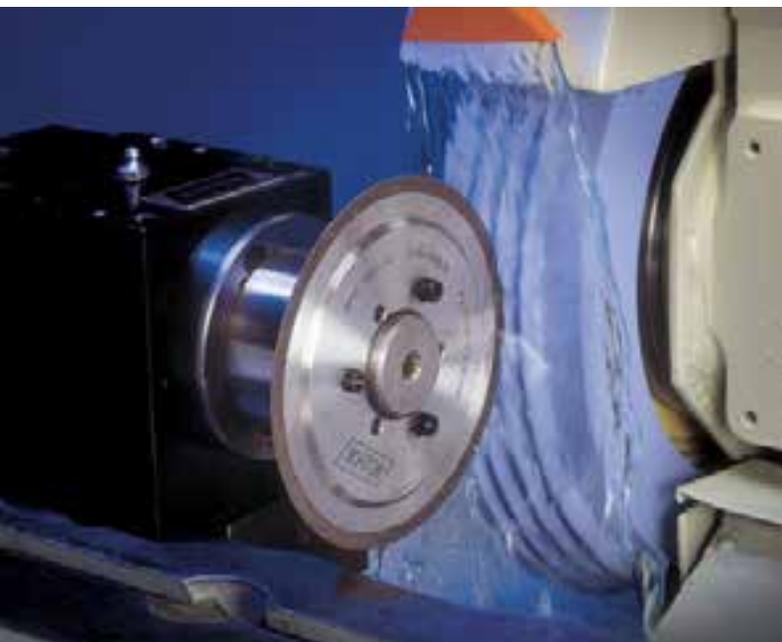


How to Order Rotary Dressing Tools

Provide the following information to your local sales representative or customer service representative

Legible blueprint of roll, wheel, or part with the following geometry:

- Overall diameter
- Overall length
- Bore size and tolerances required
- Mounting pattern
- Any feature with tolerances less than 0.0002" (5 um) must be clearly defined for engineering review.
- If designing from a part, a fully dimensioned part drawing is required
- Abrasive type (natural diamond, synthetic diamond, CVD stones, etc.)
- Specification of wheel to be dressed (need at least the grit type and size)
- Dressing type (Plunge or CNC Profiling)



Request the "Norton Rotary Truing and Dressing" brochure, form # 8535, and contact your Norton representative for more information and expert assistance with your dressing operation.

setting a new industry standard **FOR PRODUCTIVITY**

From the most comprehensive stock offering to the industry's largest custom-manufactured availability, our Norton superabrasive product portfolio gives you the most options with uncompromising performance.



A Paradigm Shift in Manufacturing

Online truing and dressing capability results in lower cutting energies and highest quality part edges and finish. Choose Paradigm stock or custom products for your exact requirements.



99 More Reasons to Choose Norton

The Norton "B99" line includes 250+ USA-made, ISO-certified, diamond and cBN products for precision finishing applications without the wait ... in stock and available now.



A Superhero CNC Standard Offering

Norton offers the broadest line of products to grind carbides, hardened steels and other hard-to-grind materials. Choose stock or custom-engineered made-to-order products.

NORTON DIAMOND / CBN STOCK WHEELS



The “99” line of quality stock Diamond and cBN (cubic Boron Nitride) grinding products includes resin, vitrified, metal and MSL (metal single layer) bond offerings. Premium, high performance resin bond diamond and cBN wheels are also available.

- Applications:
- Norton B99 Diamond Wheels
 - Sharpening cemented carbide cutting tools
 - Cutting off carbide rod
 - Grinding or cutting off non-ferrous materials such as ceramics or glass
 - Surface grinding dies
 - O.D. grinding spray coatings
 - Norton B99 cBN Wheels
 - Sharpening high-speed (M2, D2, T15, etc.) steel cutting tools
 - Surface and ID grinding hardened steel die components
 - Precision grinding steel parts Rc 50 or harder
- Stock Shapes: DW Mounted Points, HH1 and HH2 Hand Hones, and 1A1, 1A1R, 1V1P, 4A2P, 6A2C, 6A2H, 11V9, 12A2, 12V9, and 15V9 Wheels
- Abrasive Grain: Diamond and cBN (cubic Boron Nitride)
- Abrasive Bonds: Resin, Metal, Metal Single Layer, and Vitrified

STOCK DIAMOND WHEELS

FEATURES

- High quality synthetic diamond
- Pre-engineered resin bond – B99
- Premium, heavy-duty resin bond – B105
- Metal bond – M99
- MSL (metal single layer) diamond tools; no wheel dressing required
- Vitrified bond – V99

BENEFITS

- High material removal rates; longer wheel life vs. conventional green silicon carbide wheels
- Free cutting; superior form holding; efficient wet or dry
- Ideal for dry toolroom reconditioning applications
- Ideal for 1A1R cut-off applications and grinding glass or ceramic materials
- Fast stock removal, cool cutting; excellent for dry offhand finishing of carbide
- Most durable under high grinding forces; excellent for wet, offhand finishing of carbide tools

STOCK CBN WHEELS

FEATURES

- cBN (cubic Boron Nitride) abrasive material is second in hardness to diamond
- Pre-engineered resin bond – B99
- Premium Aztec III resin bond
- Premium Aztec .007 resin bond

BENEFITS

- Easily cuts difficult-to-grind steel parts Rc 50 or harder
- Highly wear resistant and thermally stable
- Free cutting, superior form holding
- Most efficient for dry tool resharpening
- Most efficient for dry tool resharpening where heavy stock removal is desired

TECH TIP

- Truing makes the wheel concentric with the spindle
- Dressing opens the wheel's cutting face
- Always true and dress diamond and cBN wheels prior to use
- Diamond and cBN wheels with grit sizes 100 – 180 can be trued with a Brake Controlled Truing Device
- Refer to the “Mounting, Truing and Dressing Guide” for more information



It is the user's responsibility to refer to and comply with ANSI B7.1

NORTON DIAMOND / CBN STOCK WHEELS

NORTON DIAMOND PRODUCT IDENTIFICATION SYSTEM / USAGE INFORMATION

ASD 120 – R 75 B99 1/8

| Abrasive Type | Grit Size | Grade | Concentration | Bond | Abrasive Depth |
|--|--|--|---|--|---|
| ASD <ul style="list-style-type: none"> Used with B99 and B105 bonds Armored Durable Versatile Use wet or dry Carbide/steel operations | <ul style="list-style-type: none"> 100S – Roughing 120 – Roughing/cutting-off 150 – Combined roughing and finishing 180 – Improving finish 220, 320 & 400 – Finishing only 10/20 mic 6/12 mic | Resin Bond R – Norton standard N – Free cutting Metal Bond N – Norton standard Vitrified Bond P – Norton standard R – Most durable | 50 <ul style="list-style-type: none"> Most economical For broad area of contact 75 <ul style="list-style-type: none"> Norton standard Freer cutting than 100 Dry grinding with ASD 100 <ul style="list-style-type: none"> Very durable For flood coolants Use with 220 grit or finer Use for cutting-off 115 <ul style="list-style-type: none"> For CNC grinding machines 125 <ul style="list-style-type: none"> Form holding For high volume, high pressure coolant, precision applications on high-speed tool steels | B99 <ul style="list-style-type: none"> Resin bond Use wet or dry Tool making; resharpening B105 <ul style="list-style-type: none"> Premium resin bond Advanced heat-reducing bond B610 and B80 <ul style="list-style-type: none"> For CNC grinding machines M99 <ul style="list-style-type: none"> Metal bond 1A1R cut-off Glass and ceramics MSL <ul style="list-style-type: none"> Metal single layer Type 6A2C only Use dry Offhand reconditioning/finishing carbide V99 <ul style="list-style-type: none"> Vitrified bond Offhand finishing of carbide tools Plunge grinding | 1/16" 1/8" 1/4" 9/32" 3/8" 1/2" 3/4" Solid |
| CD <ul style="list-style-type: none"> Used with B99 bond | | | | | |
| D <ul style="list-style-type: none"> Used with B99 bond Micron-sized diamond; finishing | | | | | |
| M3D <ul style="list-style-type: none"> Used with M99 bond | | | | | |
| M4D <ul style="list-style-type: none"> Used with M99 bond Armored Durable; for non-metallics | | | | | |
| RMD <ul style="list-style-type: none"> Used with V99 bond | | | | | |
| SD <ul style="list-style-type: none"> Used with B99 and V99 bonds Norton standard Use wet or dry Free cutting Low horsepower (3/4 hp or less) | | | | | |

NORTON CBN PRODUCT IDENTIFICATION SYSTEM / USAGE INFORMATION

CB 120 – T B99 1/8

| Abrasive Type | Grit Size | Grade | Bond | Abrasive Depth |
|---|---|--|--|--|
| CB – cubic Boron Nitride <ul style="list-style-type: none"> Used with B99 bond Armored Use wet or dry | <ul style="list-style-type: none"> 100 – Roughing 120 – Roughing/cutting-off 150 – Combined roughing and finishing 180 – Improving finish 220, 320, 400 – For finishing only | Q <ul style="list-style-type: none"> Approx. 50 concentration Type 6A2 Broad area of contact T <ul style="list-style-type: none"> Approx. 75 concentration Norton standard First choice Lower horsepower Broad area of contact Dry grinding Resharpening applications W <ul style="list-style-type: none"> Approx. 100 concentration Most durable High volume coolant Flute polishing Surface grinding Cylindrical grinding | B99 <ul style="list-style-type: none"> Resin bond Use wet or dry Aztec III <ul style="list-style-type: none"> Premium resin bond Use dry Tool resharpening Aztec .007 <ul style="list-style-type: none"> Premium resin bond Use dry Increased feed rates Heavy stock removal Heavier cuts | 1/16" 1/8" 1/4" 1/2" Solid |

NORTON DIAMOND / CBN STOCK WHEELS

HOW TO SELECT NORTON STOCK DIAMOND WHEELS

| Select: | | | | |
|-------------------------|--|--|---|--|
| WHEEL SHAPE | | Select desired wheel shape | | |
| WHEEL DIMENSIONS | D x T x H Select Diameter x Thickness x Hole from the availability tables. Use blueprint numbers where available. | | | |
| ABRASIVE | Resin Bond Wheels: | Select the abrasive based on horsepower, grinding wet or dry, and contact with steel. | | |
| | ASD | | Armored diamond, durable. Versatile: can be used wet or dry. Also should be used when carbide and steel are ground in the same operation. | |
| | D | | Micron-sized diamond. Used for finishing and polishing operations. | |
| | SD | | Free cutting standard. Used wet or dry; should be used on low horsepower (3/4 hp or less) machines. | |
| | Metal Bond Wheels: | | | |
| | M4D | | Armored, durable standard. A strong, blocky crystal designed for high performance on glass, ceramics, refractories and other non-metallics. | |
| | Vitrified Bond Wheels: | | | |
| | RMD | | Medium strength. Specifically designed for use with vitrified bonds. | |
| | SD | | Free cutting standard. | |
| | | | 100 | Roughing. The most common grit size for roughing operations. |
| GRIT SIZE | | 120 | For roughing where 100 is too coarse. Also for cut-off applications. | |
| | | 150 | Medium stock removal plus good finish. For combined roughing and finishing applications. | |
| | | 180 | Medium stock removal plus good finish. To improve finish. | |
| | | 220 | Finishing | |
| | | 320 | Finishing | |
| | | 400 | Fine Finishing | |
| | | 10/20 Mic | Super Fine Finishing | |
| | | 6/12Mic | Super Fine Finishing | |
| GRADE | Resin Bond Wheels: | The hardness of the wheel | | |
| | R | | Norton standard | |
| | N | | Free cutting | |
| | Metal Bond Wheels: | | | |
| | N | | Norton standard | |
| | Vitrified Bond Wheels: | | | |
| | P | Norton standard | | |
| | R | Most durable | | |
| CONCENTRATION | 50 | Most economical. For broad area of contact grinding. | Select the abrasive concentration based on grinding wet or dry, material removal rates and form-holding requirements. | |
| | 75 | Norton standard. Freer cutting than 100 and the most economical for dry grinding with ASD diamond. | | |
| | 100 | Very durable. Recommended under flood coolant conditions; for use with 220 grit or finer, when durability is required, and for cut-off applications. | | |
| | 125 | Form holding. Used in high volume, high pressure coolant, precision applications on high-speed tool steels. | | |
| BOND | Resin Bond: | Select the bond based on the material being ground and grinding application. | | |
| | B99 | | Norton standard. Versatile enough to be used wet or dry on most tool making or resharpening applications. | |
| | B105 | | Premium, heat-reducing bond. For dry toolroom reconditioning applications. | |
| | Metal Bond: | | | |
| | M99 | | Best suited for 1A1R cut-off applications as well as grinding glass or ceramic materials. | |
| | MSL | | Metal Single Layer. Available in shape 6A2C for dry, offhand reconditioning of carbide tools. | |
| Vitrified Bond: | | | | |
| | V99 | Best for wet offhand finishing of carbide tools as well as plunge grinding of carbide tools. | | |
| ABRASIVE DEPTH | 1/16 | | Usable abrasive | |
| | 1/8 | | | |
| | 1/4 | | | |
| | 9/32 | | | |
| | Solid | | | |

NORTON DIAMOND / CBN STOCK WHEELS

HOW TO SELECT NORTON STOCK CBN WHEELS

Select

| | | | |
|-------------------------|--------------------|--|---|
| WHEEL SHAPE | | | Select desired wheel shape |
| WHEEL DIMENSIONS | D x T x H | Select Diameter x Thickness x Hole from the availability tables. Use blueprint numbers where available. | |
| ABRASIVE | Resin Bond Wheels: | | Select Norton cBN abrasive to grind hard tool steels such as A2, D2, T15, etc., and tough alloy steels. |
| | CB | Norton standard coated cBN (cubic Boron Nitride). Optimized for high performance in resin bond systems. | |
| GRIT SIZE | 100 | Roughing. The most common grit size for roughing operations. | Select the grit size based on finish and material removal rate required. |
| | 120 | For roughing where 100 is too coarse. Also for cut-off applications. | |
| | 150 | Medium stock removal plus good finish. For combined roughing and finishing applications. | |
| GRADE | Q | Approximately 50 concentration. Used on wide area of contact applications. | The hardness of the wheel |
| | T | Norton standard. Approximately 75 concentration. T is the first choice for lower horsepower equipment or large area of contact between the wheel and the work piece. Ideal for resharpening applications with 11V9, 12A2, 4A2P, and 15V9 wheel shapes when dry grinding. | |
| | W | Most durable. Approximately 100 concentration, W is recommended for high volume coolant operations: flute grinding from solid, flute polishing, surface, and cylindrical grinding. | |
| BOND | B99 | Norton standard. Pre-engineered for optimal performance with cBN abrasive. Available in all shapes. | Select the bond depending on the type of grinding application. |
| | Aztec III | The Norton advanced heat-reducing, lubricating resin bond. Used for dry grinding tool steels. | |
| | Aztec .007 | The Norton premium resin bond for increased feed rates, high stock removal and heavier cuts – when dry grinding tool steels. | |
| ABRASIVE DEPTH | 1/16 | | Usable abrasive |
| | 1/8 | | |
| | 1/4 | | |
| | Solid | | |

Our Norton line offers a comprehensive stock product selection to service most of your needs – with the fastest delivery and lowest total costs.

Review this stock section first. If you can not find the specification you need:

- Then refer to the brief descriptions of our B99 Express and CNC lines (following this section)
- See the more in-depth B99 Express product availability in our "Diamond and cBN Superabrasives Standard Catalog" #8068 on www.nortonabrasives.com or contact your Norton representative for a complete listing of Norton made-to-order superabrasive products.

TECH TIP

Diamond Grinds:

In general, diamond is used to grind non-ferrous materials, because of an adverse reaction between diamond and iron.

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Stone
- Abrasives
- Electronic components and materials

cBN GRINDS:

cBN is used to grind ferrous materials.

- High-speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hardened stainless steel
- Abrasion-resistant ferrous materials



It is the user's responsibility to refer to and comply with ANSI B7.1

NORTON DIAMOND / CBN STOCK WHEELS

APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE – DIAMOND WHEELS

| Application or Common Machine Type | Common Wheel Size, Type & Blueprint | Application Variables | | Recommended Specification | |
|---|---|---|-------------------------------|--------------------------------|-----------------|
| Carbide Grinding – Toolroom Production | | | | | |
| Blanchard Grinding | 10", 11", 16" & 18" diameters Type 2A2T | Wet – solid carbide | 1" or larger pieces | SD100-R75B99E* | |
| Vertical Spindle Surface Grinding | | | – roughing | Small pieces | ASD100-R75B99E* |
| | | | Carbide & steel (combination) | | ASD100-R75B99E* |
| Hand Burr Grinding | 6" x 3/32" x 1-1/4" Type 1V1P V – 20° ME89562 | Dry | | ASDC320B-R125B99 | |
| Centerless (wet) | Throughfeed Grinding | 12", 14", 16", 18" & 20" diameters Type 1A1 | Roughing | ASD100-R75B99E* | |
| | Unison Dedtru Grinder | | | 7" x 1" x 1-1/4" Type 1A1 | ASD150-R75B99E* |
| Cutting Off (wet) | 6" x .035" x 1-1/4" Type 1A1R ME43572 10" x .050" x 1-1/4" Type 1A1R ME43565 | Most durable Free cutting | | ASD100S-R100B99 | |
| | | | | SD100-R75B99 | |
| | | | | SD120-R100B99 | |
| Cylindrical Grinding (wet) | 10", 12", 14", 16" & 20" diameters Type 1A1 | Wet, rough grinding of cemented carbides, hard (55 Rc+) plasma and ceramic spray coatings | | ASD180-R100B99 | |
| | | | | ASD180-R75B99E* | |
| | | | | ASD150-R75B99 | |
| | | | | ASD120-R75B99 | |
| | | Wet, finish grinding of all carbides, plasma and ceramic spray coatings | | SD220-R100B99E* | |
| Tool Sharpener Bench Grinder (wet) | 5" x 1" x 1-1/4" Type 6A2H ME27084 Rim Width (W) = 1-1/16 | Tool sharpening | | SD320-R50B99 | |
| Hand Honing (dry) | Various sizes Type HH1 or HH2 | | | ASD100-R100B99 SD320-100V99 | |
| Lamination Dies (wet) | Various sizes Type 1A1 | Surface grinding of carbide | | ASD120-R75B99 | |
| Surface Grinding (wet) Straight Wheels | Various sizes Type 1A1 | Roughing | Durable | ASD100S-R100B99E* | |
| | | | Free cutting | SD100S-R100B99 | |
| | | Finishing only General purpose | | SD220-R100B99 | |
| | | | | ASD150-R75B99 | |
| Tool & Cutter Grinding | Various sizes Type 11V9, 12V9 or 15V9 | Wet or dry | | ASD120-R7599 | |
| Carbide Grinding – Offhand | | | | | |
| Single-Point Carbide Tools | 6" x 3/4" x 1-1/4" Type 6A2C ME27853 | Wet roughing | Durable | RMD150-P50V99* | |
| | | | Free cutting | SD150-P50V99 | |
| | | Wet finishing | Durable | RMD220-P50V99* | |
| | | | Free cutting | SD220-P50V99 | |
| | | Wet or dry grinding where free-cutting and self-dressing wheels are required | Roughing | ASD120-R75B99 | |
| | | | Finishing | SD220-R50B99E* | |

Note: Diamond depths are not indicated in above listings. When ordering, be sure to include Diamond depth (1/16, 1/8, etc.).

*Express Made-To-Order; Refer to the B99E Express Made-to-Order Wheel section.

NORTON DIAMOND / CBN STOCK WHEELS

APPLICATION-TO-PRODUCT RECOMMENDATION GUIDE – CBN WHEELS

| Application or Common Machine Type | Common Wheel Size, Type & Blueprint | Application Variables | Recommended Specification |
|---|---|-----------------------|---------------------------|
| Toolroom Grinding | | | |
| Cutter Sharpening | 3-3/4" x 1-1/2" x 1-1/4" Type 11V9 ME92192 | Dry | Aztec III 120T |
| Milling Cutters, Broaches, Reamers, etc. | 6" x 1" x 1-1/4" Type 12A2 ME27758 | Wet | CB120-TB99 |
| | 6" x 3/4" x 1-1/4" Type 12V9 ME48666 | Wet or dry | CB120-TB99 |
| | 6" x 3/4" x 1-1/4" Type 15V9 ME40633 | Wet or dry | CB100-WB99E* |
| | | | |
| Surface Grinding | 10" x 1/2" x 3" Type 1A1 | Wet or dry | CB100-TB99E* |
| Cylindrical Grinding | 12" x 1/2" x 3" Type 1A1 | Wet or dry | CB150-WB99E* |
| Internal Grinding Tools | Thinner than 1/2" Type DW | Wet or dry | CB100-WB99 |
| | 1/2" or thicker Type 1A1 | Wet or dry | CB120-TB99E* |
| Slotting | 7" x .040" x 1-1/4" Type 1A1R | Water-base coolant | CB120-WB99E* |

Note: cBN depths are not indicated in above listings. When ordering, be sure to include cBN depth (1/16, 1/8, etc.)

*Express Made-To-Order; Refer to the B99E Express Made-to-Order Wheel section.

CROSS REFERENCE GUIDE

| | Abrasives | | | | Bonds | | | | | | |
|---|---------------------------|---------------|---------------|---------------------|-----------------------|---------------|---------------|-------------------|------------------|-----------|-----------|
| | Resin Diamond | Resin Diamond | Metal Diamond | Resin/Vitrified cBN | Resin Diamond | Resin Diamond | Metal Diamond | Vitrified Diamond | Resin cBN | Resin cBN | Resin cBN |
| NORTON | ASD | SD | M4D | CB | B99/B99E | B105 | M99 | V99 | B99/B99E | B99EF | AZTEC |
| 3M / | CGD, | GD, | | CB | PS | | | V | | BC | |
| General Industrial Diamond / Diamond Productions, Inc | ND | D, MD | | | | | | | | | |
| Abrasive Technology | SN | S | | cBN | B | | M | | B | | |
| Accurate Diamond Tool | NCD | D, MD | | BN | B | | M | | | | |
| Citco | 5SD, 6SD | SD | MD | CB | B43, B52 | | M | | B26 | C3 | |
| Engis | NMD | D, MD | | cBN, CB | | | | | | | |
| Noritake | | | | CBC | | BX4 | | | BD/B38 | | BX4 |
| Radiac / US Diamond | NCD, WD, 1WD, MDC | D, MD | MD4C | B, CB, BZ | B7Z, BB, B5, B56, BN | | M, MF | V | BZ, BN | | |
| Regal Diamond | | | | B, BB | BJ | | | | | | |
| Superabrasives, Inc. | MDN | D, MD | | B | | | | | B82 | B5 | |
| Tyrolit / Wickman / Bay State / Cincinnati | SDM, XDL, XDN, D, 7D, CMD | SD, D, 6D, MD | 1D | 5B, 1BN, BN, BM | BD, BC, BX33, B52, B6 | Amigo | MI, MSS, MB | | B72, B56, BG, B7 | BXU8 | Amigo |
| Wendt / Slip Naxos / Winterthur | SDK | | | B, BXW | | | | | RN | RR | |

| | ABRASIVES | | BONDS | |
|--|----------------|------------|-----------------|---------|
| | Univel/G-Force | Diamond AD | Diamond and cBN | Univel |
| NORTON POLYIMIDE | | cBN BX | | G-Force |
| 3M / General Industrial Diamond / Diamond Productions, Inc | D | CB | BP | BPP |
| Citco | SD | CB | P | C5 |

NORTON DIAMOND / CBN STOCK WHEELS

TROUBLESHOOTING GUIDE – DRY GRINDING

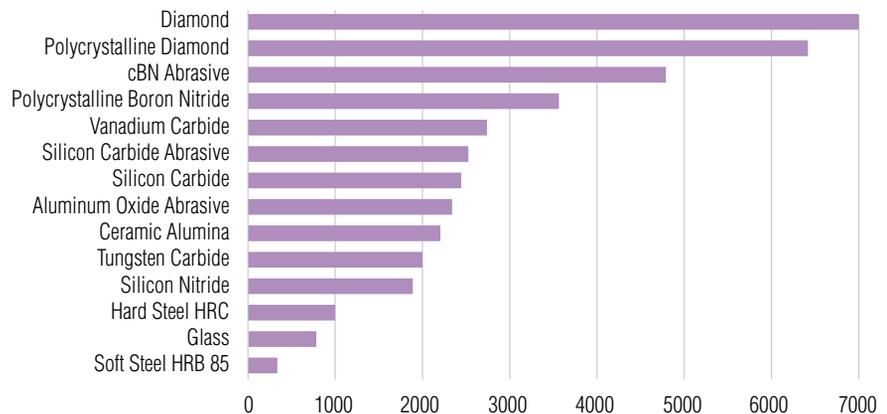
| Problem | Possible Causes | Suggested Correction |
|--------------------------|------------------------|--|
| Burning (excessive heat) | Wheel loaded or glazed | Dress wheel with a dressing stick |
| | Excessive feed rate | Reduce infeed of wheel or workpiece |
| | Wheel too durable | Use freer cutting specification or slow down wheel speed |
| Poor finish | Grit size too coarse | Select a finer grit size |
| | Excessive feed rate | Reduce infeed of wheel or workpiece |
| Chatter | Wheel out of truth | True wheel; ensure it is not slipping on mount (See “Mounting, Truing and Dressing Guide”) |

TROUBLESHOOTING GUIDE – WET GRINDING

| Problem | Possible Causes | Suggested Correction |
|--------------------------|---------------------------------|--|
| Burning (excessive heat) | Wheel glazed or loaded | Re-dress wheel |
| | Poor coolant placement | Apply coolant directly to wheel/workpiece interface |
| | Excessive material removal rate | Reduce downfeed and/or crossfeed |
| Poor finish | Excessive dressing | Use lighter dressing pressure Stop dressing as soon as wheel starts to consume stick rapidly |
| | Grit size too coarse | Select a finer grit size |
| | Poor coolant flow or location | Apply heavy flood so it reaches wheel/work interface |
| Chatter | Wheel out of truth | True wheel; ensure it is not slipping on mount |
| Wheel will not cut | Glazed by truing | Dress lightly until wheel opens up |
| | Wheel loaded | Dress lightly until wheel opens up Increase coolant flow to keep wheel surface clean Never run wheel with coolant turned off |
| | | |
| Slow cutting | Low feeds and speeds | Increase feed rate; increase wheel speed (Do not exceed wheel MOS) |
| Short wheel life | Incorrect coolant flow | Apply coolant to flood wheel/work surface |
| | Low wheel speed | Increase wheel speed (observe maximum operating speed) |
| | Excessive dressing | Use lighter dressing pressure |
| | Wheel too soft or too hard | Change grit or grade; use higher concentration |

MATERIAL HARDNESS SCALE

Superabrasives is a term used to describe those abrasives of extreme hardness which produce outstanding results when properly used on specific applications. This graph provides a hardness comparison (Knoop Hardness Scale) between diamond and cBN superabrasives, aluminum oxide and silicon carbide standard abrasives, and some common materials these abrasives are used to grind.



TECH TIP

Avoid Grinding Steel

- Avoid steel when grinding with diamond wheels. Keep the amount of steel ground to an absolute minimum.
- On brazed tools, use aluminum oxide wheel to back off the steel shank.
- A high lubricity grinding fluid should be used.
- For some steels, an armored (AMD) diamond wheel might prove most economical.

Use Rigid Work Support

- All workpieces should be supported firmly during the grinding process. Any amount of vibration will cause wheel wear and produce chatter or wave marks on the ground surface.
- On work ground between centers, centerholds should be properly prepared.
- Minimize work overhang.
- If the ground work is supported by a work finger, ensure the finger is strong enough to provide vibration-free support.

Coolant – Grind Wet

- Diamond wheels should be used with a full flood coolant properly directed toward the grinding zone. Water with a rust inhibitor is recommended.
- Vitrified diamond wheels should be used only with a coolant.
- When flood application can't be used, try mist or spray application.
 - » Use compressed air to “atomize” water or soluble oil.
 - » Direct the spray at the grinding zone to help dissipate heat and prevent heat damage to the work.

Avoid Excessive Feeds

- Excessive feeds will result in premature wheel wear. Excessive feed rates are characterized by:
 - » A hard grinding sound
 - » Chatter
 - » Burn
 - » High wheel wear rate
 - » Vibration

NORTON DIAMOND / CBN STOCK WHEELS

Decimal and Metric Equivalents of Common Fractions

| FRACTIONS OF AN INCH | DECIMALS OF AN INCH | MILLIMETERS |
|----------------------|---------------------|-------------|
| 1/64 | .0156 | 0.397 |
| 1/32 | .0313 | 0.794 |
| 3/64 | .0469 | 1.191 |
| 1/16 | .0625 | 1.588 |
| 5/64 | .0781 | 1.985 |
| 3/32 | .0938 | 2.381 |
| 7/64 | .1094 | 2.778 |
| 1/8 | .1250 | 3.175 |
| 9/64 | .1406 | 3.572 |
| 5/32 | .1563 | 3.969 |
| 11/64 | .1719 | 4.366 |
| 3/16 | .1875 | 4.762 |
| 13/64 | .2031 | 5.159 |
| 7/32 | .2188 | 5.556 |
| 15/64 | .2344 | 5.953 |
| 1/4 | .2500 | 6.350 |
| 17/64 | .2656 | 6.747 |
| 9/32 | .2813 | 7.144 |
| 19/64 | .2969 | 7.541 |
| 5/16 | .3135 | 7.937 |
| 21/64 | .3281 | 8.334 |
| 11/32 | .3438 | 8.731 |
| 23/64 | .3594 | 9.128 |
| 3/8 | .3750 | 9.525 |
| 25/64 | .3906 | 9.922 |
| 13/32 | .4063 | 10.319 |
| 27/64 | .4219 | 10.716 |
| 7/16 | .4375 | 11.112 |
| 29/64 | .4531 | 11.509 |
| 15/32 | .4688 | 11.906 |
| 31/64 | .4844 | 12.303 |
| 1/2 | .5000 | 12.700 |
| 33/64 | .5156 | 13.097 |
| 17/32 | .5313 | 13.494 |
| 35/64 | .5469 | 13.891 |
| 9/16 | .5625 | 14.287 |
| 37/64 | .5781 | 14.684 |
| 19/32 | .5938 | 15.081 |
| 39/64 | .6094 | 15.478 |
| 5/8 | .6250 | 15.875 |
| 41/64 | .6406 | 16.272 |
| 21/32 | .6563 | 16.688 |
| 43/64 | .6719 | 17.085 |
| 11/16 | .6875 | 17.462 |
| 45/64 | .7031 | 17.859 |
| 23/32 | .7188 | 18.256 |
| 47/64 | .7344 | 18.653 |
| 3/4 | .7500 | 19.050 |
| 49/64 | .7645 | 19.447 |
| 25/32 | .7813 | 19.843 |
| 51/64 | .7969 | 20.240 |
| 13/16 | .8125 | 20.637 |
| 53/64 | .8281 | 21.034 |
| 27/32 | .8438 | 21.430 |
| 55/64 | .8594 | 21.827 |
| 7/8 | .8750 | 22.224 |
| 57/64 | .8906 | 22.621 |
| 29/32 | .9063 | 23.018 |
| 59/64 | .9219 | 23.415 |
| 15/16 | .9375 | 23.812 |
| 61/64 | .9531 | 24.209 |
| 31/32 | .9688 | 24.606 |
| 63/64 | .9844 | 25.003 |
| 1 | 1.0000 | 25.400 |

Expected Surface Finish by Grit Size

Use these charts as guides only. Surface finish is affected by several variables: machine type and condition, type of material ground, coolant, wheel speed, bond system, etc.

DIAMOND

| Grit Size | Expected Finish Micro Inch AA | Maximum Depth of Cut per Pass for Grit Size |
|-----------|-------------------------------|---|
| 100 | 24 to 32 | 0.001" to 0.002" |
| 120 | 16 to 18 | 0.001" to 0.002" |
| 150 | 14 to 16 | 0.001" to 0.002" |
| 180 | 12 to 14 | 0.0007" to 0.001" |
| 220 | 10 to 12 | 0.0007" to 0.001" |
| 320 | 8 | 0.0004" to 0.0006" |
| 400 | 7 to 8 | 0.0003" to 0.0005" |

CBN

| Grit Size | Expected Finish With Oscillation | Expected Finish Plunge |
|-----------|----------------------------------|------------------------|
| 100 | 35 – 40 | 40 – 45 |
| 120 | 30 – 35 | 35 – 40 |
| 150 | 25 – 30 | 30 – 35 |
| 180 | 20 – 25 | 25 – 30 |
| 220 | 15 – 20 | 20 – 25 |
| 320 | 10 – 15 | 15 – 20 |
| 400 | 4 – 8 | 5 – 10 |

Recommended Wheel Speeds for Diamond and cBN Wheels

| WET GRINDING | Cup Wheels | Peripheral Wheels |
|--------------------------------|-----------------------------------|-----------------------------------|
| | 11V9, 12V9, 15V9, etc. | 1A1, 1V1, 1A1R, etc. |
| Diamond Grinding Wheels | | |
| Resin Bond Wheels | 4921 to 7874 SFPM 25 to 40 m/s | 4921 to 7874 SFPM 25 to 40 m/s |
| Metal Bond Wheels | | 3937 to 5906 SFPM 20 to 30 m/s |
| Vitrified Bond Wheels | 2953 to 5906 SFPM 15 to 30 m/s | 2953 to 5906 SFPM 15 to 30 m/s |
| cBN Grinding Wheels | | |
| Resin Bond Wheels | 5906 to 9843 SFPM 30 to 50 m/s | 5906 to 9843 SFPM 30 to 50 m/s |
| DRY GRINDING | | |
| Diamond Grinding Wheels | | |
| Resin Bond Wheels | 2756 to 3543 SFPM 14 to 18 m/s | 2756 to 3543 SFPM 14 to 18 m/s |
| cBN Grinding Wheels | | |
| Resin Bond Wheels | 2953 to 5906 SFPM 15 to 30 m/s | 2953 to 5906 SFPM 15 to 30 m/s |

Note: These are not the maximum operating speeds (MOS). Consult ANSI B7.1 or contact your Norton representative for MOS.

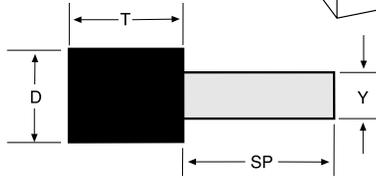
Wheel Speed Calculation

| | |
|-------------------------|---|
| To convert m/s to SFPM: | Multiply M/S x 196.85 = SFPM |
| To convert SFPM to M/S: | Divide SFPM by 196.85 = M/S |
| To convert RPM to SFPM: | Multiply wheel diameter in inches x RPM x 0.262 |

M/S = meters/second RPM = Revolutions Per Minute SFPM = Surface Feet Per Minute

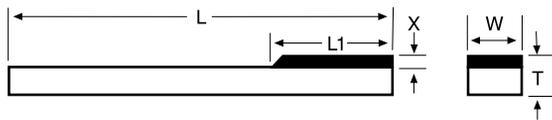
Type DW

- D - Diameter
- T - Thickness
- Y - Spindle Diameter
- SP - Spindle Length



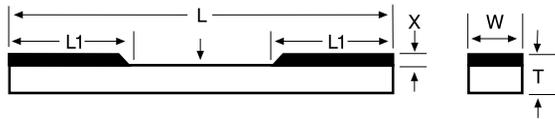
Type HH1

- L - Length
- L1 - Length of Abrasive
- X - Abrasive Depth
- W - Width
- T - Thickness (Back)



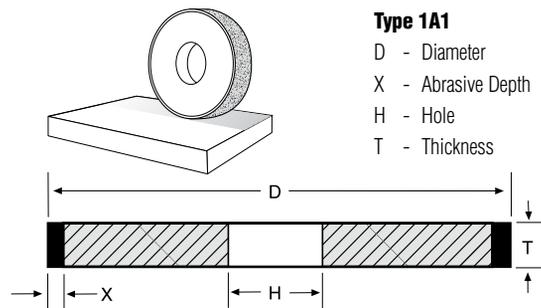
Type HH2

- L - Length
- L1 - Length of Abrasive
- X - Abrasive Depth
- W - Width
- T - Thickness (Back)



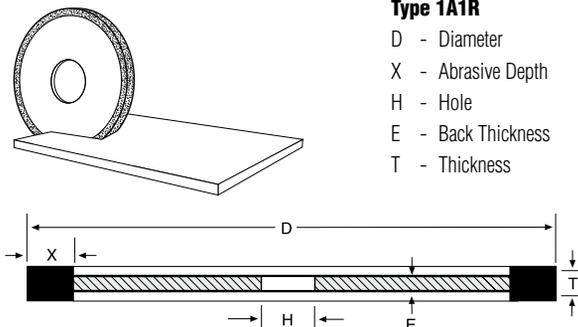
Type 1A1

- D - Diameter
- X - Abrasive Depth
- H - Hole
- T - Thickness



Type 1A1R

- D - Diameter
- X - Abrasive Depth
- H - Hole
- E - Back Thickness
- T - Thickness



| SIZE (D x T) | SPECIFICATION | PART # |
|--|-------------------------|-------------|
| Type DW Mounted Points - Diamond | | |
| 3/16 x 1/4 | SD100-R100B99-SOLID | 69014192238 |
| Steel Spindle 1/8 x 1-1/2 | | |
| 1/2 x 1/2 | SD220-R100B99-SOLID | 69014192249 |
| Steel Spindle 1/4 x 1-1/2 | | |
| 3/4 x 3/8 | SD150-R100B99-SOLID | 69014192251 |
| Steel Spindle 1/4 x 1-1/2 | | |
| 1 x 1/2 | SD100-R100B99-SOLID | 69014192428 |
| Steel Spindle 1/4 x 1-1/2 | | |
| Type DW Mounted Points - cBN | | |
| 3/16 x 1/4 | CB150-WB99-SOLID | 69014192258 |
| Carbide Spindle .125 x 1-3/4 | | |
| SIZE (T x W x L) | SPECIFICATION | PART # |
| Type HH1 Hand Hones - Diamond | | |
| 1/4 x 1/4 x 6 | ASD220-R100B99-1/16 | 69014192139 |
| One 1/16 deep 1" long insert in one 1/4 surface | | |
| 1/4 x 3/8 x 4 | ASD100-R100B99-1/16 | 69014192141 |
| One 1/16 deep 1" long insert in one 3/8 surface | ASD180-R100B99-1/16 | 69014192142 |
| | ASD220-R100B99-1/16 | 69014191670 |
| | ASD320-R100B99-1/16 | 69014191672 |
| | ASD400-R100B99-1/16 | 69014192143 |
| | D10/20MIC-R100B99-1/16 | 69014192144 |
| | SD320-100V99-1/16 | 69014192140 |
| Type HH2 Hand Hones - Diamond | | |
| 1/4 x 3/8 x 4 | ASD120/220-R100B99-1/16 | 69014192150 |
| Two 1/16 deep 1" long inserts in one 3/8 surface | ASD220/320-R100B99-1/16 | 69014192178 |
| | ASD220/400-R100B99-1/16 | 69014192179 |
| | ASD320/400-R100B99-1/16 | 69014192180 |
| | SD220/320-100V99-1/16 | 69014192149 |
| SIZE (D x T x H) | SPECIFICATION | PART # |
| Type 1A1 Straight - Diamond | | |
| 1 x 1/4 x 1/4 | SD100-R100B99-1/8 | 69014192175 |
| 1-1/2 x 1/2 x 1/2 | D6/12MIC-N100B99-1/8 | 69014192176 |
| 2 x 1/8 x 1/4 | SD100-R100B99-1/8 | 69014192184 |
| 3 x 1/4 x 3/4 | SD180-N100B99-1/8 | 69014192187 |
| 4 x .020 x 1-1/4 | SD320-R100B99-1/8 | 69014192188 |
| 4 x 1/32 x 1-1/4 | SD100S-R100B99-1/4 | 69014192192 |
| 4 x 1/16 x 1-1/4 | SD100S-R100B99-1/4 | 66260273583 |
| | SD150-R100B99-1/4 | 66260273584 |
| | SD220-R100B99-1/4 | 66260273586 |
| 4 x 1/8 x 3/4 | SD150-R100B99-1/4 | 69014192024 |
| 4 x 1/8 x 1-1/4 | SD150-R100B99-1/4 | 69014191677 |
| 4 x 1/4 x 1/2 | SD150-R100B99-1/4 | 66260273590 |
| 4 x 1/4 x 3/4 | SD150-R100B99-1/4 | 66260273592 |
| 4 x 1/4 x 1-1/4 | SD100S-R100B99-1/4 | 66260273587 |
| | SD120-R100B99-1/4 | 66260273588 |
| | SD150-R100B99-1/4 | 66260273589 |
| 4 x 1/2 x 1-1/4 | SD150-R100B99-1/4 | 66260273594 |
| 6 x 1/32 x 1-1/4 | SD220-R100B99-1/8 | 69014192197 |
| 6 x 1/16 x 1-1/4 | SD100-R100B99-1/4 | 66260273596 |
| | SD150-R100B99-1/4 | 66260273597 |
| | SD180-R100B99-1/4 | 66260273598 |
| | SD220-R100B99-1/4 | 66260273599 |
| 6 x 1/8 x 1-1/4 | ASD150-R75B99-1/4 | 66260273617 |
| | SD100-R100B99-1/4 | 66260273611 |
| | SD150-R100B99-1/4 | 66260273613 |
| | SD180-R100B99-1/4 | 66260273614 |
| | SD220-R100B99-1/4 | 66260273615 |
| 6 x 1/4 x 1-1/4 | ASD100S-R75B99-1/4 | 69014192205 |
| | ASD120-R75B99-1/4 | 69014192769 |
| | ASD150-R75B99-1/4 | 66260273609 |
| | ASD180-R75B99-1/4 | 69014192770 |
| | ASD220-R75B99-1/4 | 69014192771 |
| | ASD320-R75B99-1/4 | 69014192772 |
| | RMD180-P100V99-1/8 | 69014192203 |
| | SD120-R100B99-1/4 | 69014191691 |
| | SD150-R100B99-1/4 | 69014191692 |
| | SD180-R100B99-1/4 | 69014191693 |
| | SD220-R100B99-1/4 | 69014192764 |

Standard Package = 1 mounted point, hand hone, or wheel
Continued

NORTON DIAMOND / CBN STOCK WHEELS

| SIZE (D x T x H) | SPECIFICATION | PART # |
|---|--------------------|-------------|
| Type 1A1 Straight – Diamond (cont'd) | | |
| 6 x 3/8 x 1-1/4 | ASD120-R75B99-1/4 | 69014192773 |
| | ASD150-R75B99-1/4 | 69014191695 |
| | SD150-R100B99-1/4 | 69014191696 |
| 6 x 1/2 x 1-1/4 | ASD120-R75B99-1/4 | 69014192777 |
| | ASD150-R75B99-1/4 | 69014191698 |
| | ASD220-R75B99-1/4 | 69014192779 |
| | ASD320-R75B99-1/4 | 69014192780 |
| | SD120-R100B99-1/4 | 66260273557 |
| | SD150-R100B99-1/4 | 66260273561 |
| | SD180-R100B99-1/4 | 69014191700 |
| 7 x 1/4 x 1-1/4 | ASD150-R75B99-1/4 | 69014191701 |
| | SD100S-R100B99-1/4 | 69014192210 |
| | SD120-R100B99-1/4 | 66260273566 |
| | SD150-R100B99-1/4 | 69014191703 |
| | SD180-R100B99-1/4 | 69014191704 |
| | SD220-R100B99-1/4 | 69014191705 |
| 7 x 3/8 x 1-1/4 | SD120-R100B99-1/4 | 69014191849 |
| | SD220-R100B99-1/4 | 69014191852 |
| 7 x 1/2 x 1-1/4 | ASD100-R75B99-1/4 | 69014192211 |
| | ASD150-R75B99-1/4 | 69014191853 |
| | ASD180-R75B99-1/4 | 69014192212 |
| | SD120-R100B99-1/4 | 69014191854 |
| | SD150-R100B99-1/4 | 69014191855 |
| | SD180-R100B99-1/4 | 69014191856 |
| | SD220-R100B99-1/4 | 69014191857 |
| | SD150-R100B99-1/4 | 66260273574 |
| 8 x 1/2 x 1-1/4 | ASD120-R75B99-1/4 | 69014192305 |
| 10 x 1/2 x 3 | ASD180-R100B99-1/4 | 69014192306 |
| | ASD150-R75B99-1/4 | 69014192310 |
| 12 x 1/2 x 3 | ASD150-R75B99-1/4 | 69014192311 |
| 12 x 1/2 x 5 | ASD150-R75B99-1/4 | 69014192311 |
| 12 x 1 x 3 | ASD120-R75B99-1/4 | 69014192312 |
| 12 x 1 x 5 | ASD120-R75B99-1/4 | 69014192313 |
| 14 x 1/2 x 5 | ASD150-R75B99-1/4 | 69014192314 |
| 14 x 1 x 5 | ASD120-R75B99-1/4 | 69014192316 |
| 20 x 1 x 12 | ASD120-R75B99-1/4 | 69014192325 |

Standard Package = 1 wheel

| SIZE (D x T x H) | SPECIFICATION | PART # |
|------------------------------------|---------------------|-------------|
| Type 1A1 Straight – cBN | | |
| 6 x 1/8 x 1-1/4 | CB120-TB99-1/4 | 66260273601 |
| 6 x 1/4 x 1-1/4 | CB120-TB99-1/4 | 66260273605 |
| 6 x 1/2 x 1-1/4 | CB120-TB99-1/4 | 66260273607 |
| 7 x 1/4 x 1-1/4 | CB120-TB99-1/4 | 69014192021 |
| 7 x 1/2 x 1-1/4 | CB120-TB99-1/4 | 66260273567 |
| 12 x 1/2 x 5 | CB150-TB99-1/4 | 66260273560 |
| 12 x 1 x 5 | CB150-TB99-1/4 | 66260273562 |
| Type 1A1R Cut-Off – Diamond | | |
| 3 x .020 x 1/2 (ME104177) | M4D150-N50M99-1/8 | 69014192060 |
| 4 x .012 x 1/2 (ME104180) | M4D180-N75M99-1/8 | 69014192063 |
| 4 x .020 x 1/2 (ME104180) | M4D220-N75M99-1/8 | 69014192064 |
| 4 x .030 x 1/2 (ME104180) | M4D220-N100M99-1/8 | 69014192067 |
| 4 x .030 x 1/2 (ME104180) | M4D150-N75M99-1/8 | 69014192068 |
| 4 x 1/32 x 3/4 (ME43570) | SD100S-R100B99-1/4 | 69014192151 |
| 4 x 1/32 x 1-1/4 (ME43570) | SD120-R100B99-1/4 | 69014191706 |
| 5 x .015 x 1/2 (ME104180) | SD100S-R100B99-1/4 | 69014192152 |
| 6 x .017 x 1-1/4 (ME104180) | M4D220-N100M99-1/8 | 69014192070 |
| 6 x .025 x 1-1/4 (ME104180) | M4D150-N100M99-1/8 | 69014192082 |
| 6 x .035 x 5/8 (ME104177) | M4D220-N100M99-1/8 | 69014192083 |
| 6 x .035 x 5/8 (ME104177) | M4D150-N100M99-1/8 | 69014192086 |
| 6 x .035 x 1-1/4 (ME43572) | M4D100-N75M99-1/8 | 69014192088 |
| | SD100-R75B99-1/4 | 69014192155 |
| | ASD100S-R100B99-1/4 | 69014192158 |
| | ASD120-R100B99-1/4 | 69014192159 |
| | SD100-R100B99-1/4 | 69014191858 |
| | SD100S-R100B99-1/4 | 69014192156 |
| | SD220-R100B99-1/4 | 69014192157 |

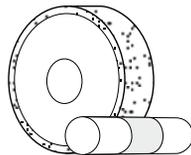
Continued

NEW! See page 305 for Norton Thrifline stock wheels, engineered at low initial cost, for small volume operations.

TECH TIP

Cylindrical grinding applications – 1A1 wheels:

- Includes all outside grinding of round parts, even though the finished product is not always a true cylinder.
- Infeed at both ends of the traverse to keep wheel face flat.
- Use work supports to prevent deflection.
- Rough grinding traverse speed should be 1/2 to 2/3 of the thickness of the wheel per work revolution.
- Finishing grinding traverse speed should be 1/2" or less per work revolution.

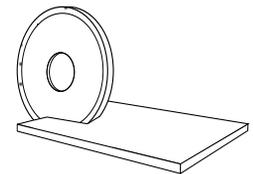


It is the user's responsibility to refer to and comply with ANSI B7.1

TECH TIP

Cut-off applications – 1A1R wheels:

- Use the largest diameter flanges possible
- Use flanges of equal diameter
- Use the thickest wheel possible for increased stiffness and straightness of cut



cBN wheels are used on hardened steels. Diamond wheels are used to cut or slot carbide, glass or ceramic parts.



It is the user's responsibility to refer to and comply with ANSI B7.1

TECH TIP

Diamond Grinds:

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Stone
- Abrasives
- Electronic components and materials

cBN Grinds:

- High-speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hard stainless steel
- Abrasion-resistant ferrous materials

Can't Find Your Specification Here?

Review this stock section first. If you can not find the specification you need:

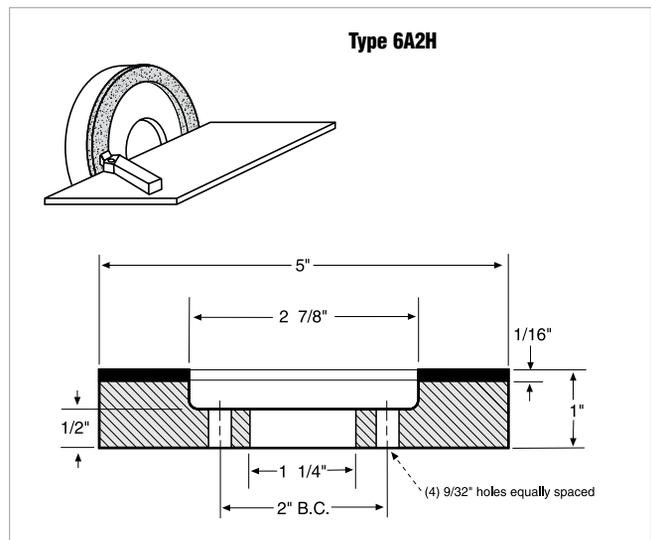
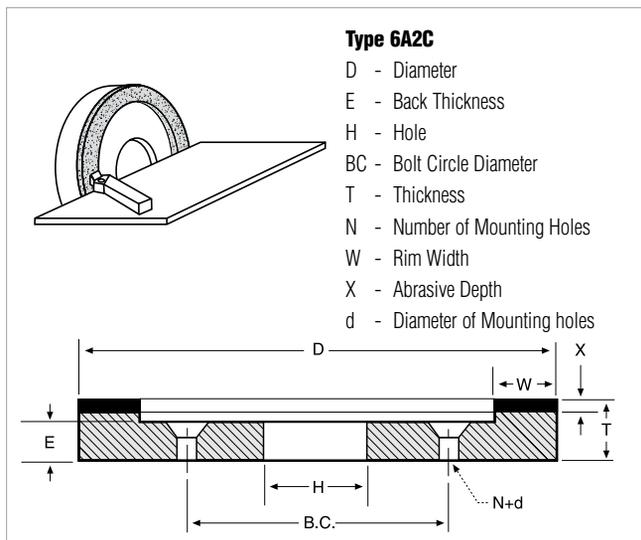
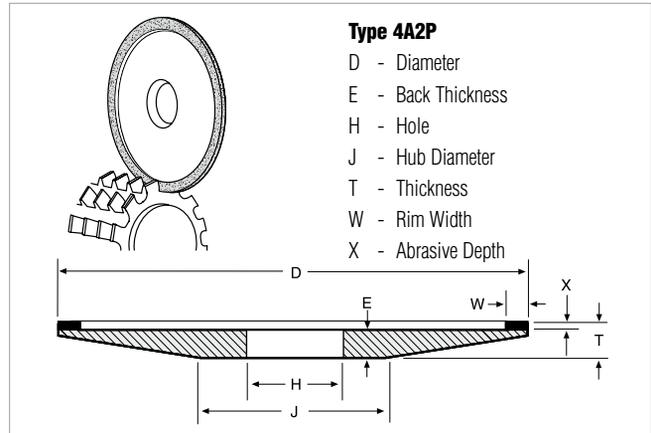
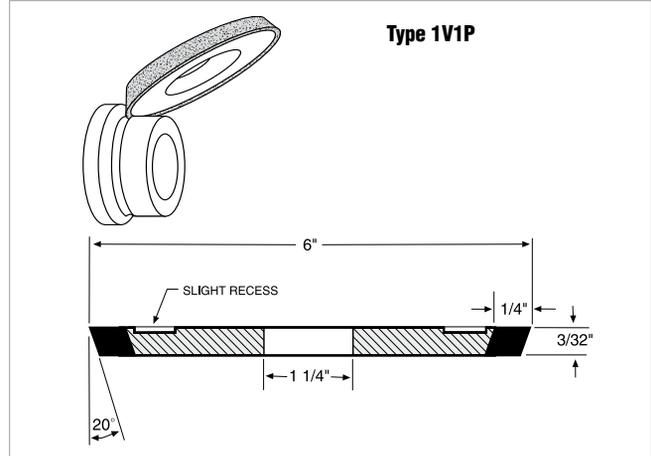
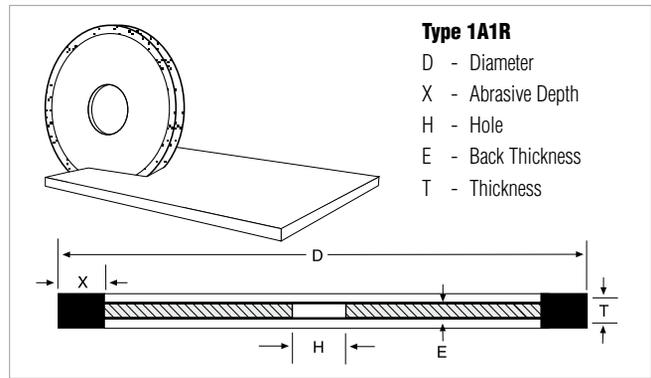
- Then refer to the brief descriptions of our B99 Express and CNC lines (following this section)
- See the more in-depth B99 Express product availability in our "Diamond and cBN Superabrasives Standard Catalog" #8068 on www.nortonabrasives.com or contact your Norton representative for a complete listing of Norton made-to-order superabrasive products.

NORTON DIAMOND / CBN STOCK WHEELS

| SIZE (D x T x H) | SPECIFICATION | PART # |
|------------------------------------|----------------------|-------------|
| Type 1A1R Cut-Off – Diamond | | |
| 6 x .035 x 1-1/4 (ME73316) | ASD100S-R100B99-9/32 | 69014192164 |
| | ASD120-R100B99-9/32 | 69014192165 |
| | SD100-R100B99-9/32 | 69014192161 |
| | SD120-R100B99-9/32 | 69014192162 |
| | SD150-R100B99-9/32 | 69014192163 |
| | SD100-R50B99-1/8 | 69014192166 |
| 6 x .045 x 1-1/4 (ME83991) | | |
| 6 x .055 x 1-1/4 (ME104177) | M4D100-N75M99-1/8 | 69014192099 |
| 7 x .035 x 1-1/4 (ME82347) | ASD100-R100B99-1/4 | 66260238686 |
| 7 x .055 x 1-1/4 (ME104177) | M4D120-N100M99-1/8 | 69014192108 |
| 8 x .030 x 1-1/4 (ME104180) | M4D180-N75M99-1/8 | 69014192110 |
| 8 x .045 x 5/8 (ME43569) | SD120-R100B99-1/4 | 69014192167 |
| 8 x .045 x 1-1/4 (ME43569) | SD120-R100B99-1/4 | 69014192169 |
| 8 x .050 x 1-1/4 (ME104180) | M4D180-N75M99-1/8 | 69014192114 |
| 10 x .050 x 1-1/4 (ME 43565) | ASD120-R100B99-1/4 | 66260230236 |
| | CD100-R100B99-1/4 | 69014192815 |
| | SD120-R100B99-1/4 | 69014192170 |
| 12 x .070 x 3/4 (ME 43567) | SD150-R100B99-1/4 | 69014192173 |
| 14 x .070 x 3/4 (ME 106589) | SD120-R100B99-1/4 | 66260259011 |
| Type 1A1R Cut-off – cBN | | |
| 6 x .035 x 1-1/4 (ME43572) | CB100-WB99-1/4 | 69014192160 |
| Type 1V1P Fluting – Diamond | | |
| 6 x 3/32 x 1-1/4 | ASDC320C-R100B99-1/4 | 69014192761 |
| Face Bevel 1 Side 20 Deg | ASD320B-R125B99-1/4 | 69014192302 |
| Copper Core (ME89562) | | |
| Type 4A2P Dish – Diamond | | |
| 6 x 3/8 x 1-1/4 | ASD120-R75B99-1/16 | 69014192280 |
| Rim Width 1/4" (ME88369) | | |

Standard Package = 1 wheel

Refer to "Brake Controlled Truing Devices" and "Dressing Sticks" sections for truing and dressing products.



NORTON DIAMOND / CBN STOCK WHEELS

| SIZE (D x T x H) | SPECIFICATION | PART # |
|--|--------------------|-------------|
| Type 6A2C Straight cup – Diamond | | |
| 6 x 7/16 x 1-1/4 Rim Width 1" (0640185M) | D120/140-H-MSL | 66260269172 |
| 6 x 3/4 x 1-1/4 Rim Width 3/4" (ME27853) | SD220-R50B99-1/16 | 69014191665 |
| | ASD120-R75B99-1/16 | 69014191860 |
| | ASD120-R75B99-1/8 | 69014192786 |
| | SD150-P50V99-1/16 | 69014192217 |
| | SD220-P50V99-1/16 | 69014191623 |
| 6 x 3/4 x 1-1/4 Rim Width 1/2" (ME30621) | ASD120-R75B99-1/8 | 66260273565 |

Standard Package = 1 wheel

| SIZE (D x T x H) | SPECIFICATION | PART # |
|---|-------------------|-------------|
| Type 6A2H Straight Cup – Diamond | | |
| 5 x 1 x 1-1/4 Rim Width 1-1/16" (ME27084) | SD320-R50B99-1/16 | 69014192221 |

Standard Package = 1 wheel

NEW! See page 305 for Norton Thriftline stock wheels, engineered at low initial cost, for small volume operations.

ASD DIAMOND / B105 RESIN BOND WHEELS

BEST CHOICE FOR DRY GRINDING CARBIDE TOOLS

FEATURES

- Premium quality diamond
- Advanced, heat-reducing bond
- Self-lubricating bond
- Unique self-dressing core

BENEFITS

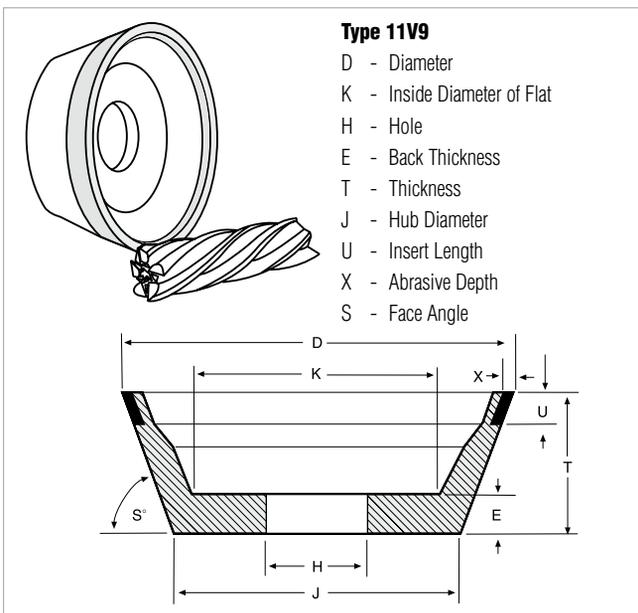
- Produces keen cutting tools that hold their shape, are easier to sharpen, and require fewer reconditionings
- Minimizes heat generation and thermal damage to tool
- Increases tool life and productivity
- Lasts more than 2X as long as standard diamond wheels
- Lowest total wheel costs; highest productivity
- No steel or braze loading
- Uses less power
- Eliminates wheel core damage
- Eliminates downtime to dress core

| SIZE (D x T x H) | SPECIFICATION | PART # |
|--|---------------------|-------------|
| Type 11V9 Flaring Cup – Diamond | | |
| 3-3/4 x 1-1/2 x 1-1/4 Insert Length 3/8" (ME92192) | ASD120-R75B105-1/16 | 69014191905 |
| | ASD150-R75B105-1/16 | 69014191906 |
| | ASD100S-R75B105-1/8 | 69014191908 |
| | ASD120-R75B105-1/8 | 69014191909 |
| | ASD150-R75B105-1/8 | 69014191910 |
| 5 x 1-3/4 x 1-1/4 Insert Length 7/16" (ME98298) | ASD120-R75B105-1/16 | 69014191913 |
| | ASD150-R75B105-1/16 | 69014191914 |
| | ASD100S-R75B105-1/8 | 69014191916 |
| | ASD150-R75B105-1/8 | 69014191918 |

Standard Package = 1 Wheel

| SIZE (D x T x H) | SPECIFICATION | PART # |
|--|---------------------|-------------|
| Type 11V9 Flaring Cup – Diamond | | |
| 3 x 1-1/4 x 3/4 Insert Length 3/8" (ME93912) | ASD120-R75B99-1/16 | 69014192291 |
| | ASD150-R75B99-1/16 | 69014192292 |
| | SD150-R100B99-1/16 | 69014192293 |
| 3-3/4 x 1-1/2 x 3/4 Insert Length 3/8" (M92192) | ASD120-R75B99-1/16 | 69014192022 |
| 3-3/4 x 1-1/2 x 1-1/4 Insert Length 3/8" (ME92192) | ASD150C-R50B99-1/8 | 69014190751 |
| | ASD120-R75B99-1/16 | 69014191660 |
| | ASD150-R75B99-1/16 | 69014191725 |
| | ASD100S-R75B99-1/8 | 69014191653 |
| | ASD120-R75B99-1/8 | 69014191652 |
| | ASD150-R75B99-1/8 | 69014191651 |
| | ASD180-R75B99-1/8 | 69014191650 |
| | SD120-R100B99-1/16 | 69014191657 |
| | SD150-R100B99-1/16 | 69014191656 |
| | SD220-R100B99-1/16 | 69014191654 |
| | SD320-R100B99-1/16 | 69014192814 |
| | SD100S-R100B99-1/8 | 69014192427 |
| | SD120-R100B99-1/8 | 69014191649 |
| | SD150-R100B99-1/8 | 69014191648 |
| | SD180-R100B99-1/8 | 69014191647 |
| | SD220-R100B99-1/8 | 69014191646 |
| 5 x 1-3/4 x 1-1/4 Insert Length 7/16" (ME98298) | ASD100S-R75B99-1/16 | 69014191645 |
| | ASD120-R75B99-1/16 | 69014191644 |
| | ASD150-R75B99-1/16 | 69014191643 |
| | ASD100S-R75B99-1/8 | 69014191637 |
| | ASD120-R75B99-1/8 | 69014191636 |
| | ASD150-R75B99-1/8 | 69014191635 |
| | ASD180-R75B99-1/8 | 69014191634 |
| | SD120-R100B99-1/16 | 69014191641 |
| | SD150-R100B99-1/16 | 69014191640 |
| | SD220-R100B99-1/16 | 69014191638 |
| | SD150-R100B99-1/8 | 69014191632 |
| | SD180-R100B99-1/8 | 69014191631 |

Standard Package = 1 Wheel



NORTON DIAMOND / CBN STOCK WHEELS

NORTON AZTEC CBN WHEELS

BEST CHOICE FOR DRY TOOL RESHARPENING

FEATURES

- Consistent, high quality cBN (cubic Boron Nitride) abrasive
- Advanced heat-reducing bond conducts heat away from the workpiece

BENEFITS

- 85% longer life than standard cBN wheels
- Eliminates heat build-up and damage
- Extends wheel life
- Freer cutting action
- Maintains cutting tool steel integrity
- Extends cutting tool life

AZTEC III

- Lubricating bond
 - Eliminates steel and braze loading
 - Reduces drag
 - Allows greater infeeds

AZTEC .007

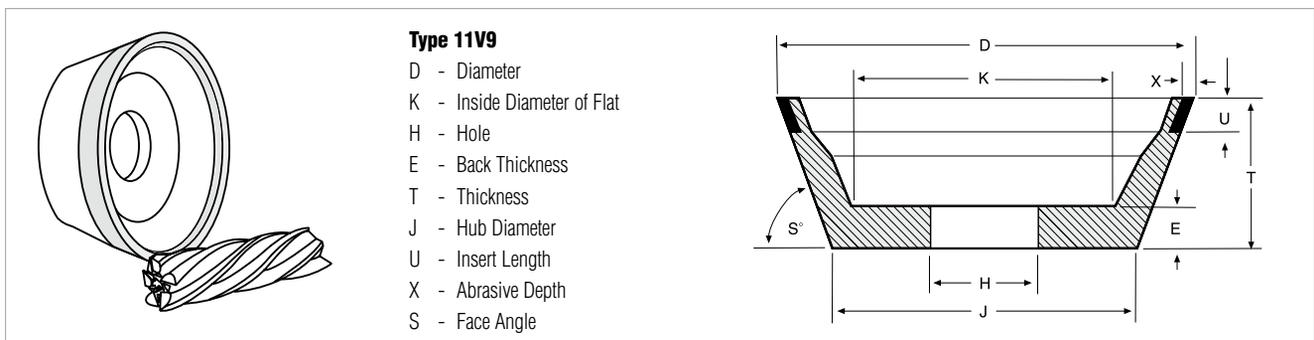
- Allows increased infeed (start at .007)
 - High stock removal rate
 - Heaviest cuts with less wheel wear
 - Lower grinding forces
 - Elimination of chatter

| SIZE (D x T x H) | SPECIFICATION | PART # |
|--|---|---------------------|
| Type 11V9 Flaring Cup – cBN | | |
| 3-3/4 x 1-1/2 x 1-1/4 Insert Length 3/8" (ME92192) | AZTEC .007-100-1/16 | 69014195683 |
| | AZTEC .007-150-1/16 | 69014195679 |
| | AZTEC III 100T-1/16 | 69014191832 |
| | AZTEC III 120T-1/16 | 69014191833 |
| | AZTEC III 150T-1/16 | 69014191834 |
| | AZTEC .007-150-1/8 | 69014195680 |
| | AZTEC III 100T-1/8 | 69014191838 |
| | AZTEC III 120T-1/8 | 69014191839 |
| | AZTEC III 150T-1/8 | 69014191840 |
| | 5 x 1-3/4 x 1-1/4 Insert Length 7/16" (ME98298) | AZTEC .007-100-1/16 |
| AZTEC III 100T-1/16 | | 69014191841 |
| AZTEC III 120T-1/16 | | 69014191842 |
| AZTEC III 150T-1/16 | | 69014191843 |
| AZTEC .007-100-1/8 | | 69014195686 |
| AZTEC .007-150-1/8 | | 69014195682 |
| AZTEC III 100T-1/8 | 69014191844 | |

| SIZE (D x T x H) | SPECIFICATION | PART # |
|--|-----------------|-------------|
| Type 11V9 Flaring Cup – cBN | | |
| 3-3/4 x 1-1/2 x 1-1/4 Insert Length 3/8" (ME92192) | CB100-TB99-1/16 | 69014191719 |
| | CB100-TB99-1/8 | 69014191722 |
| | CB120-TB99-1/8 | 69014191723 |
| | CB150-TB99-1/8 | 69014191724 |
| | CB120-WB99-1/16 | 69014191720 |
| 5 x 1-3/4 x 1-1/4 Insert Length 7/16" (ME98298) | CB120-TB99-1/8 | 69014191715 |
| | CB150-TB99-1/8 | 69014191716 |

Standard Package – 1 Wheel

Standard Package = 1 Wheel



Refer to "Brake Controlled Truing Devices" and "Dressing Sticks" sections for truing and dressing products.

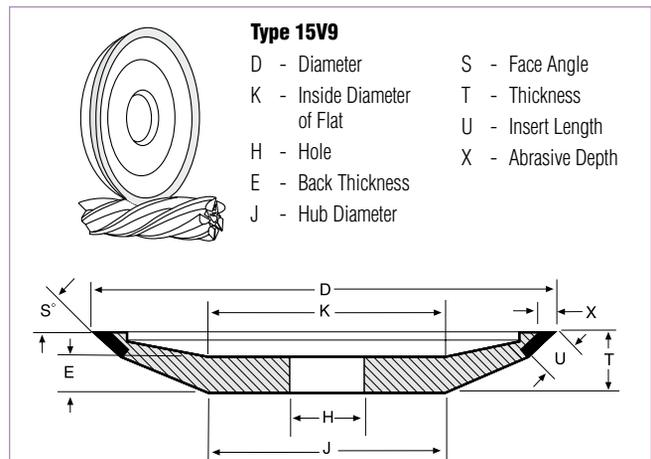
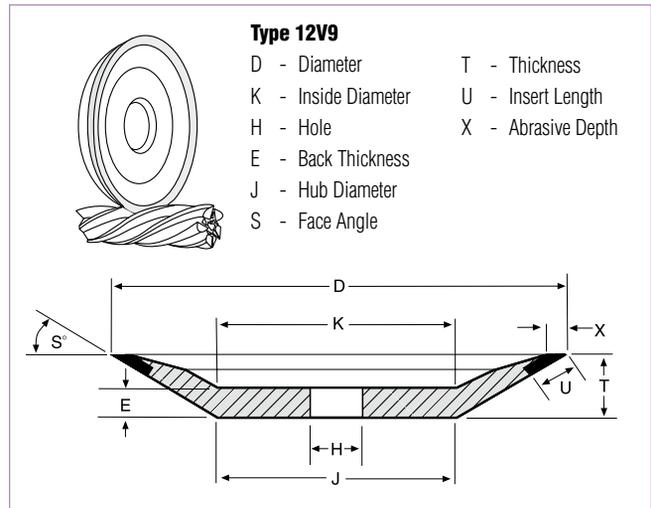
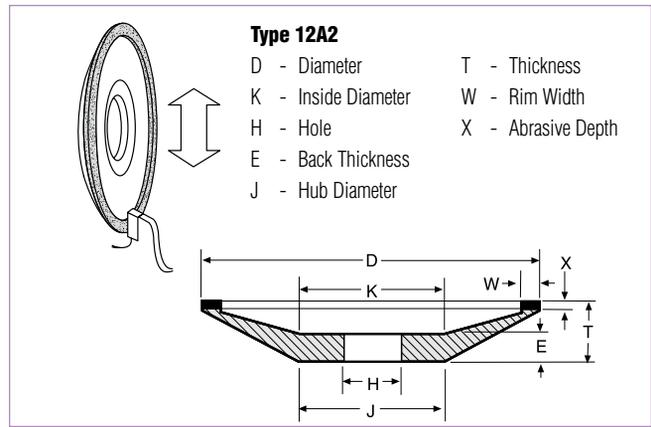
| SIZE (D x T x H) | SPECIFICATION | PART # |
|---------------------------------|--------------------|-------------|
| Type 12A2 Dish – Diamond | | |
| 4 x 1/2 x 1-1/4 | SD180-R75B99-1/8 | 69014192223 |
| Rim Width 1/4" (ME40745) | | |
| 6 x 1 x 1-1/4 | ASD120-R75B99-1/8 | 69014191630 |
| Rim Width 3/16" (ME27758) | ASD180-R75B99-1/8 | 69014192226 |
| Type 12A2 Dish – cBN | | |
| 6 x 1 x 1-1/4 | CB120-TB99-1/16 | 69014192227 |
| Rim Width 3/16" (ME27758) | | |
| Type 12V9 Dish – Diamond | | |
| 3 x 7/16 x 3/4 | SD150-R100B99-1/16 | 69014192228 |
| Insert Length 7/16" (ME41755) | | |
| 4 x 1/2 x 1-1/4 | SD180-R100B99-1/8 | 69014191629 |
| Insert Length 1/4" (ME58734) | | |
| 6 x 3/4 x 1-1/4 | ASD150-R75B99-1/16 | 69014191628 |
| Insert Length 3/8" (ME48666) | | |
| Type 12V9 Dish – cBN | | |
| 4 x 1/2 x 1-1/4 | CB120-TB99-1/8 | 69014192229 |
| Insert Length 1/4" (ME58734) | | |
| 6 x 3/4 x 1-1/4 | CB120-TB99-1/8 | 69014192020 |
| Insert Length 3/8" (ME48666) | CB150-TB99-1/8 | 69014192784 |
| Type 15V9 Dish – Diamond | | |
| 6 x 3/4 x 1-1/4 | SD150-R100B99-1/16 | 69014192230 |
| Insert Length 3/8" | | |

Standard Package = 1 wheel

Norton offers a comprehensive stock product selection to service most of your needs – with the fastest delivery and lowest total cost.

Review this stock section first. If you can not find the specification you need:

- Then refer to the brief descriptions of our B99 Express and CNC lines (following this section)
- See the more in-depth B99 Express product availability in our "Diamond and cBN Superabrasives Standard Catalog" #8068 on www.nortonabrasives.com or contact your Norton representative for a complete listing of Norton made-to-order superabrasive products.



Norton B99 Express Service

The Norton B99 Express service is designed to offer you up to 65,000 made-to-order choices of resin bond Diamond and cBN wheels. Almost all popular sizes are offered. 12" and less diameter B99 Express wheels will ship in two weeks or less from the date the order is received by Norton. 14" and larger wheels are available at standard lead-times.

See the more in-depth B99 Express product availability in our "Diamond and cBN Superabrasives Standard Catalog" #8068 on www.nortonabrasives.com or contact your Norton representative for a complete listing of Norton made-to-order superabrasive products.



65,000+ made-to-order resin products; 25 wheel shapes, with one- and two-week lead-times for 12" and less diameter wheels. 14" and larger wheels and 80 grit and coarser wheels are available with standard made-to-order lead-times. If you do not find the resin specification and/or shape you need in our stock offering, you will most likely find it in our B99 Express made-to-order offering.

Applications:

Norton B99E Diamond Wheels

- Sharpening cemented carbide cutting tools
- Cutting-off carbide rod
- Grinding or cutting-off non-metallic materials such as ceramics or glass
- Surface grinding dies
- O.D. grinding spray coatings

Norton B99E cBN Wheels

- Sharpening high-speed (M2, D2, T15, etc.) steel cutting tools
- Surface and ID grinding hardened steel die components
- Precision grinding steel parts Rc 50 or harder

B99 EXPRESS MADE-TO-ORDER DIAMOND AND CBN RESIN BOND WHEELS

FEATURES

- Superior diamond and cBN abrasives in durable resin bond systems
- Thousands of abrasive, grit, grade, concentration, and bond combinations
- Made in our state-of the art, USA, ISO-certified facilities
- Priced as stock products
- Two-week (and less) lead-times

BENEFITS

- These quality wheels will get your job done
- There is a B99 Express wheel for almost every resin bond application
- Exceptional quality and performance
- Excellent performance/price ratio
- Minimal time from order to production floor

HOW TO SELECT B99 EXPRESS MADE-TO-ORDER DIAMOND WHEELS

| Select | | | Select desired wheel shape |
|-------------------------|-----------|---|---|
| WHEEL SHAPE | | | |
| WHEEL DIMENSIONS | D x T x H | Select Diameter x Thickness x Hole from the availability tables. Use blueprint numbers where available. | |
| ABRASIVE | ASD | Armored diamond; most durable. Versatile: can be used wet or dry. ASD should be used when carbide and steel are ground in the same operation. | Select the abrasive based on horsepower, grinding wet or dry, and contact with steel. |
| | SD | Free cutting standard. Can be used wet or dry; should be used on low horsepower (3/4 hp or less) machines. | |
| GRIT SIZE | 80 | Roughing | Select the grit size based on finish and material removal rate required. |
| | 100 | Roughing. The most common grit size for roughing operations. | |
| | 120 | For roughing where 100 is too coarse. Also for cut-off applications. | |
| | 150 | Medium stock removal plus good finish. For combined roughing and finishing applications. | Note: Standard made-to-order lead-times apply to 80 grit and coarser wheels. |
| | 180 | Medium stock removal plus good finish. To improve finish. | |
| | 220 | Finishing | |
| GRADE | 320 | Finishing | The hardness of the wheel |
| | 400 | Fine finishing | |
| | R | Resin bond standard | |
| CONCENTRATION | 50 | Shape 2A2T only. For broad area of contact grinding. | Select the concentration based on grinding wet or dry, material removal rates, and form holding requirements. |
| | 75 | Norton standard. Freer cutting than 100 grit and the most economical for dry grinding with ASD diamond. | |
| | 100 | Very durable. Recommended under flood coolant conditions. For use with 220 grit or finer, when durability is required. Also for cut-off applications. | |
| BOND | 125 | Improved form holding. Used with B99EF bond only for form holding in high-volume, high-pressure coolant applications. Used with ASD abrasive. | Select the bond based on the material being ground and grinding application. |
| | B99E | Norton standard pre-engineered resin bond. Versatile enough to be used wet or dry on most tool making or resharpening applications as well as for grinding non-metallic materials such as ceramics or glass. Available in all shapes. | |
| ABRASIVE DEPTH | B99EF | Improved form holding. More durable than B99E. Improved heat dissipation in wet or dry applications. Available in wheel shapes 1V1, 1B1, 1E1, 1EE1, 1F1 and 1FF1. | Usable abrasive |
| | 1/16 | | |
| | 1/8 | | |
| | 1/4 | | |
| | 1/2 | | |

HOW TO SELECT B99 EXPRESS MADE-TO-ORDER CBN WHEELS

| Select | | | |
|-------------------------|-----------|---|--|
| WHEEL SHAPE | | | Select desired wheel shape |
| WHEEL DIMENSIONS | D x T x H | Select Diameter x Thickness x Hole from the availability tables. Use blueprint numbers where available. | Note: Standard made-to-order lead-times apply to 14" and larger wheels. |
| ABRASIVE | CB | Norton standard coated cBN (cubic Boron Nitride). Optimized for high performance in resin bond systems. | Select Norton cBN abrasive to grind hard tool steels such as A2, D2, T15, etc., and tough alloy steels. |
| GRIT SIZE | 100 | Roughing. The most common grit size for roughing operations. | Select the grit size based on finish and material removal rate required. Note: Standard made-to-order lead-times apply to 80 grit and coarser wheels. |
| | 120 | For roughing where 100 is too coarse. Also for cut-off applications. | |
| | 150 | Medium stock removal plus good finish. For combined roughing and finishing applications. | |
| | 180 | Medium stock removal plus good finish. To improve finish. | |
| | 220 | Finishing | |
| | 320 | Finishing | |
| GRADE | 400 | Fine finishing | The hardness of the wheel |
| | T | Norton standard. Approximately 75 concentration, T is the first choice for lower horsepower equipment or wide area of contact between the wheel and the workpiece. Ideal for reshaping applications with 11V9, 12A2, 4A2P, and 15V9 wheel shapes when dry grinding. | |
| | W | Very durable. Approximately 100 concentration, W is recommended for high volume coolant operations: flute grinding from solid, flute polishing, surface, and cylindrical grinding. | |
| BOND | Z | Form holding. Approximately 125 concentration, Z grade is extremely durable and is recommended where long life or form holding is required in high-volume, high-pressure coolant applications. Used with B99EF bond only. | Select the bond depending on the type of grinding application. |
| | B99E | Norton standard resin bond. Pre-engineered for optimal performance with cBN abrasive. Available in all shapes. | |
| ABRASIVE DEPTH | B99EF | Improved form holding. More durable than B99E. Improved heat dissipation in wet or dry applications. Available in wheel shapes 1V1, 1B1, 1E1, 1EE1, 1F1 and 1FF1. | Usable abrasive |
| | 1/16 | | |
| | 1/8 | | |
| | 1/4 | | |
| | 1/2 | | |

See the more in-depth B99 Express product availability in our "Diamond and cBN Superabrasives Standard Catalog" #8068 on www.nortonabrasives.com or contact your Norton representative for a complete listing of Norton made-to-order superabrasive products.

TECH TIP

Diamond Grinds:

In general, diamond is used to grind non-ferrous materials, because of an adverse reaction between diamond and iron.

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Stone
- Abrasives
- Electronic components and materials

cBN Grinds:

cBN is used to grind ferrous materials.

- High-speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hardened stainless steel
- Abrasion-resistant ferrous materials



It is the user's responsibility to refer to and comply with ANSI B7.1



These superior, pre-engineered wheels have been specifically developed to meet the demanding needs of precision cutting tool manufactures as well as re-sharpeners. The use of the highest quality diamond and cBN abrasives matched to superior high temperature bond systems, guarantees high performing wheels. These wheels are manufactured under the strictest quality control protocols ensuring the same, consistent, high-performing product. Cutting tool manufactures who use these wheels report much improved dimensional accuracy and superior cutting edges.

This product offering provides wheel sizes for most CNC machines and wheels shapes to produce the required cutting tool geometries. If you do not find a wheel in this offering to suit your specific needs, a custom-made wheel can be provided.

Applications: CNC cutting tool manufacturing and reshaping: fluting, end fluting, gashing, and OD relief

NORTON PARADIGM DIAMOND WHEELS

FOR CNC WC ROUND TOOL MANUFACTURING



NORTON G-FORCE CBN WHEELS

FOR CNC HSS ROUND TOOL MANUFACTURING

FEATURES & BENEFITS

- Truable: online and offline truable, lights-out mfg. for maximum productivity
- Wear and load resistant: better control over core growth, and superior grinding on 6% to 12% cobalt
- High grain retention; uniform structure and high G-ratio; up to 2.5 times longer life and 30% higher MRR than existing superabrasive wheels
- Low specific cutting energy for faster grinding with lower power draw and less burn

NORTON G-FORCE AND UNIVEL POLYIMIDE DIAMOND WHEELS

BETTER CHOICE FOR CNC WC ROUND TOOL MANUFACTURING



FEATURES & BENEFITS

UNIVEL AND G-FORCE PREMIUM PRODUCTS

- Polyimide bond systems provide superior form-holding and lower-power requirements compared to premium competitive wheels, reducing frequency of dresses, and decreasing chances of burn and heat damage to the part

G-FORCE

- Unique bond technology excels on round, carbide and steel tools; abrasive is strongly held – and wear-resistant
- Self-dressing; maintains a consistently sharp grinding edge which allows for lights-out manufacturing
- Excellent depth of cut, traverse rates, and form holding; reduces total grinding costs by 30% or more

WINTER AND NORTON CNC WHEELS

GOOD CHOICE FOR SHORT RUNS AND FREQUENT GEOMETRY CHANGES



FEATURES & BENEFITS

NORTON/WINTER

- A price competitive alternative to Paradigm, Univel, and G-Force wheels; ideal for short-run manufacturing jobs where frequent wheel profile changes are required, and premium wheels can not be cost-justified
- Can be reshaped for numerous short runs; great performance/price ratio

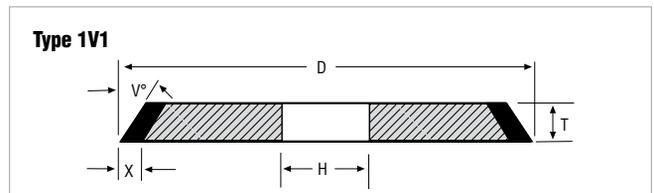
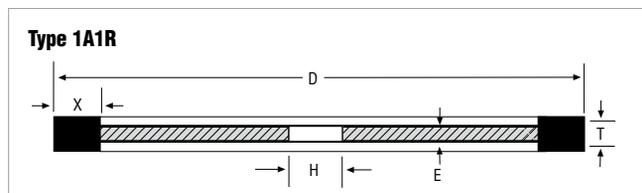
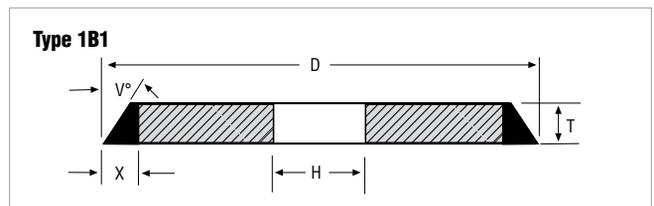
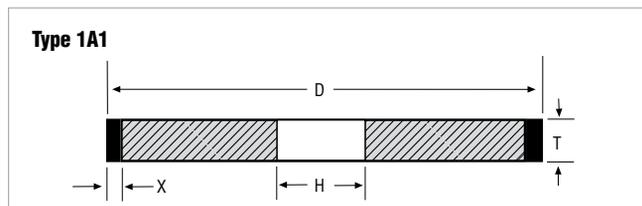
NORTON

- Ideal for reshaping and short-run manufacturing operations; competitively-priced while providing premium performance
- Free cutting phenolic specifications formulated for oil coolants grind with less heat and pressure – eliminating burning
- Consistent wheel-to-wheel performance for reduced cycle times, less dressing = longer wheel life
- Precision tolerances; repeatable part geometry

Diamond CNC Wheels

| TIER: BEST | | | | BETTER | | | | GOOD | | |
|--------------------------------------|---------|------------------|--------------------|------------------------------|-------------------------|--------------------|--------------|--------------------------|--------------------|--------------|
| TRADENAME: NORTON PARADIGM | | | | NORTON G-FORCE/UNIVEL | | | | WINTER AND NORTON | | |
| SIZE (D x T x H) U, W | ANGLE V | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # |
| TYPE 1A1 – Diamond Flute | | | | | | | | | | |
| 4 x 1/2 x 1-1/4 | | SD320-D168-P100C | 3/8 | 07958783055* | AD320-UP061 G-Force | 1/4 | 60157663909 | A4D180-R115B610 | 1/4 | 69014118200 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157623605 |
| 5 x 3/8 x 1-1/4 | | SD320-D168-P100C | 1/2 | 07958783058* | AD320-UP061 G-Force | 1/2 | 60157668409 | A4D220-R115B610 | 1/2 | 69014118255 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157625123* |
| 5 x 1/2 x 1-1/4 | | SD320-C176-P100C | 1/2 | 07958783061 | AD320-UP061 G-Force | 1/2 | 60157662240 | A4D180-R115B610 | 1/2 | 69014118202 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157613099 |
| 5 x 5/8 x 1-1/4 | | SD320-C176-P100C | 1/2 | 07958783063* | AD320-UP061 G-Force | 1/2 | 60157663486* | A4D180-R115B610 | 1/2 | 69014118203* |
| 6 x 1/2 x 1-1/4 | | SD320-C176-P100C | 1/2 | 07958783064 | AD320-UP061 G-Force | 1/4 | 60157682133* | A4D180-R115B610 | 1/4 | 69014118216* |
| | | | | | | | | D280-N100K+1421 | 6mm | 60157624551* |
| TYPE 1A1 – Diamond Polish | | | | | | | | | | |
| 5 x 1/2 x 1-1/4 | | | | | 80D1000-100UP731 Univel | 1/2 | 07958784316* | | | |
| TYPE 1A1 – Diamond Relief | | | | | | | | | | |
| 6 x 1/2 x 1-1/4 | | SD320-E168-P100C | 1/2 | 07958783073* | AD320-UP892 G-Force | 1/2 | 69014117684* | A4D180-R115B610 | 1/2 | 69014118217* |
| | | | | | | | | D280-N100-K+1421 | 6mm | 60157624551 |
| TYPE 1A1RN – Diamond Flute | | | | | | | | | | |
| 5 x 3/8 x 1-1/4 | | SD320-D168-P100C | 1/2 | 07958783067* | AD320-UP061 G-Force | 1/2 | 60157663501 | A4D180-R115B610 | 1/2 | 69014118201 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157625123 |
| 5 x 1/2 x 1-1/4 | | | | | AD220-UP061 G-Force | 1/2 | 66260322280 | | | |
| 5 x 5/8 x 1-1/4 | | | | | AD220-UP061 G-Force | 1/2 | 60157664141 | | | |
| TYPE 1B1 – Diamond Flute | | | | | | | | | | |
| 4 x 3/8 x 1-1/4 | V=20° | SD320-D168-P100C | 3/8 | 07958783054 | | | | | | |
| TYPE 1B1 – Diamond Flute/Gash | | | | | | | | | | |
| 5 x 3/8 x 1-1/4 | V=45° | SD320-E168-P100C | 1/2 | 07958783065 | | | | | | |
| TYPE 1B1 – Diamond Gash | | | | | | | | | | |
| 5 x 1/2 x 1-1/4 | V=45° | SD320-E168-P100C | 1/4 | 07958783062* | | | | | | |
| 5 x 1/2 x 1-1/4 | V=60° | SD320-E168-P100C | 1/4 | 07958783060* | | | | | | |
| 5 x 1/2 x 1-1/4 | V=30° | SD320-E168-P100C | 3/4 | 07958783070* | | | | A4D320-R115B610 | 3/4 | 69014118207 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157613112 |
| 5 x 1/2 x 1-1/4 | V=45° | SD320-E168-P100C | 3/4 | 07958783068* | AD320-UP531 G-Force | 3/4 | 66260329603 | A4D320-R115B610 | 3/4 | 69014118208 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157623673 |
| TYPE 1V1 – Diamond Flute | | | | | | | | | | |
| 4 x 3/8 x 1-1/4 | V=20° | | | | AD320-UP061 G-Force | 1/4 | 66260316591 | A4D180-R115B610 | 1/4 | 69014118263 |
| 5 x 1/2 x 1-1/4 | V=10° | SD320-C176-P100C | 1/2 | 07958783071* | AD320-UP061 G-Force | 1/2 | 66260116723 | A4D180-R115B610 | 1/2 | 69014118204 |
| 5 x 1/2 x 1-1/4 | V=20° | SD320-C176-P100C | 1/2 | 07958783074 | AD320-UP061 G-Force | 1/2 | 60157693843 | A4D180-R115B610 | 1/2 | 69014118205 |
| | | | | | | | | D220-C100-K+925 | 6mm | 60157623953 |
| 5 x 1/2 x 1-1/4 | V=30° | SD320-C176-P100C | 1/2 | 07958783085* | AD320-UP671 G-Force | 1/2 | 60157693841 | A4D180-R115B610 | 1/2 | 69014118206 |

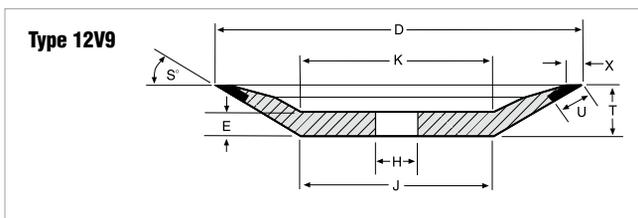
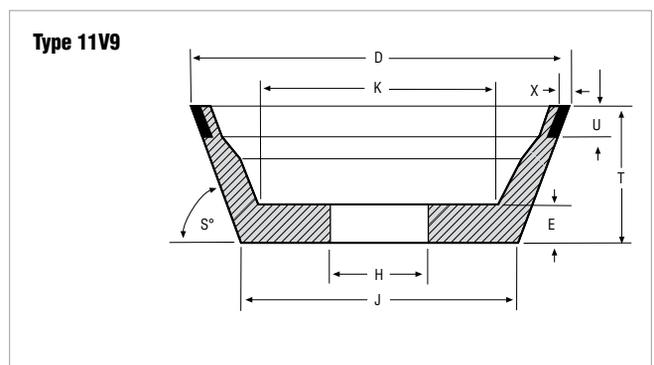
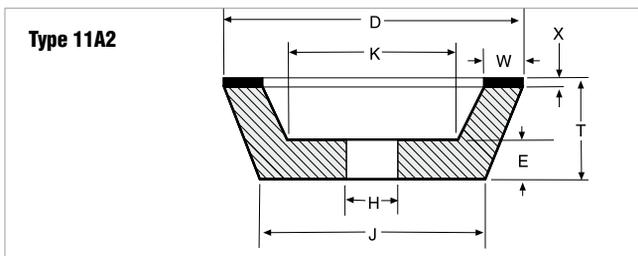
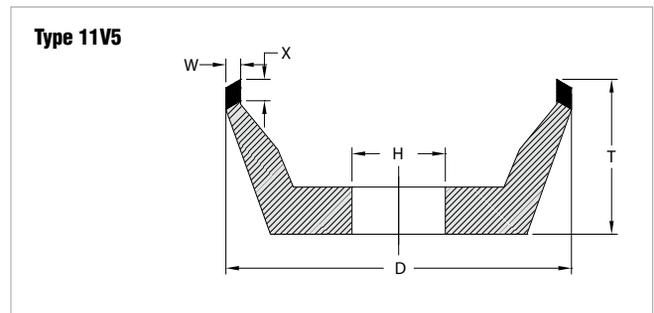
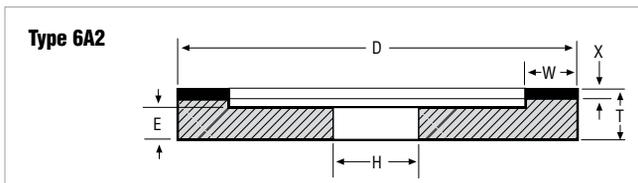
* Non-Stock: Please contact your Norton representative for current lead-times.
All holes (bores) are machined to (H7) class fit.



Diamond CNC Wheels

| TIER: BEST | | | | BETTER | | | GOOD | | | |
|--------------------------------------|------------|------------------|--------------------|------------------------------|------------------------|--------------------|--------------------------|-------------------------------------|--------------------|------------------------------|
| TRADENAME: NORTON PARADIGM | | | | NORTON G-FORCE/UNIVEL | | | WINTER AND NORTON | | | |
| SIZE (D x T x H) U, W | ANGLE V | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # |
| TYPE 1V1 – Diamond Flute/Gash | | | | | | | | | | |
| 5 x 3/8 x 1-1/4 | V=45° | | | | AD320-UP531 G-Force | 1/2 | 60157696562 | A4D320-R115B610 | 1/2 | 69014118257 |
| TYPE 1V1 – Diamond Gash | | | | | | | | | | |
| 5 x 1/2 x 1-1/4 | V= 45° | | | | AD320-UP531 G-Force | 1/4 | 66260329604 | A4D320-R115B610 | 1/4 | 69014118209 |
| 5 x 1/2 x 1-1/4 | V=60° | | | | AD320-UR331 Univiel | 1/4 | 66260329469 | A4D320-R115B610 | 1/4 | 69014118210 |
| TYPE 6A2 – Diamond Point | | | | | | | | | | |
| 4 x 1-1/4 x 1-1/4 | | SD320-E168-P100C | 1/4 | 07958783057* | AD320-UP251 G-Force | 1/4 | 69014118644* | ASD320C-R100B56 | 1/4 | 69014118219* |
| TYPE 11A2 – Diamond Relief | | | | | | | | | | |
| 3 x 1-1/4 x 1-1/4 | | | | | 10D320-NB100U Univiel | 1/4 | 60157692199 | | | |
| 4 x 1-1/4 x 1-1/4 | | SD320-E168-P100C | 1/4 | 07958783059* | AD320-UP701 G-Force | 1/4 | 60157696315 | ASDC320-R100B80 | 1/4 | 69014118213 |
| 4 x 1-1/4 x 1-1/4 | | | | | AD320-UP561 G-Force | 1/4 | 69014118479* | ASDC320-R100B80 | 1/4 | 69014118265* |
| TYPE 11V5 – Diamond Relief | | | | | | | | | | |
| 4 x 1-1/4 x 1-1/4 | V=30° | | | | AD320-UP561 G-Force | 1/4 | 69014117838 | ASDC320-R100B80 | 1/4 | 69014118211 |
| 4 x 1-1/4 x 1-1/4 | V=10° | | | | AD320-UP561 G-Force | 1/4 | 69014117812 | ASDC320-R100B80 | 1/4 | 69014118212 |
| TYPE 11V9 – Diamond Relief | | | | | | | | | | |
| 3-3/4 x 1-1/2 x 1-1/4 | | | | | 10D240-PB125-U Univiel | 1/8 | 66260322134 | ASDC320-R100B80 | 1/8 | 69014118259 |
| 5 x 1-3/4 x 1-1/4 | | | | | 10D240-PB125-U Univiel | 1/8 | 66260118300 | ASDC320-R100B80 D280-R100-K+4821 | 1/8 3mm | 69014118215 60157612443 |
| TYPE 12V9 – Diamond Relief | | | | | | | | | | |
| 4 x 3/4 x 1-1/4 | | | | | AD320-UP531 G-Force | 1/8 | 66260127950* | ASDC320-R100B80 D280-R100K+4821 | 1/8 3mm | 69014118221* 60157612442* |
| 5 x 3/4 x 1-1/4 | | | | | AD320-UP531 G-Force | 1/8 | 66260127911* | ASDC320-R100B80 | 1/8 | 69014118222* |

* Non-Stock: Please contact your Norton representative for current lead-times.
All holes (bores) are machined to (H7) class fit.



cBN CNC Wheels

| TIER: BEST | | | | GOOD | | | |
|---|------------|---------------------|--------------------|--------------------------|------------------|--------------------|--------------|
| TRADENAME: NORTON G-FORCE/UNIVEL | | | | WINTER AND NORTON | | | |
| SIZE (D x T x H) U, W | ANGLE V | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # |
| TYPE 1A1 – cBN Flute | | | | | | | |
| 4 x 1/2 x 1-1/4 | | BX220-UP241 G-Force | 1/4 | 60157669935* | BAM180-WBXD3037 | 1/4 | 69014118223* |
| | | | | | B220-V240-KSS920 | 6mm | 60157623498 |
| 5 x 3/8 x 1-1/4 | | BX220-UP241 G-Force | 1/2 | 69014118436* | BAM320C-WBXD3037 | 1/2 | 69014118256* |
| 5 x 1/2 x 1-1/4 | | BX220-UP241 G-Force | 1/2 | 60157670869* | BAM180-WBXD3037 | 1/2 | 69014118224* |
| | | | | | B220-V240-KSS920 | 6mm | 60157602944 |
| 5 x 5/8 x 1-1/4 | | BX220-UP241 G-Force | 1/2 | 66260329385* | BAM180-WBXD3037 | 1/2 | 69014118225* |
| 6 x 1/4 x 1-1/4 | | BX240-UP241 G-Force | 1/4 | 69014118435* | BAM180-WBXD3037 | 1/4 | 69014118240* |
| TYPE 1A1 – cBN Relief | | | | | | | |
| 6 x 1/2 x 1-1/4 | | BX320-UP892 G-Force | 1/2 | 69014117679* | BAM180-WBXD3037 | 1/2 | 69014118237* |
| TYPE 1A1RN – cBN Flute | | | | | | | |
| 5 x 1/4 x 1-1/4 | | BX150-UP241 G-Force | 1/2 | 07958773216* | | | |
| 5 x 3/8 x 1-1/4 | | BX150-UP241 G-Force | 1/2 | 07958773217* | | | |
| 5 x 1/2 x 1-1/4 | | BX150-UP241 G-Force | 1/2 | 69014141373* | | | |
| TYPE 1B1 – cBN Gash | | | | | | | |
| 5 x 1/2 x 1-1/4 | V=30° | BX320-UP701 G-Force | 3/4 | 66260329388* | BAM320C-WBXD3037 | 3/4 | 69014118229* |
| 5 x 1/2 x 1-1/4 | V=45° | BX320-UP531 G-Force | 3/4 | 66260329391* | BAM320C-WBXD3037 | 3/4 | 69014118230* |
| | | | | | B220-V240-KSS920 | 6mm | 60157623542 |
| TYPE 1V1 – cBN Flute | | | | | | | |
| 4 x 3/8 x 1-1/4 | V=20° | BX220-UP241 G-Force | 1/4 | 69014118342* | BAM180C-WBXD3037 | 1/4 | 69014118264* |
| 5 x 1/2 x 1-1/4 | V=20° | BX220-UP241 G-Force | 1/2 | 60157680042* | BAM180-WBXD3037 | 1/2 | 69014118227* |
| | | | | | B220-V240-KSS920 | 6mm | 60157623944* |
| 5 x 1/2 x 1-1/4 | V=30° | BX220-UP241 G-Force | 1/2 | 60157691380* | BAM180-WBXD3037 | 1/2 | 69014118228* |
| 5 x 1/2 x 1-1/4 | V=10° | BX220-UP241 G-Force | 1/2 | 66260119876* | BAM180-WBXD3037 | 1/2 | 69014118226* |
| TYPE 1V1 – cBN Flute/Gash | | | | | | | |
| 5 x 3/8 x 1-1/4 | V=45° | BX220-UP531 G-Force | 1/2 | 60157697699* | BAM320C-WBXD3037 | 1/4 | 69014118262* |
| | | | | | B220-V240-KSS920 | 6mm | 60157623524 |
| TYPE 1V1 – cBN Gash | | | | | | | |
| 5 x 1/2 x 1-1/4 | V=60° | BX320-UR331 Univiel | 1/4 | 66260329461* | BAM320C-WBXD3037 | 1/4 | 69014118232* |
| 5 x 1/2 x 1-1/4 | V=45° | BX320-UP531 G-Force | 1/4 | 66260329275* | BAM320C-WBXD3037 | 1/4 | 69014118231* |
| | | | | | B220-V240-KSS920 | 6mm | 60157623776 |
| TYPE 6A2 – cBN Point | | | | | | | |
| 4 x 1-1/4 x 1-1/4 | | BX320-UP241 G-Force | 1/4 | 69014118543* | CB320C-WBB | 1/4 | 69014118239* |
| W=1/4 | | | | | | | |
| 5 x 1-1/4 x 1-1/4 | | BX320-UP241 G-Force | 1/4 | 69014118447* | CB320C-WBB | 1/4 | 69014118238* |
| W=1/2 | | | | | | | |

* Non-Stock: Please contact your Norton representative for current lead-times.
All holes (bores) are machined to (H7) class fit.

TECH TIP

Diamond Grinds:

In general, diamond is used to grind non-ferrous materials, because it reacts with iron.

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Stone
- Abrasives
- Electronic components and materials

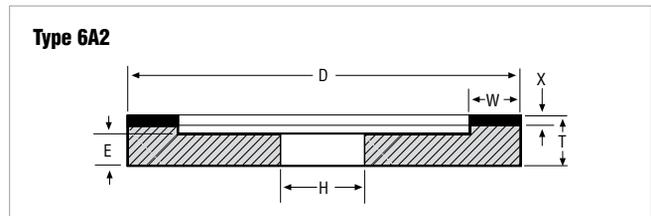
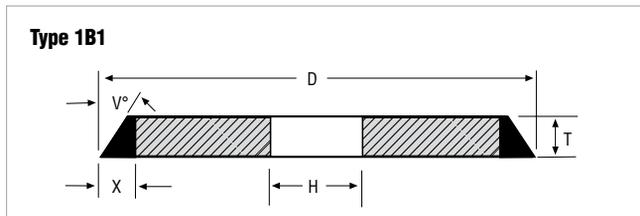
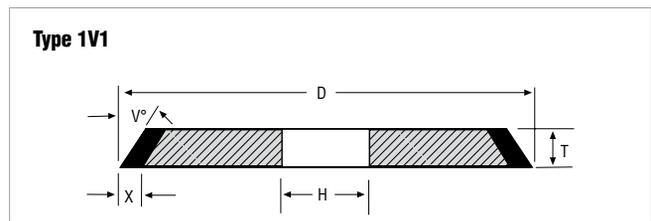
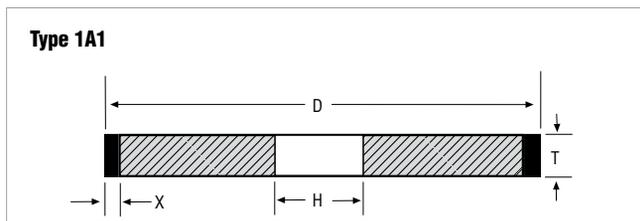
cBN Grinds:

cBN is used to grind ferrous materials.

- High-speed tool steels
- Die steels
- Hardened carbon steels
- Alloy steels
- Aerospace alloys
- Hardened stainless steel
- Abrasion-resistant ferrous materials



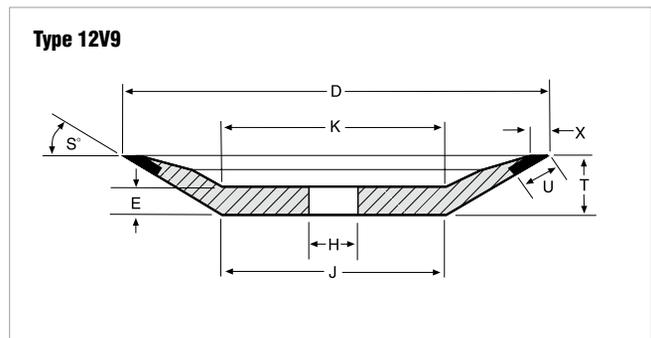
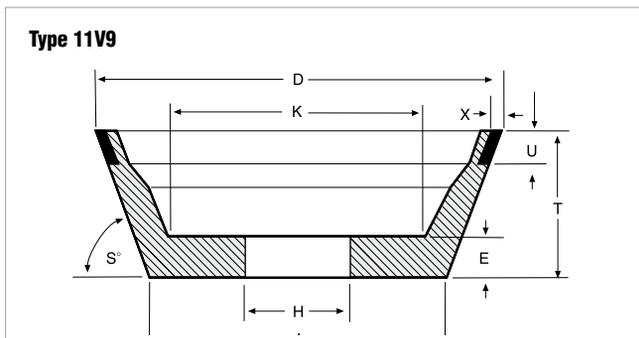
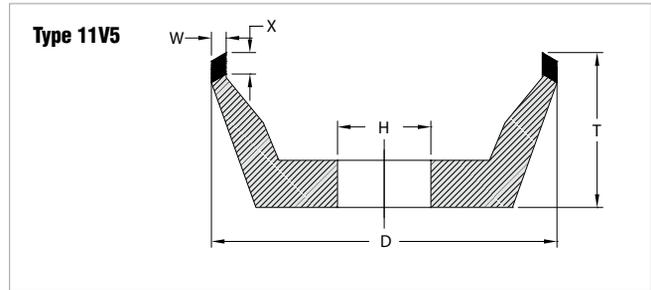
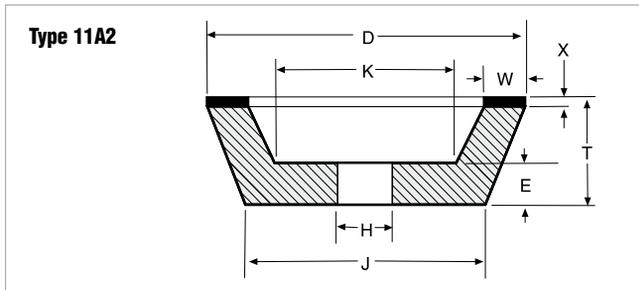
It is the user's responsibility to refer to and comply with ANSI B7.1



cBN CNC Wheels

| TIER: BEST | | | | GOOD | | | |
|---|---------|-----------------------|--------------------|--------------------------|------------------|--------------------|--------------|
| TRADENAME: NORTON G-FORCE/UNIVEL | | | | WINTER AND NORTON | | | |
| SIZE (D x T x H) U, W | ANGLE V | SPECIFICATION | ABR. DEPTH X | PART # | SPECIFICATION | ABR. DEPTH X | PART # |
| TYPE 11A2 – cBN Relief | | | | | | | |
| 5 x 1-1/2 x 2 W=1/4 | | BX320-UP531 G-Force | 1/4 | 69014118406* | BAM220-WBE | 1/4 | 69014118254* |
| TYPE 11A2 – cBN Relief | | | | | | | |
| 4 x 1-1/4 x 1-1/4 W=1/4 | | BX320-UP531 G-Force | 1/4 | 69014118445* | BAM220-WBE | 1/4 | 69014118266* |
| TYPE 11V5 – cBN Relief | | | | | | | |
| 4 x 1-1/4 x 1-1/4 W=1/4 | V=30° | BX320-UP701 G-Force | 1/4 | 69014117833* | BAM220-WBE | 1/4 | 69014118233* |
| 4 x 1-1/4 x 1-1/4 W=3/8 | V=10° | BX320-UP701 G-Force | 1/4 | 69014117820* | B220-J240-KSS63Y | 6mm | 60157623563 |
| TYPE 11V9 – cBN Relief | | | | | | | |
| 3-3/4 x 1-1/2 x 1-1/4 U=3/8 | | 90B240-PB125-U Univel | 1/8 | 69014118345* | BAM220-WBE | 1/8 | 69014118260* |
| TYPE 11V9 – cBN Relief | | | | | | | |
| 3-3/4 x 1-1/2 x 1-1/4 U=3/8 | | 90B240-PB125-U Univel | 1/8 | 69014118029* | BAM220-WBE | 1/8 | 69014118235* |
| 5 x 1-3/4 x 2 U=3/8 | | 90B240-PB125-U Univel | 1/8 | 69014118043* | BAM220-WBE | 1/8 | 69014118248* |
| TYPE 12V9 – cBN Relief | | | | | | | |
| 4 x 3/4 x 1-1/4 U=3/8 | | BX320-UP531 G-Force | 1/8 | 69014118470* | BAM220-WBE | 1/8 | 69014118241* |
| 5 x 3/4 x 1-1/4 U=1/2 | | BX320-UP531 G-Force | 1/8 | 69014118441* | BAM220-WBE | 1/8 | 69014118242* |

* Non-Stock: Please contact your Norton representative for current lead-times.
All holes (bores) are machined to (H7) class fit.



Norton CNC Express Blank Stock for Made-To-Order Wheels

Blank Stock Inventory to be altered to your specifications within 5-10 days

| Wheel Shape | Tool Material | Application | G-Force Specification AD = Diamond BX = cBN | Diameter D | THK. T | Hole H | Abr. Depth X | Angle (V) or Radius (R) |
|-------------|---------------|-------------|---|------------|-------------------------|----------------------|--------------|-------------------------|
| | WC | Fluting | AD320-UP061E | 5 | 7/16" min. to 1/2" max. | 1/2" min. to 2" max. | 1/2" | - |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 6 | | | | |
| | WC | Fluting | AD320-UP061E | 5 | | | | 1 deg. - 30 deg. |
| | WC | Fluting | AD320-UP061E | 6 | | | | |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Gashing | AD320-UP531E | 5 | | | | 1 deg. - 55 deg. |
| | HSS | Gashing | BX320-UP531E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 5 | | | | 90 deg. to 178 deg. |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 6 | | | | |
| | WC | Fluting | AD320-UP061E | 5 | | | | T/2 or greater |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 6 | | | | |
| | WC | Fluting | AD320-UP061E | 5 | | | | Less than T/2 |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 6 | | | | |
| | WC | Fluting | AD320-UP061E | 5 | | | | Less than T/2 |
| | HSS | Fluting | BX320-UP241E | 5 | | | | |
| | WC | Fluting | AD320-UP061E | 6 | | | | |

Note: all of the wheel shapes listed can also be designated to have .010 relief(s) 1 side, or 2 sides on 1A1P and 1A1RN wheels.

CNC Express Wheel Service for WC and HSS Tools

- G-Force Diamond and cBN wheels altered from blank stock
- Available for a large range of special geometries
- 2-week standard lead time for first-time orders (new part numbers)
- 1-week lead-time for repeat orders (existing part numbers)

How To Request An Express Wheel Quote And Order

Refer to this chart and choose:

- Wheel shape by application
- Diameter "D"
- Thickness "T" from the range of 7/16" to 1/2"
- Hole "H" from the range of 1/2" to 2"
- Angle ("V"), Radius ("R") dimensions from the range provided
- Abrasive depth "X" will always be 1/2" for these CNC wheels
- Specifications required for material and application
- NOTE: Please remember to include the "E" at the end of the specification to indicate Express lead-time is required

Brake Controlled Truing Devices

Designed for truing diamond and cBN wheels rapidly, effectively, and with a minimum of superabrasive loss. Recommended for wheels up to 12" in diameter.

Applications:

Truing straight, cup and cylinder wheels:

- Straight wheels, used on chip breaker, tool and cutter, surface, and cylindrical grinding machines
- Cup wheels, used on vertical spindle surface grinders
- Internal grinding wheels
- Cut-off wheels



Non-Stock 4597 Brake Controlled Truing Device

The 4597 is engineered for heavier and more frequent truing applications. The adjustable speeds allow for varying conditions (between 1050 and 1500 SFPM). It comes complete with a reusable case, "True to Form, Dress to Cut" training video, two 3" 38A60-M8VBE* vitrified wheels, Truing Device Tips book and a dressing stick. It can be rebuilt using the 4597RK Rebuild Kit.

Worn #4597 Brake Controlled Truing Devices (UPC 66260195350) in need of reconditioning (beyond new shoes and springs) may be returned to be rebuilt. Contact Customer Service for return instructions and quote.

Stock 3597 Pacesetter Brake Controlled Truing Device

The Pacesetter model is ideal for light-duty use. The pre-set brake speed requires no adjusting. This model includes one 3" 38A60-M8VBE* vitrified wheel and can be rebuilt using the 3597RK Rebuild Kit.

Stock 4597RK and 3597RK Rebuild Kits

The truing devices can be rebuilt with these kits, consisting of 3 brake shoes, 3 springs, and 3 screws.

| ITEM | TIER: BETTER | | GOOD | |
|--|--------------|--------------|-------------|-------------|
| | PRODUCT NO. | PART # | PRODUCT NO. | PART # |
| Truing Devices | | | | |
| 4597 Brake Controlled Truing Device | 4597 | 66260195350* | | |
| 3597 Pacesetter Brake-Controlled Truing Device | 3597 | 66260135578 | | |
| Truing Device Rebuild Kits | | | | |
| 4597 Rebuild Kit | 4597RK | 66260195351 | | |
| 3597 Pacesetter Rebuild Kit | 3597RK | 66260135595 | | |
| Replacement Wheels | | | | |
| 3 x 1 x 1/2 | | | 38A60-MVBE | 66243529145 |
| | | | 38A80-MVBE | 66243529146 |
| | | | 37C60-MVK | 66243529166 |
| | | | 37C80-HVK | 66243529170 |
| | | | 37C80-MVK | 66243529171 |
| | | | 37C100-HVK | 66243529172 |
| | | | 37C100-MVK | 66243529070 |

*Non-Stock: Please contact your Norton representative for current lead-times.

SPEC CHECK

Truing Diamond and cBN Wheels

| SUPERABRASIVE WHEEL | TRUING WHEEL SPECIFICATION |
|---------------------------------|----------------------------|
| Resin and Vitrified Bond | |
| 80, 100, and 120 grits | 38A60-MVBE, 37C60-MVK |
| 150, 180, and 220 grits | 38A80-MVBE, 37C80-MVK |
| 320 and finer grits | 37C100-HVK |
| Metal Bond | |
| 80, 100, and 120 grits | 38A60-MVBE |
| 150, 180, and 220 grits | 38A80-MVBE |
| 240 and finer grits | 37C80-HVK |

TECH TIP

- Prior to truing the wheel, run a wax crayon over the wheel face. Important: do NOT use any liquid-based ink on superabrasive wheels.
- Any crayon left on the wheel face after truing will reveal untrued areas.
- Indicate the superabrasive wheel runout before starting... usually within .001" to .002", to minimize wheel loss.
- Mount the device spindle parallel to the wheel spindle to ensure proper straight face truing.
- For cup-shaped wheels, the device spindle will be mounted perpendicular to the wheel spindle.
- Always use the brake-controlled truing device dry.
- Bring the diamond/cBN wheel and the truing wheel together until they almost touch.
- Start the diamond/cBN wheel to normal speed; spin the truing wheel in the same direction at point of contact.
- Bring the two wheels together until they touch.
- Make sure the truing wheel is spinning at time of contact.
- Traverse the wheel back and forth at 30 to 60 inches/minute.
- Downfeed .0005" to .001" at the end of each traverse.
- At the end of truing, the diamond/cBN wheel should be smooth and in truth.
- Apply a dressing stick to sharpen the wheel.



It is the user's responsibility to refer to and comply with ANSI B7.1

Diamond and cBN Wheel Mounting, Truing and Dressing Guide

To achieve the best results using Norton diamond and cBN products, the following steps for mounting, truing and dressing should be practiced:

MOUNTING – Putting Wheel on Machine Spindle

- Examine wheel flanges and spindle carefully.
- Be sure flanges' surfaces are clean and free of damage.
- Ensure that the mounting flanges are flat and of equal diameter, especially on wheels with rigid centers, such as vitrified bond wheels.
- Paper or plastic blotters should only be used when mounting superabrasive wheels with vitrified cores. Using paper or plastic blotters on any other core material might result in the wheel loosening during grinding.
- Inspect machine spindle for excessive runout.
 - » TIR (Total Indicated Runout) should be no greater than 0.0002".
- Mount wheel between hand-tightened flanges.
- Using a dial indicator, tap the wheel lightly with a rubber or wooden block to minimize runout to less than .0010".

TRUING – Making Wheel Round and Concentric with the Spindle Axis

- Prior to truing the wheel, run a wax crayon over the wheel face. Important: do not use any liquid-based ink on superabrasive wheels.
- Any crayon left on the wheel face after truing will reveal untrued areas.
- Indicate the superabrasive wheel runout before starting... usually within .001" to .002", to minimize wheel loss.
- Norton brake controlled truing devices are most commonly used to true Diamond and cBN straight, cup and cylinder wheels.
 - » Mount the device spindle parallel to the wheel spindle to ensure proper straight face truing.
 - » For cup wheels, the device spindle will be mounted perpendicular to the wheel spindle.
 - » Always use brake controlled truing device dry.

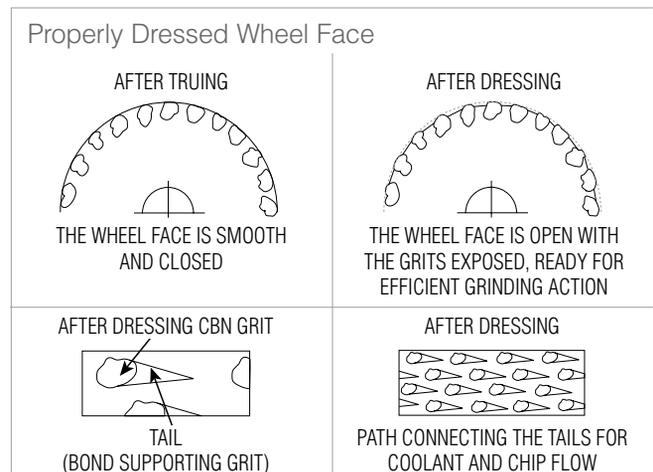
DRESSING – Opening the Face of a Trued Wheel

- Dressing the abrasive – a cleaning/sharpening process to expose sharp, free-cutting grit:
 - » For resinoid and vitrified bond wheels, the dressing stick should be one or two grit sizes finer than the abrasive in the diamond/cBN wheel – in a soft grade such as H or I.
 - » For metal bond wheels, choose a stick with the same grit or one grit coarser than the wheel abrasive – in a medium grade (K – N).
 - » See the "Dressing Stick" section for recommendations.

- Tighten flange securely and recheck with indicator.
- Allow a newly mounted wheel to operate for one full minute before grinding.
- The use of one permanent mounting for the life of the wheel is recommended whenever possible:
 - » If the grinding machine has a tapered spindle, mount each straight, flaring cup or dish wheel on a separate collet or adapter.
 - » When changing wheels the entire unit is removed, keeping the wheel in running truth.
 - » When needed again, the entire unit can be placed directly on the spindle or arbor, thereby eliminating the time and abrasive lost in retruing.

- » Bring the diamond/cBN wheel and the truing wheel together until they almost touch.
- » Start the diamond/cBN wheel to normal speed; start the truing wheel in the same direction.
- » Bring the two wheels together until they touch.
- » Make sure the truing wheel is spinning at time of contact.
- » Traverse the wheel back and forth at 30 to 60 inches per minute.
- » Downfeed .0005" to .001" at the end of each traverse.
- » At the end of truing, the diamond/cBN wheel should be smooth and in truth.
- » Apply a dressing stick to sharpen the truing wheel.

- Dressing the core – The core material (the part of the wheel that holds and supports the abrasive-bearing section) should never contact the work piece during grinding; rubbing will generate excessive heat. As the abrasive section of a cup wheel wears, the core material might become exposed, necessitating dressing.
 - » Use a single-point carbide or steel tool to dress an exposed resaloy core.
 - » Clamp the tool in a vise.
 - » Direct the cutting edge accurately to leave a 1/16" of abrasive section exposed.





Regular use of properly selected dressing sticks will help you achieve maximum performance from your grinding wheels.

Applications: Truing, cleaning, and dressing diamond, cBN, and conventional abrasive grinding wheels
 Grit range: 16 – 1200
 Abrasive grain: Aluminum Oxide, Boron Nitride, Silicon Carbide
 Shape: Square, rectangular, and round
 Machine Used:



GRINDING WHEEL-TO-PRODUCT RECOMMENDATION GUIDE

Selecting the appropriate dressing stick for each application depends on the wheel size, type, speed, specification, and grit size, as well as the workpiece material. Initial starting specifications are listed below. We recommend testing several sticks to find the best one for your application.

VITRIFIED DRESSING STICKS

| | Product | Specification |
|--|---------------------------------|---------------|
| Superabrasive Wheels - Resin and Vitrified Bond | | |
| - 80, 100, and 120 grits | Dressing Stick | 38A150-HVBE |
| - 150, 180, and 220 grits | Dressing Stick | 38A220-HVBE |
| - 320 and finer grits | Superfine Stick | NMVC400-J5VCA |
| Superabrasive Wheels - Metal Bond | | |
| - 80, 100, and 120 grits | Dressing Stick | 37C80-NV |
| - 150, 180, and 220 grits | Dressing Stick | 37C150-KV |
| - 240 and finer grits | Dressing Stick | 37C220-KV |
| Conventional Vitrified Wheels - Vitrified Bond | | |
| - 46 grit and finer and M grade and softer | High Performance Dressing Stick | Norbide |
| | Conventional Dressing Stick | 37C24-SVK |



Norbide High Performance Sticks

For offhand truing and dressing of medium grit, soft- and medium-grade vitrified grinding wheels. Norton Norbide sticks are the hardest sticks you can buy. Made from boron nitride, they are well suited for dressing tool and cutter wheels 10" and smaller, especially cup and saucer shapes.

TIER: **BETTER**
 BRAND: Norton

| SIZE (T x W x L*) | STD. PKG. | SPEC. | PART # |
|---|-----------|---------|-------------|
| High Performance Long Life Stick | | | |
| 1/4 x 1/2 x 3 | 5 | Norbide | 61463610148 |

* Thickness x Width x Length

TECH TIP

Dressing Diamond and cBN Wheels

- Resin and Vitrified Bond Diamond, and cBN Wheels
 - » Choose a dressing stick one or two grit sizes finer than the abrasive in the wheel – in a soft grade (H or I).
- Metal Bond Diamond, and cBN Wheels
 - » Choose a stick the same grit size or one grit size coarser than the abrasive in the wheel – in a medium grade (K–M).



It is the user's responsibility to refer to and comply with ANSI B7.1

Vitrified Dressing Sticks

Aluminum Oxide (White)

For dressing and cleaning cBN wheels; these sticks also work well for diamond wheels.

Silicon Carbide (Black)

Coarse grit (16 - 46) and hard-grade (R and harder) sticks are used for dressing conventional vitrified wheels. Finer grit and softer grades are used for dressing diamond wheels.

| TIER: BETTER | | | |
|---|-----------|-------------|-------------|
| BRAND: Norton | | | |
| SIZE (T x W x L) | STD. PKG. | SPEC. | PART # |
| Vitrified Dressing Sticks – Aluminum Oxide | | | |
| 3/8 x 3/4 x 4 | 5 | 38A150-IVBE | 61463639635 |
| 1/2 x 1/2 x 4 | 5 | 38A220-HVBE | 61463610555 |
| 1/2 x 1/2 x 6 | 5 | 38A150-IVBE | 61463610303 |
| | 5 | 38A220-HVBE | 61463610103 |
| 1/2 x 3/4 x 4 | 5 | 38A60-LVBE | 61463610415 |
| 1/2 x 1 x 4 | 5 | 38A180-IVBE | 61463699705 |
| 3/4 x 3/4 x 4 | 5 | 38A60-LVBE | 61463610440 |
| | 5 | 38A80-MVBE | 61463610362 |
| | 5 | 38A90-LV | 61463639632 |
| | 5 | 38A150-HVBE | 61463610291 |
| | 5 | 38A150-IVBE | 61463610368 |
| | 5 | 38A220-HVBE | 61463610290 |
| 3/4 x 3/4 x 8 | 5 | 38A220-HVBE | 61463610280 |
| 1 x 1 x 6 | 5 | 38A150-HVBE | 61463610405 |
| | 5 | 38A150-IVBE | 61463610453 |
| | 5 | 38A220-HVBE | 61463610406 |
| 1 x 1 x 8 | 5 | 38A120-IVBE | 61463610390 |
| | 5 | 38A150-IVBE | 61463610455 |

Vitrified Superfine Sticks

For dressing superabrasive wheels.

| TIER: BETTER | | | |
|---|-----------|-----------------------|-------------|
| BRAND: Norton | | | |
| SIZE (T x W x L) | STD. PKG. | SPEC. | PART # |
| Vitrified Superfine Sticks – Aluminum Oxide | | | |
| 1 x 1 x 6 | 5 | PCD Coarse - 400 grit | 61463647865 |
| | 5 | PCD Fine - 800 grit | 61463647867 |
| 1 x 1 x 8 | 5 | NSA320-H8V | 61463610597 |
| Vitrified Superfine Sticks – Silicon Carbide | | | |
| 1/2 x 1/2 x 6 | 5 | NMVC320-J5VCA | 61463610599 |
| | 5 | NMVC400-J5VCA | 61463650324 |
| 1 x 1 x 6 | 5 | NMVC320-J5VCA | 61463610605 |
| | 5 | NMVC400-J5VCA | 61463650450 |

Offhand Grinding Wheel Dressing Stick and Holder

This convenient metal holder is widely used by mechanics and foundry-men for truing, dressing and changing the face of the wheel. The JT246 dressing stick – an extra coarse grit silicon carbide for dressing conventional vitrified wheels – is firmly held and adjusted by the knurled control.



| TIER: BETTER | | | | |
|---|--|-----------|-----------|-------------|
| BRAND: Norton | | | | |
| SIZE (D x L) | SPEC. | STD. PKG. | PRODUCT # | PART # |
| Offhand Grinding Wheel Dressing Stick and Holder | | | | |
| 1/2 x 6 Round | Silicon Carbide Extra Coarse Grit Round Dressing Stick | 5 | JT246 | 61463687900 |
| 10 Overall | Dressing Stick Holder | 5 | H6 | 61463687895 |

| TIER: BETTER | | | |
|--|-----------|------------------|-------------|
| BRAND: Norton | | | |
| SIZE (T x W x L) | STD. PKG. | SPEC. | PART # |
| Vitrified Dressing Sticks – Silicon Carbide | | | |
| 1/2 x 1/2 x 6 | 5 | 37C24-SVK | 61463610285 |
| | 5 | 37C100-LV | 61463610201 |
| | 5 | 37C150-KV | 61463610205 |
| | 5 | 37C150-LV | 61463610206 |
| | 5 | 37C150-MV | 61463610207 |
| | 5 | 37C220-KV | 61463610214 |
| 3/4 x 3/4 x 6 | 5 | 37C150-LV | 61463610375 |
| 1 x 1 x 6 | 5 | 37C20-SVK | 61463610459 |
| | 5 | 37C24-SVK | 61463610462 |
| | 5 | 37C24-TVK | 61463610354 |
| | 5 | 37C46-RVK | 61463610466 |
| | 5 | 37C80-NV | 61463610393 |
| | 5 | 37C150-KV | 61463610438 |
| | 5 | 37C220-KV | 61463610398 |
| 1 x 1 x 8 | 5 | 37C20-SVK | 61463610469 |
| | 5 | 37C24-SVK | 61463610471 |
| 1 x 2 x 8 | 5 | 37C16-TVK | 61463610482 |
| | 5 | 37C24-TVK | 61463610485 |
| 2 x 2 x 8 | 5 | 37C24-SVK | 61463610490 |
| Vitrified Round Dressing Sticks – Silicon Carbide | | | |
| 1/2 x 6 | 5 | 37C24-SVK | 61463610371 |
| 1 x 6 | 5 | S/C Ex-C (JT276) | 61463687905 |

Rubber Finishing Sticks

These sticks are used for manual or mechanical honing on machines where they are mounted in holders or fixtures. Intended for use where precision dimensional limits and grade controls are required, such as die polishing.

TIER: **BETTER**
BRAND: Norton

| SIZE (T x W x L) | MIN./STD. PKG. | SPEC. | PART # |
|--------------------------------|----------------|-------------|-------------|
| Rubber Finishing Sticks | | | |
| 1/2 x 1/2 x 6 | 5/20 | 57A120-B2RR | 61463610608 |
| 1/2 x 1 x 6 | 5/20 | 57A120-B2RR | 61463610609 |

Blank Stock FastTrack Made-to-Order Microabrasive Superfinishing Sticks



Superfinishing blank stock encompasses a wide range of different specifications. These blanks can be finished to your dimensional requirements within two weeks from the date that the order is received at Norton Customer Service. Small lots, for test purposes, can be express shipped.

| APPLICATIONS | ABRASIVE TYPE – BOND | GRIT RANGE | TREATMENT TYPE |
|---|----------------------|------------|----------------|
| Superfinishing / Finishing and Dressing | NLA – V | 240 – 1200 | Sulfur, Wax |
| | NMVC – VCA | | |
| Honing | NSA – V | 54 – 220 | |
| | SG – VS | | |
| | SGG – VS1 | | |



Our extensive offering of stock diamond and cBN electroplated products has been engineered to meet the diverse demands of traditional and emerging tool and die, ceramic, and composite applications.

Applications: Small hole/ID grinding, deburring, cleaning, honing, precision drilling, forming dies and molds, routing, reaming, blending radii, notching and cutting-off with saw blades in ceramic, tool and die, and composite applications

Products: Mounted points, mandrels, drills, routers, contour tools, wheels, files, and saw blades

Abrasive Grain: Diamond and cBN (cubic Boron Nitride)

Abrasive Applications

Although diamond and cBN (cubic Boron Nitride) are both superabrasives, the use of diamond and cBN varies, depending upon the materials to be ground.

Diamond Grinds:

- Cemented carbide
- Glass
- Ceramics
- Fiberglass
- Plastics
- Composites
- Abrasives
- Stone
- Electronic components and materials

cBN Grinds:

- High-speed tool steels
- Die steel
- Hardened carbon steels
- Hardened stainless steels
- Alloy steels
- Aerospace alloys
- Abrasion-resistant ferrous materials

In general, cBN is used to grind ferrous materials. Diamond is used to grind non-ferrous materials, because of an adverse reaction between diamond and iron.

TECH TIP

Coolants

Although coolants may not be necessary, using a coolant produces superior surface finishes, a longer tool life, higher performance, and reduces tool loading.

Feeds

Suggested feeds for jig or internal grinding are from .0002" – .0004" per pass.

Speeds

Maximum Operating Speeds (MOS)

Never exceed the maximum operating speed marked on the superabrasive product being used.

Electroplated Products: 25,000 SFPM

Maximum speeds of mounted points are a function of the length of overhang and size of the product. Refer to "Safe Operating Speeds" in form #2872, provided with your product.

Recommended Operating Speeds

The preceding speed is the maximum safe speed and not necessarily the most efficient. Superabrasive products operate most effectively at speeds lower than the maximum. The following are general recommendations. cBN products, in many cases, are used effectively at higher speeds.

Electroplated Diamond Products: 5,000 to 10,000 SFPM

Electroplated cBN Products: 8,000 to 10,000 SFPM

Calculating Operating Speed

The following formula may be used to quickly calculate wheel speed:

- RPM = Revolutions Per Minute
- SFPM = Surface Feet Per Minute

To convert SFPM to RPM: (Multiply SFPM x 3.82) divided by wheel diameter in inches

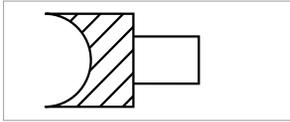
Made-to-Order Electroplated Product Guide

The stock electroplated products offered on the following pages have been engineered to meet the diversity of demands typical in today's manufacturing environment. When special forms, shapes, and configurations are required, Norton electroplated diamond and cBN products can be fabricated in almost any geometry.

Customer-Supplied Preforms and Blanks

Customers may prefer to manufacture their own preforms/blanks for custom products and in many cases this can reduce cost and lead-times.

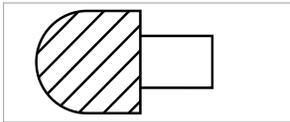
The instructions below detail the necessary allowances for each grit size. Please refer to these whenever manufacturing blanks.



Area to be plated (female radius)

Female radius must be larger than the finished size required.

Example – If a .500 female radius is required with 60/80 grit, then the blank should be manufactured .011 larger = .511



Area to be plated (male radius)

A male radius must be smaller than the finished size required.

Example – If a .500 male radius is required with 60/80 grit, then the blank should be manufactured .011 smaller = .489

Grit Size Allowance for Plated Products

| ALLOWANCE/GRIT SIZE | PARTICLE SIZE |
|---------------------|---------------|
| 20/30 | .035 |
| 30/40 | .025 |
| 40/50 | .018 |
| 60/80 | .011 |
| 80/100 | .008 |
| 100/120 | .007 |
| 120/140 | .006 |
| 140/170 | .005 |
| 170/200 | .004 |
| 200/230 | .0035 |
| 270/325 | .003 |
| 4.5 Micron – 400 | .0025 |
| 30 Micron – 600 | .0016 |
| 15 Micron – 1200 | .001 |

This should be used as a guide when manufacturing blanks to be plated with diamond or cBN.

Surface Finish

Use this chart only as a guide. Surface finish is affected by a number of variables: machine type and condition, type of material, coolant, wheel speed, bond system, etc.

Expected RMS Finish

| GRIT SIZE | ELECTROPLATED |
|-----------|---------------|
| 80 | 90-125 |
| 100 | 64-90 |
| 120 | 48-64 |
| 150 | 32-48 |
| 180 | 24-32 |
| 220 | 20-24 |
| 240 | 16-20 |
| 320 | 16-20 |
| 400 | 14-20 |
| 500 | 12-13 |
| 600 | 12 |

Strip and Replate Services

Ask Customer Service for information and quotations on our complete strip and replat services on many electroplated products.

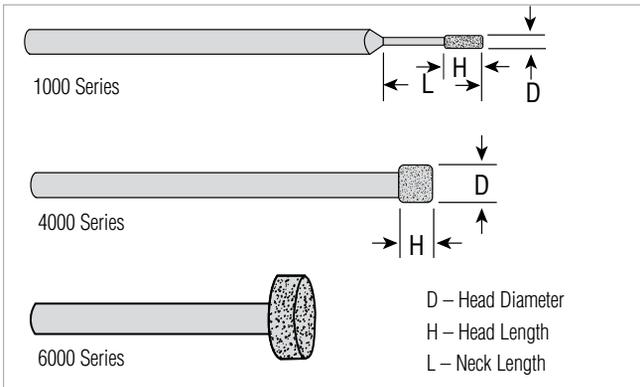
Electroplated Mounted Points

Diamond and cBN Mounted Points ● ▲

| FEATURES | BENEFITS |
|--|--|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • Variety of tools and grit sizes available as stock | • Satisfy most tool and die and deburring requirements |
| • Mandrels are made of high-speed tool steel | • Withstand operating pressure |

Use Norton diamond mounted points for precise, small hole, jig and internal grinding of carbide, ceramics, sapphire, glass, and a variety of tough, super alloys.

For grinding tough, high carbon, high chrome steel, use cBN mounted points.



| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | NECK LENGTH | GRIT SIZE |
|---|-----------|----------------------|-------------|-------------|-----------|
| 1000 Series – Diamond | | | | | |
| 1/8" Shank x 2-1/4" Overall Length | | | | | |
| 66260392429 | 1016FD | .016 | .079 | 1/8 | 200 |
| 66260392432 | 1020MD | .020 | .079 | 1/8 | 150 |
| 66260392431 | 1020FD | .020 | .079 | 1/8 | 200 |
| 66260392436 | 1025MD | .025 | .079 | 1/8 | 150 |
| 66260392435 | 1025FD | .025 | .079 | 1/8 | 200 |
| 66260392440 | 1030MD | .030 | .079 | 1/4 | 150 |
| 66260392439 | 1030FD | .030 | .079 | 1/4 | 200 |
| 66260392445 | 1035CD | .035 | .118 | 1/4 | 100 |
| 66260392444 | 1035MD | .035 | .118 | 1/4 | 150 |
| 66260392443 | 1035FD | .035 | .118 | 1/4 | 200 |
| 66260392451 | 1040CD | .040 | .118 | 1/4 | 100 |
| 66260392450 | 1040MD | .040 | .118 | 1/4 | 150 |
| 66260392449 | 1040FD | .040 | .118 | 1/4 | 200 |
| 66260392457 | 1045CD | .045 | .118 | 1/4 | 100 |
| 66260392456 | 1045MD | .045 | .118 | 1/4 | 150 |
| 66260392455 | 1045FD | .045 | .118 | 1/4 | 200 |
| 66260392463 | 1050CD | .050 | .118 | 1/2 | 100 |
| 66260392462 | 1050MD | .050 | .118 | 1/2 | 150 |
| 66260392461 | 1050FD | .050 | .118 | 1/2 | 200 |
| 66260392469 | 1050LCD | .050 | .118 | 1 | 100 |
| 66260392468 | 1050LMD | .050 | .118 | 1 | 150 |
| 66260392467 | 1050LFD | .050 | .118 | 1 | 200 |
| 66260392475 | 1055CD | .055 | .118 | 1/2 | 100 |
| 66260392474 | 1055MD | .055 | .118 | 1/2 | 150 |
| 66260392473 | 1055FD | .055 | .118 | 1/2 | 200 |
| 66260392481 | 1060CD | .060 | .157 | 1/2 | 100 |
| 66260392480 | 1060MD | .060 | .157 | 1/2 | 150 |
| 66260392479 | 1060FD | .060 | .157 | 1/2 | 200 |
| 66260392487 | 1060LCD | .060 | .157 | 1 | 100 |

Continued

| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | NECK LENGTH | GRIT SIZE |
|---|-----------|----------------------|-------------|-------------|-----------|
| 1000 Series – Diamond (continued) | | | | | |
| 1/8" Shank x 2-1/4" Overall Length | | | | | |
| 66260392492 | 1065MD | .065 | .157 | 1/2 | 150 |
| 66260392491 | 1065FD | .065 | .157 | 1/2 | 200 |
| 66260392499 | 1070CD | .070 | .157 | 1/2 | 100 |
| 66260392498 | 1070MD | .070 | .157 | 1/2 | 150 |
| 66260392497 | 1070FD | .070 | .157 | 1/2 | 200 |
| 66260392511 | 1075CD | .075 | .157 | 1/2 | 100 |
| 66260392510 | 1075MD | .075 | .157 | 1/2 | 150 |
| 66260392509 | 1075FD | .075 | .157 | 1/2 | 200 |
| 66260392517 | 1080CD | .080 | .157 | 1/2 | 100 |
| 66260392516 | 1080MD | .080 | .157 | 1/2 | 150 |
| 66260392515 | 1080FD | .080 | .157 | 1/2 | 200 |
| 66260392523 | 1080LCD | .080 | .157 | 1 | 100 |
| 66260392521 | 1080LFD | .080 | .157 | 1 | 200 |
| 66260392529 | 1085CD | .085 | .157 | 1/2 | 100 |
| 66260392528 | 1085MD | .085 | .157 | 1/2 | 150 |
| 66260392535 | 1090CD | .090 | .157 | 1/2 | 100 |
| 66260392534 | 1090MD | .090 | .157 | 1/2 | 150 |
| 66260392533 | 1090FD | .090 | .157 | 1/2 | 200 |
| 66260392541 | 1090LCD | .090 | .157 | 1 | 100 |
| 66260392540 | 1090LMD | .090 | .157 | 1 | 150 |
| 66260392547 | 1095CD | .095 | .157 | 1/2 | 100 |
| 66260392546 | 1095MD | .095 | .157 | 1/2 | 150 |
| 66260392553 | 1100CD | .100 | .157 | 1/2 | 100 |
| 66260392552 | 1100MD | .100 | .157 | 1/2 | 150 |
| 66260392551 | 1100FD | .100 | .157 | 1/2 | 200 |
| 66260392565 | 1105CD | .105 | .157 | 1/2 | 100 |
| 66260392563 | 1105FD | .105 | .157 | 1/2 | 200 |
| 66260392577 | 1110CD | .110 | .157 | 1/2 | 100 |
| 66260392576 | 1110MD | .110 | .157 | 1/2 | 150 |
| 66260392583 | 1110LCD | .110 | .157 | 1 | 100 |
| 66260392589 | 1115CD | .115 | .157 | 1/2 | 100 |
| 66260392588 | 1115MD | .115 | .157 | 1/2 | 150 |
| 66260392595 | 1120CD | .120 | .157 | 1/2 | 100 |
| 66260392594 | 1120MD | .120 | .157 | 1/2 | 150 |
| 66260392593 | 1120FD | .120 | .157 | 1/2 | 200 |
| 66260392601 | 1125CD | .125 | .157 | 1/2 | 100 |
| 66260392600 | 1125MD | .125 | .157 | 1/2 | 150 |
| 66260392599 | 1125FD | .125 | .157 | 1/2 | 200 |
| 66260392607 | 1130CD | .130 | .197 | 1 | 100 |
| 66260392606 | 1130MD | .130 | .197 | 1 | 150 |
| 66260392613 | 1135CD | .135 | .236 | N/A | 100 |
| 66260392612 | 1135MD | .135 | .236 | N/A | 150 |
| 66260392611 | 1135FD | .135 | .236 | N/A | 200 |
| 66260392619 | 1140CD | .140 | .236 | N/A | 100 |
| 66260392625 | 1156CD | .156 | .236 | N/A | 100 |
| 66260392624 | 1156MD | .156 | .236 | N/A | 150 |
| 66260392623 | 1156FD | .156 | .236 | N/A | 200 |
| 66260392730 | 1171MD | .171 | .236 | N/A | 150 |

Continued

TARGET MARKET SYMBOLS

● = Ceramics ▲ = Tool & Die ■ = Composites

Electroplated Mounted Points

Diamond and cBN Mounted Points ● ▲

| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | NECK LENGTH | GRIT SIZE |
|---|-----------|----------------------|-------------|-------------|-----------|
| 1000 Series – Diamond (continued) | | | | | |
| 1/8" Shank x 2-1/4" Overall Length | | | | | |
| 66260392730 | 1171MD | .171 | .236 | N/A | 150 |
| 66260392737 | 1187CD | .187 | .312 | N/A | 100 |
| 66260392735 | 1187FD | .187 | .312 | N/A | 200 |
| 66260392742 | 1203MD | .203 | .312 | N/A | 150 |
| 66260392741 | 1203FD | .203 | .312 | N/A | 200 |
| 66260392748 | 1218MD | .218 | .312 | N/A | 150 |
| 66260392747 | 1218FD | .218 | .312 | N/A | 200 |
| 66260392755 | 1250CD | .250 | .312 | N/A | 100 |
| 66260392754 | 1250MD | .250 | .312 | N/A | 150 |
| 66260392753 | 1250FD | .250 | .312 | N/A | 200 |
| 66260363450 | 1750MD | .750 | .035 | N/A | 150 |
| 1000 Series – cBN | | | | | |
| 1/8" Shank x 2-1/4" Overall Length | | | | | |
| 66260392434 | 1020MC | .020 | .079 | 1/8 | 150 |
| 66260392442 | 1030MC | .030 | .079 | 1/4 | 150 |
| 66260392453 | 1040MC | .040 | .118 | 1/4 | 150 |
| 66260392460 | 1045CC | .045 | .118 | 1/4 | 100 |
| 66260392466 | 1050CC | .050 | .118 | 1/2 | 100 |
| 66260392465 | 1050MC | .050 | .118 | 1/2 | 150 |
| 66260392464 | 1050FC | .050 | .118 | 1/2 | 200 |
| 66260392484 | 1060CC | .060 | .157 | 1/2 | 100 |
| 66260392483 | 1060MC | .060 | .157 | 1/2 | 150 |
| 66260392482 | 1060FC | .060 | .157 | 1/2 | 200 |
| 66260392496 | 1065CC | .065 | .157 | 1/2 | 100 |
| 66260392502 | 1070CC | .070 | .157 | 1/2 | 100 |
| 66260392501 | 1070MC | .070 | .157 | 1/2 | 150 |
| 66260392500 | 1070FC | .070 | .157 | 1/2 | 200 |
| 66260392514 | 1075CC | .075 | .157 | 1/2 | 100 |
| 66260392512 | 1075FC | .075 | .157 | 1/2 | 200 |
| 66260392520 | 1080CC | .080 | .157 | 1/2 | 100 |
| 66260392532 | 1085CC | .085 | .157 | 1/2 | 100 |
| 66260392531 | 1085MC | .085 | .157 | 1/2 | 150 |
| 66260392538 | 1090CC | .090 | .157 | 1/2 | 100 |
| 66260392537 | 1090MC | .090 | .157 | 1/2 | 150 |
| 66260392536 | 1090FC | .090 | .157 | 1/2 | 200 |
| 66260392544 | 1090LCC | .090 | .157 | 1 | 100 |
| 66260392543 | 1090LMC | .090 | .157 | 1 | 150 |
| 66260392556 | 1100CC | .100 | .157 | 1/2 | 100 |
| 66260392554 | 1100FC | .100 | .157 | 1/2 | 200 |
| 66260392561 | 1100LMC | .100 | .157 | 1 | 150 |
| 66260392568 | 1105CC | .105 | .157 | 1/2 | 100 |
| 66260392567 | 1105MC | .105 | .157 | 1/2 | 150 |
| 66260392580 | 1110CC | .110 | .157 | 1/2 | 100 |
| 66260392578 | 1110FC | .110 | .157 | 1/2 | 200 |
| 66260392598 | 1120CC | .120 | .157 | 1/2 | 100 |
| 66260392604 | 1125CC | .125 | .157 | 1/2 | 100 |
| 66260392603 | 1125MC | .125 | .157 | 1/2 | 150 |
| 66260392602 | 1125FC | .125 | .157 | 1/2 | 200 |
| 66260392610 | 1130CC | .130 | .197 | 1 | 100 |
| 66260392608 | 1130FC | .130 | .197 | 1 | 200 |
| 66260392616 | 1135CC | .135 | .236 | N/A | 100 |
| 66260392615 | 1135MC | .135 | .236 | N/A | 150 |
| 66260392622 | 1140CC | .140 | .236 | N/A | 100 |
| 66260392628 | 1156CC | .156 | .236 | N/A | 100 |
| 66260392627 | 1156MC | .156 | .236 | N/A | 150 |
| 66260392626 | 1156FC | .156 | .236 | N/A | 200 |
| 66260392734 | 1171CC | .171 | .236 | N/A | 100 |
| 66260392733 | 1171MC | .171 | .236 | N/A | 150 |
| 66260392740 | 1187CC | .187 | .312 | N/A | 100 |
| 66260392739 | 1187MC | .187 | .312 | N/A | 150 |
| 66260392738 | 1187FC | .187 | .312 | N/A | 200 |
| 66260392745 | 1203MC | .203 | .312 | N/A | 150 |
| 66260392752 | 1218CC | .218 | .312 | N/A | 100 |
| 66260392751 | 1218MC | .218 | .312 | N/A | 150 |
| 66260392758 | 1250CC | .250 | .312 | N/A | 100 |
| 66260392757 | 1250MC | .250 | .312 | N/A | 150 |

| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | NECK LENGTH | GRIT SIZE |
|---------------------------------------|-----------|----------------------|-------------|-------------|-----------|
| 4000 Series – Diamond | | | | | |
| 1/4" Shank x 3" Overall Length | | | | | |
| 66260392630 | 4156CD | .156 | .250 | 1 | 100 |
| 66260392629 | 4156FD | .156 | .250 | 1 | 200 |
| 66260392634 | 4187CD | .187 | .250 | 1 | 100 |
| 66260392633 | 4187FD | .187 | .250 | 1 | 200 |
| 66260392638 | 4203CD | .203 | .250 | 1 | 100 |
| 66260392642 | 4218CD | .218 | .250 | 1 | 100 |
| 66260392641 | 4218FD | .218 | .250 | 1 | 200 |
| 66260392646 | 4236CD | .236 | .250 | 1 | 100 |
| 66260392645 | 4236FD | .236 | .250 | 1 | 200 |
| 66260392650 | 4250CD | .250 | .250 | 1 | 100 |
| 66260392649 | 4250FD | .250 | .250 | 1 | 200 |
| 66260392654 | 4282CD | .282 | .250 | N/A | 100 |
| 66260392653 | 4282FD | .282 | .250 | N/A | 200 |
| 66260392658 | 4312CD | .312 | .375 | N/A | 100 |
| 66260392657 | 4312FD | .312 | .375 | N/A | 200 |
| 66260392662 | 4375CD | .375 | .375 | N/A | 100 |
| 66260392661 | 4375FD | .375 | .375 | N/A | 200 |
| 66260392666 | 4390CD | .390 | .375 | N/A | 100 |
| 66260392670 | 4406CD | .406 | .375 | N/A | 100 |
| 66260392674 | 4437CD | .437 | .375 | N/A | 100 |
| 66260392678 | 4500CD | .500 | .375 | N/A | 100 |
| 66260392677 | 4500FD | .500 | .375 | N/A | 200 |
| 66260392682 | 4730CD | .730 | .375 | N/A | 100 |
| 66260392690 | 41000CD | 1.000 | .375 | N/A | 100 |
| 66260392689 | 41000FD | 1.000 | .375 | N/A | 200 |
| 4000 Series – cBN | | | | | |
| 1/4" Shank x 3" Overall Length | | | | | |
| 66260392632 | 4156CC | .156 | .250 | 1 | 100 |
| 66260392631 | 4156FC | .156 | .250 | 1 | 200 |
| 66260392636 | 4187CC | .187 | .250 | 1 | 100 |
| 66260392635 | 4187FC | .187 | .250 | 1 | 200 |
| 66260392640 | 4203CC | .203 | .250 | 1 | 100 |
| 66260392639 | 4203FC | .203 | .250 | 1 | 200 |
| 66260392644 | 4218CC | .218 | .250 | 1 | 100 |
| 66260392643 | 4218FC | .218 | .250 | 1 | 200 |
| 66260392648 | 4236CC | .236 | .250 | 1 | 100 |
| 66260392647 | 4236FC | .236 | .250 | 1 | 200 |
| 66260392652 | 4250CC | .250 | .250 | 1 | 100 |
| 66260392651 | 4250FC | .250 | .250 | 1 | 200 |
| 66260392656 | 4282CC | .282 | .250 | N/A | 100 |
| 66260392655 | 4282FC | .282 | .250 | N/A | 200 |
| 66260392660 | 4312CC | .312 | .375 | N/A | 100 |
| 66260392659 | 4312FC | .312 | .375 | N/A | 200 |
| 66260392664 | 4375CC | .375 | .375 | N/A | 100 |
| 66260392663 | 4375FC | .375 | .375 | N/A | 200 |
| 66260392668 | 4390CC | .390 | .375 | N/A | 100 |
| 66260392672 | 4406CC | .406 | .375 | N/A | 100 |
| 66260392676 | 4437CC | .437 | .375 | N/A | 100 |
| 66260392675 | 4437FC | .437 | .375 | N/A | 200 |
| 66260392680 | 4500CC | .500 | .375 | N/A | 100 |
| 66260392679 | 4500FC | .500 | .375 | N/A | 200 |
| 66260392684 | 4730CC | .730 | .375 | N/A | 100 |
| 66260392683 | 4730FC | .730 | .375 | N/A | 200 |
| 66260392692 | 41000CC | 1.000 | .375 | N/A | 100 |

TARGET MARKET SYMBOLS

● = Ceramics ▲ = Tool & Die ■ = Composites

Electroplated Mounted Points, Mandrels and Tapered Honers

Diamond and cBN Mounted Points ● ▲

| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | GRIT SIZE |
|---|-----------|----------------------|-------------|-----------|
| 6000 Series – Diamond | | | | |
| 3/8" Shank x 3-3/4" Overall Length | | | | |
| 66260392694 | 6406CD | .406 | .375 | 80 |
| 66260392693 | 6406MD | .406 | .375 | 150 |
| 66260392698 | 6437CD | .437 | .375 | 80 |
| 66260392697 | 6437MD | .437 | .375 | 150 |
| 66260392702 | 6500CD | .500 | .375 | 80 |
| 66260392701 | 6500MD | .500 | .375 | 150 |
| 66260392706 | 6562CD | .562 | .375 | 80 |
| 66260392710 | 6625CD | .625 | .375 | 80 |
| 66260392709 | 6625MD | .625 | .375 | 150 |
| 66260392718 | 6750CD | .750 | .375 | 80 |
| 66260392717 | 6750MD | .750 | .375 | 150 |
| 66260392721 | 6875MD | .875 | .400 | 150 |
| 66260392726 | 61000CD | 1.000 | .500 | 80 |
| 66260392725 | 61000MD | 1.000 | .500 | 150 |

| PART # | PRODUCT # | HEAD DIAMETER INCHES | HEAD LENGTH | GRIT SIZE |
|---|-----------|----------------------|-------------|-----------|
| 6000 Series – cBN | | | | |
| 3/8" Shank x 3-3/4" Overall Length | | | | |
| 66260392696 | 6406CC | .406 | .375 | 80 |
| 66260392695 | 6406MC | .406 | .375 | 150 |
| 66260392700 | 6437CC | .437 | .375 | 80 |
| 66260392699 | 6437MC | .437 | .375 | 150 |
| 66260392704 | 6500CC | .500 | .375 | 80 |
| 66260392703 | 6500MC | .500 | .375 | 150 |
| 66260392708 | 6562CC | .562 | .375 | 80 |
| 66260392712 | 6625CC | .625 | .375 | 80 |
| 66260392711 | 6625MC | .625 | .375 | 150 |
| 66260392716 | 6687CC | .687 | .375 | 80 |
| 66260392715 | 6687MC | .687 | .375 | 150 |
| 66260392720 | 6750CC | .750 | .375 | 80 |
| 66260392719 | 6750MC | .750 | .375 | 150 |
| 66260392724 | 6875CC | .875 | .400 | 80 |
| 66260392728 | 61000CC | 1.000 | .500 | 80 |
| 66260392727 | 61000MC | 1.000 | .500 | 150 |
| 9000 Series – Diamond | | | | |
| 3/4" Shank x 3-3/4" Overall Length | | | | |
| 66260308354 | 91000CD | 1.000 | .500 | 80 |

cBN Heavy Stock Removal Mandrels ▲

| FEATURES | BENEFITS |
|------------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • Super coarse abrasive grit | • Long tool life |

For heavy stock removal on jig, internal, and offhand operations on tool steels and hardened aerospace alloys.

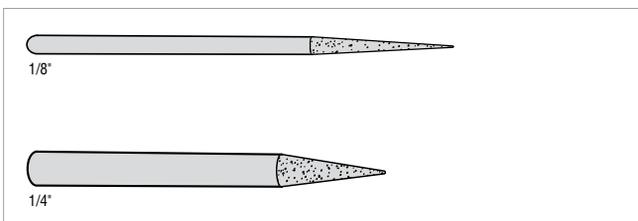


| PART # | PRODUCT # | HEAD DIAMETER | HEAD LENGTH | SHANK DIAMETER | OVERALL LENGTH | GRIT SIZE |
|-------------------------|-----------|---------------|-------------|----------------|----------------|-----------|
| HSR Series – cBN | | | | | | |
| 66260395426 | HSR-1/4 | 1/4 | 1/4 | 3/8 | 3 | 60 |
| 66260395428 | HSR-3/8 | 3/8 | 3/8 | 3/8 | 3 | 60 |
| 66260395429 | HSR-1/2 | 1/2 | 3/8 | 3/8 | 3-1/2 | 60 |
| 66260395431 | HSR-3/4 | 3/4 | 3/8 | 3/8 | 3-1/2 | 60 |
| 66260395432 | HSR-1 | 1 | 3/8 | 3/8 | 3-1/2 | 60 |

Diamond Tapered Honers for Drawing Dies ● ▲ ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |

Used primarily for forming carbide drawing dies, but also can be used for small hole honing in ceramics, fiberglass, plastics, and composite materials.



| PART # | PRODUCT # | INCLUDED ANGLE | SHANK DIAMETER | GRIT SIZE |
|--|-----------|----------------|----------------|-----------|
| Tapered Honers for Drawing Dies – Diamond | | | | |
| 3" Overall Length | | | | |
| 66260395540 | TH12-6MD | 6° | 1/8 | 150 |
| 66260395541 | TH12-8MD | 8° | 1/8 | 150 |
| 66260363371 | TH25-12CD | 12° | 1/4 | 100 |
| 66260395542 | TH12-12MD | 12° | 1/8 | 150 |
| 66260395543 | TH25-12MD | 12° | 1/4 | 150 |
| 66260395544 | TH25-14MD | 14° | 1/4 | 150 |
| 66260395545 | TH25-16MD | 16° | 1/4 | 150 |

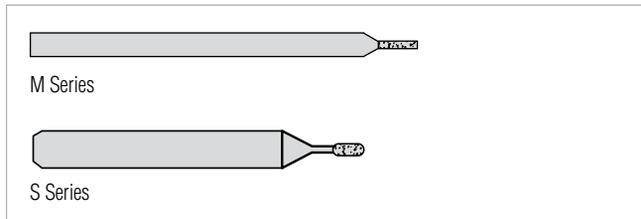
| TARGET MARKET SYMBOLS |
|--|
| ● = Ceramics ▲ = Tool & Die ■ = Composites |

Electroplated Micro Drills and Routers

Diamond Micro Drills ● ▲ ■

| FEATURES | BENEFITS |
|----------------------------|---|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • M-Series | • Carefully-sized, uniformly-shaped diamond particles are used on all M-Series drills |
| • S-Series | • Recommended for adapting to ultrasonic drill heads |

A modification of Norton mounted points, these tools are specifically designed for drilling holes in the .007" to .065" diameter range. Perfect for drilling sapphire and high density alumina ceramics for hybrid micro-circuit substrates.



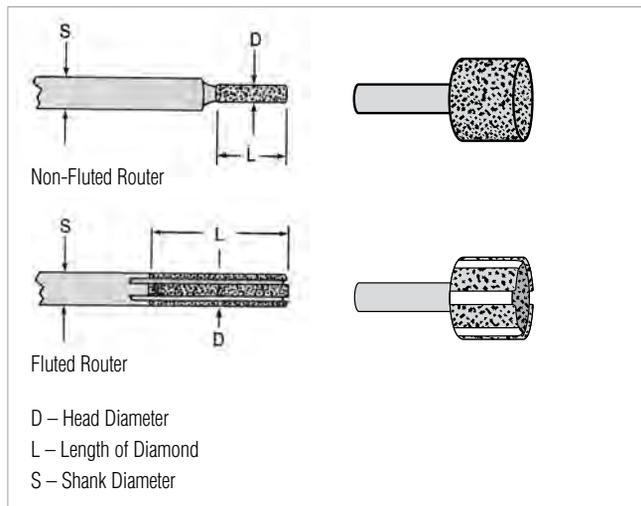
| PART # | PRODUCT # | DIAMETER INCHES | HEAD LENGTH | OVERALL LENGTH | GRIT SIZE |
|--|-----------|-----------------|-------------|----------------|-----------|
| M-Series Micro Drills – Diamond | | | | | |
| Shank Diameter .040" (1mm) | | | | | |
| 66260395516 | M7 | .007 | .028 | 11/16 | 600 |
| 66260395517 | M10 | .010 | .049 | 11/16 | 400 |
| 66260395518 | M12 | .012 | .056 | 13/16 | 325 |
| 66260395519 | M15 | .015 | .077 | 13/16 | 325 |

| PART # | PRODUCT # | DIAMETER INCHES | HEAD LENGTH | OVERALL LENGTH | GRIT SIZE |
|--|-----------|-----------------|-------------|----------------|-----------|
| S-Series Micro Drills – Diamond | | | | | |
| 1/8" Shank x 1" Overall Length | | | | | |
| 66260395520 | S16FD | .016 | .062 | .093 | 200 |
| 66260392841 | S18FD | .018 | .062 | .125 | 200 |
| 66260395521 | S20FD | .020 | .062 | .125 | 200 |
| 66260395522 | S25FD | .025 | .093 | .156 | 200 |
| 66260395523 | S30MD | .030 | .093 | .156 | 150 |
| 66260395524 | S35MD | .035 | .093 | .187 | 150 |
| 66260395525 | S40MD | .040 | .125 | .218 | 150 |
| 66260395526 | S45CD | .045 | .125 | .218 | 100 |
| 66260395527 | S50CD | .050 | .125 | .250 | 100 |
| 66260395528 | S60CD | .060 | .125 | .312 | 100 |
| 66260395529 | S65CD | .065 | .125 | .312 | 100 |

Diamond Routers ● ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |

Used with hand operated tools, drill presses, and milling machines. Ideal for routing and reaming the highly-abrasive materials of alumina, fiberglass, plastics, and other nonmetallic composite materials.



| PART # | PRODUCT # | HEAD DIAMETER | LENGTH OF DIAMOND | SHANK DIAMETER | OVERALL LENGTH | GRIT SIZE |
|-------------------------------------|-----------|---------------|-------------------|----------------|----------------|-----------|
| Non-Fluted Routers – Diamond | | | | | | |
| 66260364302 | RNF1410CD | 1/4 | 1 | 1/4 | 2-1/2 | 40 |
| Fluted Routers – Diamond | | | | | | |
| 66260364310 | RSF1812CD | 1/8 | 1/2 | 1/4 | 2-1/2 | 60 |
| 66260364309 | RSF1810CD | 1/8 | 1 | 1/4 | 2-1/2 | 60 |
| 66260364308 | RSF1412CD | 1/4 | 1/2 | 1/4 | 2-1/2 | 40 |
| 66260364307 | RSF1410CD | 1/4 | 1 | 1/4 | 2-1/2 | 40 |
| 66260302715 | RSF3412CD | 3/4 | 1/2 | 1/2 | 2-1/2 | 40 |

TARGET MARKET SYMBOLS

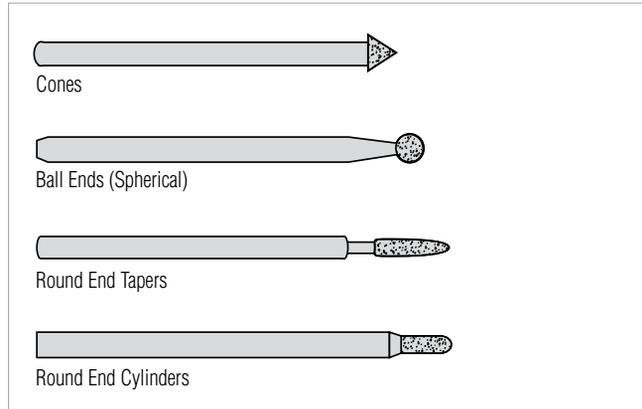
● = Ceramics ▲ = Tool & Die ■ = Composites

Electroplated Mounted Contour Tools

Diamond and cBN Mounted Contour Tools ● ▲ ■

| FEATURES | BENEFITS |
|---|--|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • Variety of tool shapes available as stock | • Satisfy most tool and die and deburring requirements |

For contour grinding applications on carbide, ceramics, glass, ferrites, and many tough alloys and cements. Best suited for blending radii and deburring operations. Operating speeds: 15,000-20,000 RPM range.



| PART # | PRODUCT # | CONE BASE DIAMETER | INCLUDED ANGLE | CONE LENGTH | GRIT SIZE |
|---------------------------------------|-----------|--------------------|----------------|-------------|-----------|
| Cones – Diamond | | | | | |
| 1/8" Shank x 2" Overall Length | | | | | |
| 66260395484 | C14CD | 1/8 | 14° | 1/2 | 100 |
| 66260395488 | C35CD | 5/32 | 35° | 1/4 | 100 |
| 66260395490 | C60CD | 11/64 | 60° | 5/32 | 100 |
| 66260395492 | C90CD | 3/16 | 90° | 3/32 | 100 |
| Cones – cBN | | | | | |
| 1/8" Shank x 2" Overall Length | | | | | |
| 66260395483 | C14CC | 1/8 | 14° | 1/2 | 100 |
| 66260395485 | C26CC | 3/16 | 26° | 13/32 | 100 |
| 66260395487 | C35CC | 5/32 | 35° | 1/4 | 100 |
| 66260395489 | C60CC | 11/64 | 60° | 5/32 | 100 |
| 66260395491 | C90CC | 3/16 | 90° | 3/32 | 100 |

| PART # | PRODUCT # | BALL DIAMETER | GRIT SIZE |
|--|-----------|---------------|-----------|
| Ball Ends (Spherical) – Diamond | | | |
| 1/8" Shank x 2" Overall Length | | | |
| 66260395434 | BE1CD | 3/64 | 100 |
| 66260395436 | BE2CD | 1/16 | 100 |
| 66260395438 | BE3CD | 5/64 | 100 |
| 66260395440 | BE4CD | 3/32 | 100 |
| 66260395442 | BE5CD | 1/8 | 100 |
| 66260395444 | BE6CD | 3/16 | 100 |
| 66260395448 | BE8CD | 3/8 | 100 |
| 66260395450 | BE9CD | 1/2 | 100 |
| Ball Ends (Spherical) – cBN | | | |
| 1/8" Shank x 2" Overall Length | | | |
| 66260395437 | BE3CC | 5/64 | 100 |
| 66260395439 | BE4CC | 3/32 | 100 |
| 66260395441 | BE5CC | 1/8 | 100 |
| 66260395443 | BE6CC | 3/16 | 100 |
| 66260395445 | BE7CC | 1/4 | 100 |

| PART # | PRODUCT # | SMALL HEAD DIAMETER | LARGE HEAD DIAMETER | HEAD LENGTH | INC. ANGLE | GRIT SIZE |
|---------------------------------------|-----------|---------------------|---------------------|-------------|------------|-----------|
| Round End Tapers – Diamond | | | | | | |
| 1/8" Shank x 2" Overall Length | | | | | | |
| 66260395506 | RT44CD | .044 | .066 | 5/16 | 4° | 100 |
| 66260395510 | RT78CD | .078 | .110 | 5/16 | 6° | 100 |
| Round End Tapers – cBN | | | | | | |
| 1/8" Shank x 2" Overall Length | | | | | | |
| 66260395509 | RT78CC | .078 | .110 | 5/16 | 6° | 100 |

| PART # | PRODUCT # | HEAD DIAMETER | HEAD LENGTH | GRIT SIZE |
|---------------------------------------|-----------|---------------|-------------|-----------|
| Round End Cylinders – Diamond | | | | |
| 1/8" Shank x 2" Overall Length | | | | |
| 66260395494 | RE1CD | 1/16 | 1/4 | 100 |
| 66260395496 | RE2CD | 5/64 | 1/4 | 100 |
| 66260395498 | RE3CD | 3/32 | 1/4 | 100 |
| 66260395500 | RE4CD | 1/8 | 1/4 | 100 |
| 66260395502 | RE5CD | 3/16 | 5/16 | 100 |
| 66260395504 | RE6CD | 1/4 | 5/16 | 100 |
| Round End Cylinders – cBN | | | | |
| 1/8" Shank x 2" Overall Length | | | | |
| 66260395495 | RE2CC | 5/64 | 1/4 | 100 |

Type 6A2C cup and Type 01 straight bench and pedestal electroplated wheels are available as made-to order products. Contact your Norton representative for availability and quotation.

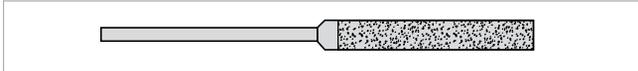
Electroplated Files

Diamond Machine Files ● ▲

| | |
|----------|----------|
| FEATURES | BENEFITS |
|----------|----------|

- | | |
|--|--|
| <ul style="list-style-type: none"> • Nickel alloy matrix • Single layer of abrasive • Exposed particles | <ul style="list-style-type: none"> • Tough, durable bond • Economical • Aggressive cutting action |
|--|--|

For use in reciprocating hand profiling machines. Ideal for reworking and finishing carbide dies and molds, blending radii, and deburring and cleaning slots and grooves.



Diamond Hand Files ● ▲

| | |
|----------|----------|
| FEATURES | BENEFITS |
|----------|----------|

- | | |
|--|--|
| <ul style="list-style-type: none"> • Nickel alloy matrix • Single layer of abrasive • Exposed particles | <ul style="list-style-type: none"> • Tough, durable bond • Economical • Aggressive cutting action |
|--|--|

Indispensable aid for the toolroom. All purpose hand-held tool useful for deburring, notching, dressing, and honing hard, brittle materials.



| PART # | PRODUCT # | DIMENSIONS | ABRASIVE LOCATION | GRIT SIZE |
|---|-----------|-------------|-------------------|-----------|
| Machine Files – Diamond | | | | |
| 5/8" Diamond Length, 1/8" Shank, 2" Overall Length | | | | |
| 66260395585 | 1ECD | .020 x .125 | | 100 |
| 66260395586 | 2ECD | .030 x .125 | | 100 |
| 66260395587 | 3ECD | .040 x .125 | | 100 |
| 66260395589 | 3FCD | .120 x .040 | | 100 |
| 66260395590 | 4FCD | .157 x .040 | | 100 |
| 66260395591 | 5FCD | .203 x .078 | | 100 |
| 66260395592 | 6FCD | .120 x .040 | | 100 |
| 66260395593 | 1CCD | .098 x .196 | | 100 |
| 66260395594 | 2CCD | .120 x .250 | | 100 |
| 66260395596 | 3TCD | .127 side | | 100 |
| 66260395598 | 1RCD | .042 diam. | | 100 |
| 66260395599 | 2RCD | .080 diam. | | 100 |
| 66260395600 | 3RCD | .127 diam. | | 100 |

| PART # | PRODUCT # | DIMENSIONS | ABRASIVE LOCATION | GRIT SIZE |
|---|-----------|------------|-------------------|-----------|
| Hand Files – Diamond | | | | |
| 6" Overall Length, 1-1/2" Diamond Length | | | | |
| 66260395605 | DF1CD | 1/8 x 1/8 | | 100 |
| 66260395606 | DF2CD | 1/8 x 1/4 | | 100 |
| 66260392843 | DF2FD | 1/8 x 1/4 | | 200 |
| 66260395607 | DF2WCD | 1/8 x 1/4 | | 100 |
| 66260395608 | DF3CD | 1/8 x 3/8 | | 100 |
| 66260392844 | DF3FD | 1/8 x 3/8 | | 200 |
| 66260395609 | DF3WCD | 1/8 x 3/8 | | 100 |
| 66260364241 | DF3SCD | 1/8 x 1/2 | | 100 |
| 66260395611 | DF4CD | 1/8 | | 100 |
| 66260300134 | DF4WCD | 1/4 | | 100 |
| 66260395613 | DF5CD | 1/8 | | 100 |
| 66260392846 | DF5FD | 1/8 | | 200 |
| 66260395614 | DF5WCD | 1/4 | | 100 |
| 66260395615 | DF6CD | 1/8 | | 100 |

TARGET MARKET SYMBOLS

- = Ceramics ▲ = Tool & Die ■ = Composites

Electroplated Files

Diamond Needle Files ● ▲

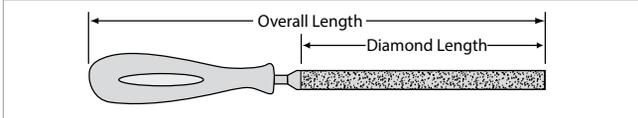
FEATURES

- Nickel alloy matrix
- Single layer of abrasive
- Exposed particles

BENEFITS

- Tough, durable bond
- Economical
- Aggressive cutting action

Indispensable aid for the toolroom. An all-purpose hand-held tool, useful for deburring, notching, dressing, and honing hard, brittle materials.



| PART # | PRODUCT # | GRIT SIZE |
|--|-----------|-----------|
| NFK-6 Needle File Kit – Diamond | | |
| 66260364008 | NFK-6 | |
| Contains one each of the following: | | |
| | NF1FD | 200 |
| | NF2FD | 200 |
| | NF3FD | 200 |
| | NF4FD | 200 |
| | NF5FD | 200 |
| | NF6FD | 200 |
| DFS-6 Die File Kit – Diamond | | |
| 66260391830 | DFS-6 | |
| Contains one each of the following: | | |
| | 1571 | 100 |
| | 1572 | 100 |
| | 1573 | 100 |
| | 1574 | 100 |
| | 1575 | 100 |
| | 1576 | 100 |

TARGET MARKET SYMBOLS

- = Ceramics ▲ = Tool & Die ■ = Composites

| PART # | PRODUCT # | DIMENSIONS | ABRASIVE LOCATION | SHAPE | GRIT SIZE |
|--|-----------|-------------|-------------------|--------------|-----------|
| Needle Files – Diamond | | | | | |
| 4-1/4" Diamond Length, 8-1/2" Overall Length | | | | | |
| 66260302432 | LNF2CD | .400 x .100 | | Equaling | 100 |
| 66260305611 | LNF2FD | .400 x .100 | | Equaling | 200 |
| 66260302898 | LNF3CD | .450 x .150 | | Half Round | 100 |
| 66260305612 | LNF3FD | .485 x .150 | | Half Round | 200 |
| 2-3/4" Diamond Length, 5-3/4" Overall Length, With Handle | | | | | |
| 66260391729 | 1571 | .055 x .190 | | Flat | 100 |
| 66260391730 | 1572 | .075 x .210 | | Half Round | 100 |
| 66260391731 | 1573 | .145 x .145 | | Triangle | 100 |
| 66260391732 | 1574 | .100 x .100 | | Square | 100 |
| 66260391733 | 1575 | .120 | | Round | 100 |
| 66260391734 | 1576 | .055 x .190 | | Pointed Flat | 100 |
| 3" Diamond Length, 5-1/2" Overall Length, With Handle | | | | | |
| 66260395575 | NF1FD | .150 x .105 | | Oval | 200 |
| 66260395576 | NF2FD | .218 x .072 | | Half Round | 200 |
| 66260395577 | NF3FD | .205 x .058 | | Equaling | 200 |
| 66260395578 | NF4FD | .096 x .096 | | Square | 200 |
| 66260395579 | NF5FD | .138 x .138 | | Triangle | 200 |
| 66260395580 | NF6FD | .118 | | Round | 200 |

Needle File Shape and Application Key:

| | |
|---------------|---|
| Barrette: | A triangle with diamond on the bottom side only |
| Crossing: | Elongated oval, with more pointed ends than an oval file; has diamonds all around |
| Equaling: | A rectangle with diamond on all four sides; ideal for filing both sides of an ID simultaneously |
| Pointed Flat: | A cone with a flat top with diamond on the sides of the cone |

Electroplated Drills

Diamond Core Drills ● ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |

High performance on glass and ceramic applications while providing fast, reliable cutting. Submersed drilling is highly recommended for optimum operating performance.



Diamond Mounted Core Drills ● ■

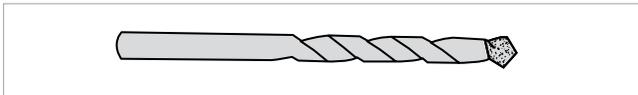
| FEATURES | BENEFITS |
|---|--|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • Removable pilot (bulb-like extension) | • Provides added stability • Ensures smooth drilling with less wobbling |
| • 1/8" wrap: additional 1/8" of electroplated diamond on the blade core | • Increases life of blade on deep cuts, reduces binding and grinding on the core |

High performance results on glass and ceramic applications.

Diamond Twist Drills ● ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |

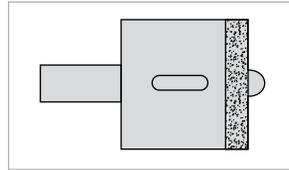
Recommended for precision drilling on circuit boards containing fiberglass, nylon, and similar tough, abrasive materials. Diamond twist drills are also useful for drilling plastics and resin composites and have been successful in drilling soft ductile materials as well as "green" carbide. Operating procedures are similar to those of standard twist drills.



| PART # | PRODUCT # | OUTER DIAMETER | INNER DIAMETER | GRIT SIZE |
|--|-----------|----------------|----------------|-----------|
| Core Drills – Diamond | | | | |
| Straight Tube Type, 2" Overall Length | | | | |
| 66260395530 | A1MD | 1/16 | .023 | 150 |
| 66260395531 | A2MD | 3/32 | .048 | 150 |
| 66260395532 | A3MD | 1/8 | .075 | 150 |
| 66260395533 | A4MD | 5/32 | .110 | 150 |
| 66260395534 | A5CD | 3/16 | .140 | 100 |
| 66260395535 | A6CD | 1/4 | .195 | 100 |
| 66260395536 | A7CD | 5/16 | .255 | 100 |
| 66260395537 | A8CD | 3/8 | .325 | 100 |

| PART # | PRODUCT # | OUTER DIAMETER | INNER DIAMETER | GRIT SIZE |
|---|-----------|----------------|----------------|-----------|
| Mounted Core Drills – Diamond | | | | |
| 1/8" Wrap, 3/8" Shank Diameter, 3.45" Overall Length | | | | |
| 66260392850 | CD.750 | 3/4 | 1/4 | 40 |

Pilots are removable.



| PART # | PRODUCT # | DRILL DIAMETER | DRILL LENGTH | GRIT SIZE |
|-------------------------------|-----------|----------------|--------------|-----------|
| Twist Drills – Diamond | | | | |
| 66260395549 | TW-1/16 | 1/16 | 1-3/4 | 100 |
| 66260395550 | TW-1/8 | 1/8 | 2-3/4 | 100 |
| 66260395551 | TW-1/4 | 1/4 | 4 | 100 |
| 66260395552 | TW-3/8 | 3/8 | 5 | 100 |

Diameter tolerance equals + or - 1/64.

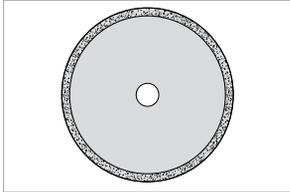
| TARGET MARKET SYMBOLS | | |
|-----------------------|----------------|----------------|
| ● = Ceramics | ▲ = Tool & Die | ■ = Composites |

Electroplated Saw Blades

Diamond Continuous Rim Cut-off Saw Blades ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |

Ideal for cutting-off highly-abrasive materials such as alumina, fiberglass, plastics, and other nonmetallic composite materials.

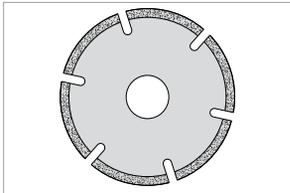


Additional diamond continuous rim and slotted cut-off saw blades, with extended wraps to avoid binding, are available as made-to-order products. Please contact your Norton representative.

Diamond Slotted Cut-off Saw Blades ■

| FEATURES | BENEFITS |
|---|--|
| • Nickel alloy matrix | • Tough, durable bond |
| • Single layer of abrasive | • Economical |
| • Exposed particles | • Aggressive cutting action |
| • 3/4" wrap: additional 3/4" of electroplated diamond on the blade core | • Increases life of blade on deep cuts, reduces binding and grinding on the core |

Ideal for cutting-off highly-abrasive materials such as alumina, fiberglass, plastics, and other nonmetallic composite materials.

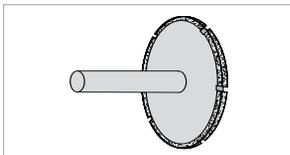


Additional diamond continuous rim and slotted cut-off saw blades, with extended wraps to avoid binding, are available as made-to-order products. Please contact your Norton representative.

Diamond Mounted Saw Blades ■

| FEATURES | BENEFITS |
|----------------------------|-----------------------------|
| ■ Nickel alloy matrix | ■ Tough, durable bond |
| ■ Single layer of abrasive | ■ Economical |
| ■ Exposed particles | ■ Aggressive cutting action |

Ideal for cutting-off highly-abrasive materials such as alumina, fiberglass, plastics, and other nonmetallic composite materials.



| PART # | PRODUCT # | DIAM. | OVERALL THICKNESS | HOLE SIZE | GRIT SIZE |
|--|------------|-------|-------------------|-----------|-----------|
| Continuous Rim Cut-off Saw Blades – Diamond | | | | | |
| 66260301990 | DS2062-250 | 2 | 1/16 | 1/4 | 40 |
| 66260391474 | DS2094-250 | 2 | 3/32 | 1/4 | 40 |
| 66260391473 | DS3094-250 | 3 | 3/32 | 1/4 | 40 |
| 66260363036 | DS3094-375 | 3 | 3/32 | 3/8 | 40 |
| 66260395554 | DS4094-500 | 4 | 3/32 | 1/2 | 40 |
| 66260300197 | DS4094-750 | 4 | 3/32 | 3/4 | 40 |
| 66260395557 | DS8094-625 | 8 | 3/32 | 5/8 | 40 |

| PART # | PRODUCT # | DIAM. | OVERALL THICKNESS | HOLE SIZE | GRIT SIZE |
|--|--------------|-------|-------------------|-----------|-----------|
| Slotted Cut-off Saw Blades – Diamond | | | | | |
| 66260301989 | DSS2062-250 | 2 | 1/16 | 1/4 | 40 |
| 66260364258 | DSS3094-250 | 3 | 3/32 | 1/4 | 40 |
| 66260363015 | DSS4094-375 | 4 | 3/32 | 3/8 | 40 |
| 66260395559 | DSS4094-500 | 4 | 3/32 | 1/2 | 40 |
| 66260395560 | DSS6094-500 | 6 | 3/32 | 1/2 | 40 |
| 66260362981 | DSS10125-625 | 10 | 1/8 | 5/8 | 40 |
| 66260395563 | DSS12125-500 | 12 | 1/8 | 1/2 | 40 |
| 66260364253 | DSS14156-500 | 14 | 5/32 | 1/2 | 40 |
| 66260362989 | DSS14156-1 | 14 | 5/32 | 1 | 40 |
| 66260395565 | DSS16156-1 | 16 | 5/32 | 1 | 40 |
| 66260395566 | DSS18156-1 | 18 | 5/32 | 1 | 40 |
| Slotted Cut-off Saw Blades with 3/4" Wrap – Diamond | | | | | |
| 66260313423 | DSSW4094-750 | 4 | 3/32 | 3/4 | 40 |

| PART # | PRODUCT # | DIAM. | OVERALL THICKNESS | HOLE SIZE | GRIT SIZE |
|-------------------------------------|------------|-------|-------------------|-----------|-----------|
| Mounted Saw Blades – Diamond | | | | | |
| 2" Overall Length | | | | | |
| 66260395422 | MDS1CD | 1 | 3/32 | 1/4 | 40 |
| 66260395423 | MDS1-1/2CD | 1-1/2 | 3/32 | 1/4 | 40 |
| 66260395424 | MDS2CD | 2 | 3/32 | 3/8 | 40 |

TARGET MARKET SYMBOLS

● = Ceramics ▲ = Tool & Die ■ = Composites

DIAMOND LAPPING COMPOUND



Norton diamond lapping compound polishes all materials – hard and soft. Diamond powders are uniformly distributed in a liquid vehicle for aggressive polishing and consistent part quality. Easy-to-use plastic syringe for quick clean-up.

Applications:

For mold, die, and tool polishing, polishing to final tolerance of ceramic parts, initial charging of lapping plates and discs, and other processes that require mirror finish and close tolerance performance.

Syringe Size:

5 and 18 gram syringes

Type:

Water soluble – when soap/water is used for clean-up

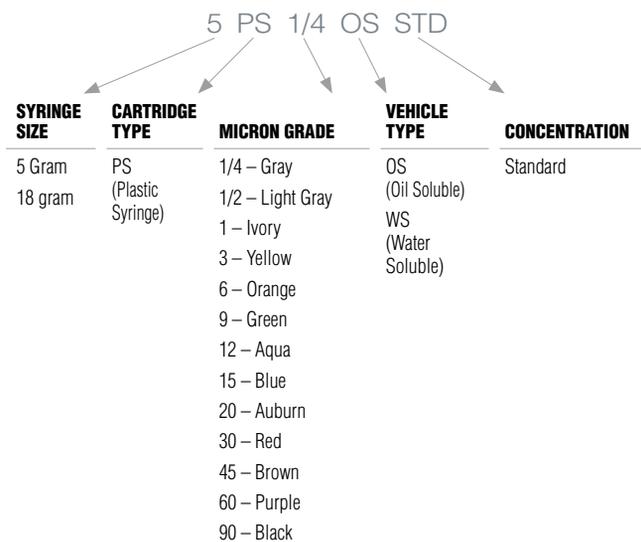
Oil soluble – when solvent is used for clean-up

| PRODUCT # | MICRON GRADE | COLOR | PART # |
|---|----------------|----------|---------------|
| Diamond Compound – Water Soluble | | | |
| 5 Gram Syringes | | | |
| 5PS1/4WSSTD | 1/4 Ultra Fine | Gray | 66260300362 |
| 5PS1/2WSSTD | 1/2 Ultra Fine | Lt. Gray | 66260300417 |
| 5PS1WSSTD | 1 Ultra Fine | Ivory | 66260300368 |
| 5PS3WSSTD | 3 Super Fine | Yellow | 66260300667 |
| 5PS6WSSTD | 6 Super Fine | Orange | 66260300372 |
| 5PS9WSSTD | 9 Super Fine | Green | 66260300375 |
| 5PS12WSSTD | 12 Super Fine | Aqua | 66260300376 |
| 5PS15WSSTD | 15 Fine | Blue | 66260300379 |
| 5PS20WSSTD | 20 Fine | Auburn | 66260300381 * |
| 5PS30WSSTD | 30 Fine | Red | 66260300383 |
| 5PS45WSSTD | 45 Fine | Brown | 66260300384 |
| 5PS60WSSTD | 60 Fine | Purple | 66260300388 |
| 5PS90WSSTD | 90 Fine | Black | 66260300389 |
| 18 Gram Syringes | | | |
| 18PS1/4WSSTD | 1/4 Ultra Fine | Gray | 66260300392 |
| 18PS1/2WSSTD | 1/2 Ultra Fine | Lt. Gray | 66260300394 |
| 18PS1WSSTD | 1 Ultra Fine | Ivory | 66260300396 |
| 18PS3WSSTD | 3 Super Fine | Yellow | 66260300398 |
| 18PS6WSSTD | 6 Super Fine | Orange | 66260300400 |
| 18PS9WSSTD | 9 Super Fine | Green | 66260300402 |
| 18PS12WSSTD | 12 Super Fine | Aqua | 66260300404 * |
| 18PS15WSSTD | 15 Fine | Blue | 66260300406 |
| 18PS20WSSTD | 20 Fine | Auburn | 66260300408 |
| 18PS30WSSTD | 30 Fine | Red | 66260300410 * |
| 18PS45WSSTD | 45 Fine | Brown | 66260300412 * |
| 18PS60WSSTD | 60 Fine | Purple | 66260300414 * |
| 18PS90WSSTD | 90 Fine | Black | 66260300416 * |

| PRODUCT # | MICRON GRADE | COLOR | PART # |
|---------------------------------------|---------------|----------|---------------|
| Diamond Compound – Oil Soluble | | | |
| 5 Gram Syringes | | | |
| 5PS1/4OSSTD | 1/4 UltraFine | Gray | 61463691123 * |
| 5PS1/2OSSTD | 1/2 UltraFine | Lt. Gray | 66260300363 |
| 5PS1OSSTD | 1 UltraFine | Ivory | 61463691133 |
| 5PS3OSSTD | 3 Super Fine | Yellow | 61463691138 |
| 5PS6OSSTD | 6 Super Fine | Orange | 61463691143 |
| 5PS9OSSTD | 9 Super Fine | Green | 61463691148 |
| 5PS12OSSTD | 12 Super Fine | Aqua | 66260300377 * |
| 5PS15OSSTD | 15 Fine | Blue | 61463691153 |
| 5PS20OSSTD | 20 Fine | Auburn | 66260300380 * |
| 5PS30OSSTD | 30 Fine | Red | 61463691158 |
| 5PS45OSSTD | 45 Fine | Brown | 61463691163 |
| 5PS60OSSTD | 60 Fine | Purple | 66260300386 |
| 5PS90OSSTD | 90 Fine | Black | 66260300390 |
| 18 Gram Syringes | | | |
| 18PS1/4OSSTD | 1/4 UltraFine | Gray | 66260300391 |
| 18PS1/2OSSTD | 1/2 UltraFine | Lt. Gray | 66260300393 * |
| 18PS1OSSTD | 1 UltraFine | Ivory | 61463691134 * |
| 18PS3OSSTD | 3 Super Fine | Yellow | 61463691139 |
| 18PS6OSSTD | 6 Super Fine | Orange | 66260300399 |
| 18PS9OSSTD | 9 Super Fine | Green | 61463691149 * |
| 18PS12OSSTD | 12 Super Fine | Aqua | 66260300403 * |
| 18PS15OSSTD | 15 Fine | Blue | 61463691154 |
| 18PS20OSSTD | 20 Fine | Auburn | 66260300407 |
| 18PS30OSSTD | 30 Fine | Red | 66260300409 |
| 18PS45OSSTD | 45 Fine | Brown | 61463691164 * |
| 18PS60OSSTD | 60 Fine | Purple | 66260300413 |
| 18PS90OSSTD | 90 Fine | Black | 66260300415 |

* Non-stock; contact your Norton representative for current lead-times.

Marking System



TECH TIP

Diamond Compound Application Guide

| APPLICATION | MICRON GRADE | MICRON RANGE | MESH SIZE EQUIV. | COLOR | CONC. |
|--|--------------|--------------|------------------|----------|-------|
| ULTRA FINE Applying finest finishes on metals and ceramics | 1/4 | (0-1/2) | 100,000 | Gray | Std. |
| | 1/2 | (0-1) | 60,000 | Lt. Gray | Std. |
| | 1 | (0-2) | 14,000 | Ivory | Std. |
| SUPER FINE Final finishing of dies, molds, seals, most applications (RMS 4-12) | 3 | (2-4) | 8,000 | Yellow | Std. |
| | 6 | (4-8) | 3,000 | Orange | Std. |
| | 9 | (8-12) | 1,800 | Green | Std. |
| | 12 | (9-15) | 1,500 | Aqua | Std. |
| FINE FINISH Preparatory lapping (RMS 12-20) | 15 | (12-22) | 1,200 | Blue | Std. |
| | 20 | (15-25) | 800 | Auburn | Std. |
| | 30 | (22-36) | 600 | Red | Std. |
| | 45 | (36-45) | 325 | Brown | Std. |
| | 60 | (54-80) | 230 | Purple | Std. |
| | 90 | (80-100) | 170 | Black | Std. |

⚠ WARNING

Improper use of abrasive products might cause grinding wheel breakage and serious injury. Comply with ANSI B7.1, OSHA and Safety Guide furnished with package. Don't overspeed, abuse, or drop wheel. Always use a guard, personal protective equipment and proper mounting procedures.



Speeds

Check machine spindle speed and speed listed on machine against safe maximum operating speed marked on the grinding wheel. Do not overspeed the wheel. Refer to the "Proper Grinding Wheel Operating Speeds and Safety" article on page 336 for more information.



Flanges

When mounting most grinding wheels, use flanges of equal diameter and bearing surface. For exceptions, see ANSI B7.1.



Safety Gloves

Grinding applications are conducted in harsh environments. The use of proper fitting gloves is recommended.



Wheel Guard

Always use the wheel guard as supplied by the machine manufacturer, in the proper position.



Do Not Use Damaged Wheel

Always check each wheel for cracks or damage before use. Never use a damaged wheel.



Eye/Face Protection

Always wear government-approved face and eye protection when using abrasive products.



Hearing Protection

Use of abrasive products can create elevated sound levels. Hearing protection must be worn where required.



Safety Guides, SDS and Wheel Warning Messages

Before using any abrasive materials, READ:

- The Safety Guides
- Wheel Warning Messages
- Safety Data Sheets (SDS)

All Norton products provide information pertaining to safe use. Please take the time to read it carefully. Contact suppliers of the workpiece and abrasive materials for copies of the SDS if one is not readily available. Norton abrasives SDS can be obtained on www.nortonabrasives.com



Dust Protection

Exposure to dust generated from workpiece and/or abrasive materials can result in lung damage and/or other physical injury.

Use dust capture or local exhaust as stated in the SDS. Wear government-approved respiratory protection and eye and skin protection. Failure to follow this warning can result in serious lung damage and/or physical injury.

This is a general dust warning and does not cover specific situations. For more information, refer to the SDS dust warning provided with your products, and workpiece.

100 Years of Safety Leadership

The year 2016 marked the 100-year anniversary of the leadership of the former Norton Company in the creation of the first ever safety code for abrasives.

In 1916, following more than a decade of safety research, advocacy, and leadership by the Norton Company (now Norton | Saint-Gobain Abrasives), "The Safety Code for the Use and Care of Abrasive Wheels" was published. This 13-page booklet, containing an unprecedented set of safety device recommendations and procedures, was a spark that changed the entire future of the abrasives industry.

In the 1970s, this code received the ultimate endorsement when selected by OSHA as the basis of new federal regulations concerning abrasive wheel machinery. Today, the ever-evolving "Safety Requirements for the Use, Care and Protection of Abrasive Wheels" (commonly known as the ANSI B7.1 standard) continues to mirror the latest technologies and remains the global authoritative abrasives safety standard.



Breakages/Personal Injury

In the event of on-machine breakage of Norton abrasive products, call your local Norton distributor immediately. Whether involving personal injury or not, the abrasive user should leave the equipment and other evidence undisturbed until a Norton sales representative has been notified and conducts an investigation. Prompt action on the part of abrasive users, distributor, and Norton sales personnel is important to ensure swift determination of the breakage cause and to guard against recurrence.



It is the user's responsibility to refer to and comply with ANSI B7.1 and B7.7 – Contact us for a free copy.



Safety Poster
(Form # 7868-English, 7868-French, 7868-Spanish)

To order this poster for your shop,
<mailto:nortonliterature@saint-gobain.com>

Abrasive Safety References



Safety Information on the Web

Norton website <http://www.nortonabrasives.com/en-us/norton-product-safety>

UAMA (United Abrasives Manufacturers Association) website at <http://www.safety.uama.org>



Safety Video

Watch our videos on: [YouTube.com/NortonAbrasives](https://www.youtube.com/NortonAbrasives)

- Norton Abrasives: Safety, It's The Smart Thing To Do (Safety information for portable grinding and cutting wheels)
- Norton Abrasives: Foundry Safety
- Norton Abrasives: First in Precision Grinding Safety
- Norton Abrasives: Proper Grinding Wheel Mounting
- Norton Abrasives: Railroad Abrasive Safety
- Norton Abrasives: Coated Abrasive Belt and Disc Safety

Safe Operating Practices

Safe operating practices must be part of every grinding wheel user's operation. The greatest efficiency and lowest overall abrasive cost can be realized only if proven care and use techniques become standard practice.

- Be sure to read any safety material/guidelines provided with the abrasive product.
- Always check the wheel for cracks or damage before use.
- Always properly maintain your machine; especially governors on pneumatic machines and linkage on floorstand machines.
- Never use the incorrect air, hydraulic or electric power supply.
- Never mount grinding wheels directly on electric motors.
- Never mount grinding wheels on the wrong size machine for the grinding wheel.
- Before mounting the wheel, use a tachometer to measure the spindle speed.
- Ensure the mounting flanges, backplate or adapter supplied by the machine manufacturer are used and kept in good condition. ANSI Safety Requirement B7.1 provides wheel mounting requirements. Check mounting flanges for equal and correct diameter and use blotters when supplied.
- Always mount, true and dress the wheel in conformance with the guidelines published in the ANSI Safety Requirements B7.1.
- Ensure the correct wheel guard is in place before starting the wheel. Allow the wheel to come up to full operating speed before starting to grind for a minimum of one minute, and stand out of the plane of rotation.
- NEVER use a high speed air sander as a portable grinder.
- NEVER use grinding wheel with a rated speed less than that of the grinder.
- NEVER exceed the maximum operating speed marked on the wheel being used. The following formula may be used to calculate wheel speed:
SFPM = Spindle Speed in RPM x Wheel Dia. in inches x .262
- Avoid dropping or bumping the wheel.
- When not using the wheel, store the wheel in its original packing materials. This protects the wheel from chips and cracking, as well as provides easy identification of the wheel.
- Refer to proper safe storage schematic on page 266.



Pistol Grip Air Sander

A Deadly Equation

Pistol Grip Air Sander + Grinding Wheel = Certain Injury!

- Never use a high-speed air sander as a portable grinder
- Use only sanding discs specifically designed for sanders
- Because the speed of these sanders far exceeds the maximum rated speeds for grinding wheels, a potentially lethal wheel breakage might occur

Dangerous Pairing: Die grinders and Cut-off Wheels

While die grinders and portable cut-off tools may look similar, they are by no means interchangeable. Several crucial differences exist between the two handheld machines.

GUARD

Cut-off wheels must be used on guarded machines for the safety of the operator and bystanders.

SPEED

Cut-off wheels must be used at or below their maximum operating speed, marked clearly on the side of the wheel. Excessive speed can result in breakage and serious personal injury.

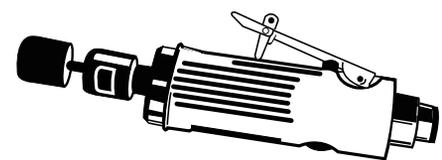
Die grinders often operate above 25,000 rpm and therefore are too fast for abrasive wheels. The speed hazard is increased by the absence of a guard. Portable cut-off tools, however, rotate at speeds compatible with the abrasive wheels for which they are designed. And, their guards prevent use of an oversize wheel.

MOUNTING

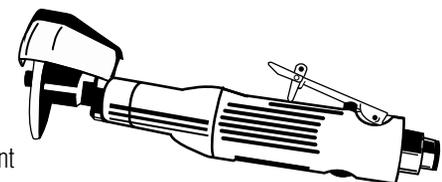
Cut-off wheels must be mounted between proper flanges, as described in the national safety standard for abrasive wheels, ANSI B7.1. Die grinders make use of a collet for mounting

Portable cut-off tools use flanges for mounting, flanges designed according to the ANSI B7.1 safety standard.

Now that you have learned the three crucial differences between die grinders and portable cut-off tools – GUARD, SPEED and MOUNTING – be on watch for the dangerous pairing of cut-off wheels and die grinders, and warn your friends and colleagues of the same.



Die Grinder



Portable Cut-off Tool

Starting a Grinding Wheel

ANSI's Procedure for Starting an Abrasive Wheel

In the past several years wheel breakages and accidents have been reported involving abrasive wheels breaking on start-up. This article is designed to remind users of the proper procedure when starting a machine with a new abrasive wheel mounted on it, or starting a machine after the machine and wheel have been stored for a period of time, or remounting a wheel. ANSI B7.1-2000 requires the following procedure when starting a newly mounted grinding wheel.

9.8 Starting the Wheel (Requirements)

All abrasive wheels shall be run at operating speeds with the safety guard in place or in a protected enclosure for at least one minute before applying work. During this time no one shall stand in front of or in line with the wheel. (See section 4, for safety guard requirements.) This provision shall apply each time one of the following conditions occur: a) a new wheel has been mounted; or b) a used wheel has been remounted.

E 9.8 Starting the Wheel (Explanatory Information)

An abrasive wheel may be damaged in shipment or storage, or the wheel may be subjected to improper, excessive stresses during mounting. Wheels which have been damaged or are under excessive stress, are likely to fracture within the first minute of rotation at operating speed. While this procedure is most important at the time when an abrasive wheel is mounted or remounted, damage may also occur to a wheel during a shut down of the machine on which it is mounted. The user should evaluate the circumstances and length of machine shut down to determine additional times that the operating rule should be followed.

Improper wheel mounting is a major cause of wheel breakages. Always use proper mounting procedures as outlined in ANSI B7.1, machine manufacturer's instructions and those supplied with the abrasive wheel. Be safe, know and follow the rules!

What are the Major Causes of Grinding Wheel Breakages?

- Using a grinding wheel damaged during transportation, storage or as a result of careless or improper handling. Inspect all grinding wheels before mounting them on a machine. **NEVER MOUNT A DAMAGED GRINDING WHEEL.**
- Selecting the wrong grinding wheel for the job. **DON'T GRIND MATERIAL FOR WHICH THE WHEEL IS NOT DESIGNED.**
- Incorrect machine. **NEVER MOUNT A GRINDING WHEEL ON A MACHINE NOT DESIGNED AND GUARDED FOR THAT GRINDING WHEEL.**
- Machine speed higher than the grinding wheel speed. **NEVER OVER-SPEED A GRINDING WHEEL.**
- Poor machine maintenance. **FAILURE TO PROPERLY MAINTAIN A GRINDING MACHINE CAN CAUSE GRINDING WHEEL BREAKAGES RESULTING IN SERIOUS INJURY OR DEATH.**
- The improper mounting of grinding wheels. See ANSI B7.1 and literature provided for proper mounting procedures.
- Operator carelessness. **ALL GRINDING WHEELS CAN BE BROKEN IF NOT USED PROPERLY.**
- Lack of knowledge or training. **IF YOU DO NOT KNOW HOW TO USE A GRINDING WHEEL OR THE GRINDER, GET HELP!**
- Poor wheel balance caused by the failure to turn off coolant before stopping the grinding wheel. Always spin coolant out of a grinding wheel before shutting the operation down.
- Jamming the work into the grinding wheel.
- Force grinding, so that the motor slows noticeably or the work gets hot.
- Grinding on the wrong surface of a grinding wheel, i.e. grinding on the side of a Type 1 straight grinding wheel.



Shelf Life of Grinding Wheels

The best rule of thumb is to have any wheel that is two years old or older re-speed tested and re-inspected to ensure it is fit for use.

Organic-Bonded Abrasive Products

It has always been Norton | Saint-Gobain Abrasives recommendation that resinoid bonded grinding wheels be used within 2 years from the date of manufacture. This recommendation assumes that resinoid bonded grinding wheels have been stored under ideal storage conditions.

It might be true that under ideal storage conditions resinoid bonded grinding wheels can survive without any degradation in strength for well over two years. However, it is always wise to suspect any wheels over two years old and have them re-inspected or re-speed tested to determine if there has been any degradation in strength. If the wheels are stored under less than ideal conditions, they might have a much shorter shelf life depending upon the severity of storage conditions. These same comments also apply to rubber and shellac bonded grinding wheels.

See “Proper Storage of Grinding Wheels” schematic on page 266.

Vitrified-Bonded Abrasive Products

The shelf life of these product is less influenced by humidity and adverse storage conditions as compared to organic products (resinoid, rubber, and shellac), but even vitrified grinding wheels do not have an infinite shelf life.

The best procedure and the best rule of thumb is to have any wheel that is two years old or older re-speed tested and re-inspected to ensure it is fit for use. The procedure for having this done and the charges will be explained by our Customer Service Department. The cost of shipping as well as the cost of re-inspection is the customer's responsibility. Also, any wheels rejected or otherwise lost in the re-inspection process will also be the responsibility of the customer.

Keep in mind, however, that this procedure is good to verify the reliability of a product but must not be performed until you are ready to consume the wheel. If wheels are sent back after the two-year time frame for re-inspection and re-testing, and then put back on the shelf, there is no telling how long they will be fit for use after that last inspection. Therefore, these wheels must be consumed as soon as is practical.



How to Perform a Ring Test on a Grinding Wheel

One method of grinding wheel inspection is called ring testing. OSHA, ANSI and the grinding wheel manufacturers require this method of grinding wheel inspection. It must be performed BEFORE the wheel is mounted on a grinding machine. Ring testing depends on the damping characteristics of a cracked wheel to alter the sound emitted when the wheel is tapped lightly. It is subject to interpretation by the inspector and is primarily applicable to vitrified bonded wheels. To perform the ring test, wheels should be tapped gently with a light nonmetallic implement, such as the handle of a screw driver for light wheels, or a wooden mallet for heavier wheels.

- Tap wheels about 45 degrees each side of the vertical line and about 1" or 2" from the periphery. Rotate the wheel 45 degrees and repeat the test.
- Large and thick wheels may be given the ring test by striking the wheel on the periphery rather than the side of the wheel.
- A sound and undamaged wheel will give a clear tone. If cracked, there will be a dead sound and not a clear ring and the wheel should not be used.
- Wheels must be dry and free of sawdust when applying the ring test, otherwise the sound may be deadened. The ring test is not applicable to certain wheels because of their size, shape or composition.

Proper Grinding Wheel Operating Speeds and Safety!

As abrasive wheel producers have known for many years, most grinding wheel breakages and injuries are caused by one major oversight. That oversight is operating a grinding wheel in an over-speed condition. A grinding wheel should never be operated at speeds greater than the wheel's rated speed.

- Never use a grinding wheel with a rated speed less than that of the grinder
- Never mount grinding wheels on sanders (Pistol Grip Air Sanders)
- Never mount grinding wheels directly on electric motors
- Never mount grinding wheels on the wrong size machine for the grinding wheel
- Always properly maintain your machine: especially governors on pneumatic machines and linkage on floorstand machines
- Never use the incorrect air, hydraulic or electric power supply
- Never use the improper speed setting on a machine

What you might not be cognizant of is that slight over-speed can cause damage to a wheel. If an operator continues to use this damaged wheel, it might break. In a reinforced wheel for example, cracks might form, be forced open and jam or catch the wheel on the workpiece resulting in a wheel breakage. The use of a 9" Type 27 Wheel on a 7" angle grinder is very dangerous! Normal stresses that occur during grinding along

with the additional stress caused by over-speed are additive. The act of operating a wheel in a slight over-speed condition is very dangerous. We must understand and communicate this danger.

One of the major forces at work on a grinding wheel is called "centrifugal force." To demonstrate this force take a piece of string and tie a small weight to one end. Hold the other end of the string so the weight will travel in a circle. Rotate the weight and you will feel a pull on the string. The weight tries to fly off in a straight line, but the string holds it and compels it to travel in a circle. This pull on the string is called "centrifugal force." Warning: If you attempt this experiment take all the proper precautions related to the object used to avoid injury to yourself or others.

If you swing the weight at a speed of 50 revolutions per minute (RPM) and could measure the pull on the string at this speed, then increase the swing to 100 revolutions per minute and again measure the pull, you would find the pull was not merely two times greater, but was actually four times greater than it was at one half the speed. Therefore, the force increases exponentially with the speed or RPM.

Centrifugal force increases in proportion to the square of the velocity. Think again of the weight and the string. We find that the square of 50 is 2,500, ($50 \times 50 = 2,500$); and the square of 100 is 10,000, ($100 \times 100 = 10,000$). As 10,000 is four times as great as 2,500, so is the pull on the string at 100 revolutions per minute four times as great as it was at 50 revolutions per minute.

Centrifugal force applies to grinding wheels in the same manner as the weight to the string. Increasing the RPM or speed beyond the maximum safe operating speed (MOS) might be more dangerous than might be expected. Placing and operating a 9" Type 27 grinding wheel with a maximum operating speed of 6,600 RPM on a 5" right angle grinder with a rated speed of 10,000 RPM represents an over-speed of approximately 1.515 times the wheel's designated speed. The resulting rotational stress caused by the centrifugal force would be approximately 2.3 times greater than the maximum allowed. Add this additional stress to the stresses that occur during normal grinding and even the strongest wheel might break.

In short, NEVER over-speed a grinding wheel. Always compare the speed marked on the wheel or package to make sure the machine's speed is at, or below, the speed or MOS of the grinding wheel. Speed can kill. NEVER over-speed a grinding wheel.





Conversion Table – Wheel Speeds

REVOLUTIONS PER MINUTE FOR VARIOUS DIAMETERS OF GRINDING WHEELS TO GIVE SURFACE SPEED IN FEET PER MINUTE AS INDICATED (FOR WHEEL MARKING PURPOSES THE CALCULATED RPM FIGURES LISTED BELOW ARE ROUNDED OFF TO THE NEXT 5)

Surface Speed in Feet Per Minute (SFPM)

| Diameter of Wheel in Inches | Revolutions Per Minute (RPM) | | | | | | | | | | | | | | | |
|-----------------------------|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | 6,500 | 7,000 | 7,500 | 8,000 | 8,500 | 9,000 | 9,500 | 10,000 | 12,000 | 12,500 | 14,200 | 16,000 | 16,500 | 17,000 | 19,685 | 20,000 |
| 1 | 24,828 | 26,737 | 28,647 | 30,558 | 32,467 | 34,377 | 36,287 | 38,196 | 45,836 | 47,745 | 54,240 | 61,116 | 63,025 | 64,935 | 75,190 | 76,395 |
| 2 | 12,414 | 13,368 | 14,328 | 15,278 | 16,238 | 17,188 | 18,143 | 19,098 | 22,918 | 23,875 | 27,120 | 30,558 | 31,510 | 32,465 | 37,595 | 38,195 |
| 3 | 8,276 | 8,913 | 9,549 | 10,186 | 10,822 | 11,459 | 12,096 | 12,732 | 15,278 | 15,915 | 18,080 | 20,372 | 21,010 | 21,645 | 25,065 | 25,465 |
| 4 | 6,207 | 6,685 | 7,162 | 7,640 | 8,116 | 8,595 | 9,072 | 9,549 | 11,459 | 11,940 | 13,560 | 15,278 | 15,755 | 16,235 | 18,800 | 19,100 |
| 5 | 4,966 | 5,348 | 5,730 | 6,112 | 6,494 | 6,876 | 7,258 | 7,640 | 9,168 | 9,550 | 10,850 | 12,224 | 12,605 | 12,985 | 15,040 | 15,280 |
| 6 | 4,138 | 4,456 | 4,775 | 5,092 | 5,411 | 5,729 | 6,048 | 6,366 | 7,639 | 7,960 | 9,040 | 10,186 | 10,505 | 10,820 | 12,530 | 12,730 |
| 7 | 3,547 | 3,820 | 4,092 | 4,366 | 4,638 | 4,911 | 5,183 | 5,456 | 6,548 | 6,820 | 7,750 | 8,732 | 9,005 | 9,275 | 10,740 | 10,915 |
| 8 | 3,103 | 3,342 | 3,580 | 3,820 | 4,058 | 4,297 | 4,535 | 4,775 | 5,729 | 5,970 | 6,780 | 7,640 | 7,880 | 8,115 | 9,400 | 9,550 |
| 9 | 2,758 | 2,970 | 3,182 | 3,396 | 3,606 | 3,820 | 4,032 | 4,244 | 5,092 | 5,305 | 6,030 | 6,792 | 7,000 | 7,215 | 8,355 | 8,490 |
| 10 | 2,483 | 2,674 | 2,865 | 3,056 | 3,247 | 3,438 | 3,629 | 3,820 | 4,584 | 4,775 | 5,425 | 6,112 | 6,300 | 6,495 | 7,520 | 7,640 |
| 12 | 2,069 | 2,228 | 2,386 | 2,546 | 2,705 | 2,864 | 3,023 | 3,183 | 3,820 | 3,980 | 4,520 | 5,092 | 5,250 | 5,410 | 6,265 | 6,365 |
| 14 | 1,773 | 1,910 | 2,046 | 2,182 | 2,319 | 2,455 | 2,592 | 2,728 | 3,274 | 3,410 | 3,875 | 4,366 | 4,500 | 4,640 | 5,370 | 5,455 |
| 16 | 1,562 | 1,672 | 1,791 | 1,910 | 2,029 | 2,149 | 2,268 | 2,387 | 2,865 | 2,985 | 3,390 | 3,820 | 3,940 | 4,060 | 4,700 | 4,775 |
| 18 | 1,379 | 1,485 | 1,591 | 1,698 | 1,803 | 1,910 | 2,016 | 2,122 | 2,546 | 2,655 | 3,015 | 3,396 | 3,500 | 3,605 | 4,175 | 4,245 |
| 20 | 1,241 | 1,337 | 1,432 | 1,528 | 1,623 | 1,719 | 1,814 | 1,910 | 2,292 | 2,390 | 2,715 | 3,056 | 3,150 | 3,245 | 3,760 | 3,820 |
| 22 | 1,128 | 1,215 | 1,302 | 1,388 | 1,476 | 1,562 | 1,649 | 1,736 | 2,084 | 2,170 | 2,465 | 2,776 | 2,865 | 2,950 | 3,420 | 3,470 |
| 24 | 1,034 | 1,115 | 1,194 | 1,274 | 1,353 | 1,433 | 1,512 | 1,591 | 1,910 | 1,990 | 2,260 | 2,546 | 2,625 | 2,705 | 3,135 | 3,185 |
| 26 | 955 | 1,028 | 1,101 | 1,176 | 1,248 | 1,322 | 1,395 | 1,468 | 1,762 | 1,840 | 2,090 | 2,352 | 2,425 | 2,495 | 2,890 | 2,940 |
| 28 | 887 | 955 | 1,023 | 1,092 | 1,159 | 1,228 | 1,296 | 1,364 | 1,637 | 1,705 | 1,940 | 2,182 | 2,250 | 2,320 | 2,685 | 2,730 |
| 30 | 828 | 891 | 955 | 1,018 | 1,082 | 1,146 | 1,210 | 1,274 | 1,528 | 1,595 | 1,810 | 2,056 | 2,100 | 2,165 | 2,505 | 2,545 |
| 32 | 776 | 836 | 895 | 954 | 1,014 | 1,074 | 1,134 | 1,194 | 1,432 | 1,495 | 1,695 | 1,910 | 1,970 | 2,030 | 2,350 | 2,385 |
| 34 | 730 | 786 | 843 | 898 | 955 | 1,011 | 1,067 | 1,124 | 1,348 | 1,405 | 1,595 | 1,796 | 1,855 | 1,910 | 2,210 | 2,245 |
| 36 | 690 | 742 | 795 | 848 | 902 | 954 | 1,007 | 1,061 | 1,273 | 1,330 | 1,510 | 1,698 | 1,750 | 1,805 | 2,090 | 2,120 |
| 38 | 653 | 704 | 754 | 804 | 854 | 904 | 955 | 1,006 | 1,206 | 1,260 | 1,430 | 1,608 | 1,660 | 1,710 | 1,980 | 2,010 |
| 40 | 620 | 669 | 716 | 764 | 812 | 860 | 908 | 956 | 1,146 | 1,195 | 1,355 | 1,528 | 1,575 | 1,625 | 1,880 | 1,910 |
| 42 | 591 | 636 | 682 | 732 | 775 | 818 | 863 | 908 | 1,090 | 1,140 | 1,295 | 1,464 | 1,500 | 1,545 | 1,790 | 1,820 |

For intermediate diameters not listed use the formula listed in Section 1.2.10 of ANSI B7.1

SFPM = .262 x wheel diameter in inches x RPM.

To convert meters per second (m/s) to SFPM: m/s x 196.85 = SFPM

To convert SFPM to m/s: SFPM/196.85 = m/s.

To convert RPM to SFPM: Wheel Diameter x RPM x 0.262 = SFPM

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| | | | |
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| Aztec® | Free Cut™ | Norton Design® (Triple Stripe Design) | Silver Eagle® |
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| Because Right Choices Matter™ | Gemini® | Norton SG® | Speed-Change™ |
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Norton | Saint-Gobain is so confident of the superior performance of our abrasive products, as recommended for specific applications, that we invite in-plant tests against any other brand of abrasive product on the market.

1. The test will be conducted in the user's own plant, on their own machines, using their own workpieces
2. Even if the user purchases only a minimum quantity of Norton abrasive products, the user will receive the same quantity discount as would apply to their normal production orders
3. If the Norton product tested proves completely unsatisfactory, the user will receive a full refund
4. If the Norton product tested performs at a lower level than the product presently in production, the user will receive an adjustment to make up the difference in performance
5. The user is the final judge of performance!

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To place an order, contact our customer service support center with:

- Customer number and contact name
- Any special shipping needs
- Complete product information:
 - » 11-digit Part Number
 - » Product description
 - » Quantity and unit of measure
 - » Price by unit of measure

To ensure minimal errors and faster turnaround, using electronic media is preferred. For assistance with www.abrasiveconnection.com or EDI setup, contact us at:

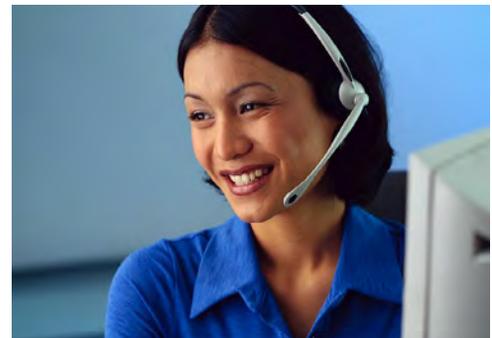
Email: abrasive.connection@saint-gobain.com

Phone: 888-383-2236

Email: nacustomerservice@saint-gobain.com

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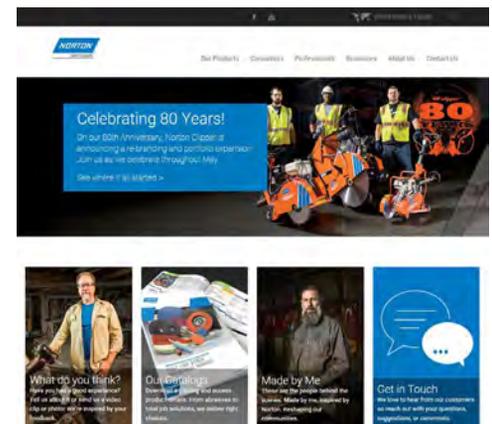
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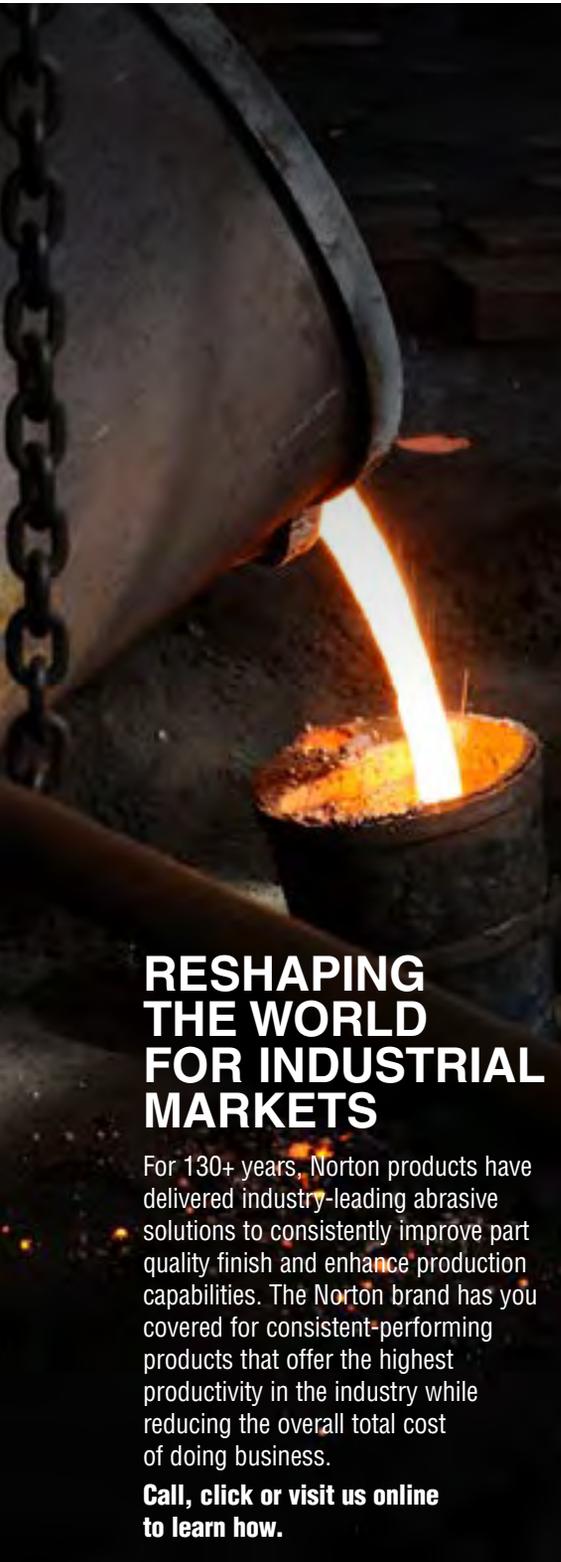
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NORTON FULL LINE OF STOCK ABRASIVE PRODUCTS



RESHAPING THE WORLD FOR INDUSTRIAL MARKETS

For 130+ years, Norton products have delivered industry-leading abrasive solutions to consistently improve part quality finish and enhance production capabilities. The Norton brand has you covered for consistent-performing products that offer the highest productivity in the industry while reducing the overall total cost of doing business.

Call, click or visit us online to learn how.



Work Smarter Without Working Harder

Maximum operator comfort – less cutting vibration means reduced hand fatigue. Sharper wheel for fastest cutting action; highest metal removal rate, less pressure, and longest life – for highest productivity.



Hit the Pavement

Our new Norton Clipper brand of diamond blades, tools, and light machines for construction and cutting materials is Redefining Job Site Muscle – Rugged. Reliable. Affordable.



Unleash the Controlled Heat

Achieve the highest productivity on mild carbon steel, stainless, and ferrous metals under the toughest conditions from stock removal to quality finish.



Specialties Just Got Very Special

Find every abrasive and shape – from our versatile aluminum oxide Merit line to the new Norton Best - Better - Good line of specialties for aerospace and other precision applications.



Eliminate the Guesswork

Get the perfect combination of life, cut, and smear-free finish, with our color-coded (by application and abrasive type) non-woven Rapid Finish General Purpose convolute wheels.



Precision Times 3

Experience the coolest cutting, most precise profile, and high-speed patented, pore-induced bond science in our latest Vitrium3 bond segments, toolroom and centerless wheels.

BEST
Highest Productivity Lowest Total Cost

BETTER
Excellent Blend of Performance and Price

GOOD
Consistent Performance – Low Initial Price

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FORM #7362 REV. 06/17

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NO-RISK TEST

